

**REPORT**

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***Resource Conservation and Recovery Act  
Facility Investigation  
Phase II Report***

***Volume II of III***

**General Motors Corporation  
NAO Flint Operations Site  
ID #MID 005 356 712  
Flint, Michigan**

**July 14, 2006**

# **Appendix A**

## **Boring and Monitoring Well Logs**

**APPENDIX A  
SOIL BORING AND MONITORING WELL LOGS**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

03-01R	*RFI-02-02	*RFI-05-07	*RFI-09-04R	*RFI-09-50	*RFI-12-06	*RFI-16-10	*RFI-36-21	*RFI-40-07	*RFI-81-09	*RFI-83/84-13	*RFI-84-04D	RFI-94-05
03-03R	*RFI-02-03	*RFI-05-08	*RFI-09-05	RFI-09-51	*RFI-12-07	*RFI-16-11	*RFI-36-22	*RFI-40-08	*RFI-81-10	*RFI-83/84-14	*RFI-84-04I	*RFI-94-06
03-101R	*RFI-02-03R	*RFI-05-09	*RFI-09-06	RFI-09-52	*RFI-12-07R	*RFI-16-12	*RFI-36-23	*RFI-40-09	*RFI-81-11	*RFI-83/84-15	*RFI-84-07	*RFI-94-07
03-105R	*RFI-02-04	*RFI-05-09Geotech	*RFI-09-07	RFI-09-53	RFI-12-07R2	*RFI-16-13	*RFI-36-24	*RFI-40-10	*RFI-81-12	*RFI-83/84-16	*RFI-84-06	RFI-94-08
03-105R3	*RFI-02-05	*RFI-05-10	*RFI-09-08	RFI-09-54D	*RFI-12-08	*RFI-16-14	*RFI-36-25	RFI-40-10R	*RFI-81-12R	*RFI-83/84-17	RFI-84-06R	RFI-94-09
03-110R	*RFI-02-06	*RFI-05-11	*RFI-09-08D	RFI-09-54S	*RFI-12-08R	*RFI-16-15	*RFI-36-26	*RFI-40-11	*RFI-81-13	*RFI-83/84-17R	*RFI-84-06RD	RFI-94-10
03-113R	*RFI-02-07	*RFI-05-12	*RFI-09-09	RFI-09-55D	*RFI-12-09	*RFI-16-16	*RFI-36-27	*RFI-40-12	*RFI-81-19	*RFI-83/84-18	*RFI-84-07	RFI-94-11
20-101R	*RFI-02-08	*RFI-05-13	*RFI-09-09D	RFI-09-55S	RFI-12-09R	*RFI-16-17	*RFI-36-27	RFI-40-12R	*RFI-81-20	*RFI-83/84-19	*RFI-84-07D	RFI-94-11
20-105R	*RFI-02-09	*RFI-05-14	*RFI-09-10	RFI-09-56	*RFI-12-10	*RFI-16-18	*RFI-36-28	RFI-40-13	*RFI-81-21	*RFI-83/84-20	*RFI-84-08S	RFI-94-11
20-500R	*RFI-02-10	*RFI-05-15	*RFI-09-11	RFI-09-57	*RFI-12-11S	*RFI-16-19	*RFI-36-29	RFI-40-14	*RFI-81-22	*RFI-83/84-21	*RFI-84-08S	RFI-94-11
20-FP4R	*RFI-02-11	*RFI-05-16	*RFI-09-11D	RFI-09-58	*RFI-12-11D	*RFI-16-20	*RFI-36-29R	RFI-40-15	*RFI-81-23	*RFI-83/84-22	*RFI-84-09S	RFI-94-11
20-FP6R	RFI-02-12	*RFI-05-17	*RFI-09-12	*RFI-10-01	*RFI-12-12S	*RFI-16-21	*RFI-36-30	RFI-40-16	*RFI-81-24	*RFI-83/84-23	*RFI-84-10S	RFI-94-11
20-FP9R	RFI-02-13	*RFI-05-18	*RFI-09-13	*RFI-10-02	*RFI-12-14R	*RFI-16-22	*RFI-36-31	RFI-40-18	*RFI-81-25	*RFI-83/84-24	*RFI-84-10D	RFI-94-11
40-01R	*RFI-02-14	*RFI-05-19S	*RFI-09-14	*RFI-10-03	*RFI-12-14R	*RFI-16-23	*RFI-36-32	RFI-40-19	*RFI-81-26	*RFI-83/84-25	*RFI-84-11S	RFI-94-11
40-07R	RFI-02-15	*RFI-05-19D	*RFI-09-15	*RFI-10-04	*RFI-12-15	RFI-16-24	*RFI-36-33	RFI-40-20	*RFI-81-27	*RFI-83/84-26	*RFI-85-02	RFI-94-11
40-08R	RFI-02-16	*RFI-05-20	*RFI-09-16	*RFI-10-05	*RFI-12-16	RFI-16-25	*RFI-36-34	RFI-40-21	*RFI-81-28	*RFI-83/84-27	*RFI-85-02R	RFI-94-11
40-102R	RFI-02-17	*RFI-05-21	*RFI-09-17	*RFI-10-06	*RFI-12-17	*RFI-17-01	*RFI-36-35	RFI-40-22	*RFI-81-29	*RFI-83/84-28	*RFI-85-04	*RFI-94-02A
40-303R	RFI-02-18	*RFI-05-22	*RFI-09-18	*RFI-10-07	*RFI-12-18	*RFI-17-02	*RFI-36-36	RFI-40-23	*RFI-81-30	*RFI-83/84-29	*RFI-85-04R	RFI-94-02B
40-7R	RFI-02-19	*RFI-05-23	*RFI-09-19	*RFI-10-08	*RFI-12-20	RFI-17-02D	*RFI-36-36R	RFI-40-24	*RFI-81-31	*RFI-83/84-30	*RFI-85-05	RFI-94-02B
70-102R	RFI-02-20	*RFI-05-24	*RFI-09-20	*RFI-10-11	*RFI-12-21	*RFI-21-01	*RFI-36-37	RFI-40-25	*RFI-81-32	RFI-83/84-31	*RFI-85-06	RFI-94-02B
70-107R	RFI-02-21	*RFI-05-25	*RFI-09-21	*RFI-10-12	*RFI-12-22	*RFI-21-02	*RFI-36-38	RFI-40-26	*RFI-81-33	RFI-83/84-32	*RFI-85-07	RFI-94-02B
70-108R	RFI-02-22	*RFI-05-26	*RFI-09-22	*RFI-10-13	RFI-12-22R	*RFI-21-03	*RFI-36-39	RFI-40-27	*RFI-81-34	*RFI-83/84-33	*RFI-85-08	RFI-94-02B
*43-101R	RFI-02-23	*RFI-05-27	*RFI-09-23	*RFI-10-14	RFI-12-23	*RFI-21-04	*RFI-36-40	*RFI-44-01	*RFI-81-35	RFI-83/84-34	*RFI-86-01	RFI-94-02B
84-06R	RFI-02-24	*RFI-05-29	*RFI-09-24	*RFI-10-15	RFI-12-24	*RFI-23-01	*RFI-36-41	*RFI-44-02	*RFI-81-36	RFI-83/84-35	*RFI-86-01D	RFI-94-02B
84-06R2	*RFI-03-01	*RFI-05-30	*RFI-09-25	*RFI-10-16	RFI-12-25	RFI-23-01R	*RFI-36-42	*RFI-44-03	*RFI-81-37	RFI-83/84-36	*RFI-86-01R	RFI-94-02B
84-07D	*RFI-03-02	RFI-05-31	*RFI-09-26	*RFI-10-17	RFI-12-26	RFI-23-02R	*RFI-36-43	*RFI-44-04	*RFI-81-38	RFI-83/84-37	*RFI-86-02	RFI-94-02B
*ACSP-B1	*RFI-03-03	RFI-05-31R	*RFI-09-27	*RFI-10-18	RFI-12-27	RFI-29-01	*RFI-36-44	*RFI-44-05	*RFI-81-39	RFI-83/84-38	*RFI-86-03	RFI-94-02B
*ACSP-B2	*RFI-03-04	RFI-05-32	*RFI-09-28	*RFI-10-19	RFI-12-28	*RFI-29-01	*RFI-36-45	*RFI-44-06	*RFI-81-40	RFI-83/84-39	*RFI-86-04	RFI-94-02B
*ACSP-B2R	*RFI-03-05	RFI-05-33	*RFI-09-29	*RFI-10-20	RFI-12-29	*RFI-29-02	*RFI-36-46	RFI-44-06R	*RFI-81-41	RFI-83/84-40	*RFI-86-05	RFI-94-02B
*ACSP-B2D	*RFI-03-06	*RFI-07-01	*RFI-09-30	*RFI-10-21	RFI-12-30	*RFI-29-03	RFI-36-47	*RFI-44-07	*RFI-81-42	RFI-83/84-41	*RFI-86-06	RFI-94-02B
*ACSP-B3	*RFI-03-07	*RFI-07-01R	RFI-09-33	*RFI-10-22	RFI-12-31	*RFI-36-01	*RFI-36-48	*RFI-44-08	*RFI-81-43	RFI-83/84-42	*RFI-86-07	RFI-94-02B
*ACSP-B3D	*RFI-03-08	RFI-07-01R2	RFI-09-35	*RFI-10-23	RFI-12-32	*RFI-36-02	*RFI-36-49	*RFI-55-01	*RFI-81-44	RFI-83/84-43	*RFI-86-08	RFI-94-02B
*ACSP-B4	RFI-03-09	*RFI-07-02	*RFI-09-36	*RFI-10-24	RFI-12-33	*RFI-36-03	RFI-36-50	*RFI-55-02	*RFI-81-45	RFI-83/84-44	*RFI-86-09	RFI-94-02B
*ACSP-B5	RFI-03-10	*RFI-07-03	*RFI-09-37	*RFI-10-25	RFI-12-34	*RFI-36-04	*RFI-36-51	*RFI-55-03	*RFI-81-46	RFI-83/84-45	*RFI-86-10	RFI-94-02B
*ACSP-B6	RFI-03-11	*RFI-07-04	*RFI-09-38	*RFI-10-26	RFI-12-35	*RFI-36-05	*RFI-36-52	*RFI-55-04	*RFI-81-47	RFI-83/84-46	*RFI-86-11	RFI-94-02B
*ACSP-B7	RFI-03-12	*RFI-07-05	RFI-09-39	RFI-10-28	RFI-12-36	*RFI-36-06	*RFI-36-53	*RFI-55-05	*RFI-81-48	RFI-83/84-47	*RFI-86-12	RFI-94-02B
*ACSP-B8	RFI-03-13	*RFI-07-06	RFI-09-40	RFI-10-29	RFI-12-37	*RFI-36-07	*RFI-36-54	*RFI-55-06	*RFI-81-49	RFI-83/84-48	*RFI-86-13	RFI-94-02B
*ACSP-B9	RFI-03-14	*RFI-07-07	RFI-09-41	RFI-10-30	RFI-12-38	*RFI-36-08	*RFI-36-55	*RFI-55-07	*RFI-81-50	RFI-83/84-49	*RFI-86-14	RFI-94-02B
*ACSP-B10	RFI-03-15	*RFI-07-08	RFI-09-42	RFI-10-31	RFI-12-39	*RFI-36-09	*RFI-36-56	*RFI-55-08	*RFI-81-51	RFI-83/84-50	*RFI-86-15	RFI-94-02B
*ACSP-B11	*RFI-04-01	RFI-07-09	RFI-09-43	RFI-10-32	RFI-12-40	*RFI-36-10	*RFI-38-01	*RFI-55-09	*RFI-83/84-01	RFI-83/84-51	*RFI-86-16	RFI-94-02B
*ACSP-B12	*RFI-04-02	RFI-07-10	RFI-09-44	RFI-10-33	RFI-12-41	*RFI-36-11	*RFI-38-02	*RFI-55-10	*RFI-83/84-02	RFI-83/84-52	*RFI-86-17	RFI-94-02B
*ACSP-B13	*RFI-04-03	RFI-07-11	RFI-09-45	RFI-10-34	*RFI-16-01	*RFI-36-12	*RFI-38-03	*RFI-55-11	*RFI-83/84-03	RFI-83/84-53	*RFI-86-18	RFI-94-02B
*ACSP-B14	*RFI-04-04	RFI-07-12	RFI-09-46	RFI-10-35	*RFI-16-02	*RFI-36-13	*RFI-38-04	*RFI-55-12	*RFI-83/84-04	RFI-83/84-54	*RFI-86-19	RFI-94-02B
*ACSP-B15	RFI-04-05	RFI-07-13	RFI-09-47	RFI-10-36	*RFI-16-03	*RFI-36-14	*RFI-38-05	*RFI-55-13	*RFI-83/84-05	RFI-83/84-55	*RFI-86-20	RFI-94-02B
*ACSP-B16	RFI-04-06	*RFI-07-14	RFI-09-48	RFI-10-37	*RFI-16-04	*RFI-36-15	*RFI-38-06	*RFI-55-14	*RFI-83/84-06	RFI-83/84-56	*RFI-86-21	RFI-94-02B
*ACSP-B17	*RFI-05-01	*RFI-09-01	RFI-09-49R	RFI-12-01	RFI-16-04R	*RFI-36-16	*RFI-40-01	*RFI-55-15	*RFI-83/84-07	*RFI-84-02	*RFI-86-22	RFI-94-02B
*ACSP-B18	*RFI-05-02	RFI-09-02	RFI-09-49	RFI-12-02	*RFI-16-05	*RFI-36-17	*RFI-40-02	*RFI-55-16	*RFI-83/84-08	*RFI-84-03	*RFI-86-23	RFI-94-02B
*ACSP-B19	*RFI-05-03	RFI-09-03	RFI-09-49	RFI-12-03	*RFI-16-06	*RFI-36-18	*RFI-40-03	*RFI-55-17	*RFI-83/84-09	RFI-84-03D	*RFI-86-24	RFI-94-02B
*ACSP-B20	*RFI-05-04	RFI-09-04	RFI-09-49	RFI-12-04	*RFI-16-07	*RFI-36-19	*RFI-40-04	*RFI-55-18	*RFI-83/84-10	RFI-84-03I	*RFI-86-25	RFI-94-02B
*ACSP-B21	*RFI-05-05	RFI-09-05	RFI-09-49	RFI-12-05	*RFI-16-08	*RFI-36-20	*RFI-40-05	*RFI-55-19	*RFI-83/84-11	RFI-84-03S	*RFI-86-26	RFI-94-02B
*ACSP-B22	RFI-05-06	*RFI-09-06	RFI-09-49R	RFI-12-06	*RFI-16-09	*RFI-36-21	*RFI-40-06	*RFI-55-20	*RFI-83/84-12	*RFI-84-04	*RFI-86-27	RFI-94-02B

**Note:**  
\* = Log was presented in the RFI Phase I Report, and is not included.

## LOG ABBREVIATION LEGEND








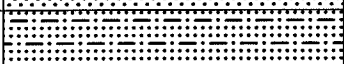




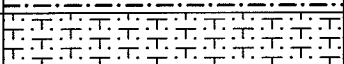



### GENERAL MOTORS CORPORATION NAO FLINT OPERATION SITE FLINT, MICHIGAN

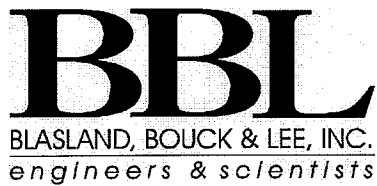
-/+ = Negative/Positive Oil/Water Shake Test Result.  
ags = above ground surface.  
bgs = below ground surface.  
CN = Clear NAPL.  
HSA = Hollow Stem Auger.  
ID = Inner Diameter.  
NA = Not Applicable/Not Available.  
pp = pocket penetrometer measurement (tons/square foot).  
SS = Split Spoon.  
WH/WOH = Weight of Hammer.

USCS = Unified Soil Classification System.

GW = Well-graded gravels, gravel-sand mixtures, little or no fines.  
GP = Poorly-graded gravels, gravel-sand mixtures, little or no fines.  
GM = Silty gravels, gravel-sand mixtures.  
GC = Clayey gravels, gravel-sand-clay mixtures.  
SW = Well-graded sands, gravelly sands, little or no fines.  
SC = Clayey sands, sand-silt mixtures.  
ML = Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts, with slight plasticity.  
CL = Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.  
OL = Organic silts and organic silty clays of low plasticity.  
MH = Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.  
CH = Inorganic clay of high plasticity, fat clays.  
OH = Organic clay of medium to high plasticity, organic silts.

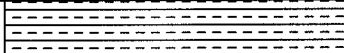
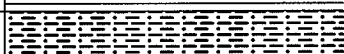



**GEOLOGIC SYMBOL KEY**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATION SITE**  
**FLINT, MICHIGAN**

DEPTH ELEVATION	Geologic Column	Stratigraphic Description
0		ASPHALT
		FILL
		WOOD
		CONCRETE
5		Coarse SAND
		Medium SAND
		Fine (fine to medium) SAND
		SAND and SILT
		GRAVEL and SAND
10		Fine GRAVEL
		Medium to Coarse GRAVEL
		SILT
		SILTY SAND
		SAND and SILT
		SILTY CLAY
15		CLAY



**Remarks:**

**GEOLOGIC SYMBOL KEY**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATION SITE**  
**FLINT, MICHIGAN**

DEPTH	ELEVATION	Geologic Column	Stratigraphic Description
			CLAY and SILT
			CLAY and SAND
			CLAYEY SILT
			COAL
20	-20		PEAT
25	-25		
30	-30		
35	-35		



Remarks:

<b>Date Start/Finish:</b> 3/28/04 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 565096.55 <b>Easting:</b> 13305981.59 <b>Casing Elevation:</b> 744.90' AMSL  <b>Borehole Depth:</b> 13' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Wayne Patterson	<b>Well/Boring ID:</b> 03-01R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
1		1-3		7	10	1.5	0.0	+	ML		Black (10YR 2/1) SILT (ML), some Clay and fine Sand, Gravel aggregate from 0 - 1.0' bgs, aplastic, strong odor, damp to moist. [FILL]	
2		3-5		2	6	2.0	0.0	+		Gray (10YR 5/1) SILT (ML), aplastic, strong odor, moist to saturated at 4.8' bgs.		
5	-5			2						No samples collected from 5.0' - 13' bgs. See log for location 03-01 for geologic description.		
10	-10											
15	-15											

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 engineers, scientists, economists

**Remarks:**  
 bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Applicable/Not Available; +/- = Positive/Negative Test Result.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/30/04 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 565209.04 <b>Easting:</b> 13306124.73 <b>Casing Elevation:</b> 746.47' AMSL  <b>Borehole Depth:</b> 15' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Wayne Patterson	<b>Well/Boring ID:</b> 03-03R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											Cement pad with 9" diam. cast iron/PVC skirted flushmount cover  Bentonite Seal (1.0' - 3.0' bgs)  2" ID Sch. 40 PVC Riser (0.3' - 5.0' bgs)
5	-5	1	3-5	2 3 4	7	1.5	0.0	+	ML	Black (10YR 2/1) SILT (ML), little Clay, few fine Sand, strong odor, damp to moist.		
		2	5-7	6 6 7	13	0	0.0	NA		Occasional Concrete fragments at 5.7' bgs.		
		3	7-9	9 4 3 3	7	0.5	0.0	+		Wet at 8.5' bgs.		#5 Well Sand Pack (3.0' - 15' bgs)
10-10										No samples collected from 9.0' - 15' bgs. See log for location 03-03 for geologic description.		2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)
15	-15											

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 NA = Not Applicable/Not Available; +/- = Positive/Negative Test Result.

Water Level Data		
Date	Depth	Elev.

Date Start/Finish: 3/29/04  
 Drilling Company: Rau Drilling  
 Driller's Name: Greg Compeau  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4-1/4" ID  
 Rig Type: CME 55

Northing: 565209.17  
 Easting: 13305943.03  
 Casing Elevation: 747.95' AMSL

Well/Boring ID: 03-101R

Client: General Motors

Borehole Depth: 14' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Flint, Michigan

Descriptions By: Wayne Patterson

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows /6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		0-3	NA							CONCRETE	Black (10YR 2/1) SILTY SAND (SM), medium dense to loose, poorly graded, no apparent odor, damp. [FILL]	
1	-5	3-5		4 6 6 7	12	1.75	0.0	+	SM			
2		5-7		3 2 4 2	6	1.0	0.0	+			Saturated at 6.8' bgs.	
											No samples collected from 7.0' - 14.0' bgs. See log for location 03-101 for geologic description.	
10-10												
15-15												




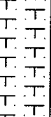
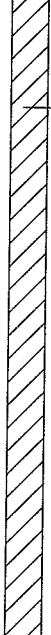
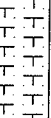
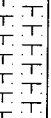
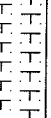
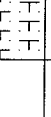
**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Applicable/Not Available; +/- = Positive/Negative Test Result.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/11/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 565284.02 <b>Easting:</b> 13305985.53 <b>Casing Elevation:</b> 748.16' AMSL  <b>Borehole Depth:</b> 20' bgs <b>Surface Elevation:</b> 748.41' AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> 03-105R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
0	0											
									FL		CONCRETE.	
		1	1-3	7 9 13 27	22	1.0	0.0	-			Black (10YR 2/1) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, Slag and Ash present, large amount of Metallic debris present, aplastic, no odor, dense, dry. Foundry Sand.	 Borehole grouted to surface.
		2	3-5	4 10 NA NA	NA	1.0	0.0	-			Wood and Metallic debris at 3.0' bgs.	
5	-5	3	5-7	3 5 7 7		0.6	0.0	-	SM		Patch of white Ash, 1/2" in diameter, damp at 7.0' bgs.	
		4	7-9	3 3 3 5	6	0.8	0.0	-			Mottled to gray (10YR 5/1) and dark yellow-brown (10YR 4/6) at 8.5' bgs.	
		5	9-10	2 5	NA	0.5	27.6	+				
10	10											
15	15											

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**Remarks:** bgs = below ground surface; + = Positive Test Result  
 AMSL = Above Mean Sea Level; NA = Not  
 Applicable/Not Available; WH = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 4/4/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 565292.34 <b>Easting:</b> 13305981.64 <b>Casing Elevation:</b> 748.16 AMSL  <b>Borehole Depth:</b> 20' bgs <b>Surface Elevation:</b> 748.41 AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> 03-105R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
750													
0									FL	CONCRETE	CONCRETE	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Grout (0.5' - 4.8' bgs) 2" ID Sch. 40 PVC Riser (0' - 9.0' bgs)	
745		1	1-3	7 9 13 27	22	1.0	0.0	-		SM	Black (10YR 2/1) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, Slag and Ash present, large amount of Metallic debris present, aplastic, no odor, dense, dry. Foundry Sand.  Wood and Metallic debris at 3.0' bgs.	Hydrated Bentonite Seal (4.8' - 7.0' bgs)	
5		2	3-5	4 10 NA NA	NA	1.0	0.0	-			Patch of white Ash, 1/2" in diameter, damp at 7.0' bgs.		
		3	5-7	3 5 7 7	12	0.6	0.0	-			Mottled to gray (10YR 5/1) and dark yellow-brown (10YR 4/6) at 8.5' bgs.	#5 Well Sand Pack (7.0' - 20' bgs)	
740		4	7-9	3 3 5	6	0.8	0.0	-			Black (10YR 2/1) fine to coarse subangular POORLY GRADED SILTY SAND (SM), few fine to coarse rounded Gravel, little Clay, up to 40% Slag present throughout, loose, strong odor, moist with oil. Foundry Sand and Slag.	2" ID Sch. 40 PVC 0.010" Slotted Screen (9.0' - 19' bgs)	
10		5	9-10	2 5	NA	0.5	27.6	+			No recovery from 12' - 14' bgs due to large pieces of Slag in shoe.		
		6	10-12	23 24 13 8	41	0.3	52.7	+			Gray (10YR 5/1) SILT (ML), little Clay, few fine subrounded Sand, aplastic, moderate odor, loose, saturated. Glacio-Alluvial.		
735		7	12-14	10 15 17 24	32	0.0	48.8	+					
15		8	14-16	7 9 6 4	15	0.5	14.3	+	ML				

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**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; WH = Weight of Hammer.  
 Refusal at 11' bgs after 3 attempts on 3/11/03.  
 Sample information from 0 - 10' bgs from 1st attempt.

Water Level Data		
Date	Depth	Elev.

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Boring ID: 03-105R  
 Borehole Depth: 20' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730		9	16-18	8 10 18 12	18	0.0	NA	NA	ML		Gray (10YR 5/1) SILT (ML), little Clay, few fine subrounded Sand, aplastic, moderate odor, loose, saturated. Glacio-Alluvial.	↑ SILT ↓	 #5 Well Sand Pack (8.0' - 20' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (9.0' - 19' bgs)
		10	18-20	5 6 8 10	14	1.1	4.8	+	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, moderately plastic, weak to no odor, soft to medium stiff, damp. Native Glacial Clay Till.		
20													
725													
25													
720													
30													
715													
35													



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; WH = Weight of Hammer.  
 Refusal at 11' bgs after 3 attempts on 3/11/03.  
 Sample information from 0 - 10' bgs from 1st attempt.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 4/4/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 565292.34 <b>Easting:</b> 13305981.64 <b>Casing Elevation:</b> 748.16' AMSL  <b>Borehole Depth:</b> 20' bgs <b>Surface Elevation:</b> 748.41' AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> 03-105R2  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
750												
0									FL	CONCRETE.		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		1	1-3	7 9 13 27	22	1.0	0.0	-			Black (10YR 2/1) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, Slag and Ash present, large amount of Metallic debris present, aplastic, no odor, dense, dry. Foundry Sand.	Grout (0.5' - 4.8' bgs)
745		2	3-5	4 10 NA NA	NA	1.0	0.0	-			Wood and Metallic debris at 3.0' bgs.	2" ID Sch. 40 PVC Riser (0' - 9.0' bgs)
5		3	5-7	3 5 7 7	12	0.6	0.0	-			Patch of white Ash, 1/2" in diameter, damp at 7.0' bgs.	Hydrated Bentonite Seal (4.8' - 7.0' bgs)
740		4	7-9	3 3 5	6	0.8	0.0	-	SM		Mottled to gray (10YR 5/1) and dark yellow-brown (10YR 4/6) at 8.5' bgs.	
10		5	9-10	2 5	NA	0.5	27.6	+				#5 Well Sand Pack (7.0' - 20' bgs)
		6	10-12	23 24 13 8	41	0.3	52.7	+			Black (10YR 2/1) fine to coarse subangular POORLY GRADED SILTY SAND (SM), few fine to coarse rounded Gravel, little Clay, up to 40% Slag present throughout, loose, strong odor, moist with oil. Foundry Sand and Slag.	2" ID Sch. 40 PVC 0.010" Slotted Screen (9.0' - 19' bgs)
735		7	12-14	10 15 17 24	32	0.0	48.8	+			No recovery from 12' - 14' bgs due to large pieces of Slag in shoe.	
15		8	14-16	7 9 6 4	15	0.5	14.3	+	ML		Gray (10YR 5/1) SILT (ML), little Clay, few fine subrounded Sand, aplastic, moderate odor, loose, saturated. Glacio-Alluvial.	



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 AMSL = Above Mean Sea Level; NA = Not Applicable/Not Available; WH = Weight of Hammer.  
 Refusal at 11' bgs after 3 attempts on 3/11/03.  
 Sample information from 0 - 10' bgs from 1st attempt.

**Water Level Data**

Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: 03-105R2

Borehole Depth: 20' bgs

DEPTH	ELEVATION	Sample Run Number	Sampler/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
730		9	16-18	8 10 18 12	18	0.0	NA	NA	ML		Gray (10YR 5/1) SILT (ML), little Clay, few fine subrounded Sand, aplastic, moderate odor, loose, saturated. Glacio-Alluvial.	<p>#5 Well Sand Pack (8.0' - 20' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (9.0' - 19' bgs)</p>
20		10	18-20	5 6 8 10	14	1.1	4.8	+	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, moderately plastic, weak to no odor, soft to medium stiff, damp. Native Glacial Clay Till.	
725												
25												
720												
30												
715												
35												



Remarks: bgs = below ground surface; + = Positive Test Result  
 AMSL = Above Mean Sea Level; NA = Not Applicable/Not Available; WH = Weight of Hammer.  
 Refusal at 11' bgs after 3 attempts on 3/11/03.  
 Sample information from 0 - 10' bgs from 1st attempt.

Water Level Data

Date	Depth	Elev.

**Date Start/Finish:** 3/30/04  
**Drilling Company:** Rau Drilling  
**Driller's Name:** Greg Compeau  
**Drilling Method:** HSA/SS  
**Sampler Size:** 2' x 2" ID  
**Auger Size:** 4-1/4" ID  
**Rig Type:** CME 55

**Northing:** 565312.37  
**Easting:** 13306004.96  
**Casing Elevation:** 747.76' AMSL  
  
**Borehole Depth:** 13' bgs  
**Surface Elevation:** NA  
  
**Descriptions By:** Ryan Tuttle

**Well/Boring ID:** 03-105R3  
**Client:** General Motors  
  
**Location:** GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sampler/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Bentonite Seal (1.0' - 2.5' bgs) 2" ID Sch. 40 PVC Riser (0.3' - 3.0' bgs)
5	-5	1	3-5	4 2 2 4	4	1.5	0.0	+	SM	Black (10YR 2/1) non-plastic, mostly fine subrounded POORLY GRADED SILTY SAND (SM), foundry sand, trace Slag, loose to medium dense, no odor, dry to damp. [FILL]		
		2	5-7	7 7 8	14	2	0.0	+		Saturated at 7' bgs.		
		3	7-9	4 2 2 3	4	1.75	0.0	+		2" brown (10YR1/1) SILTY SAND lense, at 8.5' bgs.		#5 Well Sand Pack (2.5' - 13' bgs)
10-10											No samples collected from 9.0' - 13.0' bgs. See log for location 03-105R2 for geologic description.	2" ID Sch. 40 PVC 0.010" Slotted Screen (3.0' - 13' bgs)
15-15												



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 NA = Not Applicable/Not Available; +/- = Positive/Negative Test Result.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/29/04 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 565146.03 <b>Easting:</b> 13305989.28 <b>Casing Elevation:</b> 746.76' AMSL  <b>Borehole Depth:</b> 14' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Wayne Patterson	<b>Well/Boring ID:</b> 03-110R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
										CONCRETE		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		1-3		9 7 6 8	13	2.0	0.0	-	SM	Black (10YR 2/1) fine POORLY GRADED SILTY SAND (SM), medium dense, no apparent odor. [FILL]		Bentonite Seal (1.0' - 2.5' bgs) 2" ID Sch. 40 PVC Riser (0.3' - 4.0' bgs)
2		3-5		5 4 2 3	6	0.5	0.0	-	SP	Yellow Brown (10YR 2/1) fine poorly graded SAND (SP), rare fragments of Clay, loose, no apparent odor, damp. [FILL]		
3	-5	5-7		3 2 2 3	4	1.0	0.0	-		Saturated at 6' bgs.		
										No samples collected from 7.0' - 14.0' bgs. See log for location 03-110 for geologic description.		#5 Well Sand Pack (2.5' - 14' bgs)
10	-10											2" ID Sch. 40 PVC 0.010" Slotted Screen (4.0' - 14' bgs)
15	-15											

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 NA = Not Applicable/Not Available; +/- = Positive/Negative Test Result.

Water Level Data		
Date	Depth	Elev.


<b>Date Start/Finish:</b> 12/4/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Tom Rau <b>Drilling Method:</b> HSA <b>Sampler Size:</b> 2" x 2' long <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME	<b>Northing:</b> NA <b>Easting:</b> NA <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 13' bgs. <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> 03-113R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										0-4' see 03-113 boring log.		
5	-5	1	4-6'	3 3 3 2	6	2.0	NA	NA	SP		Yellow-brown (10YR 5/4) fine SAND (SP), loose, wet, no odor. (Fill) Saturated.		
											6-13' see 03-113 boring log.		
15	-15												

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		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 3/4/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 565294.11 <b>Easting:</b> 13306176.13 <b>Casing Elevation:</b> 746.27 AMSL  <b>Borehole Depth:</b> 19' bgs <b>Surface Elevation:</b> 746.72 AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> 03-114R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0										FL	ASPHALT. CONCRETE.	CONCRETE	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
745		1	1-3	10 15 22 5	37	1.5	0.0	-		ML	Black (10YR 2/1) to very dark brown (10YR 2/2) SILT (ML), some Clay, few to locally little fine to coarse subrounded to angular Sand, trace fine to coarse rounded Gravel, Cinders, melted Glass, and Building Debris present, aplastic, very dense, no odor, dry. Native Till used as Backfill.	SILT	Grout (0.8' - 3.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 7.0' bgs)
		2	3-5	1 1 2 2	3	1.8	0.0	-			Decreased Clay to little, increased poorly graded fine Sand to little, loose below 3.0' bgs.		Hydrated Bentonite Seal (3.0' - 5.0' bgs)
5		3	5-7	1 1 2 2	3	1.1	0.0	-		SM	Brown (10YR 4/3) fine subangular POORLY GRADED SILTY SAND (SM), little to few Clay, aplastic, no odor, loose, dry. Fill Sand.	SILTY SAND	#5 Well Sand Pack (5.0' - 17.5' bgs)
740		4	7-9	1 1 1 1	2	1.6	0.0	-			Saturated to wet at 8.9' bgs.		
		5	9-11	1 2 2 2	4	1.8	0.0	-		CL	Dark gray (10YR 3/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, moderately plastic, soft, no odor, moist to damp. Native Clay Till used as Backfill.	SILTY CLAY	
10		6	11-13	WH WH 2 1	WH	1.3	0.0	-		SM	Brown (10YR 5/3) fine subangular POORLY GRADED SILTY SAND (SM), little to few Clay, aplastic, no odor, loose, moist. Fill Sand.	SILTY CLAY	2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)
735		7	13-15	4 3 2 2	5	1.6	0.0	-		CL	Very dark brown (10YR 2/2) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, yellow-brown (10YR 5/6) and gray (10YR 5/1) mottling, black saturated Silt lens at 11' bgs, moderately plastic, soft, no odor, moist to damp. Native Clay Till used as Backfill. Gray (10YR 4/1) 6" thick Silt lens, saturated at 12.1' bgs. Brown (10YR 5/3) 6" thick poorly graded fine subangular Sand (SP) lens, some fine to coarse angular to subangular Gravel, occasional subangular Pebbles, few Silt, no odor, loose, saturated at 13.9' bgs.		
15		8	15-17	2 4	8	2.0	0.0	-			Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above, 30% yellow-brown (10YR 5/4) mottling, homogeneous, occasional saturated Silt lenses up to 1.5" thick throughout, moderately plastic, soft, no odor, saturated. Native Undisturbed Glacial Clay Till.		



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**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available  
 WH=Weight of Hammer

Water Level Data		
Date	Depth	Elev.
3/4/03	11'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: 03-114R  
Borehole Depth: 19' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730		8	15-17	4 5	8	2.0	0.0	-	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL) few fine to coarse subrounded Sand, trace fine rounded Gravel, 30% yellow-brown (10YR 5/4) mottling, homogeneous, occasional saturated Silt lenses up to 1.5" thick throughout to 17' bgs, moderately plastic, soft, no odor, saturated. Native Undisturbed Glacial Clay Till.	↑ SILTY CLAY ↓	<p>#5 Well Sand Pack (5.0' - 17.5' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs) Natural Collapse (17.5' - 19' bgs)</p>
		9	17-19	2 5 6 9	11	2.0	0.0	-					
20													
725													
25													
720													
30													
715													
35													



Remarks: bgs = below ground surface;+ = Positive Test Result  
NA = Not Applicable/Not Available  
WH=Weight of Hammer

**Water Level Data**

Date	Depth	Elev.
3/4/03	11'	

<b>Date Start/Finish:</b> 8/23/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 566775.01 <b>Easting:</b> 13306492.79 <b>Casing Elevation:</b> 752.13 ft. AMSL  <b>Borehole Depth:</b> 30' bgs <b>Surface Elevation:</b> 752.26 AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> 20-101RD  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
755													
0													Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		0-2		3 4 9	13	1.5	0.0	-	ML		Dark brown (10YR 3/3) SILT (ML), few fine to coarse subrounded Sand, trace fine rounded Gravel, few Clay, Vegetation such as Grass and Roots present, aplastic, medium dense, moist with rainfall.	STIL	
750											Bleached light brown-gray (10YR 6/2) SILT (ML) as above, old root structure present, patches of Topsoil, dry.		
2		2-4		8 6 7	13	1.5	0.0	-			Black (10YR 2/1) SILT (ML), no odor, aplastic, medium dense, dry. Foundry Fill material.		Tremmie Grout (0.5' - 17' bgs)
5											Very dark gray-brown (10YR 4/2) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, few to trace rounded Gravel, heavily oxidized and with black mottling throughout, Cinders and Metallic debris present, 6" of Concrete Rubble from 3.0' - 3.5' bgs, aplastic, medium stiff, no odor, dry. Native Clay Till used as backfill.	Silty CLAY	2" ID Sch. 40 PVC Riser (0' - 20.5' bgs)
3		4-6		7 8 8	17	1.3	0.0	-	CL		Black (10YR 2/1) Cinders present at 4.8' bgs.		
745											Becomed increasingly gray in color and decreasing stiffness with depth, occasional Cinder present at 5.8' bgs.		
4		6-8		4 5 2	7	1.6	0.0	-			2"-thick lense of Cinders, moist to wet at 7.3' bgs. Soft to very soft, moist to damp at 7.5' bgs.		
10											Dark gray (10YR 4/2) SILT (ML), some Clay, trace fine to medium subrounded Sand, rare Cinders, aplastic, no odor, loose. Native Glacial Till used as backfill and/or Glacio-alluvial.		
5		8-10		1 2 2	4	1.8	0.0	-			Moist to wet at 9.8' bgs.		
6		10-12		1 2 7	3	1.9	0.0	-			Becoming gray (10YR 5/1) with fine subangular Sand at 10.7' bgs. Saturated at 11.4' bgs.		
740											Gray (10YR 6/1) SILT (ML), trace Clay, trace fine subangular Sand, no odor, medium dense, aplastic, saturated. Glacio-alluvial.	SILT	
7		12-14		5 6 8 9	14	1.5	0.0	-	ML				
15											Increased Clay content to little at 16' bgs.		
8		14-16		3 5 5 6	10	1.4	0.0	-					



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
8/23/02	11.4'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: 20-101RD

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction				
735		9	16-18	3 5 5 6	10	1.4	0.0	-		ML	Gray (10YR 6/1) SILT (ML), little Clay, trace fine subangular Sand, no odor, medium dense, aplastic, saturated. Glacio-alluvial.	↑					
20		10	18-20	2 5 4 5	9	1.6	0.0	-									
		11	20-22	3 3 4 4	7	1.5	0.0	-									
730		12	22-24	3 2 3 3	5	1.5	0.0	-									
25		13	24-26	2 1 2 3	3	1.3	0.0	-									
725		14	26-28	2 2 3 4	5	1.5	0.0	-	CL					Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to medium rounded Gravel, homogenous, no odor, wet to moist. Native Glacial Clay Till. Moist at 24.5' bgs.	↑		
		15	28-30	1 3 4 7	7	2.0	0.0	-									
30																	
720																↓	
35																	



Remarks: bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.

Water Level Data

Date	Depth	Elev.
8/23/02	11.4'	

<b>Date Start/Finish:</b> 12/3/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA <b>Sampler Size:</b> 2" x 2' long <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME	<b>Northing:</b> 567032.60 <b>Easting:</b> 13306825.97 <b>Casing Elevation:</b> 751.24  <b>Borehole Depth:</b> 16' bgs. <b>Surface Elevation:</b> 751.00  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> 20-500R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										0-5' see 20-500 boring log.		
5	-5	1	5-7'	2 3 3 4	6	2.0	NA	NA			Yellowish-brown (10 YR 5/4) fine SAND (SP), loose, damp, no odor. (Fill)		
		2	7-9'	2 2 3 4	5	2.0	NA	NA	SP	Gray (10YR 5/1).			
		3	9-11'	3 3 3 3	6	2.0	NA	NA		Black (10YR 2/1), saturated, strong odor.			
10-10											11-16' see 20-500 boring log.		
15-15													

	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available. For descriptions from 0-5' and 11-16' bgs, see 20-500 boring log.	<b>Water Level Data</b>													
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.										
Date	Depth	Elev.													

<b>Date Start/Finish:</b> 12/4/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Tom Rau <b>Drilling Method:</b> HSA <b>Sampler Size:</b> 2" x 2' long <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME	<b>Northing:</b> NA <b>Easting:</b> NA <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 15' bgs. <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> 20-FP4R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										0-3' see 20-FP4 boring log.		
5	-5	1	3-5'	9 13 18 32	31	2.0	NA	NA		ML	Black (10YR 2/1) fine SAND and SILT (ML), some metal and wood debris, rare slag, medium dense, damp, little odor. (Fill)		
		2	5-7'	8 11 13 15	24	2.0	NA	NA	Product saturated.				
		3	7-9'	14 32 23 23	55	NA	NA	NA					
10-10											9-15' see 20-FP4 boring log.		
15	15												

	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available. For descriptions from 0-3' and 9-15' bgs, see 20-FP4 boring log.	<b>Water Level Data</b>		
		Date	Depth	Elev.

<b>Date Start/Finish:</b> 12/3/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA <b>Sampler Size:</b> 2" x 2' long <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME	<b>Northing:</b> 565627.49 <b>Easting:</b> 13306256.92 <b>Casing Elevation:</b> 748.31  <b>Borehole Depth:</b> 15' bgs. <b>Surface Elevation:</b> 748.32  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> 20-FP6R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										0-5' see 20-FP6 boring log.		
5	-5	1	5-7'	3 4 4 3	8	2.0	NA	NA		SM	Black (10YR 2/1) fine Silty SAND (SM), loose, damp, no odor. (Fill)	SILTY SAND	
		2	7-9'	5 6 7 3	13	1.75	NA	NA		SM	Black (10YR 2/1) fine to coarse Silty SAND (SM), some fine angular Gravel, loose, saturated, weak odor. (Fill)  Saturated.		
10-10											9-15' see 20-FP6 boring log.		
15-15													

	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available. For descriptions from 0-5' and 9-15' bgs, see 20-FP6 boring log.	<b>Water Level Data</b>													
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.										
Date	Depth	Elev.													


<b>Date Start/Finish:</b> 12/4/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Tom Rau <b>Drilling Method:</b> HSA <b>Sampler Size:</b> 2" x 2' long <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME	<b>Northing:</b> 565861.24 <b>Easting:</b> 13306556.66 <b>Casing Elevation:</b> 749.63  <b>Borehole Depth:</b> 15' bgs. <b>Surface Elevation:</b> 749.59  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> 20-FP9R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										0-7' see 20-FP9 boring log.		
5	-5	1	7-9'	3 4 4 5	8	2.0	NA	NA	SP		Brown (10YR 5/3) fine SAND (SP), loose, no odor. (Fill)  Saturated.		
10-10											9-15' see 20-FP9 boring log.		
15-15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available. For descriptions from 0-7' and 9-15' bgs, see 20-FP9 boring log.	<b>Water Level Data</b>													
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.										
Date	Depth	Elev.													

<b>Date Start/Finish:</b> 2/13/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 561686.65 <b>Easting:</b> 13305940.66 <b>Casing Elevation:</b> 733.64 AMSL  <b>Borehole Depth:</b> 14' bgs <b>Surface Elevation:</b> 733.98 AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> 40-01R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
735													
0													Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Grout (0.5' - 2.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 6.0' bgs) Hydrated Bentonite Seal (2.0' - 4.0' bgs) #5 Well Sand Pack (4.0' - 12' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (6.0' - 11' bgs) Formation Collapse (12' - 14' bgs)
									FL	x x x x x x x x x x	FILL debris, piping and rebar from demolition activities.	FILL	
		1	1-3	2 3 3	6	1.5	NA	-			Yellow-brown (10YR 5/4) SILTY fine to medium subangular POORLY GRADED SAND (SM), few Clay, aplastic, loose, no odor, dry. Fill Sand.		
730				4							Cinders and Metallic debris at 3.5' bgs.		
5		2	3-5	2 1 1	2	0.5	NA	-	SM		Wood and fine to coarse subrounded well graded Gravel, saturated at 6.8' bgs.  Black (10YR 2/1) color, saturated at 7.8' bgs.	SILTY SAND	
		3	5-7	1 5 3	15	1.2	NA	-			Light yellow-brown (10YR 6/4) fine to coarse WELL GRADED SAND (SW), some Silt, little fine to coarse subrounded to rounded Gravel and Clay, occasional rounded Pebbles, aplastic, no odor, medium dense to loose, saturated. Glacio-Alluvial.	Fine SAND	
725		4	7-9	3 4 5	9	1.3	NA	-	SW		Gray (10YR 5/1) SILTY LEAN CLAY (CL), heavily oxidized to yellow-brown (10YR 6/4) to 12' bgs, few fine to coarse rounded to subrounded Sand, trace to few fine to medium rounded Gravel, very stiff, weakly plastic, no odor, dry. Native Glacial Clay Till.	SILTY CLAY	
10		5	9-11	5 9 10	15	1.7	NA	-					
		6	11-13	10 25 23 29	48	2.0	NA	-	CL				
720													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer Located 7' West of 40-01.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		2/13/03	6.8'	


<b>Date Start/Finish:</b> 12/8/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Denny <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME	<b>Northing:</b> <b>Easting:</b> <b>Casing Elevation:</b>  <b>Borehole Depth:</b> 10' bgs <b>Surface Elevation:</b>  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> 40-01R2  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										0-5' see 40-01R boring log.		
5	-5	1	5-7'	1	2	1.8	NA	NA	SM	Yellow-brown (10YR 5/4) SILTY fine to medium subangular poorly graded Silty SAND (SM), few Clay, loose, no odor, wet. (Fill) Dark gray (10YR 4/1), saturated.	Silty Sand		
10	-10										7-10' see 40-01R boring log.		
15	-15												

	<b>Remarks:</b> bgs = below ground surface NA = Not Applicable/Not Available For descriptions from 0-5' and 7-10' bgs, see 40-01R boring log.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

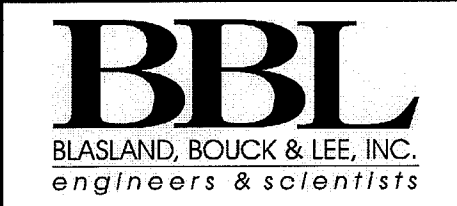
<b>Date Start/Finish:</b> 2/14/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 561665.61 <b>Easting:</b> 13305811.61 <b>Casing Elevation:</b> 735.00 AMSL  <b>Borehole Depth:</b> 11' bgs <b>Surface Elevation:</b> 735.33 AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> 40-6R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	735								FL	CONCRETE	CONCRETE	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Grout (0.5' - 1.5' bgs) 2" ID Sch. 40 PVC Riser (0' - 4.5' bgs) Hydrated Bentonite Seal (1.5' - 3.0' bgs)	
1		1-3		16	16	1.9	NA	-	CL	Very dark brown (10YR 5/3) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, trace fine rounded Gravel, intermittent Silty Sand lenses up to 3" thick mixed with Cinders and Metallic debris, weakly plastic, very stiff, no odor, dry. Native Till used as backfill mixed with Fill Sand.	SILTY CLAY		
2		3-5		1	5	7	NA	-	SM	Black (10YR 2/1) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, loose to medium dense, no odor, dry. Fill Sand.	SILTY SAND	#5 Well Sand Pack (3.0' - 10' bgs)	
3	730	5-7		1	1	2	NA	+	SM	Saturated at 6.6' bgs.	SILTY SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (4.5' - 9.5' bgs)	
4		7-9		1	1	2	NA	+	SM	Weak odor and faint sheen at 9.0' bgs.	SILTY SAND		
5		9-11		4	4	10	NA	+	CL	Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, trace fine to medium rounded Gravel, weakly plastic, stiff to very stiff, no odor, dry. Native Glacial Clay Till.	SILTY CLAY	Natural Collapse (10' - 11' bgs)	
15	720												

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		2/14/03	6.6	

<b>Date Start/Finish:</b> 2/13/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 561643.26 <b>Easting:</b> 13305921.33 <b>Casing Elevation:</b> 735.37 AMSL  <b>Borehole Depth:</b> 24' bgs <b>Surface Elevation:</b> 735.73 AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> 40-07R2  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
735									FL	CONCRETE.		FILL	Grout (0.6' - 9.0' bgs)
1		1-3		12 14 12 10	26	1.8	NA	-	SM	Pale brown (10YR 2/3) to brown (10YR 5/3) fine to coarse subrounded to subangular POORLY GRADED SILTY SAND (SM), few Clay, trace fine rounded Gravel, aplastic, no odor, dense, dry. Fill Sand.		SILTY SAND	2" ID Sch. 40 PVC Riser (0' - 13' bgs)
2		3-5		7 6 5 6	11	1.5	NA	-		1"-thick lens with black (10YR 2/1) coarse angular Gravel, Silty Sand is now brown (10YR 5/3) at 4.0' bgs. Moist to damp at 4.7' bgs.			Hydrated Bentonite Seal (9.0' - 11' bgs)
730		5-7		NA	NA	0.0	NA	NA	FL	CONCRETE.		FILL	
4		7-9		4 4 7 9	11	1.2	NA	+	SM	Black (10YR 2/1) SILTY fine subangular POORLY GRADED SAND (SM), few Clay, aplastic, moderate odor, medium dense to loose, dry. Fill. Concrete Pebbles present, Sand is Cobble-sized at 8.5' bgs.		SILTY SAND	
10		9-10		NA	NA	0.0	NA	NA	FL	CONCRETE.		FILL	
725		10-12		3 4 4 3	8	1.3	NA	+	SM	Dark gray-brown (10YR 4/2) fine to coarse POORLY GRADED SILTY SAND (SM), few Clay, aplastic, moderate odor, medium dense to loose, damp to moist. Fill.		SILTY SAND	
7		12-14		2 2 2 2	4	1.5	NA	+	CL	Dark gray (10YR 3/2) SILTY LEAN CLAY (CL), few fine to coarse subangular to subrounded Sand, trace fine rounded Gravel, interbedded with Silty Sand lenses as above from 10' - 12' bgs, aplastic, moderate odor, damp. Native Till/Glacio-Alluvial.		SILTY CLAY	#5 Well Sand Pack (11' - 24' bgs)
15		14-16		2 2 2 2	4	1.6	NA	+	SP	Very dark gray (10YR 3/1) fine subangular POORLY GRADED SAND (SP), some Silt, few Clay, oily sheen present, aplastic, loose, moderate to strong odor, moist.		FINE SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (13' - 23' bgs)
720													

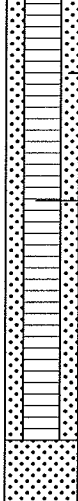


**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available  
 WH=Weight of Hammer

Water Level Data		
Date	Depth	Elev.
2/13/03	16	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: 40-07R2  
Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
20 715	9	16-18		2	5	1.5	NA	+	SP	[Dotted Pattern]	Very dark gray (10YR 3/1) fine subangular POORLY GRADED SAND (SP), some Silt, few Clay, oily sheen present, aplastic, loose, moderate to strong odor, saturated.	↑	 <p>#5 Well Sand Pack (11' - 24' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (13' - 23' bgs)</p>
				2									
				3									
				5									
	10	18-20		WH	2	1.7	NA	+					
				1									
	11	20-22		1	2	2.0	NA	+					
				1									
	12	22-24		1	4	1.5	NA	+					
				2									
				3									
	25 710												
30 705													
35 700													



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available  
WH=Weight of Hammer

**Water Level Data**

Date	Depth	Elev.
2/13/03	16	

**Date Start/Finish:** 12/4/03  
**Drilling Company:** Rau Drilling  
**Driller's Name:** Tom Rau  
**Drilling Method:** HSA  
**Sampler Size:** 2" x 2' long  
**Auger Size:** 4-1/4" ID HSA  
**Rig Type:** CME

**Northing:** 564888.56  
**Easting:** 13306494.43  
**Casing Elevation:** 742.96

**Borehole Depth:** 13' bgs.  
**Surface Elevation:** 743.04

**Descriptions By:** Wayne Patterson

**Boring ID:** 70-102R

**Client:** General Motors

**Location:** GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										0-3' see 70-102 boring log.		Portland Cement 0-1.0' bgs 2-inch PVC Riser 0.3-3' bgs Bentonite Seal 0.5-2' bgs
5	-5	1	3-5'	3 2 2	4	1.0	NA	NA	SM	[Symbol]	Black (10YR 2/1) fine to coarse subangular Silty SAND (SM), loose, moist, no odor. (Fill)	Silty sand	
		2	5-7'	2 2 7 3	9	1.0	NA	NA	ML	[Symbol]	Dark gray (10YR 4/1) SILT (ML), little fine Sand, no odor, moist. (Fill) Saturated.	SILT	#5 Well Sand 2-13' bgs
10-10											7-13' see 70-102 boring log.		2-inch ID 0.010" machine-slotted PVC Screen 3-13' bgs
15-15													



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Not Available.  
 For descriptions from 0-3' and 7-13' bgs, see 70-102 boring log.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 12/3/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA <b>Sampler Size:</b> 2" x 2' long <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME	<b>Northing:</b> 564776.42 <b>Easting:</b> 13306382.60 <b>Casing Elevation:</b> 743.04  <b>Borehole Depth:</b> 13' bgs. <b>Surface Elevation:</b> 742.88  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> 70-107R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										0-3' see 70-107 boring log.		
1	3-5'	3		8	2.0	NA	NA	CL			Pale brown (10YR 6/3) Silty CLAY (CL), some black (10YR 2/1) staining, medium stiff, moist, no odor. (Fill)	↑ Silty Clay	
2	5-7'	4		4	1.5	NA	NA	SM			Black (10YR 2/1) fine Silty SAND (SM), loose, saturated, no odor. (Fill)	↓ Silty sand	
7-13'											7-13' see 70-107 boring log.		
10-10													
15-15													

	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available. For descriptions from 0-3' and 7-13' bgs, see 70-107 boring log.	<b>Water Level Data</b>													
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.										
Date	Depth	Elev.													

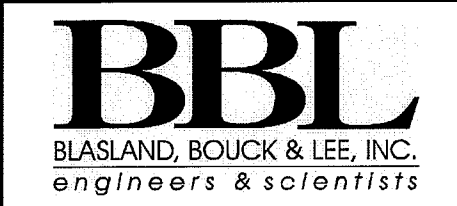
<b>Date Start/Finish:</b> 12/8/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Denny <b>Drilling Method:</b> HSA <b>Sampler Size:</b> 2" x 2' long <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME	<b>Northing:</b> 564933.29 <b>Easting:</b> 13306339.39 <b>Casing Elevation:</b> 744.34  <b>Borehole Depth:</b> 16' bgs. <b>Surface Elevation:</b> 744.42  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> 70-108R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0												
										Fill	CONCRETE.	concrete	
5	-5	1	5-7'	5 6 8	14	1.0	NA	NA	ML		Dark gray (10YR 4/1) SILT (ML), few Clay and slag, dry, no odor. (Fill).	silt	
				2							Black (10YR 2/1) Silty CLAY (CL), few fine to coarse subangular Sand and fine subangular Gravel, medium stiff, saturated, strong odor, product. (Fill)	Silty Clay	
10-10				2 5 3 5	8	1.0	NA	NA	CL		9-16' see 70-108 boring log.		
15-15													

<p><b>BLASLAND, BOUCK &amp; LEE, INC.</b> engineers &amp; scientists</p>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available. For descriptions from 0-2', 3-6' and 9-16' bgs, see 70-108 boring log.	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Water Level Data</th> </tr> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Water Level Data			Date	Depth	Elev.												
Water Level Data																				
Date	Depth	Elev.																		

<b>Date Start/Finish:</b> 3/4/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 561355.69 <b>Easting:</b> 13306147.41 <b>Casing Elevation:</b> 720.32 AMSL  <b>Borehole Depth:</b> 25' bgs <b>Surface Elevation:</b> 720.69 AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> 84-06R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	720	1	0-2	18	26	1.7	0.0	-	SM	ASPHALT.			Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
				10					ML		Brown (10YR 5/3) fine to coarse POORLY GRADED SILTY SAND (SM), few fine to coarse angular Gravel, aplastic, no odor, dense, dry. Fill Sand.	SILT SILTY SAND	Grout (1.0' - 10' bgs)
		2	2-4	4	10	1.3	0.0	-	SM		Black (10YR 2/1) SILT (ML) some Clay, few fine to coarse subrounded Sand, aplastic, no odor, dense, dry. Native Till used as Backfill.	SILT SAND	2" ID Sch. 40 PVC Riser (0' - 15' bgs)
				5							Yellow-brown (10YR 5/4) fine to coarse subangular to subrounded locally WELL GRADED SILTY SAND (SM), patches of poorly graded fine to medium Silty Sand up to 4" in diameter, few Clay, local patches of increased fine to coarse subrounded Gravel, no odor, mmedium dense to loose, damp. Fill Sand.	SILT SAND	
5	715	3	4-6	2	14	2.0	0.0	-			Yellow-brown (10YR 5/4) SILTY LEAN CLAY (CL), few fine to coarse rounded to subrounded Sand, trace fine to coarse rounded Gravel, gray (10YR 5/1) mottling locally present, weakly plastic, no odor, medium stiff, dry. Native Clay Till used as Backfill.	SILT CLAY	
				6									
		4	6-8	3	9	2.0	0.0	-					
				6									
		5	8-10	2	17	2.0	0.0	-					
10	710			6					CL		Brown (10YR 5/3) with occasional gray (10YR 5/1) mottling, dry at 10' bgs.	SILT CLAY	
		6	10-12	4	26	2.0	0.0	-					
				9									
		7	12-14	2	11	2.0	0.0	-			Yellow-brown (10YR 5/4) SILTY LEAN CLAY (CL) as above, homogeneous, weakly plastic, no odor, medium stiff, dry. Undisturbed Native Clay Till. Minute/tiny stringers of moisture present throughout, damp below 14' bgs.	SILT CLAY	Hydrated Bentonite Seal (10' - 12.8' bgs)
				4									
15	705	8	14-16	2	10	2.0	0.0	-					#5 Well Sand Pack (12.8' - 25' bgs)
				4									
				6									2" ID Sch. 40 PVC 0.010" Slotted Screen (15' - 25' bgs)
				6									



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available  
 WH=Weight of Hammer

Water Level Data		
Date	Depth	Elev.
3/4/03	17'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: 84-06R

Borehole Depth: 25' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
20	700	9	16-18	2 5 6 6	11	2.0	0.0	-	CL		Yellow-brown (10YR 5/4) SILTY LEAN CLAY (CL), few fine to coarse rounded to subrounded Sand, trace fine to coarse rounded Gravel, homogeneous, weakly plastic, no odor, medium stiff, dry. Undisturbed Native Clay Till.  Silt lenses up to 1" thick throughout, decreased stiffness between lenses, saturated below 17' bgs.	SILTY CLAY ↑ SILT ↓ SAND ↑	<p>#5 Well Sand Pack (12.8' - 25' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (15' - 25' bgs)</p>
		10	18-20	4 6 7 9	13	2.0	0.0	-	ML		Gray (10YR 5/1) SILT (ML), little to some Clay, homogeneous, aplastic, medium dense to loose, no odor, saturated. Glacio-Alluvial. 2" thick lens of SILTY Lean Clay (CL) at 19.1' bgs.		
		11	20-22	4 4 4 6	8	2.0	0.0	-			5" thick lens of SILTY Lean Clay (CL) at 21.5' bgs.		
		12	22-24	WH 1 2 3	3	2.0	0.0	-	SP		Gray (10YR 5/1) fine to coarse subangular POORLY GRADED SAND (SP), little Silt, aplastic, no odor, loose, saturated, Glacio-Alluvial.  Brown (10YR 5/3) with patches of darker oxidation in thin lenses less than 1/4" thick below 23.3' bgs.		
25	695												
30	690												
35	685												



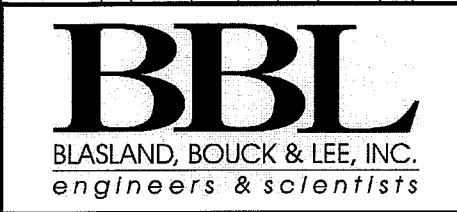
Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available  
WH=Weight of Hammer

**Water Level Data**

Date	Depth	Elev.
3/4/03	17'	

<b>Date Start/Finish:</b> 7/23/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 561317.55 <b>Easting:</b> 13306145.70 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 26' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> 84-06R2  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0			9									
1		0-2		9	21	1.0	37.9	-	FL	x x x x	Demolition DEBRIS consisting of coarse Gravel to Cobble-sized Concrete, Rebar, Brick, Wood, and Plastic. Fill	FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
2		2-4		12					SP	•••••	Yellow-brown (10YR 5/4) fine subangular POORLY-GRADED SAND (SP), some Silt, few Clay, aplastic, no odor, medium dense, dry. Fill Sand.	Fine SAND	Grout (0.5' - 6.0' bgs)
				13							Refusal at 3.0' bgs. Damp and increased Clay content.		2" ID Sch. 40 PVC Riser (0.2' - 15' bgs)
3		4-6		7									
				8									
5	-5	6-8		91"	17	1.0	0.4	-					
				-									
				6									
				8									
				11									
				10									
				7									
				16									
				26									
				27									
				6									
				7									
				22									
				26									
10	-10	8-10		6									
				7									
				22									
				26									
				7									
				15									
				20									
				25									
				7									
				9									
				19									
				10									
				13									
				4									
				5									
15	-15	14-16		11									
				4									
				5									
				6									
				7									



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available  
 WH=Weight of Hammer

Water Level Data		
Date	Depth	Elev.
7/23/03	22'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: 84-06R2  
Borehole Depth: 26' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
9	16-18	9		9					CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, homogenous, weakly plastic, no odor, soft to medium stiff, damp. Undisturbed Glacial Clay Till. (Low recovery due to Pebble in shoe.)	Silty CLAY	#5 Well Sand Pack (13' - 25' bgs)
		10		10	23	0.2	0.0						
20-20	18-20	4		4					ML		Gray (10YR 5/1) SILT (ML), some to little Clay, trace fine subangular Sand, aplastic, no odor, loose, saturated. Native Glacio-Alluvial.	SILT	
		5		5	11	1.6	0.0						
11	20-22	6		6					CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL), as above from 8.0' - 18' bgs.	CL	
		7		7	11	1.4	0.0						
12	22-24	WH		WH	NA	0.7	0.0		SP		Gray (10YR 5/1) fine to medium (predominantly fine) subangular POORLY-GRADED SAND (SP), little Silt, occasional Clay patches up to 1/2" to 1" diameter, no odor, loose, saturated. Alluvial	Fine SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (15' - 25' bgs)
		NA		NA									
25-25	24-26	WH		WH	NA	0.6	0.0				Rare fine subrounded Gravel below 25' bgs.		
											Water came up to 11' bgs in augers.		
30-30													
35-35													



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available  
WH=Weight of Hammer

**Water Level Data**

Date	Depth	Elev.
7/23/03	22'	

<b>Date Start/Finish:</b> 7/22/05 <b>Drilling Company:</b> Altech Inc. <b>Driller's Name:</b> Daniel Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" <b>Rig Type:</b> CME-75 Truck-Mount	<b>Northing:</b> 561317.55 <b>Easting:</b> 13306145.7 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 35' below grade <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> R. Tuttle/J. Kralik	<b>Well/Boring ID:</b> 84-06R2D  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	2 2 4 6	6	2.0	0.1		FL	x x x x x x x x x x	Demolition debris consisting of coarse Gravel to Cobble-sized Concrete fragments, Metal, Plastic, Brick, and Wood, some yellowish-brown fine to coarse Sand, loose, no odor, damp.	
		2	2-4	3 4 3 4	7	1.5	0.0	SP		Yellow-brown (10YR 5/4) fine POORLY-GRADED SAND (SP), some Silt, trace Clay, loose, no odor, damp. Fill.		
5	-5	3	4-6	2 3 3	4	1.5	0.7	CL		Gray-brown (10YR 5/3) with yellowish-brown CLAY (CL), some Silt, little red Brick debris, non-plastic, soft, slight sheen, odor, damp to wet. Upon pulling augers, recovered several large chunks of red drainage tile at depth of impacted soils.		
		4	6-8	1 3 5 7	8	NA	0.1				No Recovery. CLAY (CL) as above in tip of split spoon.	
		5	8-10	3 4 4 8	8	2.0	0.7	CL		Yellow-brown SILTY CLAY (CL), trace coarse Sand and fine Gravel, medium stiff, damp.		
10-10											Auger to 25' bgs.	
15-15												

<h1 style="margin: 0;">BBL®</h1> <p style="margin: 0;"><b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers, scientists, economists</i></p>	<b>Remarks:</b> bgs = below ground surface; NA = Not Available/Not Applicable.	<b>Water Level Data</b>													
		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Date</th> <th style="width: 25%;">Depth</th> <th style="width: 50%;">Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.										
Date	Depth	Elev.													

**Client:**

General Motors

**Well/Boring ID:** 84-06R2D

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 35' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20											Auger to 25' bgs.	2" ID Sch. 40 PVC Riser (0.3' - 27' bgs)
25-25		6	24-26	2 4 5 7	9	1.0	0.0		SP	Light brownish-gray (5YR 6/1) fine POORLY-GRADED SAND (SP), little Silt and Clay, loose, no odor, saturated.	Hydrated Bentonite Seal (1.0' - 25' bgs)	
		7	26-28	1 2 2 4	4	2.0	0.0		SP	Few coarse subrounded Gravel below 26' bgs.	#5 Well Sand Pack (25' - 35' bgs)	
		8	28-30	6 80/0.5 -	NA	1.0	0.0		SW	Brownish-gray (10Yr 4/1) below 28' bgs. Olive-gray (5YR 4/1) fine to coarse GRAVELLY fine SAND (SW), no odor, saturated. Possible Cobble prevented further advancement of split spoon at 29' bgs.	2" ID Sch. 40 0.010" Slot PVC Screen (27' - 33' bgs)	
30-30		9	30-32	NA	NA	0.5	0.0		GW	Olive-gray to brownish-gray fine to coarse GRAVEL (GW), some fine Sand, Cobble fragments present, saturated. Auger refusal at 31' bgs. Pull augers and redrill hole 5' north of existing well.		
		10	32-34	NA	NA	1.5	0.0		CL	Light olive-gray (5Y 6/1) fine to coarse SAND and fine to coarse subangular GRAVEL (GW), coarse material is Sandstone fragments, saturated. Brownish-gray (5YR 4/1) fine SANDY CLAY (CL), trace Silt, extremely hard, no odor, damp.		
35-35												2" ID Sch. 40 PVC Sump (33' - 35' bgs)



**Remarks:**  
bgs = below ground surface; NA = Not Available/Not Applicable.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 03/17/05 <b>Drilling Company:</b> Altech <b>Driller's Name:</b> D. Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID SS <b>Auger Size:</b> 4 - 1/4" ID <b>Rig Type:</b> CME 55 ATV	<b>Northing:</b> 561141.24 <b>Easting:</b> 13306252.85 <b>Casing Elevation:</b> 727.53' AMSL  <b>Borehole Depth:</b> 21' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> J. Kralik	<b>Well/Boring ID:</b> 84-07  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Hamilton Ave. Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0.8-2	2	NA	1.2	0.0				CONCRETE.	
		2	2-4	2	4	2.0	0.0	+	FL	Dark brown to black-brown fine SAND, some fine Gravel, little Silt, trace Clay and medium to coarse Sand, little Brick and Concrete debris, loose, damp. [FILL]		
				2						CONCRETE.		
5	-5	3	5-7	2	10	1.0	0.0	+		Dark brown to black-brown fine SAND, some fine Gravel, little Silt, trace Clay and medium to coarse Sand, little Brick and Concrete debris, loose, damp. [FILL]		
		4	7-9	1	7	1.5	0.0	-	ML	Olive gray SILT grading to yellow-brown coloring below 8.0' bgs, little Clay, no odor, medium stiff, damp.		
10-10		5	9-11	10	20	2.0	0.0			Yellow-brown to gray CLAY, some Silt, trace fine Sand, no odor, stiff, damp.		
		6	11-13	1	10	2.0	0.0	-	CL			
		7	13-15	2	8	2.0	0.0					
15-15		8	15-17	2	8	2.0	0.0	-	ML	Gray SILT becoming yellow-brown below 17.0' bgs, no odor, medium stiff to stiff, moist to wet.		



**Remarks:**  
 a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
 Soil sample collected from 0.0' - 2.0', 8.0' - 10.0' and 15' - 17'bgs for VOCs, SVOCs, PCBs and metals.

Water Level Data		
Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Hamilton Ave.  
Flint, Michigan

Well/Boring ID: 84-07  
Borehole Depth: 21' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20		8	15-17	6 8	8	2.0	0.0	-	ML		Gray SILT becoming yellow-brown below 17.0' bgs, no odor, medium stiff to stiff, moist to wet.	
		9	17-19	1 9	10	2.0	0.0					
		10	19-21	1 2 4 2	6	2.0	0.0	SP		Yellow-brown medium SAND, some fine and coarse Sand, trace Silt, no odor, loose, wet to saturated.		
25-25												
30-30												
35-35												



**Remarks:**  
a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
Soil sample collected from 0.0' - 2.0', 8.0' - 10.0' and 15' - 17'bgs for VOCs, SVOCs, PCBs and metals.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 7/18/05 <b>Drilling Company:</b> Altech Inc. <b>Driller's Name:</b> Daniel Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" <b>Rig Type:</b> CME-75 Truck-Mount	<b>Northing:</b> 561150.83 <b>Easting:</b> 13306253.82 <b>Casing Elevation:</b> 727.42' AMSL  <b>Borehole Depth:</b> 40' below grade <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> R. Tuttle	<b>Well/Boring ID:</b> 84-07D  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	4 5 4	9	1.0	0.0		FL		CONCRETE.	<p>Cement surface pad with flush-mount protective casing. #5 Well Sand Pack (0.5' - 1.5' bgs)</p> <p>2" ID Sch. 40 PVC Riser (0.3' - 27' bgs)</p> <p>Hydrated Bentonite Seal (1.5' - 25' bgs)</p>
		2	2-4	1 2 5 6	7	1.75	0.0		SP		Black (10YR 2/1) fine POORLY-GRADED SAND (SP), few Concrete rubble, loose, no odor, dry. No Concrete rubble below 2.0' bgs.	
-5	-5	3	4-6	NA	NA	0.0	NA				No Recovery. Drillers report subsurface Concrete from 4.0' - 6.0' bgs.	
		4	6-8	4 20 11	24	1.0	0.0		SP		Black (10YR 2/1) fine POORLY-GRADED SAND (SP), some Concrete rubble, slight fuel-like odor, loose, no odor, saturated.	
		5	8-10	2 8 10	10	1.5	0.0				Yellow-brown (10YR 5/6), with gray (10YR 5/1) mottling, LEAN CLAY with Silt (CL), few fine subrounded Gravel and coarse Sand, slightly plastic, medium stiff, damp. Reworked Native Clay Till. No Mottling, no odor below 9.0' bgs.	
10-10		6	10-12	2 3 10 8	13	1.75	0.0		CL		Gray (10YR 4/1) color, few fine subrounded Gravel, stiff to medium stiff, damp below 12' bgs.	
		7	12-14	2 3 7 9	10	1.5	0.0				No Gravel below 14' bgs.	
15-15		8	14-16	2 2 4 4	6	1.5	0.0					



**Remarks:**  
 bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

**Client:**

General Motors

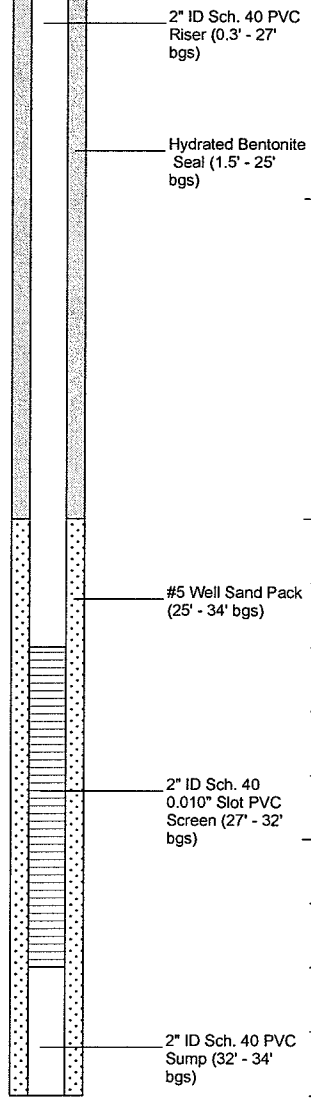
**Well/Boring ID:** 84-07D

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 40' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20		9	16-18	4	10	1.75	0.0		CL		Gray (10YR 5/1) LEAN CLAY with Silt (CL), few fine subrounded Gravel, slightly plastic, stiff to medium stiff, saturated. Reworked Native Clay Till.	
				4								
				6								
25-25		10	18-20	1	6	1.5	0.0		ML		Yellow-brown (10YR 5/6) CLAYEY SILT (ML), loose, no odor, saturated.	
				2								
				4								
30-30		11	20-22	1	3	2.0	0.0		SP		Gray-brown (10YR 5/2) fine to medium POORLY-GRADED SAND (SP), loose, no odor, saturated.	
				2								
				2								
35-35		12	22-24	NA	NA	1.25	0.0		SW		Gray-brown (10YR 5/2) fine to coarse WELL-GRADED SAND (SW), trace fine subangular Gravel, loose, no odor, saturated. Fluvial Deposit.	
				1								
				2								
35-35		13	24-26	6	8	1.0	0.0		SW		Little fine to medium subangular Gravel below 28' bgs.	
				8								
				9								
35-35		14	26-28	5	16	1.75	0.0		SW		Driller reports Boulder during drilling below 30' bgs.	
				11								
				9								
35-35		15	28-30	4	22	0.75	0.0		SW		Driller reports Clay at 32' bgs.	
				8								
				14								
35-35		16	30-32	50	NA	0.5	0.0		SW		Driller reports Clay at 32' bgs.	
				70								
				-								
35-35		17	32-34	10	NA	0.5	0.0		SW		Driller reports Clay at 32' bgs.	
				30								
				33								
35-35		18	34-36	5	28	1.0	0.0		CL		Gray (10YR 5/1) LEAN CLAY with Silt (CL), few fine subrounded Gravel and coarse Sand, slightly plastic, stiff, no odor, damp.	
				14								
				14								



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level;  
NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

Client:


General Motors

Well/Boring ID: 84-07D

Site Location:

General Motors NAO Flint  
Flint, Michigan

Borehole Depth: 40' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
19		36-38		105 57 18 -	NA	0.0	0.0				No Recovery.	
20		38-40		12 22 25 27	47	1.1	0.0		CL		Gray (10YR 5/1) LEAN CLAY with Silt (CL), few fine subrounded Gravel and coarse Sand, slightly plastic, stiff, no odor, damp.	
40-40												
45-45												
50-50												
55-55												



Remarks:

bgs = below ground surface; AMSL = Above Mean Sea Level;  
NA = Not Available/Not Applicable.

Water Level Data

Date	Depth	Elev.

<b>Date Start/Finish:</b> 8/28/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 558982.95 <b>Eastng:</b> 13304696.37 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 33' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> ACSP-B2AR <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0												
		NA	0-16	NA	NA	NA	NA	NA			Auger to 20' bgs. See log for ACSP-B2A for sampling information from 0 - 20' bgs.		<p>Cement pad with 9" diam. cast iron/PVC skirted flushmount cover</p> <p>Tremmied Grout (0.5' - 18' bgs)</p> <p>2" ID Sch. 40 PVC Riser (0' - 23' bgs)</p>
5	-5												
10	-10												
15	-15												

	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: ACSP-B2AR  
Borehole Depth: 33' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		NA	16-20	NA	NA	NA	NA	NA			Auger to 20' bgs. See log for ACSP-B2A for sampling information from 0 - 20' bgs.		Tremmed Grout (0.5' - 18' bgs)
20-20		1	20-22	10 15 24 32	39	1.7	0.0	-		CL	Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, saturated Silt lenses throughout, aplastic, very stiff to hard, weakly plastic, no odor, dry. Native Glacial Clay Till.	Silty CLAY	Bentonite Seal (18' - 21' bgs)
		2	22-24	18 58 -	58	1.0	0.0	-					
25-25		3	24-26	28 26 25 46	51	1.8	0.0	-		ML	1"-thick Silt lenses, saturated at 24.9' bgs. 6"-thick Silt lense, fine subrounded Gravel, rare fine to medium rounded Gravel, dense, no odor, saturated at 25.6' bgs.	SILT	#5 Well Sand Pack (21' - 33' bgs)
		4	26-28	15 27 32 35	64	1.5	0.0	-			1"-thick Silt lenses, saturated at 26.5' bgs. 1"-thick Silt lenses, saturated at 26.8' bgs.		
30-30		5	28-30	22 32 42 50	74	1.7	0.0	-		ML	Gray (10YR 5/1) SILT (ML), little Clay, aplastic, dense, no odor, saturated. Glacio-alluvial. Increased Sand content to little, fine subangular to subrounded Sand at 30' bgs.	SILT	2" ID Sch. 40 PVC 0.010" Slotted Screen (23' - 33' bgs)
		6	30-32	8 16 22 27	38	1.9	0.0	-					
		NA	32-33	NA	NA	NA	NA	NA					
35-35													



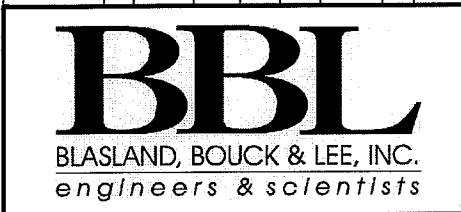
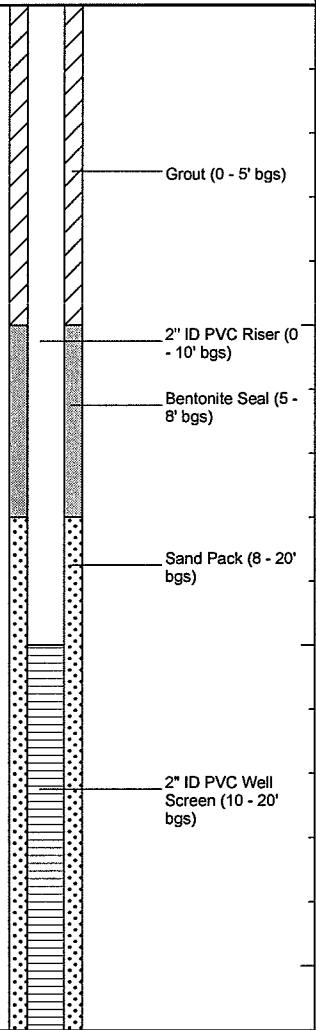
Remarks: bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.

Water Level Data

Date	Depth	Elev.

<b>Date Start/Finish:</b> 08/28/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 559972.69 <b>Easting:</b> 13304944.40 <b>Casing Elevation:</b> 736.42 ft. AMSL  <b>Borehole Depth:</b> 20' bgs <b>Surface Elevation:</b> 736.67 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> BD01-02R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0											No samples collected. See log for BD01-02 for sampling information from 0 - 20' bgs.		
735													
5													
730													
10													
725													
15													

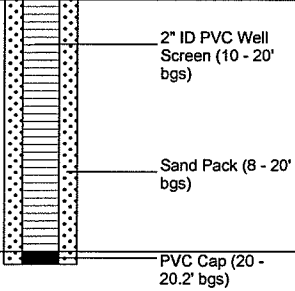


**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Not Available.

Water Level Data		
Date	Depth	Elev.

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Boring ID: BD01-02R  
 Borehole Depth: 20' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
720											No samples collected. See log for BD01-02 for sampling information from 0 - 20' bgs.		 <p>2" ID PVC Well Screen (10 - 20' bgs)</p> <p>Sand Pack (8 - 20' bgs)</p> <p>PVC Cap (20 - 20.2' bgs)</p>
20													
715													
25													
710													
30													
705													
35													



Remarks: bgs = below ground surface;  
 NA = Not Applicable/Not Available.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 4/2/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 559944.3 <b>Easting:</b> 13304978.56 <b>Casing Elevation:</b> 736.02 ft. AMSL  <b>Borehole Depth:</b> 22' bgs <b>Surface Elevation:</b> 736.33 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> BD01-04  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction	
0														
735		1	0-2	NA	8	14	1.3	0.0	-	FL	CONCRETE.	SAND/ILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover	
										SW	Brown (10YR 4/3) fine to coarse subangular to rounded WELL GRADED SAND (SW), increased maturity with increased grain-size, little fine to medium rounded Gravel, little Silt, aplastic, no odor, loose, dry. Fill.		Grout (0.7' - 5.0' bgs)	
		2	2-4		3	4	9	1.7	0.0	-	SM	Yellow-brown (10YR 5/4) fine subangular POORLY GRADED SILTY SAND (SM), little Clay, patches of Cinders and Slag present up to 3" in diameter, aplastic, no odor, loose, damp.	SILTY SAND	2" ID Sch. 40 PVC Riser (0' - 11' bgs)
5		3	4-6		2	3	7	1.6	0.0	-		Yellow-brown (10YR 5/4) with gray (10YR 5/1) mottling, SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, trace fine rounded Gravel, weakly to moderately plastic, no odor, soft, damp. Native Glacial Clay Till used as Backfill.		Hydrated Bentonite Seal (5.0' - 8.3' bgs)
730		4	6-8		3	4	8	1.7	0.0	-				
		5	8-10		1	1	2	2.0	0.0	-	CL	2"-thick Silt lense, wet at 8.9' bgs. 3"-thick Silty fine subangular poorly graded Sand (SM) lense, little to some Clay, loose, no odor, saturated (perched) at 9.4' bgs. 1"-thick Silty Sand lense as above at 9.4' bgs at 9.9' bgs.	SILTY CLAY	#5 Well Sand Pack (8.3' - 22' bgs)
10		6	10-12		2	2	6	2.0	0.0	-		3"-thick fine poorly graded Sand (SP) lense, damp at 10.9' bgs. 3"-thick Silty Sand (SM) lense, moist to wet as above at 9.4' at 11.4' bgs.		
725														
		7	12-14		2	2	5	1.5	0.0	-	SM	1"-thick Silt lense, saturated at 12.8' bgs. Yellow-brown (10YR 5/4) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, loose becoming increasingly dense with depth, damp. Glacio-Alluvial.	SILTY SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (11' - 21' bgs)
15		8	14-16		5	6	18	2.0	0.0	-	CL	Brown (10YR 5/3) to gray (10YR 5/1) SILTY LEAN CLAY (CL) as above from 5.0' - 12.9' bgs but homogenous, stiff, weakly plastic, up to 4"-thick lenses of wet and/or saturated Silt and/or Silty Sand as described above, dry. Undisturbed Native Glacial Clay Till. 4"-thick Silty Sand (SM) lense, saturated at 15.5' bgs.	SILTY CLAY	

**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; WH = Weight of Hammer.  
 Samples collected from 0.3' - 2.3' & 6.3' - 8.3' bgs.  
 Duplicate sample DUP-431 collected from 6.3' - 8.3' bgs.

Water Level Data		
Date	Depth	Elev.
4/2/03	9.4'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: BD01-04

Borehole Depth: 22' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
720		9	16-18	4 9 16 16	25	2.0	0.0	-	CL		Brown (10YR 5/3) to gray (10YR 5/1) SILTY LEAN CLAY (CL) as above from 5.0' - 12.9' bgs but homogenous, stiff, weakly plastic, up to 4"-thick lenses of wet and/or saturated Silt and/or Silty Sand as described above, dry. Undisturbed Native Glacial Clay Till.  2"-thick saturated Silt lense at 16.6' bgs.  7"-thick Silty Sand (SM) lense, saturated at 17.4' bgs.	↑ SILTY CLAY ↓	<p>#5 Well Sand Pack (8.3' - 22' bgs)  2" ID Sch. 40 PVC 0.010" Slotted Screen (11' - 21' bgs)</p>
20		10	18-20	5 6 9 14	15	1.1	0.0	-	SP		Gray (10YR 5/1) fine to coarse, predominantly fine, subangular to subrounded POORLY GRADED SAND (SP), few to little Silt, trace Shell fragments (?), aplastic, no odor, medium dense to loose, saturated. Glacio-Alluvial/Riverine.	↑ SAND ↓	
715		11	20-22	9 11 17 22	28	1.9	0.0	-	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above from 14' - 19' bgs. Undisturbed Native Glacial Clay Till.  Silty Sand lense, saturated at 21.9' bgs.	↑ SILTY CLAY ↓	
25													
710													
30													
705													
35													



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; WH = Weight of Hammer.  
Samples collected from 0.3' - 2.3' & 6.3' - 8.3' bgs.  
Duplicate sample DUP-431 collected from 6.3' - 8.3' bgs.


**Water Level Data**

Date	Depth	Elev.
4/2/03	9.4'	



<b>Date Start/Finish:</b> 8/21/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 3 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> NA <b>Easting:</b> NA <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 6.0' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> BD94-EP-02D  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0												
		1	0-2	5	10	1.2	NA	NA	FL	ASPHALT.		Clay	Borehole backfilled with Bentonite to grade.
				5					SM	Black (10YR 2/1) Silty fine subangular poorly graded SAND (SM), few Clay, Metallic debris present, aplastic, no odor, loose, dry. Foundry Sand.			
				5					CL	Very dark gray-brown (10YR 3/2) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, no odor, soft, plastic, dry. Native Clay Till used as backfill.			
		2	2-4	4	8	1.5	NA	NA	SM	Brown (10YR 5/3) Silty SAND (SM) as above from 0.5' - 0.9' bgs, with metallic debris and Slag. Fill Sand.		Sand	
				4							Black (10YR 2/1) Silty Lean CLAY (CL) as above from 0.9' - 1.7' bgs.		
				3									
5	-5	3	4-6	4	8	1.8	NA	NA	CL	Dark gray-brown (10YR 4/2) fine to coarse subangular to subrounded well graded GRAVEL (GW), little to some fine to coarse subangular Sand, little Silt, few Clay, no odor, aplastic, loose, saturated. Fill Sand (?).		Clay	
				4									
				4									
				6					GW				
10-10													
15-15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		8/21/02	5.8'	

Date Start/Finish: 03/17/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2"x2" ID SS  
 Auger Size: 4 - 1/4" ID  
 Rig Type: CME 55 ATV

Northing: NA  
 Easting: NA  
 Casing Elevation: NA

Boring ID: RFI-02-03R  
 Client: General Motors

Borehole Depth: 3' bgs  
 Surface Elevation: NA

Location:

Descriptions By: J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
0	0											
		1	0-1	NA	NA	NA					CONCRETE.	
		2	1-3	4 16 15 6	31	2	0.0 0.0		FL		Light brown to dark brown fine to coarse SAND, some fine subangular Gravel, little Silt and Clay, trace Brick, Concrete and Metal debris, few Cobbles, no odor, damp.	Borehole backfilled with Hydrated Bentonite Chips.
5	-5											
10	-10											
15	-15											




Remarks:

Water Level Data

Date	Depth	Elev.


<b>Date Start/Finish:</b> 2/24/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2x2" ID <b>Auger Size:</b> 4-1/4" <b>Rig Type:</b> CME 85	<b>Northing:</b> 562165.1 <b>Easting:</b> 13306012.64 <b>Casing Elevation:</b> 738.51 ft. AMSL  <b>Borehole Depth:</b> 15' bgs <b>Surface Elevation:</b> 739.05 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-02-12  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
740	0												
									FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		1	1-3	NA	10	1.2	0.0	-	SM	Yellow-brown (10YR 5/4) subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, medium dense to loose, no odor, dry. Fill Sand.		SILT and SAND	Grout (0.5' - 1.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 4.0' bgs) Hydrated Bentonite Seal (1.0' - 3.0' bgs)
		2	3-5	NA	4	1	0.0	-	GP	Yellow-brown (10YR 5/4) coarse subrounded GRAVEL (GP), trace Wood debris and Concrete, poorly graded. Fill.		GRAVEL	
		3	5-7	NA	8	2	0.0	-	CL	Very dark gray (10YR 3/4) to black (10YR 2/1) SILTY LEAN CLAY (CL), with yellow-brown (10Y 5/6) oxidation, few fine to coarse subrounded Sand, trace fine to medium subrounded to rounded Gravel, Cinders, Ash, and Glass, weakly plastic, very stiff, no odor. Native Clay Till used as Backfill.		SILT AND CLAY	
		4	7-9	NA	2	1.7	0.0	-	CL	Becomes gray to black (10YR 2/1) at 7.5' bgs. Black (10YR 2/1) with wood debris from 8.0' - 8.5' bgs.		SILT AND CLAY	#5 Well Sand Pack (3.0' - 14' bgs)
		5	9-11	NA	3	1.3	0.0	-	SM	Yellow-brown (10YR 5/4) SILTY SAND (SM) as at 1.2' - 4.0' bgs but saturated, loose, little to some Clay in patches, few fine to coarse subrounded Gravel. Glacio-Alluvial.		SILT and S	2" ID Sch. 40 PVC 0.010" Slotted Screen (4.0' - 14' bgs)
		6	11-13	NA	4	1.7	0.0	-	CL	Gray-brown (10YR 5/2) SILTY LEAN CLAY (CL) with gray (10YR 5/2) mottling, few fine to coarse subrounded to rounded Sand, trace fine to medium rounded Gravel, Silt and Silty Sand lenses throughout up to 2" thick, weakly plastic, medium stiff, no odor, saturated. Undisturbed Native Clay Till.		SILT AND CLAY	
		7	13-15	NA	6	2	0.0	-	CL	Dry with no lenses from 13' - 15' bgs.		SILT AND CLAY	
735	5												
730	10												
725	15												

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA - Not Applicable/Available. Samples collected from 1.2' - 3.2' and 7.0' - 9.0' bgs. Duplicate sample RFI-02-DUP-4/7 collected from 7.0' - 9.0'.	<b>Water Level Data</b>															
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.												
		Date	Depth	Elev.													

<b>Date Start/Finish:</b> 10/16/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allen Rau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 562647.31 <b>Easting:</b> 13306291.70 <b>Casing Elevation:</b> 731.00 AMSL  <b>Borehole Depth:</b> 12.5' bgs <b>Surface Elevation:</b> 731.44 AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-02-13  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
730		1	0-2	5	12	1.3	0.0	-	FL	ASPHALT.			Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
				7					SC	Yellow-brown (10YR 5/4) Clayey fine to coarse subangular to subrounded well graded SAND (SC), little Silt, trace fine to coarse subrounded Gravel, Metallic debris and Cinders present, aplastic, medium dense, no odor, damp. Fill.	Silt	Grout (0.5' - 1.0' bgs)	
				6					ML	Black (10YR 2/1) SILT (ML), trace Clay, few fine to medium subangular or subrounded Sand, Metallic debris, Slag, Ash, and Cinders present, aplastic, medium dense, no odor, damp. Fill Sand.	Silty Sand	2" ID Sch. 40 PVC Riser (0' - 2.5' bgs)	
		2	2-4	6	10	1.7	0.0	-	SM	brown (10YR 5/3) Silty fine to medium (predominantly fine) subangular poorly graded SAND (SM), little Clay, aplastic, medium dense, no odor, moist. Glacio-alluvial used as backfill.		Hydrated Bentonite Seal (1.0' - 2.0' bgs)	
5				5						Yellow-brown (10YR 5/8) SILT (ML), little Clay, few fine subangular Gravel, aplastic, medium dense, no odor, moist becoming saturated at 3.7' bgs. Glacio-alluvial used as backfill.			
				6						Gray (10YR 5/1) mottling at 4.8' bgs.			
725				7	14	1.7	0.0	-		1.5"-thick Silty Lean Clay lens, very stiff, moist to damp at 6.0' bgs.	Silt	#5 Well Sand Pack (2.0' - 12.5' bgs)	
		4	6-8	8	23	1.9	0.0	-	ML	Silty fine to coarse poorly graded Sand lens, few Clay, aplastic, no odor, medium dense, saturated from 7.5' - 7.9' bgs.			
				16									
				18									
		5	8-10	25	65	2.0	0.0	-					
				40									
10				47									
				16									
720		6	10-12	29	71	2.0	0.0	-	CL	Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, occasional stringers (< 1mm-thick) of oxidation to yellow-brown (10YR 5/8) throughout, homogeous, weakly plastic, very stiff to stiff, no odor, damp. Native Glacial Clay Till.	Silty Clay	2" ID Sch. 40 PVC 0.010" Slotted Screen (2.5' - 12.5' bgs)	
				42						Silty fine to coarse well graded subangular Sand lens, no odor, dense, saturated at 11.3' bgs.			
				50/5"									
		NA	NA	NA	NA	NA	0.0	NA					
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer.	<b>Water Level Data</b>												
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr> <td>10/16/02</td> <td>3.7'</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Date	Depth	Elev.	10/16/02	3.7'							
		Date	Depth	Elev.										
10/16/02	3.7'													

<b>Date Start/Finish:</b> 03/17/05 <b>Drilling Company:</b> Altech <b>Driller's Name:</b> D. Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID SS <b>Auger Size:</b> 4 - 1/4" ID <b>Rig Type:</b> CME 55 ATV	<b>Northing:</b> 562006.86 <b>Easting:</b> 13305984.84 <b>Casing Elevation:</b> 738.78' AMSL  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> J. Kralik	<b>Well/Boring ID:</b> RFI-02-14  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		1	0-2	NA	NA	2.0	0.0			CONCRETE.		Bentonite (1.0' - 3.0' bgs)
		2	2-4	2	6	0.0	0.0		FL	Dark brown to black-brown fine SAND, some fine Gravel, little Silt, trace Clay and medium to coarse Sand, some Brick, Concrete and Slag debris, damp.		
		3	4-6	2	4	0.5	0.0			No Recovery.		Hydrated Bentonite Seal (3.0' - 6.0' bgs)
		4	6-8	2	4	2.0	0.0			Fine to medium grained CONCRETE debris, some fine Gravel-sized Concrete chunks, loose, dry from 6.0' - 6.5' bgs.		2" ID Sch. 40 PVC Riser (0.5' - 8.0' bgs)
		5	8-10	2	10	2.0	0.0		FL	Wood fragments from 9.5' - 10.0' bgs. Loose below 10.0' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18.0' bgs)
		6	10-12	4	10	2.0	0.0		CL	Yellow-brown CLAY, some Silt, little fine subrounded Gravel, no odor, damp.		#5 Well Sand Pack (6.0' - 18.0' bgs)
		7	12-14	3	10	2.0	0.0		SP	Gray fine SAND, sheen, no odor, medium dense, wet.		
				10	30					Yellow-brown CLAY, sheen, no odor, medium dense, wet. Thin (<1") saturated Silt layers, orange staining.		
		8	14-16	10	21	2.0	0.0		CL	Gray SILTY CLAY, some fine Gravel, little fine Sand, no odor, stiff to medium stiff, extremely hard.		
15	15			10	14							



**Remarks:**  
 a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
 Soil samples collected from 2.0' - 4.0' and 8.0' - 10.0' bgs for VOCs, SVOCs, PCBs and metals.

**Water Level Data**

Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Well/Boring ID: RFI-02-14

Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	6 6 8 10	14	2.0	0.0		CL		Gray Silty CLAY, some fine Gravel, little fine Sand, no odor, stiff to medium stiff, extremely hard.	 2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18.0' bgs) #5 Well Sand Pack (6.0' - 18.0' bgs)
20-20												
25-25												
30-30												
35-35												



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
Soil samples collected from 2.0' - 4.0' and 8.0' - 10.0' bgs for VOCs, SVOCs, PCBs and metals.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/21/05 <b>Drilling Company:</b> Altech <b>Driller's Name:</b> D. Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID SS <b>Auger Size:</b> 4 - 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 561987.19 <b>Easting:</b> 13305980.58 <b>Casing Elevation:</b> 738.74' AMSL  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> J. Kralik	<b>Well/Boring ID:</b> RFI-02-15  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	NA NA NA 16	NA	0.0	NA		FL	CONCRETE.		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		2	2-4	4 5 3 4	8	2.0	0.2			Dark brown to blackish-brown fine SAND, some medium Sand, little Silt, loose, no odor.		Sand Drain (0.5' - 1.0' bgs)
5	-5	3	4-6	9 10 16 10	26	2.0	0.0			Some fine Gravel from 5.0' - 5.5' bgs.		Bentonite Seal (1.0' - 3.0' bgs)
		4	6-8	10 10 11 10	21	2.0	1.5		SP	Olive-gray fine SAND, some Silt, medium dense, slight odor, damp. Little Clay, soft, from 6.5' - 7.0' bgs.		2" ID Sch. 40 PVC Riser (0.3' - 8.0' bgs)
		5	8-10	4 3 2 4	5	2.0	2.3			Sheen and free-product present, some black staining, wet from 8.5' - 9.0' bgs.		Hydrated Bentonite Chips (3.0' - 6.0' bgs)
10-10		6	10-12	2 4 6 3	10	2.0	0.6 1.6			Yellowish-brown CLAY, some fine Sand, some olive-gray mottling from 10.5' - 11' bgs, stiff, slight odor, damp. Thin (<1") Sand layer, wet at 11.5' bgs.		#5 Well Sand Pack (6.0' - 18' bgs)
		7	12-14	4 4 5 4	9	2.0	0.6		CL	Thin (<1") Sand layer, wet at 13' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
15-15		8	14-16	10 10 10 10	20	2.0	0.0			Gray SILTY CLAY, some fine Gravel, some fracturing from 14' - 14.5' bgs, very stiff, extremely hard, no odor, damp.		



**Remarks:**  
 a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
 Soil samples collected from 1.8' - 3.8', 8.0' - 10', and 10-12' bgs for VOCs, SVOCs, PCBs, and Metals.

Water Level Data		
Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Well/Boring ID: RFI-02-15

Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	10 10 10 10	20	2.0	0.0		CL		Gray SILTY CLAY, some fine Gravel, very stiff, extremely hard, no odor, damp.	 #5 Well Sand Pack (6.0' - 18' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
20-20												
25-25												
30-30												
35-35												



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
Soil samples collected from 1.8' - 3.8', 8.0' - 10', and 10-12' bgs for VOCs, SVOCs, PCBs, and Metals.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 3/21/05 - 3/22/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2"x2" ID SS  
 Auger Size: 4 - 1/4" ID  
 Rig Type: CME 75

Northing: 562009.16  
 Easting: 13305949.25  
 Casing Elevation: 738.66' AMSL

Well/Boring ID: RFI-02-16

Client: General Motors

Borehole Depth: 18' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Flint, Michigan

Descriptions By: J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	NA	NA	0.0	NA		FL		CONCRETE.	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		2	2-4	7 6 5 4	12	2.0	0.9		SP		Dark brown to blackish-brown fine SAND, some medium Sand, little fine Gravel and Silt, medium dense, no odor, damp.	Sand Drain (0.5' - 1.0' bgs) Bentonite Seal (1.0' - 3.0' bgs) 2" ID Sch. 40 PVC Riser (0.3' - 8.0' bgs)
5	-5	3	4-6	4 4 3 2	7	0.3	0.0		FL		Yellow-brown and gray fine GRAVEL and CONCRETE debris, some fine Sand, medium dense, dry. Concrete rubble from 4.5' - 5.5' bgs.	Hydrated Bentonite Chips (3.0' - 6.0' bgs)
		4	6-8	7 8 6 6	14	2.0	0.0		CL		Olive-gray fine SANDY CLAY, trace fine Gravel, some gray mottling present, stiff, very plastic, slight "earthy" odor, damp. Yellowish-brown Clay below 8.0' bgs.	#5 Well Sand Pack (6.0' - 18' bgs)
		5	8-10	3 3 4 2	7	1.5	0.2		CL			2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
10	-10	6	10-12	4 4 2 2	6	2.0	0.0		CL		3" gray fine to coarse Sand layer, wet from 10' - 10.3' bgs. 3" yellow-brown Sand layer, wet from 11' - 11.3' bgs. 3" yellow-brown Sand layer, wet from 11.7' - 12' bgs.	
		7	12-14	4 3 3 3	6	2.0	0.0		SM		Yellowish-brown SILTY fine SAND, some fine subrounded Gravel, medium dense, no odor, moist to wet.	
15	-15	8	14-16	10 12 14 12	26	1.5	0.0		CL SP		Gray SILTY CLAY, some fine Gravel, very stiff, hard, no odor. Brownish-gray fine SAND and GRAVEL, trace Silt and medium to coarse Sand, no odor, saturated.	



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
 Soil samples collected from 2.2' - 4.0' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

**Water Level Data**

Date	Depth	Elev.

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Well/Boring ID: RFI-02-16

Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	11 10 12 12	22	1.5	0.0		CL		Gray SILTY CLAY, some fine Gravel, very stiff, extremely hard, no odor.	<p>#5 Well Sand Pack (6.0' - 18' bgs)            2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)</p>
20-20												
25-25												
30-30												
35-35												



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
 Soil samples collected from 2.2' - 4.0' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/22/05 <b>Drilling Company:</b> Altech <b>Driller's Name:</b> D. Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID SS <b>Auger Size:</b> 4 - 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 562027.15 <b>Easting:</b> 13305989.60 <b>Casing Elevation:</b> 738.67' AMSL  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> J. Kralik	<b>Well/Boring ID:</b> RFI-02-17  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows /6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	NA	NA	1.3	1.0		FL	CONCRETE.		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		2	2-4	NA	NA	2.0	0.0		SP	Dark brown to blackish-brown fine SAND, some medium Sand, little fine Gravel and Silt, Wood fragments present, medium dense, no odor, damp.		Sand Drain (0.5' - 1.0' bgs)
5	-5	3	4-6	2	3	2.0	0.4		SW	Yellowish-brown fine to coarse WELL GRADED SAND, some fine subangular to subrounded Gravel, no odor, wet.		Bentonite Seal (1.0' - 3.0' bgs)
		4	6-8	3	9	2.0	0.6		SP	Olive-gray fine SAND, some fine Gravel and Silt, trace Clay, loose, no odor, damp to wet.		2" ID Sch. 40 PVC Riser (0.3' - 8.0' bgs)
		5	8-10	4	11	2.0	0.0		SM	Yellowish-brown SILTY fine SAND, some fine Gravel, medium dense, no odor, moist to wet.		Hydrated Bentonite Chips (3.0' - 6.0' bgs)
10	-10	6	10-12	4	7	2.0	0.0		SM			#5 Well Sand Pack (6.0' - 18' bgs)
		7	12-14	3	9	2.0	0.0		CL	Yellowish-brown CLAY, some fine Sand, very plastic, stiff, no odor, damp. Thin (<1") yellow-brown fine Sand layer, wet at 12.5' bgs. Thin (<1") yellow-brown fine Sand layer, wet at 13' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
15	-15	8	14-16	6	13	2.0	0.0		CL	Thin (<1") yellow-brown fine Sand layer, wet at 13.9' bgs. Yellowish-brown SANDY CLAY, some fine Gravel, moist.		



**Remarks:**  
 a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
 Soil samples collected from 2.7' - 4.0' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

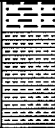

**Water Level Data**

Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Well/Boring ID: RFI-02-17

Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	11 12 12 20	24	2.0	0.0		CL		Yellowish-brown SANDY CLAY, some fine Gravel, moist. Gray SILTY CLAY, some fine Gravel, very stiff, extremely hard, no odor, damp.	 #5 Well Sand Pack (6.0' - 18' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
20-20												
25-25												
30-30												
35-35												



**Remarks:**  
a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
Soil samples collected from 2.7' - 4.0' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/22/05 <b>Drilling Company:</b> Altech <b>Driller's Name:</b> D. Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID SS <b>Auger Size:</b> 4 - 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 561962.48 <b>Easting:</b> 13305976.37 <b>Casing Elevation:</b> 738.69' AMSL  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> J. Kralik	<b>Well/Boring ID:</b> RFI-02-18  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows /6 Inches	N - Value	Recovery (feet)	PI/D Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	NA	NA	2.0	NA		FL		CONCRETE.	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		2	2-4	3 4 2 3	6	2.0	0.9		SP		Dark brown to blackish-brown fine SAND, some medium Sand in pockets, little Silt, loose, no odor, damp.	Sand Drain (0.5' - 1.0' bgs)
5	-5	3	4-6	3 4 4 4	8	2.0	0.2		SW		Yellowish-brown fine to coarse WELL GRADED SAND, some fine Gravel, no odor, wet.	Hydrated Bentonite Chips (1.0' - 3.0' bgs)
		4	6-8	4 5 4 3	9	2.0	0.0		SM		Olive-gray SILTY fine SAND, little Clay, trace fine Gravel, sheen and small NAPL globules present, medium stiff, no odor, damp to moist.  3" olive-gray Clay layer from 7.0' - 7.3' bgs.	2" ID Sch. 40 PVC Riser (0.3' - 5.0' bgs)
		5	8-10	4 4 5 6	9	2.0	0.0				Wet to saturated below 9.0' bgs.	#5 Well Sand Pack (3.0' - 15.5' bgs)
10-10		6	10-12	4 4 4 4	8	2.0	0.0		SC		Moderate yellowish-brown CLAYEY fine SAND, some Silt, trace fine Gravel, loose, no odor, damp. Thin (<1") yellowish-brown fine Sand layer, wet at 10.5' bgs.	2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)
		7	12-14	5 6 6 4	12	2.0	0.0				Thin (<1") yellowish-brown fine Sand layer, wet at 12' bgs.	
		8	14-16	10 12 9 11	21	2.0	0.0		CL		Thin (2") yellowish-brown fine Sand layer, wet at 13.7' bgs.  Mottled gray and yellowish-brown SILTY CLAY, some fine Sand, trace fine Gravel, fractured from 14' - 15' bgs, extremely hard, stiff, no odor, damp.	Bentonite Chips (15.5' - 18' bgs)



**Remarks:**  
 a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
 Soil samples collected from 1.5' - 3.5' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

Water Level Data		
Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Well/Boring ID: RFI-02-18

Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	12 12 13 14	25	2.0	0.0		CL		Gray SILTY CLAY, some fine Sand, trace fine Gravel, extremely hard, stiff, no odor, dry to damp.	Bentonite Chips (15.5' - 18' bgs)
20-20												
25-25												
30-30												
35-35												



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
Soil samples collected from 1.5' - 3.5' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/22/05 <b>Drilling Company:</b> Altech <b>Driller's Name:</b> D. Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID SS <b>Auger Size:</b> 4 - 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 562092.14 <b>Easting:</b> 13306000.99 <b>Casing Elevation:</b> 738.54' AMSL  <b>Borehole Depth:</b> 19' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> J. Kralik	<b>Well/Boring ID:</b> RFI-02-19  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
									FL		CONCRETE.	Cement pad with 9' diam. cast iron/PVC skirted flushmount cover
		1	2-4	2 3 3 2	6	1.5	2.4		SP		Dark brown to blackish-brown fine SAND, some medium Sand, some yellowish-brown fine Sand in pockets, little Silt, loose, no odor, damp.	Sand Drain (0.5' - 1.0' bgs) Bentonite Seal (1.0' - 3.0' bgs)
									FL		CONCRETE from 4.0' - 5.0' bgs.	2" ID Sch. 40 PVC Riser (0.3' - 7.0' bgs)
5	-5			5 2 2 2	4	2.0	0.9	+	CL		Olive-gray CLAY to SANDY CLAY, some fine Sand and fine Gravel, some gray mottling present, very plastic, stiff, no odor, damp. Thin (1") yellow-brown coarse Sand layer, black staining, wet from 6.0' - 6.5' bgs.	Hydrated Bentonite Chips (3.0' - 5.0' bgs)
		3	7-9	4 2 3 4	5	2.0	2.0	-	CL			#5 Well Sand Pack (5.0' - 17' bgs)
		4	9-11	5 4 2 4	6	1.5	0.7	-	SP		Yellowish-brown fine SAND, some Silt, trace fine Gravel, no odor, medium dense, moist to wet at 10.5' bgs.	2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)
		5	11-13	4 4 3 4	7	2.0	0.0		CL		Yellowish-brown SILTY CLAY, some fine Sand, trace fine Gravel, some orange (rust-like) staining, stiff, damp. Thin (<1") yellow-brown fine Sand layer, wet at 12' bgs.	
		6	13-15	5 5 5 4	10	2.0	0.0		CL		Gray mottling from 13.5' - 16' bgs.	
15-15		7	15-17	6 5	10	2.0	0.0					



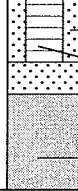
**Remarks:**  
 a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
 Soil samples collected from 1.7' - 4.0' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

Water Level Data		
Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Well/Boring ID: RFI-02-19

Borehole Depth: 19' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		7	15-17	5	10	2.0	0.0			CL	Gray SILTY CLAY, some fine Gravel, trace fine Sand, some yellow-brown mottling from 16.2' - 17' bgs, extremely hard, stiff, damp.	 <ul style="list-style-type: none"> <li>#5 Well Sand Pack (5.0' - 17' bgs)</li> <li>2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)</li> <li>Bentonite Chips (17.5' - 19' bgs)</li> </ul>
		8	17-19	11	22	2.0	0.0					
20-20												
25-25												
30-30												
35-35												



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
Soil samples collected from 1.7' - 4.0' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 3/24/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2"x2" ID SS  
 Auger Size: 4 - 1/4" ID  
 Rig Type: CME 75

Northing: 562179.23  
 Easting: 13305934.52  
 Casing Elevation: 738.30' AMSL

Well/Boring ID: RFI-02-20

Client: General Motors

Borehole Depth: 16' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Flint, Michigan

Descriptions By: J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows /6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	NA	NA	0.5	1.5		FL		CONCRETE.	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		2	2-4	2 2 3	5	1.5	1.5		SP		Dark brown to blackish-brown fine SAND, some medium Sand, little Silt, Slag and Concrete debris present, loose, no odor, damp.	Sand Drain (0.5' - 1.0' bgs) Hydrated Bentonite Chips (1.0' - 3.0' bgs)
5	-5	3	4-6	2 3 2	5	1.5	0.6		CL		Yellowish-brown CLAY, some fine Sand, medium stiff, no odor, damp.	2" ID Sch. 40 PVC Riser (0.3' - 5.0' bgs)
		4	6-8	2 3 3	6	2.0	0.0		SP		Yellowish-brown fine SAND, some fine Gravel, loose, no odor, wet.	#5 Well Sand Pack (3.0' - 15' bgs)
		5	8-10	4 4 4	8	2.0	1.8		CL		Mottled olive-gray and yellowish-brown SILTY CLAY, some fine Sand and fine Gravel, very plastic, stiff, no odor, damp.	2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)
10	-10	6	10-12	4 3 4	7	2.0	0.7		SM		Yellowish-brown SILTY fine SAND, trace fine Gravel, loose, no odor, wet.	
		7	12-14	4 4 3	8	2.0	0.0		CL		Yellowish-brown CLAY, some fine Sand, trace fine Gravel, stiff, very plastic, no odor, damp.	
15	-15	8	14-16	10 12 12 16	24	1.5	0.0		SP CL	 	Yellowish-brown fine to medium SAND, medium dense, no odor, wet. Gray SILTY CLAY, some fine Gravel, extremely hard, very stiff, no odor, damp.	Bentonite Chips (15' - 18' bgs)



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
 Soil samples collected from 1.5' - 3.5' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 3/23/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2"x2" ID SS  
 Auger Size: 4 - 1/4" ID  
 Rig Type: CME 75

Northing: 562241.53  
 Easting: 13305951.09  
 Casing Elevation: 738.50' AMSL

Well/Boring ID: RFI-02-21

Client: General Motors

Borehole Depth: 16.7' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Flint, Michigan

Descriptions By: J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
1		0-2	NA	NA	0.5	1.2			FL	CONCRETE.		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
2		2-4		2	3	1.0	1.0		SC/CL	Yellowish-brown CLAYEY fine to coarse SAND, trace fine Gravel, loose, no odor, damp. Becoming SANDY CLAY below 3.5' bgs.		Sand Drain (0.5' - 1.0' bgs) Hydrated Bentonite Chips (1.0' - 3.0' bgs) 2" ID Sch. 40 PVC Riser (0.3' - 5.0' bgs)
3	-5	4-6		2	5	1.5			CL	Thin (2") yellow-brown fine Sand layer, moist at 5.2' bgs. Gray CLAY, some Silt, trace ifne Sand, no odor, soft.		#5 Well Sand Pack (3.0' - 15' bgs)
4		6-8		9	18	1.5	0.6		SP	Yellow-brown and gray fine SAND, Concrete debris present, loose, no odor, dry.		2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)
5		8-10		8	17	1.5	2.7			Olive gray CLAY to SANDY CLAY, some fine Sand and fine Gravel, very stiff to medium stiff, very plastic to plastic, no odor, damp.		
6	10-10	10-12		2	6	1.5	1.2		CL/SC	Thin (4") fine Gravel layer at 11.5' bgs. Mottled olive-gray and grey color below 11.5' bgs. Olive-gray fine Sand, wet from 12' - 12.5' bgs.		
7		12-14		11	22	2.0	0.0					
8	15-15	14-16		14	33	0.0	NA				No Recovery from 14' - 16' bgs. [Driller reports hard drilling]	



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
 Soil samples collected from 1.5' - 3.5' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

**Water Level Data**

Date	Depth	Elev.

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Well/Boring ID: RFI-02-21  
 Borehole Depth: 16.7' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-16.7	50	NA	0.7	0.0		CL		Gray SILTY CLAY, very stiff, extremely hard, damp.	
20-20												
25-25												
30-30												
35-35												



**Remarks:**  
 a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
 Soil samples collected from 1.5' - 3.5' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 3/23/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2"x2" ID SS  
 Auger Size: 4 - 1/4" ID  
 Rig Type: CME 75

Northing: 561930.36  
 Easting: 13306184.46  
 Casing Elevation: 729.77' AMSL

Well/Boring ID: RFI-02-22

Client: General Motors

Borehole Depth: 18' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Flint, Michigan

Descriptions By: J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										ASPHALT.	
1		0-2		1 1 1	NA	1.3	1.7		FL	x x x x x x x x x x	Dark brown fine to coarse SAND, fine GRAVEL, and CLAY FILL, Coal, Slag, and Concrete debris present, trace Roots and Plant debris, soft, no odor, damp.	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
2		2-4		2 1 1	2	2.0	1.0				Gray to olive-gray fine SANDY CLAY, little fine Gravel, trace Slag and Concrete soft, non-plastic, no odor.	Sand Drain (0.5' - 1.0' bgs)
3	-5	4-6		1 1 1	2	2.0	0.0				Moist below 6.0' bgs.	Hydrated Bentonite Chips (1.0' - 3.0' bgs)
4		6-8		1 1 1	2	2.0	0.0				Ceramic fragments at 7.5' bgs.	2" ID Sch. 40 PVC Riser (0.3' - 5.0' bgs)
5		8-10		WOH WOH WOH WOH	WOH	2.0	0.8		SC/CL		Increased Sand content below 8.5' bgs.	#5 Well Sand Pack (3.0' - 15' bgs)
6	10-10	10-12		1 1 1	2	2.0	0.2				Becomes CLAYEY SAND at 10.5' bgs.	2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)
7		12-14		1 2 1 1	3	2.0	0.0				Wet below 13' bgs.	
8	15-15	14-16		4 8 8 8	16	2.0	0.0		CL		Gray to light gray SILTY CLAY, stiff to very stiff, extremely hard, no odor, damp to dry.	



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; WOH = Weight of Hammer.  
 Soil samples collected from 0.0' - 3.0', 8.0' - 10', and 11-13' bgs for VOCs, SVOCs, PCBs, and Metals.

**Water Level Data**

Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Well/Boring ID: RFI-02-22

Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	18 19 20 20	39	2.0	0.0		CL		Gray to light gray SILTY CLAY, stiff to very stiff, extremely hard, no odor, damp to dry.	
20-20												
25-25												
30-30												
35-35												



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; WOH = Weight of Hammer.  
Soil samples collected from 0.0' - 3.0', 8.0' - 10', and 11-13' bgs for VOCs, SVOCs, PCBs, and Metals.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 3/24/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2"x2" ID SS  
 Auger Size: 4 - 1/4" ID  
 Rig Type: CME 75

Northing: 561943.41  
 Easting: 13305972.67  
 Casing Elevation: 738.57' AMSL

Well/Boring ID: RFI-02-23

Client: General Motors

Borehole Depth: 18' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Flint, Michigan

Descriptions By: J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										CONCRETE.	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		0-2	NA	NA	0.3	0.8			FL			Sand Drain (0.5' - 1.0' bgs)
2		2-4		3	4	2.0	0.8		SP		Brown to blackish-brown fine SAND, some medium Sand, little Silt, loose, no odor, damp.	Hydrated Bentonite Chips (1.0' - 3.0' bgs)
3	-5	4-6		3	7	1.5	0.6		SC/CL		Olive-gray SANDY CLAY/CLAYEY SAND, some fine to coarse Sand, little fine Gravel at 4.5' bgs, slightly plastic to plastic, medium stiff, no odor, damp to moist.	2" ID Sch. 40 PVC Riser (0.3' - 5.0' bgs)
4		6-8		4	8	2.0	0.7		SM		Olive-gray SILTY fine SAND, little Clay, trace fine Gravel, loose, no odor.	#5 Well Sand Pack (3.0' - 15' bgs)
5		8-10		5	10	2.0	0.4		SM			2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)
6	10-10	10-12		5	9	2.0	0.0		SP		Yellowish-brown fine SAND, some Silt, trace fine Gravel, no odor, loose, wet.	
7		12-14		4					CL		Yellowish-brown fine SANDY CLAY, some Silt, trace fine Gravel, very stiff, no odor, moist.	
8	15-15	14-16		5	16	2.0	0.0		CL		Gray SILTY CLAY, some fine Gravel, Cobble at 15' bgs, extremely hard, no odor, damp to dry.	Bentonite Chips (15' - 18' bgs)



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
 Soil samples collected from 1.7' - 3.7' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

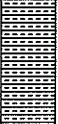

**Water Level Data**

Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Well/Boring ID: RFI-02-23

Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
9		16-18		NA	NA	2.0	0.0		CL		Gray SILTY CLAY, some fine Gravel, extremely hard, no odor, damp to dry.	 Bentonite Chips (15' - 18' bgs)
20-20												
25-25												
30-30												
35-35												



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
Soil samples collected from 1.7' - 3.7' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 3/24/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2"x2" ID SS  
 Auger Size: 4 - 1/4" ID  
 Rig Type: CME 75

Northing: 562107.08  
 Easting: 13306203.88  
 Casing Elevation: 729.88' AMSL

Well/Boring ID: RFI-02-24

Client: General Motors

Borehole Depth: 14' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Flint, Michigan

Descriptions By: J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows /6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	-	NA	0.5	0.0		FL	CONCRETE.		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
				4							Yellowish-brown to olive-gray fine to medium SANDY CLAY, little fine Gravel, Concrete and Slag debris present, slight sweet odor.	Hydrated Bentonite Chips (0.5' - 2.0' bgs)
		2	2-4	1	3	1.5	NA		CL		Wet below 3.5' bgs. Brick debris present from 4.0' - 4.2' bgs.	2" ID Sch. 40 PVC Riser (0.3' - 3.0' bgs)
				1							Olive-gray CLAYEY SAND/SANDY CLAY, fine to coarse Sand, little fine Gravel, non-plastic, soft, no odor, damp. Becoming mottled olive-gray and gray below 5.0' bgs.	#5 Well Sand Pack (2.0' - 13' bgs)
5	-5	3	4-6	3	7	1.5	0.5		SC/CL			
				4							Yellowish-brown CLAY, some fine Sand and fine Gravel, little medium to coarse Sand and Silt, some orange staining, very stiff, extremely hard, no odor.	2" ID Sch. 40 PVC 0.010" Slotted Screen (3.0' - 13' bgs)
				10	20	2.0	0.0				Becoming medium brown below 8.7' bgs.	
		5	8-10	12	24	2.0	NA				Becoming mottled brown and gray below 10' bgs.	
10	-10			14					CL			
		6	10-12	10	25	2.0	NA				Gray SILTY CLAY, Cobble at 11.2' bgs, stiff, extremely hard, no odor.	
				10								
		7	12-14	10	30	2.0	NA					
				15								
				15								
15	-15											



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  
 Soil samples collected from 1.3' - 3.3' and 8.0' - 10' bgs for VOCs, SVOCs, PCBs, and Metals.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 8/23/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> NA <b>Auger Size:</b> NA <b>Rig Type:</b> NA	<b>Northing:</b> 565490.62 <b>Easting:</b> 13306393.44 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 745.94 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-03-09  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	745	1	0-2	NA	NA	NA	0.0	-	ML		Dark brown (10YR 3/3) SILT (ML), little Clay, few fine to coarse subrounded to subangular Sand, Metallic debris and Cinders present, angular pebble-sized aggregate present, Vegetation such as Roots and Grass, aplastic, loose, no odor, moist with rainfall. Topsoil mixed with Aggregate.	↑ SILT ↓	Borehole backfilled with Bentonite to grade.
5	740												
10	735												
15	730												

	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 8/23/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> NA <b>Auger Size:</b> NA <b>Rig Type:</b> NA	<b>Northing:</b> 565414.88 <b>Easting:</b> 13306324.81 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 1.0' bgs <b>Surface Elevation:</b> 745.77 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-03-10  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	745	1	0-1	NA	NA	NA	0.0	-	ML		Black (10YR 2/1) to Dark brown (10YR 3/3) SILT (ML), few fine to coarse subrounded Sand, Metallic debris and Cinders present, angular pebble-sized aggregate present, Vegetation such as Roots and Grass, aplastic, loose, no odor, moist with rainfall. Topsoil mixed with Aggregate.	Silt	Borehole backfilled with Bentonite to grade.
5	740												
10	735												
15	730												




**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.


<b>Date Start/Finish:</b> 3/7/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4' Acetate Liners <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 565376.44 <b>Easting:</b> 13306335.88 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs. <b>Surface Elevation:</b> 744.63 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-03-11  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
745	0	1	0-2	2.0	0.0	-	SM		Black (10 YR 2/1) fine to coarse subangular, predominately fine, POORLY GRADED SILTY SAND, few Clay, few fine to coarse angular Gravel, Slag, metallic debris, and Cinders throughout, aplastic, no odor, medium dense, damp. Foundary Sand.	SILTY SAND	Borehole backfilled with Bentonite to grade.
740	5										
735	10										
730	15										

 <p><b>BBL</b>          BLASLAND, BOUCK &amp; LEE, INC.          engineers &amp; scientists</p>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>


<b>Date Start/Finish:</b> 3/11/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 565409.5 <b>Easting:</b> 13306270.90 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.8' bgs <b>Surface Elevation:</b> 745.85 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-03-12  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
745									FL		ASPHALT. CONCRETE.	CONCRE	
		1	0.8- 2.8	16 16 22 20	28	1.7	0.0	-	SM		Black (10YR 2/1) fine to coarse angular to subangular POORLY GRADED SILTY SAND (SM), few Clay, few fine to coarse subangular Gravel, Slag, and Cinders, aplastic, dense to loose, no odor, dry. Foundry Sand.	SILTY SAND	Borehole backfilled with Bentonite to grade.
5													
740													
10													
735													
15													
730													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface;+ = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 3/11/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 565556.29 <b>Easting:</b> 13306338.56 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.8' bgs <b>Surface Elevation:</b> 747.32 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-03-13  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
750													
0									FL	ASPHALT. CONCRETE.			
745		1	0.8- 2.8	12 17 13 9	30	1.7	0.0	-	SM	Dark brown (10YR 3/3) fine to coarse subangular POORLY GRADED SILTY SAND (SM), few Slag, few fine to coarse subrounded Gravel, white Ash at 2.0' bgs, dense where frozen, otherwise loose, aplastic, no odor, dry. Foundry Sand. Slag and Cinders from 2.3' - 2.8' bgs.	SILTY SAND	Borehole backfilled with Bentonite to grade.	
5													
740													
10													
735													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface;+ = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 3/11/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 565569.96 <b>Easting:</b> 13306280.04 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.8' bgs <b>Surface Elevation:</b> 748.08 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-03-14  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
750													
0										FL	ASPHALT. CONCRETE.	CONCRETE	
1		0.8- 2.8		12 10 10 12	20	1.5	0.0	-	SM	SM	Dark brown (10YR 3/3) fine to coarse subangular POORLY GRADED SILTY SAND (SM), little fine to coarse subrounded Gravel, few Clay, aplastic, no odor, dense as frozen, otherwise loose, dry. Fill Sand. Few Slag and Cinders at 2.7' bgs.	SILTY SAND	Borehole backfilled with Bentonite to grade.
745													
5													
740													
10													
735													
15													

<h1 style="margin: 0;">BBL</h1> <p style="margin: 0;">BLASLAND, BOUCK &amp; LEE, INC. engineers &amp; scientists</p>	<b>Remarks:</b> bgs = below ground surface;+ = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b>															
		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:33%;">Date</th> <th style="width:33%;">Depth</th> <th style="width:33%;">Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.												
	Date	Depth	Elev.														

<b>Date Start/Finish:</b> 4/10/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 565253.11 <b>Easting:</b> 13306013.04 <b>Casing Elevation:</b> 747.48 ft. AMSL  <b>Borehole Depth:</b> 17' bgs <b>Surface Elevation:</b> 747.82 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-03-15  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
750													
0									FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1	745	1-3		4	12	1.1	3.6	-			Black (10YR 2/1) fine to coarse, predominantly fine, subangular to angular POORLY GRADED SILTY SAND (SM), little to few Clay, few fine to coarse subrounded Gravel, Ash, Slag, and Cinders present, aplastic, no odor, loose, damp. Foundry Sand.		Grout (0.5' - 2.7' bgs)
2	745	3-5		5	7	1.6	0.0	-					2" ID Sch. 40 PVC Riser (0' - 7.0' bgs)
3	740	5-7		3	6	0.9	0.0	-	SM				Hydrated Bentonite Seal (2.7' - 4.9' bgs)
4	740	7-9		3	6	1.6	3.7	+			Moist to damp at 8.0' bgs.		#5 Well Sand Pack (4.9' - 17' bgs)
5	740	9-11		1	2	1.5	5.3	+			Weak odor, saturated at 10.1' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)
6	735	11-13		0.5	3.5	1.5	0.0	+					
7	735	13-15		2	4	1.3	0.8	+	SP		Gray (10YR 5/1) fine to coarse, predominantly fine, subangular to subrounded POORLY GRADED SAND (SP), some to little Silt, few to little Clay, fines downward, aplastic, no odor, loose, saturated. Native Glacio-Alluvial.	SAND	
8	735	15-17		2	4	1.3	0.8	+	CL		Very drak gray (10YR 2/2) LEAN CLAY with fine to coarse Sand (CL), some Silt, weak to moderate "oily" odor, weakly plastic, soft, damp. Native Glacil Clay Till.	SAND CLAY	
15	735	15-17		2	8	1.8	0.0	+	SM		Gray (10YR 5/1) POORLY GRADED SILTY SAND (SM), few Clay, emerald to teal green patches of discoloration at 14.7', weak odor with oily sheen at 14.7', loose, saturated.	SILTY SAND CLAY	



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; WH = Weight of Hammer.  
 Samples collected from 0.9' - 2.9' & 6.9' - 8.9' bgs.

**Water Level Data**

Date	Depth	Elev.
4/10/03	10.1	

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Boring ID: RFI-03-15  
 Borehole Depth: 17' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		8	15-17	5 8	8	1.8	0.0	+	SM		Gray (10YR 5/1) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, emerald to teal green patches of discoloration up to 1/2" in diameter at 14.7', weak odor with oily sheen at 14.7', loose, saturated. Native Glacio-Alluvial.	SILTY SAND	#5 Well Sand Pack (4.9' - 17' bgs)
730											End of boring at 17' bgs. In Shoe: Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, medium stiff, weakly plastic, no odor, damp. Undisturbed Native Glacial Clay Till.		2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)
20													
725													
25													
720													
30													
715													
35													



Remarks: bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; WH = Weight of Hammer.  
 Samples collected from 0.9' - 2.9' & 6.9' - 8.9' bgs.

**Water Level Data**

Date	Depth	Elev.
4/10/03	10.1	

Date Start/Finish: 3/30/04  
 Drilling Company: Rau Drilling  
 Driller's Name: Greg Compeau  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4-1/4" ID  
 Rig Type: CME 55

Northing: 565246.82  
 Easting: 13306012.77  
 Casing Elevation: 747.54' AMSL

Well/Boring ID: RFI-03-15R

Client: General Motors

Borehole Depth: 13' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Flint, Michigan

Descriptions By: Ryan Tuttle

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
											Surface Concrete	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
					NA	NA	NA				Black (10YR 2/1) fine subrounded, POORLY GRADED SILTY SAND (SM), trace Slag, foundry Sand, non-plastic, loose, no odor, damp.	Bentonite Seal (1.0' - 2.5' bgs)
5	-5	1	3-5	6 5 4	25	2.0	0.0	+			At 4.0' bgs. Moist	2" ID Sch. 40 PVC Riser (0.3' - 3.0' bgs)
				3					SM		Saturated at 4.5' bgs.	
		2	5-7	5 7 9	13	2.0	0.0	+				
											No samples collected from 7.0' - 13.0' bgs. See log for location RFI-03-15 for geologic description.	#5 Well Sand Pack (2.5' - 13' bgs)
10	-10											2" ID Sch. 40 PVC 0.010" Slotted Screen (3.0' - 13' bgs)
15	-15											



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Applicable/Not Available; +/- = Positive/Negative Test Result.

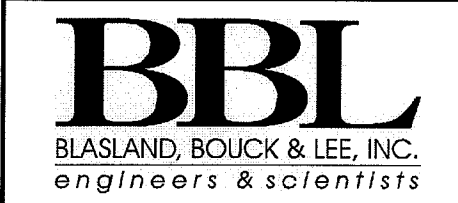
8" Subsurface Concrete

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 10/10/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 2" & 4' PVC Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> SIMCO 200 Geoprobe	<b>Northing:</b> 565711.07 <b>Easting:</b> 13305384.55 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 4.2' bgs <b>Surface Elevation:</b> 754.33 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-05-31 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
755	0										
		1	0-4	3.8	0.0	-	ML	CONCRETE.	Brown (10YR 4/3) SILT (ML), some Clay, few fine to coarse subangular to subrounded well graded Sand, trace fine to medium rounded Gravel, 25% fine to coarse angular sand-sized to medium gravel-sized Cinders and Foundry Sand throughout, aplastic, no odor, medium dense, dry. Native Till mixed with Foundry Sand used as backfill.	SILT	Borehole backfilled with Bentonite to grade.
750		NA	NA	NA	NA	NA					
5											
745	10										
740	15										




**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available.

Water Level Data		
Date	Depth	Elev.

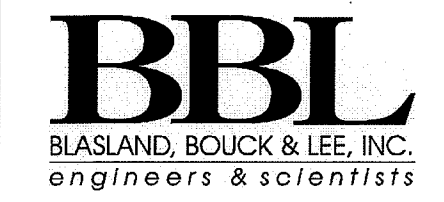
<b>Date Start/Finish:</b> 10/10/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 2" & 4' PVC Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> SIMCO 200 Geoprobe	<b>Northing:</b> 565711.07 <b>Easting:</b> 13305384.55 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 4.2' bgs <b>Surface Elevation:</b> 754.33 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-05-31 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
755	0										
		1	04	3.8	0.0	-	ML	CONCRETE.	Brown (10YR 4/3) SILT (ML), some Clay, few fine to coarse subangular to subrounded well graded Sand, trace fine to medium rounded Gravel, 25% fine to coarse angular sand-sized to medium gravel-sized Cinders and Foundry Sand throughout, aplastic, no odor, medium dense, dry. Native Till mixed with Foundry Sand used as backfill.	SILT	Borehole backfilled with Bentonite to grade.
750		NA	NA	NA	NA	NA					
5											
745											
10											
740											
15											

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 3/11/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4' Acetate Liners <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 565711.07 <b>Easting:</b> 13305384.55 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 9' bgs <b>Surface Elevation:</b> 754.33 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-05-31R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
755	0										
							FL		CONCRETE.	FILL	
		1	1-5	3.4	0.0	-	SM		Brown (10YR 5/3) to pale brown fine subangular POORLY GRADED SILTY SAND (SP), few Clay, dense, no odor, dry. Fill Sand.	↑	Borehole backfilled with Bentonite to grade.
	750				0.0	-	SM		3"-thick lense of black (10YR 2/1) Foundry Sand, Cinders, and Cement debris at 3.5' bgs.	↑	
	5				0.0	+	SM		Black (10YR 2/1) SILTY SAND (SM) as above, with fine "sparkly" Ash and Cinders. Foundry Sand.	↓	
		2	5-9	1.0	0.0	+	CL		Brown (10YR 5/3) to gray (10YR 4/1) mottled SILTY CLAY (CL), little fine to coarse subrounded Sand, trace rounded Gravel, weakly plastic, moderately stiff, no odor. Native Glacial Clay Till used as Backfill.	↓	
					0.0	+	SM		Brown (10YR 5/3) to dark brown (10YR 3/3) fine to coarse subangular to subrounded SILTY SAND (SM), little Clay, few fine to coarse rounded Gravel, trace Organics, aplastic, moderately dense, no odor, dry. Possible Former Topsoil Horizon.	↓	
745	10										
740	15										




**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available.  
 Samples collected from 7.0' - 9.0' bgs.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 10/10/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 2" x 4' PVC Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> SIMCO 200 Geoprobe	<b>Northing:</b> NA <b>Easting:</b> NA <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 4.6' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-05-32  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										
		1	0-4	3.7	0.0	-	FL	ASPHALT.		Fill	
							SW	CONCRETE.		Sand	
					0.0	-	CL	Black (10YR 2/1) fine to coarse angular to subangular well graded SAND (SW), little Silt, trace Clay, trace fine to medium angular Gravel, aplastic, no odor, loose, dry. Foundry Sand.			Borehole backfilled with Bentonite to grade.
					0.0	-	CL	Yellow-brown (10YR 5/4) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, few to trace fine to medium rounded Gravel, plastic, medium stiff, no odor, dry. Native Clay Till used as backfill.		Silty CLAY	
		NA	4-4.6	NA	0.0	-	ML	Yellow-brown (10YR 5/4) SILT (ML), some to little Clay, fine subangular to subrounded Sand, aplastic, dense, no odor, dry. Glacio-alluvial material used as backfill.		Silt	
5	-5										
10	-10										
15	-15										

 <p><b>BBL</b>          BLASLAND, BOUCK &amp; LEE, INC.          engineers &amp; scientists</p>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 10/11/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 2" x 4' PVC Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> SIMCO 200 Geoprobe	<b>Northing:</b> NA <b>Easting:</b> NA <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 4.7' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-05-33  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										
1	0.4	3.5		0.0			FL	ASPHALT. CONCRETE.		Fill	Borehole backfilled with Bentonite to grade.
				0.0			ML	Yellow-brown (10YR 5/4) SILT (ML), some Clay, little fine to medium subangular to subrounded Sand, occasional fine subangular to subrounded Gravel lenses up to 2"-thick throughout, trace fine to medium subrounded to rounded Gravel, aplastic, dense, no odor, dry to damp. Glacial Till used as backfill.	SILT		
NA	4-4.7	NA		0.0							
5	-5										
10-10											
15-15											

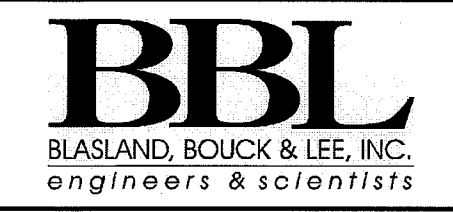


**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 7/25/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> NA <b>Easting:</b> NA <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 16' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-07-01R2  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
													4" diameter Steel Protective Casing with Concrete pad
									FL	X X	Demolition Debris from recent demolition.  CONCRETE.	FILL	5% Bentonite/95% Portland Grout (0 - 4.0' bgs) 2" ID Sch. 40 PVC Riser (2.6' ags - 6.0' bgs)
5	-5	1	4-6	10 12 14 16	26	1.5	0.0	-	CL	[Pattern]	Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, few to trace fine to coarse rounded Gravel, stringers of oxidation to yellow-brown (10YR 5/4) also present, weakly plastic, very stiff, no odor, homogenous, dry.	SILTY CLAY	
		2	6-8	5 10 11 11	21	1.5	1.1	-	ML	[Pattern]	Gray (10YR 5/1) SILT (ML), little to some Clay, few fine to medium subrounded Sand, medium dense becoming increasingly loose with depth, no odor, moist.  Saturated at 7.7' bgs.	SILT	Hydrated Bentonite Seal (6.0' - 7.0' bgs)
10-10		3	8-10	4 5 7 9	12	1.7	0.0	-	ML	[Pattern]	Lenses of saturated fine subangular to subrounded Sand up to 3"-thick throughout below 9.0' bgs.	SILT	#5 Well Sand Pack (5.0' - 16' bgs)
		4	10-12	15 42 45 50/2"	87	0.6	0.0	-	ML	[Pattern]	6"-thick lens of fine to coarse subrounded Gravel (GW), little fine to coarse subrounded Sand, few Silt, few fine to coarse rounded Pebbles, well graded, no odor, loose, saturated at 11' bgs.	SILT	
		5	12-14	18 35 20/6"	85	1.4	0.0	-	CL	[Pattern]	Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above from 3.9' - 6.5' bgs, occasional rounded Pebbles and Cobbles, hard, dry.	SILTY CLAY	2" ID Sch. 40 PVC 0.010" Slotted Screen (6.0' - 16' bgs)
15-15		6	14-16	8 27 33 40/4"	60	1.3	0.0	-	CL	[Pattern]		SILTY CLAY	




**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/19/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4' Acetate Liners <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 563706.75 <b>Easting:</b> 13306517.88 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 8.0' bgs <b>Surface Elevation:</b> 731.47 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-07-10 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0											
730		1	0-4	4.0	0.0		FL	x x	Black (10YR 2/1) ANTHRACITE COAL, fine to coarse Sand, Silt to large Pebble-sized fragments, loose, no odor, moist with snow melt. Anthracite Coal in Coal Pile.	FILL	Borehole backfilled with Bentonite to grade.
					0.0		CL		Yellow-brown (10YR 5/4) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, few fine to coarse rounded Gravel, Anthracite Coal fragments present from 0.5' - 1.0' bgs, weakly to moderately plastic, soft to medium stiff, damp. Native Clay Till used as Backfill.	SILTY CLAY	
					0.0		SM		Yellow-brown (10YR 5/4) fine subangular POORLY GRADED SILTY SAND (SM), few to little Clay, aplastic, medium dense, no odor, moist. Fill Sand.	SILTY SAND	
5		2	4-8	4.0	0.0		CL		Brown (10YR 5/3) SILTY LEAN CLAY (CL) as above from 0.5' - 2.8' bgs, Silt lenses up to 6"-thick throughout, moist. Native Glacial Clay Till used as Backfill.	SILTY CLAY	
725					0.0		SM		Brown (10YR 5/3) SILTY SAND (SM) as above from 2.8' - 4.0' bgs, wet then saturated at 7.8' bgs. Fill Sand or a Silty Sand lense from the above Silty Clay unit.		
10											
720											
15											

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		3/19/03	7.8'	

<b>Date Start/Finish:</b> 3/18/03 - 3/24/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" OD + 2' <b>Auger Size:</b> 2-1/4" ID <b>Rig Type:</b> CME-45B & CME 550 ATV	<b>Northing:</b> 563706.75 <b>Easting:</b> 13306925.64 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 16' bgs <b>Surface Elevation:</b> 731.47 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-07-11  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
730		1	0-2	2 2 3 4	5	1.8	0.0	-	ML		Dark brown (10YR 3/3), to yellow-brown (10YR 5/4) below 1.0' bgs, SILT (ML), little to some Clay, few fine to coarse subrounded Sand, rare fine to coarse angular Gravel (aggregate), Plant Roots and Vegetative debris from 0 - 1' bgs, aplastic, loose, no odor, damp. Fill - Native Till used as Backfill.	SILT	Borehole backfilled with Bentonite to grade.
		2	2-4	4 4 3 4	7	1.8	0.0	-			Yellow-brown (10YR 5/4) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine to medium rounded Gravel, 1.5"-thick lenses of Silt and Silty Sand throughout to 5.0' bgs, weakly to moderately plastic, no odor, soft, damp. Native Clay Till used as Backfill.		
5		3	4-6	13 41 50/ 0.5	91	1.4	0.0	-			Gray-brown (10YR 5/2) color, hard, dry at 5.0' bgs.		
725		4	6-8	34 20 22 28	42	2.0	0.0	-			Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above, but homogenous, hard, dry. Native Undisturbed Native Glacial Clay Till. Well rounded Pebble at 8.0' bgs.		
		5	8-10	5 12 19 17	36	2.0	0.0	-	CL			SILTY CLAY	
10		6	10-12	7 14 18 19	32	1.6	0.0	-					
720		7	12-14	8 22 24 26	47	2.0	0.0	-					
		8	14-16	8 40 43 45	83	1.6	0.0	-			Saturated Silty fine to coarse subangular Sand (SM) lense, few fine rounded Gravel, no odor, medium dense at 15.5' bgs.		



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available.  
 Sample collected from 0 - 2.0' bgs with MS/MSD.

**Water Level Data**

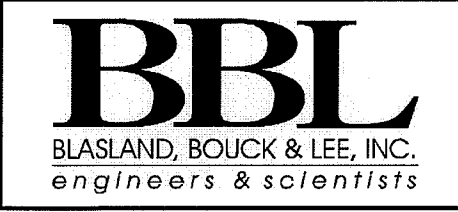
Date	Depth	Elev.
3/18/03	15.5'	

**Date Start/Finish:** 3/17/03  
**Drilling Company:** Rau Drilling  
**Driller's Name:** Greg Compeau  
**Drilling Method:** HSA /SS  
**Sampler Size:** 2" OD + 2'  
**Auger Size:** 2-1/4" ID  
**Rig Type:** CME-45B

**Northing:** 563205.18  
**Easting:** 13307043.84  
**Casing Elevation:** NA  
  
**Borehole Depth:** 18.0' bgs  
**Surface Elevation:** 728.44 ft. AMSL  
  
**Descriptions By:** SM Duly

**Boring ID:** RFI-07-12  
**Client:** General Motors  
  
**Location:** GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730													
0				2					FL	ASPHALT.			
		1	0-2	2 4 5	6	1.2	0.0	-			Yellow-brown (10YR 5/4) SILTY LEAN CLAY (CL), few fine to coarse Sand, few fine to coarse rounded Gravel, Silty Sand lenses up to 3" thick throughout, moderately plastic, no odor, damp, soft, moist to wet. Native Clay Till used as Backfill.		Borehole backfilled with Bentonite to grade.
725		2	2-4	4 6 7 7	13	1.2	0.0	-			Silty Sand lens, wet at 4.0' bgs. Dry, mottled and oxidized to dark yellow-brown (10YR 6/3), increased thickness, very stiff at 4.5'.		
5		3	4-6	12 13 25 22	38	2.0	0.0	-					
		4	6-8	4 8 18 22	26	2.0	0.0	-			Gray (10 YR 5/1) SILTY LEAN CLAY (CL), as above, but homogenous, very stiff, dry. Undisturbed Native Glacial Clay Till.		
720		5	8-10	5 10 11 17	21	2.0	0.0	-	CL				
10		6	10-12	8 12 16 25	28	2.0	0.0	-					
		7	12-14	4 12 16 25	28	2.0	0.0	-					
715													
		8	14-16	8 17 25 29	42	1.5	0.0	-			Hard below 14' bgs.		





**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available  
 WH=Weight of Hammer

Water Level Data		
Date	Depth	Elev.
3/17/03	17.7'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-07-12  
Borehole Depth: 18.0' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		9	16-18	13 18 27 27	45	1.7	0.0	-	CL		Gray (10 YR 5/1) SILTY LEAN CLAY (CL), as above, but homogenous, very stiff, dry. Undisturbed Native Glacial Clay Till.  Saturated at 17.7' bgs.	SILTY CLAY	 Borehole backfilled with Bentonite to grade.
710													
20													
705													
25													
700													
30													
695													
35													



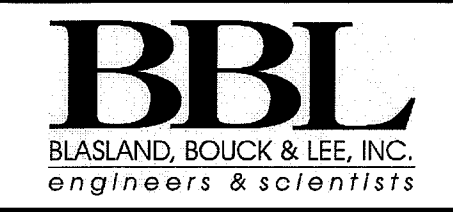
Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available  
WH=Weight of Hammer

**Water Level Data**

Date	Depth	Elev.
3/17/03	17.7'	

<b>Date Start/Finish:</b> 3/17/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA /SS <b>Sampler Size:</b> 2" OD + 2" <b>Auger Size:</b> 2-1/4" ID <b>Rig Type:</b> CME-45B	<b>Northing:</b> 563094.52 <b>Easting:</b> 13307043.26 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 18.0' bgs <b>Surface Elevation:</b> 728.77 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-07-13  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730													
0		1	0-2	2 8 8 11	16	1.7	0.0	-	EL	ASPHALT.			
				6 6 9 13	15	1.2	0.0	-	CL	Brown (10 YR 5/3) becoming very dark brown (10 YR 2/2), SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine to medium rounded Gravel, Silty Sand lenses up to 1" thick and moist throughout to 3.0' bgs, weakly plastic, no odor, dry, medium stiff. Native Clay Till used as Backfill.		Borehole backfilled with Bentonite to grade.	
725		2	2-4	6 6 9 13	15	1.2	0.0	-		Cement debris at 4.0' bgs.			
5		3	4-6	8 11 12 12	23	2.0	0.0	-	ML	Yellow-brown (10 YR 5/4) SILT (ML), little fine subangular Sand, few Clay, aplastic, no odor, medium dense, moist. Fill.			
				9 13 17 24	30	1.8	0.0	-		Brown SILTY LEAN CLAY (CL) as above from 0.3' - 4.2'. Native Clay Till used as Backfill.			
		4	6-8	9 13 17 24	30	1.8	0.0	-		Mottled with areas of highly oxidized to yellow-brown (10 YR 5/6), with stains of gray (10 YR 5/1), at 7.0' bgs.			
720		5	8-10	6 9 14 11	23	2.0	0.0	-		Gray (10 YR 5/1) SILTY LEAN CLAY (CL) as above from 0.3' - 4.2' bgs, but homogenous and very stiff. Native Undisturbed Glacial Clay Till.			
10		6	10-12	9 18 19 25	37	2.0	0.0	-	CL				
				7 17 17 23	34	1.6	0.0	-					
715		7	12-14	7 17 17 23	34	1.6	0.0	-					
				8 13 13 13	26	2.0	0.0	-					
15		8	14-16	8 13 13 13	26	2.0	0.0	-		Dry at 14' bgs			



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available  
 WH=Weight of Hammer

Water Level Data		
Date	Depth	Elev.
3/17/03	17.8'	

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Boring ID: RFI-07-13  
 Borehole Depth: 18.0' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		9	16-18	8 12 16 17	28	2.0	0.0	-	CL		Gray (10 YR 5/1) SILTY LEAN CLAY (CL) as above from 0.3' - 4.2' bgs, but homogenous and very stiff. Native Undisturbed Glacial Clay Till.  3"-thick saturated Silty Sand lense, little to few Clay, dense, no odor at 17.8' bgs.	SILTY CLAY	Borehole backfilled with Bentonite to grade.
710													
20													
705													
25													
700													
30													
695													
35													






Remarks: bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available  
 WH=Weight of Hammer

**Water Level Data**

Date	Depth	Elev.
3/17/03	17.8'	

<b>Date Start/Finish:</b> 3/20/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4' Acetate Liners <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 563169.4 <b>Easting:</b> 13307151.93 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 728.96 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-07-14  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730											
0		1	0-2	2.0	0.0	-	CL		Dark brown (10YR 3/3) SILTY LEAN CLAY (CL), little fine to coarse subrounded to rounded Sand, few fine to coarse rounded Gravel, Plant material and Roots from 0 - 1' bgs (Topsoil), weakly plastic, no odor, soft, damp. Brick and Concrete debris below 1.3' bgs. No Brick, but Concrete debris still present below 1.8' bgs.	SILTY CLAY	 Borehole backfilled with Bentonite to grade.
725											
5											
720											
10											
715											
15											

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>


<b>Date Start/Finish:</b> 2/26/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allen Rau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 559068.66 <b>Easting:</b> 13305518.70 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 10' bgs <b>Surface Elevation:</b> 725.50 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-01R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	725										ASPHALT.  Auger to 4.0' bgs. See log for RFI-09-01 for stratigraphic description from 0.5' - 4.0' bgs.		
5	720	1	4-6	WH	WH	1.9	3.7	-			Black (10YR 2/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, plastic, no odor, soft, moist to wet, saturated at 4.5' bgs. Native Clay Fill used as Backfill.	↑	
		2	6-8	WH	2	1.5	7.5	-	CL		Becoming gray-brown (10YR 5/2) with gray (10YR 5/1) mottling, decreased moisture content to moist between saturated Silt and Silty Sand lenses up to 2" thick below 6.0' bgs.	↓	
		3	8-10	1	2	2.0	23	-			(Continuation of Silty Clay description)	↓	
10	715												
15	710												

<b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result; WH = Weight of Hammer; NA = Not Applicable/Not Available Samples collected from 4.0'-6.0', 6.0'-8.0', & 8.0'-10' bgs.	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Water Level Data</th> </tr> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr> <td>2/26/03</td> <td>4.5'</td> <td></td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Water Level Data			Date	Depth	Elev.	2/26/03	4.5'							
Water Level Data																	
Date	Depth	Elev.															
2/26/03	4.5'																

<b>Date Start/Finish:</b> 2/26/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allen Rau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 559441.95 <b>Easting:</b> 13305466.93 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.5' bgs <b>Surface Elevation:</b> 726.01 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-03R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
725		1	0.5-2.5	41 48 18 13	66	1.5	0.0	-		ASPHALT	See log for RFI-09-03 for stratigraphic descriptions.		Borehole backfilled with Bentonite Chips to grade.
5													
720													
10													
715													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result; WH = Weight of Hammer; NA = Not Applicable/Not Available Samples collected from 0.5' - 2.5' bgs for SVOCs.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

Date Start/Finish: 03/3/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2"x2" ID SS  
 Auger Size: 4 - 1/4" ID  
 Rig Type: CME 55 ATV

Northing: 560190.67  
 Easting: 13305650.51  
 Casing Elevation: 728.10' AMSL

Well/Boring ID: RFI-09-08D

Client: General Motors

Borehole Depth: 20' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Hamilton Ave.  
 Flint, Michigan

Descriptions By: J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0	1	0-2	NA	NA	0.7	0.0		FL	CONCRETE.		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		2	2-4	8 8 9 10	17	2	0.0			Dark brown and yellow-brown fine to coarse subangular to subrounded SAND, no odor, medium dense, damp to moist.		Bentonite (1.0' - 10.0' bgs)
5	-5	3	4-6	4 6 8 12	14	2	35.8			Dark brown to black fine SAND, some Silt and fine Gravel, Wood fragments, odor, moist.		2" ID Sch. 40 PVC Riser (0.5' - 15.0' bgs)
		4	6-8	2 2 4 8	6	2	5.9		SP	Wet below 6.0' bgs.  Sheen present at 7.5' bgs.		
		5	8-10	2 2 4 8	6	1	3.3			Saturated below 10.0' bgs.		
10-10		6	10-12	2 2 4 6	6	1	1.3					Hydrated Bentonite Seal (10.0' - 13.0' bgs)
		7	12-14	1 1 1 1	2	1	1.5					#5 Well Sand Pack (13.0' - 20.0' bgs)
15-15		8	14-16	2 6 6 12	12	2	1.3			Brown-gray fine SAND, some Silt, trace fine Gravel, slight odor, medium dense, moist.		2" ID Sch. 40 PVC 0.010" Slotted Screen (15.0' - 20.0' bgs)



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.

**Water Level Data**

Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Hamilton Ave.  
Flint, Michigan

Well/Boring ID: RFI-09-08D

Borehole Depth: 20' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
9		16-18		4			2.5			SP	Brown-gray fine SAND, some Silt, trace fine Gravel, slight odor, medium dense, moist.	<p>2" ID Sch. 40 PVC 0.010" Slotted Screen (15.0' - 20.0' bgs)</p> <p>#5 Well Sand Pack (13.0' - 20.0' bgs)</p>
				10	20	2	1.3				Brown-gray CLAY, some fine subangular to subrounded Gravel, little Silt, trace fine Sand, no odor, very stiff, extremely hard, damp.	
				10			2.7					
10		18-20		10	20	2	1.5				0.0	
20-20				10			0.0					
25-25												
30-30												
35-35												



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 03/2/05 <b>Drilling Company:</b> Altech <b>Driller's Name:</b> D. Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID SS <b>Auger Size:</b> 4 - 1/4" ID <b>Rig Type:</b> CME 55 ATV	<b>Northing:</b> 560139.05 <b>Easting:</b> 13305499.86 <b>Casing Elevation:</b> 728.30' AMSL  <b>Borehole Depth:</b> 22' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> J. Kralik	<b>Well/Boring ID:</b> RFI-09-09D  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Hamilton Ave. Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	4 8 10 12	18	1.2	0.0		FL	CONCRETE.	Light gray to dark gray fine to medium SAND, some coarse Sand and fine Gravel, some Brick, Concrete debris, some dark brown fine to medium Sand with angular to subangular Concrete fragments, dense, no odor, dry.	
		2	2-4	NA	NA	0.0	0.0		FL	CONCRETE.		
											Dark brown fine SAND.	
5	-5	3	4-6	5 7 9 11	16	2.0	0.0		SP	Yellow-brown (10YR 5/4) fine SAND, some medium Sand, poorly graded, some orange de-coloration, dense, damp.		
		4	6-8	4 5 10 12	15	2.0	0.0 0.0 35.5					
		5	8-10	4 5 8 10	13	2.0	121 303				Olive-gray SILT/CLAYEY SILT, odor present, black staining at 7.5' to 8' bgs, some fine Sand and Gravel, sheen, stiff, damp. Black staining and wet at 9.5' bgs.	
10-10		6	10-12	NA	NA	2.0	151		ML	Gray SILT, some fine Sand and fine subangular Gravel, little medium to coarse Sand, trace Clay, no odor, stiff, damp.		
		7	12-14	4 4 8 10	12	2.0	3.8					
15-15		8	14-16	5 8 10 10	18	2.0	0.0		SP	Gray fine SAND, poorly graded, trace coarse Sand, no odor, medium dense, wet.		
									ML	Gray SILT, some fine Sand and fine subangular Gravel, little medium to coarse Sand, trace Clay, no odor, stiff, damp.		



**Remarks:**  
 a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.

Water Level Data		
Date	Depth	Elev.

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Hamilton Ave.  
 Flint, Michigan

Well/Boring ID: RFI-09-09D

Borehole Depth: 22' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20		9	16-18	5 8 10 10	18	2.0	0.0		SP		Gray fine SAND, little Silt and medium to coarse Sand, poorly graded, no odor, saturated.	<p>2" ID Sch. 40 PVC Riser (0.5' - 17.0' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (17.0' - 22.0' bgs)</p> <p>#5 Well Sand Pack (15.0' - 22.0' bgs)</p>
		10	18-20	10 10 30	20	2.0	0.0		CL		Brown-gray CLAY, some fine subangular to subrounded Gravel, little Silt, trace fine Sand, no odor, very stiff, extremely hard, damp.	
		11	20-22	10 11 21 25	32	2.0	0.0					
25-25												
30-30												
35-35												



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 03/2/05 <b>Drilling Company:</b> Altech <b>Driller's Name:</b> D. Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID SS <b>Auger Size:</b> 4 - 1/4" ID <b>Rig Type:</b> CME 55 ATV	<b>Northing:</b> 560155.86 <b>Easting:</b> 13305420.16 <b>Casing Elevation:</b> 728.85' AMSL  <b>Borehole Depth:</b> 24' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> J. Kralik	<b>Well/Boring ID:</b> RFI-09-11D  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Hamilton Ave. Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows /6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	1	2	1.0	0.0		FL	CONCRETE.		
				1					SP	Gray-brown (10YR 5/2) subangular to subrounded fine to coarse SAND, some Silt and fine Gravel, no odor, loose, dry to damp.		
				1					ML	Yellow-brown (10YR 5/4) SILT, dense, damp.		
				2						Gray (10YR 5/1) soft CLAY, yellow-brown mottling, some Silt, trace fine Sand and fine Gravel, odor, 3" gray moist Sand at 5.5' bgs.		
		2	2-4	3	5	1.5	0.0					
				2								
5	-5	3	4-6	3	7	2.0	7.8					
				4					CL			
		4	6-8	5	11	2.0	77.7					
				6								
				7								
		5	8-10	2	7	2.0	254			Gray (10YR 5/1) medium stiff CLAY, some Silt, little fine subangular to subrounded Gravel, extremely hard, slight odor, damp.		
10	-10	6	10-12	4	8	2.0	121			Gray (10YR 5/1) SANDY SILT, fine to medium Sand, some yellow-brown (10YR 5/4 to 5/2) Silt throughout, trace fine Gravel, medium stiff, odor, damp. Wet from 11.0' - 12.0' bgs.		
				3								
		7	12-14	4	13	2.0	1.1		ML			
				5								
				8								
		8	14-16	4	15	2.0	0.0			Saturated from 14.5' - 15.0' bgs.		
15	-15			6								
				9								
				11								



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**Water Level Data**

Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Hamilton Ave.  
Flint, Michigan

Well/Boring ID: RFI-09-11D

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	6 7 9 11	16	1.0	0.0		ML		Gray (10YR 5/1) SANDY SILT, fine to medium Sand, some yellow-brown (10YR 5/4 to 5/2) Silt throughout, trace fine Gravel, medium stiff, odor, damp.	<p>2" ID Sch. 40 PVC Riser (0.5' - 17.0' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (17.0' - 22.0' bgs)</p> <p>#5 Well Sand Pack (15.0' - 22.5' bgs)</p> <p>Bentonite (22.5' - 24.0' bgs)</p>
		10	18-20	8 10 10 12	20	1.5	0.0		SP		Gray (10YR 5/1) fine to medium SAND, some subangular to subrounded fine Gravel, medium dense, little Silt, no odor, wet to 19' bgs, damp from 19' to 20' bgs.	
20-20		11	20-22	10 11 20 30	31	1.0	0.0		CL		Gray (10YR 5/1) SILTY CLAY, some very fine to fine Sand, trace fine Gravel, no odor, hard, damp.	
		12	22-24	9 10 21 21	31	1.5	0.0					
25-25												
30-30												
35-35												



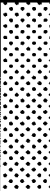

**Remarks:**


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**Water Level Data**

Date	Depth	Elev.


<b>Date Start/Finish:</b> 4/9/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Dennis Emmerly <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> 4" Barrel <b>Auger Size:</b> NA <b>Rig Type:</b> NA	<b>Northing:</b> 559585.85 <b>Easting:</b> 13305560.52 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 3.0' bgs <b>Surface Elevation:</b> 724.23 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-17  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
725											
0		1	0-3	3.0	0.0	-	SW		Black (10YR 2/1) fine to coarse angular WELL GRADED SAND (SW), 50% Cinders and Coal fragments, little Silt, few Clay, Pebble-sized angular Aggregate from 0 - 0.5' bgs, aplastic, no odor, loose, saturated with melted snow. Fill.	↑ FINE SAND ↓	 Borehole backfilled with Bentonite to grade.
720											
5											
715											
10											
710											
15											



 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available Sample collected from 1.0' - 3.0' bgs.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>


<b>Date Start/Finish:</b> 8/20/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 3 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 559294.34 <b>Easting:</b> 13305338.57 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 7.0' bgs <b>Surface Elevation:</b> 726.67 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-33  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
725		1	0-2	22	41	1.0	0.0	-	FL	ASPHALT.			
				19					SM	Black (10YR 2/1) Silty fine to medium (predominantly fine) subangular to subrounded poorly graded SAND (SM), little to few Clay, few fine subangular Gravel, Cinders and Metallic debris present, moderately dense, no odor, dry. Foundry Sand.			Borehole backfilled with Bentonite to grade.
		NA	2-3	NA	NA	NA	NA	NA	FL	CEMENT Rubble.			
				8					SW	CONCRETE in situ.			
		2	3-5	8	18	1.2	0.0	-	SW	Dark yellow-brown (10YR 4/6) fine to coarse subrounded well graded SAND (SW), little Silt, few fine to medium rounded Gravel, moderately dense, no odor, damp. Fill Sand.			
5				10									
				11									
		3	5-7	5	16	1.2	0.0	-	SM	Pale brown (10YR 6/3) Silty fine poorly graded subangular SAND (SM), few Clay, no odor, dense, damp. Fill Sand.			
720				7									
				9									
				6							Saturated at 6.8' bgs.		
10													
715													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer.	<b>Water Level Data</b>												
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr> <td>8/20/02</td> <td>6.0' bgs</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Date	Depth	Elev.	8/20/02	6.0' bgs							
		Date	Depth	Elev.										
		8/20/02	6.0' bgs											


<b>Date Start/Finish:</b> 8/20/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 3 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 559227.99 <b>Easting:</b> 13305350.25 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 4.0' bgs <b>Surface Elevation:</b> 726.76 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-34  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
725		1	0-2	7 7 6 15	13	1.6	0.0	-	SW		Very dark brown (10YR 3/3) to black (10YR 2/1) fine to coarse angular well graded SAND (SW), some to little Silt, trace Clay, Metallic debris and Cinders present, 2" of aggregat mixed in at upper contact, aplastic, no odor, medium dense, dry. Foundry Sand.	↑ SAND	Borehole backfilled with Bentonite to grade.
		2	2-4	13 12 15 20	37	2.0	0.0	-	SM		Yellow-brown (10YR 5/8) Silty fine subangular poorly graded SAND (SM), few Clay, dense to moderately dense, no odor, damp. Fill Sand.	↓ SILTY SAND	
5													
720													
10													
715													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer.	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Water Level Data</th> </tr> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Water Level Data			Date	Depth	Elev.												
Water Level Data																				
Date	Depth	Elev.																		


<b>Date Start/Finish:</b> 8/20/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 3 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 559149.3 <b>Easting:</b> 13305371.07 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 4.0' bgs <b>Surface Elevation:</b> 726.24 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-35  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
725		1	0-2	8 9 11 10	20	1.3	0.0	-	SM		Black (10YR 2/1), with 4" bleaching to dark gray-brown (10YR 4/2) at surface. Silty fine to medium angular to subangular well graded SAND (SM), little angular to subangular Gravel, dense, no odor, dry.	↑ Silty SAND ↓	Borehole backfilled with Bentonite to grade.
		2	2-4	8 14 19	22	1.5	0.0	-			Reddish-brown color from 2.5' - 2.8' bgs.  Mixed with Concrete rubble from 3.5' - 4.0' bgs.		
5													
720													
10													
715													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>


<b>Date Start/Finish:</b> 8/20/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 3 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 559650.52 <b>Easting:</b> 13305502.97 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 6.0' bgs <b>Surface Elevation:</b> 726.06 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-36  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
725		1	0-2	9 11 10 13	21	1.6	0.0	+	FL	ASPHALT.			
		2	2-4	4 5 5 4	10	0.5	6.7	+	SM	Black (10YR 2/1) Silty fine to medium (predominantly fine) poorly graded SAND (SM), little Clay, Cinders, Metallic debris, and Brick fragments present, medium dense, no odor.  Low recovery from 2.0' - 4.0' bgs due to presence of stone in shoe.			Borehole backfilled with Bentonite to grade.
5		3	4-6	4 3 3 3	6	1.2	0.0	+	CL	Dark grey (10YR 4/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, Oily material present, soft, very plastic, saturated. Native Clay Till used as backfill.			
720													
10													
715													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer. Boring redrilled due to presence of product, RFI-09-36R.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		8/20/02	4.6' bgs	

<b>Date Start/Finish:</b> 8/20/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 559648.03 <b>Easting:</b> 13305503.13 <b>Casing Elevation:</b> 725.90 ft. AMSL  <b>Borehole Depth:</b> 14' bgs <b>Surface Elevation:</b> 726.06 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-36R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
725		1	0-2	9	19	1.6	0.0	+	FL	ASPHALT.		IL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
				10					SM	Black (10YR 2/1) Silty fine to coarse (predominantly fine) poorly graded SAND (SM), little Clay, few fine to coarse subangular to angular Gravel, Metallic debris, Cinders, and Brick fragments present, medium dense, no odor, dry. Foundry Sand.		Silty SAND	Grout (0.5' - 2.0' bgs)
		2	2-4	12	21	1.7	8.4	+		Wet to moist at 2.6' bgs.			2" ID Sch. 40 PVC Riser (0' - 4.0' bgs)
				25									Bentonite Seal (2.0' - 3.0' bgs)
		3	4-6	3	5	2.0	0.0	+		Black (10YR 2/1) becoming dark gray (2.5Y 4/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, clear Oily material present, Silt lenses throughout, no odor, damp to moist. Native Clay Till used as backfill.			#5 Well Sand Pack (3.0' - 14' bgs)
5				3						Saturated at 4.5' bgs.			
		4	6-8	2	6	1.5	0.0	+	CL				
				4									
		5	8-10	2	5	1.6	0.0	+					
				3									
10				4									
		6	10-12	2	7	1.6	0.0	+		Gray (10YR 5/1) native and undisturbed, homogenous below 10' bgs.			2" ID Sch. 40 PVC 0.010" Slotted Screen (4.0' - 14' bgs)
				2									
		7	12-14	3	8	1.5	0.0	+	SG	Gray (10YR 5/1) fine to coarse subangular well graded SAND with GRAVEL (SG), few Silt, loose, no odor, saturated. Glacio-Alluvial.			
				5					CL	Gray (10YR 5/1) Silty Lean CLAY (CL) as above from 3.4' - 11.8' bgs, homogenous, native, undisturbed, dry. Native Glacial Clay Till.			
				8									
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		8/20/02	4.5' bgs	


<b>Date Start/Finish:</b> 10/11/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 2' x 2" PVC Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> SIMCO 200 Geoprobe	<b>Northing:</b> 559599.01 <b>Easting:</b> 13305430.07 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 8.5' bgs <b>Surface Elevation:</b> 726.44 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-37  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0											
725		1	0-2	1.6	0.0	-	FL	 ASPHALT. Metallic Debris and SLAG.	Fill	 Borehole backfilled with Bentonite to grade.	
		2	2-4	2.0	0.0	-	SM/CL	 Interbedded layers of yellow-brown (10YR 5/4) Silty fine to medium subangular to subrounded poorly graded SAND (SM), little Clay, aplastic, no odor, medium dense, dry, interbedded with brown (10YR 5/3) Silty Lean CLAY (CL), little to few fine to coarse subrounded Sand, trace fine rounded Gravel, medium stiff, plastic, no odor, dry. Native Glacial Clay Till mixed with Fill Sand used as backfill.	Clay & Sand		
5		3	4-6	2.0	0.0	-	SP	 Yellow (10YR 7/3) to yellow-brown (10YR 5/8) fine to coarse (predominantly fine to medium) subangular to rounded poorly graded SAND (SP), little Silt, medium loose, no odor, dry. Fill Sand.	SAND		
720		4	6-8	2.0	0.0	-	ML	 Yellow-brown (10YR 5/4) to gray (10YR 6/1) SILT (ML), little to few Clay, aplastic, dense, saturated, no odor. Gray (10YR 6/1) color, Homogenous below 6.5' bgs.	SILT		
		NA	8-8.5	NA	NA	NA					
10											
715											
15											

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>												
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr> <td>10/11/02</td> <td>6.0'</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Date	Depth	Elev.	10/11/02	6.0'							
		Date	Depth	Elev.										
		10/11/02	6.0'											


<b>Date Start/Finish:</b> 8/21/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 3 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 559565.27 <b>Easting:</b> 13305399.60 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 5.0' bgs <b>Surface Elevation:</b> 726.51 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-38  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
725		1	0-2	6	17	1.3	0.0	+	FL	ASPHALT.		FILL	Borehole backfilled with Bentonite to grade.
				8					SM	Black (10YR 2/1), becoming yellow-brown (10YR 5/4), Silty fine to medium (predominantly fine) poorly graded subangular SAND (SM), few fine to coarse angular Gravel, Cinders, and Metallic debris, aplastic, medium dense, no odor, dry. Fill and Foundry Sand.		↑ Silty SAND	
		2	2-4	8	21	1.2	0.0	-		Gravel at 2.8' bgs.		↓ SAND	
5		3	4-5	10	13	0.9	0.0	-	SW	Pale brown (10YR 4/3) fine to coarse subangular to subrounded well graded SAND (SW), little Silt, trace Clay, trace fine to medium rounded Gravel, medium dense, no odor, dry. Fill Sand.			
720													
10													
715													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

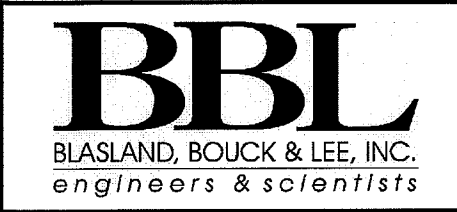
<b>Date Start/Finish:</b> 8/20/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 3 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 559501.62 <b>Easting:</b> 13305467.71 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 6.0' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-39  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0												
		1	0-2	9	17	1.3	0.0	-	FL	ASPHALT.		FILL	Borehole backfilled with Bentonite to grade.
				8					SM	Black (10YR 2/1), fine to medium (predominantly fine) poorly graded Silty SAND (SM), little Clay, few fine to coarse subangular to subrounded Gravel, Cinders and Metallic debris present, aplastic, medium dense, dry to damp.	Sand		
		2	2-4	8	17	1.2	0.0	-	CL	Very dark gray (10YR 3/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, soft to medium stiff, no odor, damp to moist.	Silty CLAY		
5	-5	3	4-6	2	4	0.9	0.0	-	ML	Pale brown (10YR 6/3) SILT (ML), few fine subangular Sand, aplastic, no odor, loose, moist. Silty Lean CLAY (CL) lenses up to 2" wide throughout.		SILT	
				2									
				2									
10	-10												
15	-15												

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer.	<b>Water Level Data</b>												
		<table border="1"> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> <tr> <td>8/20/02</td> <td>4.8'</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	Date	Depth	Elev.	8/20/02	4.8'							
		Date	Depth	Elev.										
		8/20/02	4.8'											

<b>Date Start/Finish:</b> 8/15/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 560106.63 <b>Easting:</b> 13305325.55 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 17' bgs <b>Surface Elevation:</b> 730.05 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-40  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	730												
1		0-2		6	11	1.2	0.0	-	FL	CONCRETE.		FILL	Borehole backfilled with Bentonite to grade.
				5					CL	Dark gray-brown (10YR 4/2), with yellow-brown (10YR 5/6) mottling, Silty Lean CLAY (CL), few fine to coarse subrounded Sand, few fine rounded Gravel, Cinders and Concrete debris present, moderately plastic, no odor, moderately stiff, dry. Native Clay Till used as backfill.	Silty CLAY		
		NA	2-3	NA	NA	NA	NA	NA	FL	CONCRETE rubble and Cinders, saturated (Perced?).	FILL		
2		3-5		2							Yellow-brown (10YR 5/4) Silty Lean CLAY (CL), as above from 0.7' - 1.9' bgs. Thin (1" - 2") well graded fine to coarse subangular Sand lense at upper contact, moist. Native Clay Till used as backfill.		
3		5-7		3							Gray (10YR 5/1), with yellow-brown (10YR 5/4) mottling.		
4		7-9		9							Silt lense with trace fine to medium subangular Sand, clear Oily material present, moderate odor from 8.1' - 8.5' bgs.		
5	725			11									
6		9-11		4							Silt lense with trace fine to medium subangular Sand, clear Oily material present, moderate odor from 9.5' - 9.7' bgs.		
7		11-13		6							Silt lense with trace fine to medium subangular Sand, clear Oily material present, sweet odor from 10' - 10.5' bgs.		
8	10720			11							Brown-yellow (10YR 6/6) hard, unoxidized, dry at 10.9' bgs.		
9		13-15		9							Gray (10YR 6/1) fine to coarse well graded subangular SAND (SW), little to some Silt, few Clay, strong "oily" odor, aplastic, very dense. Glacio-alluvial.		
10		15-17		13							Fining downward at 13' bgs.		
11				19									
12				24									
13				15									
14				21									
15				27									
16				28									
17	15715			10							Gray (10YR 6/1) fine to coarse well graded subangular SAND (SW), little to some Silt, few Clay, strong "oily" odor, aplastic, very dense. Glacio-alluvial.		
				18									



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.
8/15/02	11.2'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-09-40

Borehole Depth: 17' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		8	15-17	24 26	42	1.5	0.0	-	CL		Gray (10YR 5/1) Silty Lean CLAY (CL), hard, dry. Native Glacial Clay Till.	clay	Borehole backfilled with Bentonite to grade.
20710													
25705													
30700													
35695													



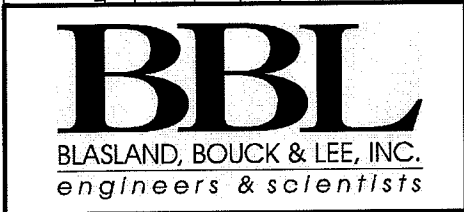
Remarks: bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
8/15/02	11.2'	

<b>Date Start/Finish:</b> 8/26/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 560110.24 <b>Easting:</b> 13305327.11 <b>Casing Elevation:</b> 729.76 ft. AMSL  <b>Borehole Depth:</b> 17' bgs <b>Surface Elevation:</b> 729.96 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-40R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	730	NA	NA	NA	NA	NA	NA	NA	NA		Auger from 0.0 - 17' bgs. See RFI-09-40 for Stratigraphic and Sampling information.		
5	725												
10	720												
15	715												




**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-09-40R

Borehole Depth: 17' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		NA	NA	NA	NA	NA	NA	NA	NA		Auger from 0.0 - 17' bgs. See RFI-09-40 for Stratigraphic and Sampling information.		 <p>#5 Well Sand Pack (5.0' - 17' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)</p>
20710													
25705													
30700													
35695													



Remarks: bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.

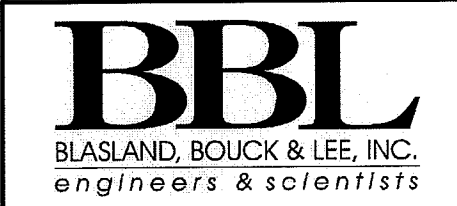
<b>Date Start/Finish:</b> 8/16/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 560099.85 <b>Easting:</b> 13305360.71 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 14' bgs <b>Surface Elevation:</b> 729.59 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-41  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction	
730	0													
		1	0-2	4	11	1.0	538	+	FL		CONCRETE.	FILL	Borehole backfilled with Bentonite to grade.	
				7					GM		Brown (10YR 4/3) Silty fine to coarse subangular well graded GRAVEL (GM), some well graded fine to coarse subangular Sand, little Clay, medium dense, aplastic, no odor, dry. Fill Sand and Aggregate mixed.	GRAVEL & SILT		
		2	2-4	9					SM		Black (10YR 2/1) Silty fine poorly graded SAND (SM), few Clay, Oily black substance present, moderately dense, no odor, aplastic, dry. Fill Sand.	SAND		
				6					CL		Gray-brown (10YR 5/2) Silty Lean CLAY (CL), few fine to medium subrounded Sand, trace fine to medium rounded Gravel, black streaking and patches of oxidation also present, especially below 8.0' bgs, weak odor, dry. Native Clay Till used as backfill.	Silty CLAY		
		3	4-6	4	9	1.5	434	-						3"-thick SILT (ML) lense at 6.6' bgs.
		4	6-8	5	14	1.5	1504	+						3"-thick Silt (ML) lense with fine to medium subrounded Sand and trace rounded fine to medium Gravel, strong sweet odor at 7.5' bgs.
				4							Silt lense from 8.7' - 9.2' bgs.			
		5	8-10	5	12	1.6	1537	+			Silty fine to medium (predominantly medium) poorly graded Sand (SM) lense, few Clay, strong sweet odor at 9.7' bgs.			
				7							6"-thick Silty Sand (SM) lense as above at 11.6' bgs.			
		6	10-12	9	24	1.3	1545	+						
				15										
				28										
		7	12-14	7					SP		Gray (10YR 5/1) fine to medium (predominantly fine) poorly graded SAND (SP), little to some Silt, trace Clay, moderate odor, moderately dense. Glacio-alluvial. Fining downward to a Silt from 13.7' - 14' bgs.	SAND		
				8										
				11	19	1.7	1299	+						
				15										
715	-15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		8/16/02	11.6'	

<b>Date Start/Finish:</b> 8/16/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 560090.53 <b>Easting:</b> 13305393.89 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 14' bgs <b>Surface Elevation:</b> 729.03 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-42  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730													
0									FL	CONCRETE.		FILL	
1		0-2		10	20	1.2	0.0		GM		Brown (10YR 4/3) Silty fine to coarse subrounded to rounded well graded GRAVEL (GM), some fine to coarse subangular Sand, little Silt, trace Clay, no odor, moderately dense, aplastic, dry. Fill Sand and Aggregate mixed.	Silty SAND	Borehole backfilled with Bentonite to grade.
2		2-4		6					SM		Black (10YR 2/1) Silty fine subangular poorly graded SAND (SM), few Clay, black oil substance present, moderately dense, aplastic, moderate odor, damp. Fill Sand.		
725											Yellow-brown (10YR 5/4) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, moderate "oily" odor, semi-lithified and bleached to very pale brown (10YR 8/2) from 2.3' - 2.8' bgs, occasional lenses of Silt throughout, moderately plastic, dry. Native Clat Till used as backfill.		
5											Becoming soft, very plastic, moist.		
3		4-6		6	11	1.9	25.7				2"-thick saturated Silt lense at 7.0' bgs.		
4		6-8		5	9	1.4	537		CL		2"-thick saturated Silt lense at 7.8' bgs. 4"-thick saturated Silt lense at 8.2' bgs.		
720													
5		8-10		5	17	2.0	2384						
10											Gray (10YR 5/1) Silty Lean CLAY (CL) as above, homogenous, dry becoming damp at 11' bgs. Undisturbed Native Glacial Clay Till.		
6		10-12		7	18	1.5	1771						
7		12-14		5					SM/GM		Light brown-gray (10YR 6/2) Silty fine to medium (predominantly fine) poorly graded subangular SAND (SM), trace Clay, moderate odor, light oily substance present, medium dense, saturated. Glacio-alluvial.	Silty SAND	
7				7	16	1.3	2014				Coarsens downward to a fine rounded well graded Gravel with fine to coarse well graded angular to subangular Sand (GS), little Silt, moderate odor, loose, clear light oily substance still present, saturated below 12.5' bgs. Fining downwards at 13.7' bgs.		
715				13									
15													



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.
8/16/02	11.2'	

<b>Date Start/Finish:</b> 8/16/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 3 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 560081.7 <b>Easting:</b> 13305443.32 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 14' bgs <b>Surface Elevation:</b> 728.46 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-43  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730													
0									FL		CONCRETE.	FILL	Borehole backfilled with Bentonite to grade.
1		0-2		6	13	1.1	0.0	+	SW		Brown (10YR 5/8), becoming black (10YR 2/1), fine to coarse angular well graded SAND (SW), few fine to coarse subangular Gravel, few Clay, black oily substance present at 1.2' bgs, moderately dense, no odor, dry. Fill Sand.	SAND	
2	725	2-4		4	10	1.3	9.7	-	CL		Very dark gray (10YR 3/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to medium rounded Gravel, soft to medium stiff, very plastic, weak odor, damp to moist with increasing moisture with depth. Native Glacial Clay Till used as backfill.	Silty CLAY	
3		4-6		2	5	1.6	12.7	-					
4		6-8		2	4	1.0	0.3	-	SM		Brown (10YR 5/3) Silty fine poorly graded subangular SAND (SM), trace Clay, weak odor, loose, moist to saturated at 7.5' bgs, loose. Fill Sand.	Silty SAND	
5	720	8-10		4	12	1.5	287	-					
6		10-12		5	19	1.6	320	+	CL		Gray (10YR 5/1) Silty Lean CLAY (CL) as above from 1.5' - 5.2' bgs, homogenous, Silt lenses present up to 6" thick throughout with damp to moist Clay between lenses. Undisturbed Native Glacial Clay Till. 6"-thick saturated Silt lense at 9.5' bgs.  Black (10YR 2/1) subangular fine to coarse well graded SAND (SW) lense, some to little Silt, few Clay, moderate odor, oily black substance present, saturated from 10.4' - 11.5' bgs.	Silty CLAY	
7	715	12-14		6	23	1.5	94.1	+					
				10									
				13									
				15									
-15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer.	<b>Water Level Data</b> <table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr> <td>8/16/02</td> <td>7.5'</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Date	Depth	Elev.	8/16/02	7.5'							
	Date	Depth	Elev.											
	8/16/02	7.5'												

<b>Date Start/Finish:</b> 8/16/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 560071.15 <b>Easting:</b> 13305487.49 <b>Casing Elevation:</b> 728.22 ft. AMSL  <b>Borehole Depth:</b> 15' bgs <b>Surface Elevation:</b> 728.48 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-44  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730													
0									FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		1	0-2	8	17	1.2	0.0	-	SW	Black (10YR 2/1) fine to coarse angular to subangular well graded SAND (SW), little to locally some Silt, trace fine to coarse subangular Gravel, strongly oxidized to yellow-brown (10YR 5/8) at 2.6' bgs, no odor, moderately dense, dry. Foundry Sand.		SAND	Grout (0.5' - 2.0' bgs)
				9									2" ID Sch. 40 PVC Riser (0' - 5.0' bgs)
				12									
725		2	2-4	9	14	1.5	0.0	-	SM	Black (10YR 2/1) Silty fine subangular poorly graded SAND (SM), few Clay, no odor, moderately dense, a plastic, dry. Fill Sand.		CLAY SA	Hydrated Bentonite Seal (2.0' - 4.0' bgs)
				7					CL	Brown (10YR 4/3) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, rare fine rounded Gravel, weakly plastic, very stiff to stiff, no odor, dry. Native Glacial Clay Till used as backfill.			
				7									
5		3	4-6	3	7	1.6	0.0	-	SM	Pale brown (10YR 6/3) Silty SAND (SM) as above from 2.8' - 3.3' bgs, moist. Fill Sand. Saturated at 5.7' bgs.		SILTY SAND	#5 Well Sand Pack (4.0' - 15' bgs)
				3									
				4									
				5									
				7	18	1.6	0.0	-					
				11									
				11									
720		5	8-10	5	19	1.5	0.0	-	ML	Gray (10YR 5/1) SILT (ML), lenses of damp Silty lean Clay as above from 3.3' - 3.7' bgs, up to 3" thick throughout, moderately to medium dense, no odor, saturated.		SILT	2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)
				8									
				11									
10		6	10-12	3	15	1.8	0.0	-					
				5									
				10									
				7									
				7									
715		7	12-14	15	35	2.0	0.0	-	CL	Gray (10YR 5/1) Silty Lean CLAY (CL) as above from 3.3' - 3.7' bgs, saturated Silt lenses present up to 3" thick throughout, homogenous, stiff to very stiff, dry to damp. Native Glacial Clay Till. Saturated 3"-thick Silt lense as above at 13.1' bgs. Saturated 3"-thick Silt lense as above at 13.6' bgs.		SILTY CLAY	
				7									
				20									
				21									
15		NA	14-15	NA	NA	NA	NA	NA					



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
8/16/02	5.7'	

<b>Date Start/Finish:</b> 8/20/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 560054.75 <b>Easting:</b> 13305314.73 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 14' bgs <b>Surface Elevation:</b> 730.17 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-45 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	730								FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		0-2		3	8	1.5	0.0	-	SM	Black (10YR 2/1) Silty fine to medium subangular to subrounded (predominantly fine) poorly graded SAND (SM), few Clay, aplastic, no odor, loose, dry. Fill Sand.	Sand	Grout (0.5' - 2.0' bgs)	
2		2-4		4	10	1.9	0.0	-	CL	Pale brown (10YR 6/3) color from 2.0' - 2.1' bgs. Brown (10YR 5/3) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, rare rounded Gravel, no odor, stiff, plastic, damp. Native Clay Till used as backfill.	Clay	2" ID Sch. 40 PVC Riser (0' - 4.0' bgs)	
3		4-6		4	9	1.8	0.0	+*	SM	Yellow-brown (10YR 5/4) Silty SAND (SM) as above from 0.5' - 2.7' bgs, moist. Fill Sand.	Sand	Hydrated Bentonite Seal (2.0' - 3.0' bgs)	
4		6-8		3	6	2.0	0.0	+*	CL	Brown (10YR 5/3) with light gray (10YR 7/1) mottling (heavily oxidized), Silty Lean CLAY (CL), as above from 2.7' - 3.7' bgs. Silt lenses up to 2"-thick throughout, moist to damp between lenses, saturated at 4.5' bgs. Native Clay Till used as backfill.	Clay		
5	725			3					SM	Brown (10YR 5/4) Silty fine to medium (predominantly fine) poorly graded SAND (SM), little Clay, no odor, medium dense, saturated.	Sand		
6		8-10		3					CL	Silty Lean CLAY (CL) as above from 4.4' - 6.8' bgs.	Clay	#5 Well Sand Pack (4.0' - 15' bgs)	
7		10-12		5					SM	Silty SAND (SM) as above from 6.8' - 7.0' bgs.	Sand	2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)	
8		12-14		6					CL	Gray 2"-thick rounded coarse Gravel lense at 10.9' bgs. Gray (10YR 5/1) Silty Lean CLAY (CL) as above from 4.4' - 6.8' bgs, homogenous, stiff to very stiff, dry. Native Glacial Clay Till.	Clay		
9				7						Saturated Silty SAND (SM) lense from 12.8' - 13.3' bgs. Glacio-alluvial.	Sand		
10	720			9									
11				10									
12				11									
13													
14													
15	715												




**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.  
 \* = Very light clear oil observed.

Water Level Data		
Date	Depth	Elev.
8/20/02	4.5'	


<b>Date Start/Finish:</b> 2/26/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allen Rau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 560051.37 <b>Easting:</b> 13305314.69 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.3' bgs <b>Surface Elevation:</b> 730.12 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-45R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	730												
		1	0.3-1.3	30 38 20 10	58	1.6	0.0	NA			CONCRETE. See log for RFI-09-45 for stratigraphic descriptions.		 Borehole backfilled with Bentonite Chips to grade.
5	725												
10	720												
15	715												

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result; WH = Weight of Hammer; NA = Not Applicable/Not Available Samples collected from 0.3' - 2.3' bgs for SVOCs.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 8/21/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 560183.56 <b>Easting:</b> 13305879.75 <b>Casing Elevation:</b> 723.07 ft. AMSL  <b>Borehole Depth:</b> 17' bgs <b>Surface Elevation:</b> 723.17 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-46 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
725													
0		1	0-1	5	-	0.5	0.0	-	ML		Dark brown (10YR 3/3) SILT (ML), some Clay, trace fine to medium subrounded Sand, Roots and Vegetation present as Topsoil, aplastic, no odor, medium dense, damp.	Silt	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		NA	1-3	NA	NA	NA	NA	NA	FL		Pink very large Quartzite COBBLES and assorted other Cobbles.	FILL	Grout (0.5' - 2.0' bgs)
720		2	3-5	3 5 8 12	13	1.8	0.0	-	SM		Pale brown (10YR 6/3) Silty fine subangular poorly graded SAND (SM), trace fine rounded Gravel, aplastic, no odor, medium dense to loose, dry. Fill Sand.	Silty SAND	2" ID Sch. 40 PVC Riser (0' - 5.0' bgs)
5		3	5-7	5 6 8 9	14	1.6	0.0	-			Dark gray-brown (10YR 4/2) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, no odor, moderately plastic, stiff to very stiff, moist to damp. Native Clay Till used as backfill.		Hydrated Bentonite Seal (2.0' - 4.0' bgs)
715		4	7-9	2 5 6 10	11	2.0	0.0	-			Gray (10YR 5/1) Silty Lean CLAY (CL) as above, homogenous, saturated Silt lenses throughout with damp to moist Clay in between lens Native Glacial Clay Till. 1.5"-thick Silt lens, saturated at 7.8' bgs. 2"-thick Silt lens, saturated at 8.2' bgs.	Silty CLAY	#5 Well Sand Pack (4.0' - 15' bgs)
10		5	9-11	4 4 7 8	11	1.8	0.0	-			1"-thick Silt lens, saturated at 9.4' bgs. 1"-thick Silt lens, saturated at 9.9' bgs. 2"-thick Silt lens, saturated at 10.2' bgs. 1/2"-thick Silt lens, saturated at 10.6' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)
		6	11-13	1 2 7 10	9	1.6	0.0	-			2"-thick Silt lens, saturated at 12.2' bgs. 3"-thick Silt lens, with few fine Sand, saturated at 12.4' bgs.		
710		7	13-15	8 10 9 11	19	1.4	0.0	-	GC		Gray (10YR 5/1) Clayey fine to coarse subangular to subrounded GRAVEL (GC), some to little fine to coarse subangular to subrounded Sand, little to few Silt, weak odor, aplastic, medium dense to loose, saturated. Glacio-alluvial. Decreasing Clay content at 14' bgs.	Clayey GRAVEL	
15		8	15-17	9 10	25	1.8	0.0	-	CL		Gray (10YR 5/1) Silty Lean CLAY (CL) as above from 7.4' - 12.7' bgs, weakly plastic, very stiff, dry. Native Glacial Clay Till.	CLAY	




**BLASLAND, BOUCK & LEE, INC.**  
engineers & scientists

**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.
8/21/02	12.7'	

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Boring ID: RFI-09-46  
 Borehole Depth: 17' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		8	15-17	15 36	25	1.8	0.0	-	CL		Gray (10YR 5/1) Silty Lean CLAY (CL) as above from 7.4' - 12.7' bgs, weakly plastic, very stiff, dry. Native Glacial Clay Till.	CLAY	
705													
20													
700													
25													
695													
30													
690													
35													



Remarks: bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
8/21/02	12.7'	

<b>Date Start/Finish:</b> 8/26/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 560141.86 <b>Easting:</b> 13305323.22 <b>Casing Elevation:</b> 729.64 ft. AMSL  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> 730.02 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-47  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	730								FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		0-2		12	23	0.8	0.0	-	SM	Gray-brown (10YR 5/2) Silty fine to coarse subangular to subrounded well graded SAND (SM), few Clay, few fine to medium angular Gravel (aggregate), Brick debris, aplastic, medium dense, no odor, damp. Till Sand mixed with aggregate and Building Debris.	Silty SAND	Grout (0.5' - 3.0' bgs)	
2		2-4		4	22	1.5	113	-	CL	Dark gray (10YR 4/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, Cinders present, moderately plastic, very stiff, weak odor, damp becoming increasingly dry with depth. Native Clay Till used as backfill.	Silty CLAY	2" ID Sch. 40 PVC Riser (0' - 6.5' bgs)	
3		4-6		6	20	1.5	2535	-	FL	CONCRETE Cobble.	FILL	Hydrated Bentonite Seal (3.0' - 5.0' bgs)	
4		6-8		10	20	2.0	2646	+	SM	Brown (10YR 5/3) Silty fine subangular poorly graded SAND (SM), few Clay, aplastic, weak odor, medium dense, saturated. Fill Sand.	SAND	#5 Well Sand Pack (5.0' - 16.5' bgs)	
5		8-10		12	20	2.0	2285	+	CL	Yellow-brown (10YR 5/6) Silty Lean CLAY (CL) as above from 2.8' - 4.8' bgs, local patches of oxidation and bleaching, dry. Native Clay Till used as backfill.	Silty CLAY	2" ID Sch. 40 PVC 0.010" Slotted Screen (6.5' - 16.5' bgs)	
6		10-12		13	31	2.0	2465	+	CL	1"-thick Silty Sand lense, saturated at 10.4' bgs. 1/2"-thick Silty Sand lense, saturated at 10.7' bgs. 3"-thick Silty Sand lense, saturated at 11.3' bgs. Becoming gray in color, decreasing oxidation at 11.5' bgs.	Silty CLAY		
7		12-14		8	12	27	2652	+	SM	Gray (10YR 5/1) Silty fine to medium (predominantly fine) subangular poorly graded SAND (SM), trace fine subangular Gravel, aplastic, moderate odor, dense, saturated. Glacio-alluvial.	Silty SAND		
8		14-16		11	29	2.0	149	-	SM	Increased Clay content to little throughout to lower contact. Increased Gravel content and coarseness, no odor below 14' bgs.	Silty SAND		

**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.  
 \* = Very light clear oil observed.

Water Level Data		
Date	Depth	Elev.
8/26/02	7.1'	

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Boring ID: RFI-09-47  
 Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		9	16-18	8 10 14 25	24	1.4	0.0	-	SM		Gray (10YR 5/1) Silty fine to medium (predominantly fine) subangular poorly graded SAND (SM), trace fine subangular Gravel, aplastic, moderate odor, dense, saturated. Glacio-alluvial. Gray (10YR 5/1) Silty Lean Clay lense, very stiff to hard, weakly plastic, homogenous, no odor from 7.3' - 17.8' bgs. Native Clay Till.	Silty SAND	#5 Well Sand Pack (5.0' - 16.5' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (6.5' - 16.5' bgs)
20710													
25705													
30700													
35695													



Remarks: bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.  
 \* = Very light clear oil observed.

**Water Level Data**

Date	Depth	Elev.
8/26/02	7.1'	

<b>Date Start/Finish:</b> 4/2/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 560162.7 <b>Easting:</b> 13306188.80 <b>Casing Elevation:</b> 719.69 ft. AMSL  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> 719.88 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-48 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
6	720								FL	CONCRETE.			Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		0-2		NA	16	1.5	0.0	-	SW	Dark brown (10YR 3/3) to black (10YR 2/1) fine to coarse angular to subrounded WELL GRADED SAND (SW) with Silt- to Gravel-sized angular Slag, few Clay, aplastic, no odor, medium dense, dry. Foundry Fill/Sand.	FILL	Grout (0.5' - 4.0' bgs)	
2		2-4		6	12	1.8	0.0	-	CL	Dark gray (10YR 4/1) to black (10YR 2/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, few to trace fine rounded Gravel, occasional lenses of Slag, Cinders, and Ash up to 3"-thick at 3.1' bgs, weakly plastic, no odor, soft to medium stiff, damp. Native Glacial Clay Till used as Backfill.	SILTY CLAY	2" ID Sch. 40 PVC Riser (0' - 8.0' bgs)	
3	715	4-6		2	5	1.3	0.0	-	SM	Pale brown (10YR 6/3) fine to coarse, predominantly fine, subangular to subrounded POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, damp to moist at 6.0' bgs, loose. Fill Sand.	SILTY SAND	Hydrated Bentonite Seal (4.0' - 6.0' bgs)	
4		6-8		2	5	1.7	0.0	-	SM				
5		8-10		2	8	1.5	0.0	-	FL	Black (10YR 2/1) fine to coarse Sand- to Gravel-sized angular SLAG, ASHES, and CINDERS, little Silt, few Clay, 10% metallic debris, aplastic, no odor, loose, damp.	FILL	#5 Well Sand Pack (6.0' - 18' bgs)	
6	710	10-12		2	5	1.3	0.0	-	FL	Moist and locally oxidized from 10.5' - 11.5' bgs	FILL	2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)	
7		12-14		7	2	1.2	0.0	-	SM	Black (10YR 2/1) to gray (10YR 5/1) fine subrounded to subangular POORLY GRADED SILTY SAND (SM), little Clay, very small pieces of Vegetative debris present, aplastic, no odor, loose, saturated. Alluvial/Riverine, low energy environment of deposition. Local increase in Clay content to some at 13' bgs.	SILTY SAND		
8	705	14-16		H	H	1.7	0.0	-	H				



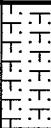
**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 0.5' - 2.5' & 8.5' - 10.5' bgs.

**Water Level Data**

Date	Depth	Elev.
4/2/03	11.5'	

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Boring ID: RFI-09-48  
 Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		9	16-18	H H H H	H	2.0	0.0	-	SM		Black (10YR 2/1) to gray (10YR 5/1) fine subrounded to subangular POORLY GRADED SILTY SAND (SM), little Clay, very small pieces of Vegetative debris present, gray (10YR 5/1) local lense of Silty Sand and patches of oxidation at 16' bgs, aplastic, no odor, loose, saturated. Alluvial/Riverine, low energy environment of deposition.	SILTY SAND	#5 Well Sand Pack (6.0' - 18' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
20	700										End of boring at 18' bgs. In Shoe: SILTY LEAN CLAY (CL) as above at 1.7' - 4.7' bgs but Native Undisturbed Glacial Clay Till.		
25	695												
30	690												
35	685												



Remarks: bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 0.5' - 2.5' & 8.5' - 10.5' bgs.

**Water Level Data**

Date	Depth	Elev.
4/2/03	11.5'	

<b>Date Start/Finish:</b> 2/25/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME 85	<b>Northing:</b> 560162.7 <b>Easting:</b> 13305370.65 <b>Casing Elevation:</b> 719.69 ft. AMSL  <b>Borehole Depth:</b> 16' below grade <b>Surface Elevation:</b> 719.88 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-49 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	720												
1		1	0-2	27 24 30 30/3"	54	1.7	0.0	-	SW		Brown (10YR 5/3) fine to coarse subangular WELL GRADED SAND (SW), some Gravel, little Silt, few Clay, Concrete debris, Roots and Vegetation from 0 - 0.5' bgs, aplastic, dense, no odor.	FILL LTY SAND	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
2		2	2-4	8 10 8 7	18	2	0.0	-	SM FL		Black (10YR 2/1) fine to coarse subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, dense, no odor. Foundry Fill Sand.  CONCRETE Rubble.		Grout (0.6' - 1.5' bgs) 2" ID Sch. 40 PVC Riser (0' - 5.0' bgs)
3		3	4-6	2 3 5 7	8	1.9	0.0	-	SP		Yellow-brown (10YR 5/6) fine to coarse subangular to subrounded POORLY GRADED SAND (SP), little to some Silt, aplastic, medium dense to dense, no odor, moist. Fill Sand.	SAND	Hydrated Bentonite Seal (1.5' - 3.5' bgs)
4		4	6-8	3 5 5 9	10	1.6	0.0	-	CL		Gray-brown (10YR 5/2) to brown (10YR 4/3) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, mottled occasional Silty Sand and Silt lenses up to 3" thick especially between 7' and 7.6' bgs, weakly to moderately plastic, moderately stiff, no odor, damp. Native Glacial Clay Till used as Backfill.	SILTY CLAY	#5 Well Sand Pack (3.5' - 15' bgs)
5	715	5	8-10	3 4 5 5	9	1.5	0.0	-	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above, but homogeneous and damp between saturated lenses of Silt and/or Silty Sand throughout, especially from 8.0' - 10.5' bgs. Undisturbed Native Glacial Clay Till.		
6		6	10-12	1 3 6 13	9	1.8	0.0	-					2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)
7		7	12-14	4 8 10 11	18	1.3	0.0	-	SW		Brown (10YR 5/3) fine to coarse subangular to subrounded SAND (SW), some fine to coarse subangular to subrounded Gravel, few Silt, loose, no odor, saturated. Glacio-alluvial.	SAND	
8	705	8	14-16	4 8 7 6	15	1.4	0.0	-	SW				

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available. Samples collected from 0 - 2.0' & 4.0' - 6.0' bgs.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		2/25/03	7.0'	

<b>Date Start/Finish:</b> 3/4/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 3-1/4" ID HSA <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 559265.32 <b>Easting:</b> 13305366.85 <b>Casing Elevation:</b> 726.43 ft. AMSL  <b>Borehole Depth:</b> 20' below grade <b>Surface Elevation:</b> 726.80 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-49R <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0											No samples collected from 0 - 10' bgs. See log for RFI-09-49 for geologic information.		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Grout (0.8' - 4.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 10' bgs) Hydrated Bentonite Seal (4.0' - 6.7' bgs) #5 Well Sand Pack (6.7' - 20' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)
7.25													
5													
7.20													
10		1	10-12	2	7	1.5	0.0	-	CL	Gray (10YR 3/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, saturated lenses of Silt up to 2"-thick at 10.9' bgs, homogenous, weakly plastic, no odor, medium to stiff to stiff, damp. Becomes oxidized to yellow-brown (10YR 5/4) at 11.2' bgs.	SILTY CLAY		
7.15		2	12-14	3	9	1.2	0.0	-	SW	Brown (10YR 5/3) fine to coarse subangular to subrounded WELL GRADED SAND (SW), oxidized at upper contact to yellow-brown (10YR 5/4), increased maturity with increased grain size, little to locally some fine to coarse subrounded to rounded Gravel, little to few Silt, aplastic, no odor, saturated from 11.3' - 11.4' bgs, then moist. Glacio-Alluvial.	SAND, FINE		
15		3	14-16	6	7	1.4	0.0	-		Saturated, increased Gravel content to some, occasional rounded Pebbles present below 15.7' bgs.			

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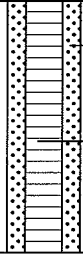
**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Not Available.

Water Level Data		
Date	Depth	Elev.
3/4/03	15.7'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-09-49R

Borehole Depth: 20' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
710		4	16-18	4 6 8 9	14	0.8	0.0	-		SW	Brown (10YR 5/3) fine to coarse subangular to subrounded WELL GRADED SAND (SW), increased maturity with increased grain size, some fine to coarse subrounded to rounded Gravel, little to few Silt, aplastic, no odor, saturated. Glacio-Alluvial.	↑ SAND, FINE ↓	 <p>#5 Well Sand Pack (6.7' - 20' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)</p>
		5	18-20	6 12 12 14	24	0.8	0.0	-					
20													
705													
25													
700													
30													
695													
35													



Remarks: bgs = below ground surface;  
NA = Not Applicable/Not Available.

**Water Level Data**

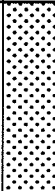

Date	Depth	Elev.
3/4/03	15.7'	


<b>Date Start/Finish:</b> 2/26/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allen Rau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 559635.31 <b>Easting:</b> 13305524.86 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 4.5' bgs <b>Surface Elevation:</b> 725.40 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-50  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	725	1	0.5-2.5	11 27 14 18	41	1.5	0.0	-	ML		ASPHALT. Brown (10YR 4/3) SILT (ML), some Clay, few fine to coarse subangular to subrounded Sand, few fine to coarse angular Gravel (Fill), aplastic, no odor, dense, dry. Native Clay Till used as Backfill.	↑ SILT ↓ FILL	Borehole backfilled with Bentonite Chips to grade.
		2	2.5-4.5	1 2 3 4	5	1.8	0.0	+	CL		Black (10YR 2/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, very plastic, soft, weak odor, moist. Native Clay Till used as Backfill.		
5	720												
10	715												
15	710												

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result; WH = Weight of Hammer; NA = Not Applicable/Not Available Samples collected from 0.5' - 2.5' bgs for Lead; and from 2.5' - 4.5' bgs for VOCs and Lead.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>


<b>Date Start/Finish:</b> 4/9/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Dennis Emmerly <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> 4" <b>Auger Size:</b> NA <b>Rig Type:</b> NA	<b>Northing:</b> 559543.69 <b>Easting:</b> 13305552.03 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 3.0' bgs <b>Surface Elevation:</b> 724.19 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-51 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
725											
0		1	0-3	3.0	0.0	-	SW		Black (10YR 2/1) fine to coarse angular WELL GRADED SAND (SW), 50% Cinders and Coal fragments, little Silt, few Clay, Pebble-sized angular Aggregate from 0 - 0.3' bgs, aplastic, no odor, loose, moist to wet with melted snow. Fill.	↑ FINE SAND ↓	 Borehole backfilled with Bentonite to grade.
720											
5											
715											
10											
710											
15											

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available Sample collected from 1.0' - 3.0' bgs.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 7/25/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 560207.55 <b>Easting:</b> 13305420.31 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 16' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-09-52  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0			-					FL	CONCRETE.			Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		0-2		12	30	0.8	2451	-	SW		Gray-brown (10YR 5/2) fine to coarse subangular WELL GRADED SAND (SW), little Silt, few Clay, Concrete and Brick fragments throughout, medium dense to loose, aplastic, no odor, dry.		Hydrated Bentonite Hole Plug (0.5' - 4.0' bgs)
2		2-4		18	39	1.7	3386	-			Black (10YR 2/1), with strong oxidation/mottling to dark yellow-brown (10YR 3/6) throughout, fine subangular to angular POORLY GRADED SAND (SP), metallic luster on some grains, little to some Silt, no odor, dense, aplastic, dry. Foundry Sand.		2" ID Sch. 40 PVC Riser (0.2' - 5.0' bgs)
3	-5	4-6		22	42	1.5	463	-	SP		Occasional metallic Silt- to fine gravel-sized Slag present, moist at 4.0' bgs.		
4		6-8		9	5	1.2	394	-			Brown (10YR 5/3) fine to medium (predominantly fine) subangular POORLY GRADED SAND (SP), some Silt, little to few Clay, no odor, loose, aplastic, saturated. FILL SAND.		
5				20							Yellow-brown (10YR 5/6) SILTY LEAN CLAY (CL), gray (10YR 5/1) mottling throughout, few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, occasional lenses of saturated Silt and/or fine Sand throughout up to 6"-8" thick, weakly to moderately plastic, no odor, medium stiff to soft, damp.		#5 Well Sand Pack (4.0' - 16' bgs)
6	10-10	10-12		27	16	1.7	4872	+	CL		6"-thick saturated Silty Sand lense at 8.7' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)
7		12-14		1	29	1.6	5742	+			2"-thick saturated Silt lense at 11' bgs. 8"-thick saturated Silty Sand lense with black mottling, moderate to weak "oily" odor at 11.4' bgs.		
8	15-15	14-16		5	41	1.3	12.8	-			8"-thick saturated Sand lense, little fine rounded Gravel, sharp, strong gasoline-type odor at 13' bgs.		
				11							6"-thick saturated Silty Sand lense, little fine rounded Gravel at 15.3' bgs.		

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		Date	Depth	Elev.

<b>Date Start/Finish:</b> 03/3/05 <b>Drilling Company:</b> Altech <b>Driller's Name:</b> D. Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID SS <b>Auger Size:</b> 4 - 1/4" ID <b>Rig Type:</b> CME 55 ATV	<b>Northing:</b> 559134.15 <b>Easting:</b> 13305386.28 <b>Casing Elevation:</b> 725.48'AMSL  <b>Borehole Depth:</b> 15' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> J. Kralik	<b>Well/Boring ID:</b> RFI-09-53  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Hamilton Ave. Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows /6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
1	0-2	1	0-2	4 3 5 3	8	1.0	0.0 0.0		FL		Light brown to dark brown fine to coarse SAND, some fine subangular Gravel, trace Silt, trace Brick, and Concrete debris, Slag, yellow and reddish-brown coarse Sand, a few Cobbles, no odor, loose, damp (frozen). [FILL]	
2	2-4	2	2-4	4 4 6 7	10	1.0	0.0 0.2		FL			
3	4-6	3	4-6	2 2 4 4	6	2.0	0.0		SP	Yellow to yellow-brown fine to coarse CLAYEY SAND, little coarse Sand and fine Gravel, no odor, loose, damp.		
4	6-8	4	6-8	3 3 3 5	6	2.0	0.0		SP			
5	8-10	5	8-10	2 2 3 6	5	2.0	0.0 2.8			Brown-gray SILT, little fine to medium Sand, trace Clay and fine Gravel, medium stiff, damp to moist.		
6	10-12	6	10-12	2 4 4 6	8	1.5	0.0		ML	Wet with some thin (<1") saturated zones from 10.0' -12.0' bgs.		
7	12-14	7	12-14	5 10 10 9	20	2.0	0.0		ML	Some fine to medium Sand, very stiff, damp to moist below 12' bgs.		
8	14-15	8	14-15	25 50	NA	0.0	0.0			Granite Cobble in tip of spoon.		
15	15											

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*engineers, scientists, economists*

**Remarks:**  
 a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
 Soil samples collected from 0.0' - 2.0' and 8.0' - 10.0' bgs for VOCs, SVOCs, PVCs and metals.

Water Level Data		
Date	Depth	Elev.

Date Start/Finish: 03/3/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2"x2" ID SS  
 Auger Size: 4 - 1/4" ID  
 Rig Type: CME 55 ATV

Northing: 560095.92  
 Easting: 13305632.87  
 Casing Elevation: 728.05' AMSL

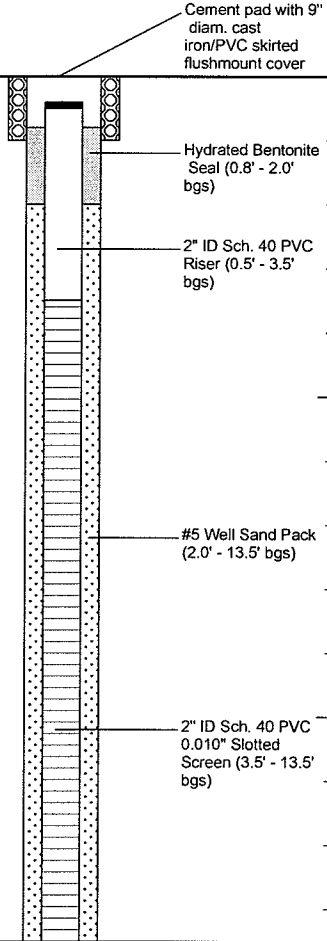
Well/Boring ID: RFI-09-54S

Client: General Motors

Borehole Depth: 24' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Hamilton Ave.  
 Flint, Michigan

Descriptions By: J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
5	-5										No Samples collected from 0 - 13.5' bgs. See boring log RFI-09-54D for geologic information.	
10	-10											
15	-15											



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 03/3/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2"x2" ID SS  
 Auger Size: 4 - 1/4" ID  
 Rig Type: CME 55 ATV

Northing: 560099.17  
 Easting: 13305634.27  
 Casing Elevation: 728.01' AMSL

Well/Boring ID: RFI-09-54D

Client: General Motors

Borehole Depth: 24' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Hamilton Ave.  
 Flint, Michigan

Descriptions By: J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	1	2	0.5	0.0		FL	ASPHALT.		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
				1						CONCRETE.		Sand (0.8' - 2.0' bgs)
		2	2-4	2	15	1.5	0.0		SP	Yellow-brown fine to medium SAND, some Silt, medium dense, damp. Some thin (<1") dark brown Silty Sand layers from 3.5' - 5.0' bgs.		Bentonite (2.0' - 10.0' bgs)
5	-5	3	4-6	4	14	1.5	0.0					2" ID Sch. 40 PVC Riser (0.5' - 15.0' bgs)
				6								
				8								
				8								
		4	6-8	2	14	2.0	0.0		ML	Yellow-brown to gray-brown SILT, little fine to medium Sand and Clay, thin (<1") saturated layers, stiff, damp to moist.		
				6								
				8								
				10								
		5	8-10	2	4	2.0	0.0					
				2								
				2								
10-10				2								
		6	10-12	2	8	2.0	0.0		CL	Brown-gray SILTY CLAY, trace fine Sand, no odor, soft, slightly plastic, damp to wet. Thin (1-1.5") layers of brown-gray wet Silt from 11.2 - 13.0' bgs.		Hydrated Bentonite Seal (10.0' - 13.0' bgs)
				6								
				12								
		7	12-14	2	10	2.0	0.0					
				4								
				6								
				9								#5 Well Sand Pack (13.0' - 20.5' bgs)
				10								
15-15		8	14-16	2	10	2.0	0.0		ML	Brown-gray SILT, little very fine to fine Sand, trace Clay, stiff, no odor, wet.		2" ID Sch. 40 PVC 0.010" Slotted Screen (15.0' - 20.0' bgs)
				4								
				6								
				10								



**Remarks:**  
 a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.

**Water Level Data**

Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Hamilton Ave.  
Flint, Michigan

Well/Boring ID: RFI-09-54D

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	5 10 8 12	18	2.0	0.0		ML		Brown-gray SILT, little very fine Sand, trace Clay, no odor, stiff, wet.  Thin (<1-1") layers of brown-gray Clay from 17.3 - 18.0' bgs.	<p>2" ID Sch. 40 PVC 0.010" Slotted Screen (15.0' - 20.0' bgs)</p> <p>#5 Well Sand Pack (13.0' - 20.5' bgs)</p> <p>Bentonite (20.5' - 24.0' bgs)</p>
20-20		10	18-20	5 15 20 20	35	0.5	0.0		CL		Brown-gray CLAY, some fine Gravel, little Silt, very stiff, damp. Cobble in tip of spoon.	
		11	20-22	8 10 12 17	22	0.0	0.0				No Recovery from 20.0' - 22.0' bgs.	
		12	22-24	6 12 12 20	24	2.0	0.0					
25-25												
30-30												
35-35												



Remarks:  
a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.

Water Level Data

Date	Depth	Elev.

Date Start/Finish: 03/3/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2"x2" ID SS  
 Auger Size: 4 - 1/4" ID  
 Rig Type: CME 55 ATV

Northing: 560027.07  
 Easting: 13305619.67  
 Casing Elevation: 728.02' AMSL

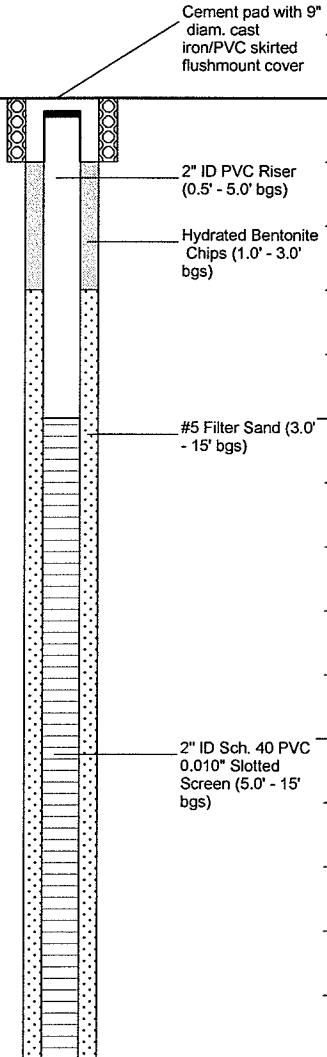
Well/Boring ID: RFI-09-55S

Client: General Motors

Borehole Depth: 15' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Hamilton Ave.  
 Flint, Michigan

Descriptions By: J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
5	-5										No samples collected from 0 - 15' bgs. See boring log RFI-09-55D for geologic information.	 <p>Cement pad with 9" diam. cast iron/PVC skirted flushmount cover</p> <p>2" ID PVC Riser (0.5' - 5.0' bgs)</p> <p>Hydrated Bentonite Chips (1.0' - 3.0' bgs)</p> <p>#5 Filter Sand (3.0' - 15' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)</p>
10	-10											
15	-15											



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 03/3/05 <b>Drilling Company:</b> Altech <b>Driller's Name:</b> D. Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID SS <b>Auger Size:</b> 4 - 1/4" ID <b>Rig Type:</b> CME 55 ATV	<b>Northing:</b> 560023.87 <b>Easting:</b> 13305618.76 <b>Casing Elevation:</b> 728.10' AMSL  <b>Borehole Depth:</b> 24' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> J. Kralik	<b>Well/Boring ID:</b> RFI-09-55D  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Hamilton Ave. Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		1	0-2	NA	NA	1.0	0.0		SP		Dark gray to brown fine to coarse SAND, some Silt, little Clay, no odor, medium dense, damp (frozen).	
		2	2-4	2	6	2.0	0.0		SP		Black Slag and orange coarse Sand, loose, damp from 2.0' -3.0' bgs.	Bentonite (1.0' - 13.0' bgs)
				4							Dark brown fine Sand, loose, moist from 4.0' - 4.5' bgs.	
5	-5	3	4-6	4	5	2.0	0.0		ML		Yellow-brown SILT, no odor, stiff, damp.	2" ID Sch. 40 PVC Riser (0.5' - 18.0' bgs)
				2							Some gray mottling from 6.0' - 8.5' bgs. Increasing Clay content becoming plastic with depth below 6.0' bgs.	
		4	6-8	4	10	2.0	0.0		ML		Thin (2") layer of medium to coarse wet Sand from 8.5' - 8.7' bgs	
				4								
		5	8-10	2	6	2.0	0.0					
10	-10			4			61.7					
		6	10-12	10	35	2.0	91.3	+			Brown-gray medium to coarse SAND, little fine Gravel, strong odor, loose, wet.	
				25			13.3					
				10								
		7	12-14	5	15	2.0	80.1	+	SP			
				5			175					
				10			0.7					
				10								
15	-15	8	14-16	10	20	2.0	1.2	-				Hydrated Bentonite Seal (13.0' - 16.0' bgs)
				10			1.2				Brown-gray Silt in tip of sampler.	



**Remarks:**  
 a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.

Water Level Data		
Date	Depth	Elev.

Client:  
General Motors

Well/Boring ID: RFI-09-55D

Site Location:  
GM Flint  
Hamilton Ave.  
Flint, Michigan

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20		9	16-18	8	20	2.0	0.8		SP		Brown-gray medium to coarse SAND, little fine Gravel, strong odor, loose, wet. Sheen at 11' bgs.	
				10							Brown-gray Silt in tip of sampler.	
				10							Brown-gray SILT, little very fine to fine Sand, odor, wet.	
				10								
20-20		10	18-20	4	20	2.0	1.0		ML		Brown-gray SILT, little very fine to fine Sand, odor, wet.	
				10								
				10								
				10								
20-20		11	20-22	6	20	2.0	0.0		SP		Brown-gray medium to coarse SAND, little fine Gravel, strong odor, loose, wet.	
				8								
				12							Brown-gray CLAY, some fine Gravel, little Silt, very stiff, extremely hard, damp. Sandy Clay layer from 21.5-22' bgs, wet.	
				12								
20-20		12	22-24	7	20	2.0	0.0		CL		Brown-gray CLAY, some fine Gravel, little Silt, very stiff, extremely hard, damp. Sandy Clay layer from 21.5-22' bgs, wet.	
				8								
				12								
				13								
25-25												
30-30												
35-35												



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 6/30/2005 <b>Drilling Company:</b> Altech Inc. <b>Driller's Name:</b> Daniel Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" <b>Rig Type:</b> CME-75 Truck-Mount	<b>Northing:</b> 559131.15 <b>Easting:</b> 13305211.90 <b>Casing Elevation:</b> 726.93' AMSL  <b>Borehole Depth:</b> 8' below grade <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Wayne Patterson	<b>Well/Boring ID:</b> RFI-09-56  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	9 11 8 5	19	1.25	212		FL		Brown TOPSOIL, some Organics (Roots) and Gravel aggregate, dry. [FILL]	<p>Cement surface pad with flush-mount protective casing.</p> <p>2" ID Sch. 40 PVC Riser (0.3' - 3' bgs)</p> <p>Hydrated Bentonite Seal (1.3' - 3' bgs)</p> <p>#5 Well Sand Pack (3' - 11' bgs)</p> <p>2" ID Sch. 40 0.010" Slot PVC Screen (3' - 11' bgs)</p>
		2	2-4	2 3 4 5	7	1.75	600		SP		GRAVEL aggregate, dry. [FILL] Black fine POORLY GRADED SAND (SP), loose, dry. [FILL] Becoming tannish-brown at 2' bgs.	
5	-5	3	4-6	5 13 5 5	18	0.5	197		CL		Brown SILTY LEAN CLAY (CL), little Brick, Concrete, and Wood debris, soft, moist, slight odor. [FILL]	
		4	6-7	3 7	NA	0.25	310				Moderate odor, black staining, sheen, at 6' bgs.	
											CONCRETE. Spoon refusal at 7' bgs. Auger to 11' bgs.	
10	-10											
											End of boring at 11' bgs.	
15	-15											

<p><b>BLASLAND, BOUCK &amp; LEE, INC.</b> engineers, scientists, economists</p>	<b>Remarks:</b> bgs = below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  Soil samples RFI-09-56(0-2) and RFI-09-56(2-4) collected for PAL analysis.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 7/1/2005 <b>Drilling Company:</b> Altech Inc. <b>Driller's Name:</b> Daniel Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" <b>Rig Type:</b> CME-55 Tractor-Mount	<b>Northing:</b> 558990.79 <b>Easting:</b> 13305341.79 <b>Casing Elevation:</b> 724.90' AMSL  <b>Borehole Depth:</b> 16' below grade <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Kristina Gross	<b>Well/Boring ID:</b> RFI-09-57  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	6 10 2	12	1.6	0.5				Brown fine SAND (SP), trace fine Gravel, loose, dry.	<p>           Cement surface pad with flush-mount protective casing.            Hydrated Bentonite Seal (1.3' - 2.5' bgs)            2" ID Sch. 40 PVC Riser (0.3' bgs - 3' bgs)            #5 Well Sand Pack (2.5' - 13' bgs)            2" ID Sch. 40 0.010" Slot PVC Screen (3' - 13' bgs)            Natural Colapse (13' - 16' bgs)         </p>
		2	2-4	1 20 15 10	35	0.8	1.8		SP		Brownish-black fine SAND (SP), trace fine Gravel, loose, dry.	
5	-5	3	4-6	4 11 8 4	19	1.2	1.3				Light orangish-brown fine SAND (SP), loose, moist.	
		4	6-8	2 2 2	4	1.4	1.5				Light orangish-brown CLAYEY SILT (ML), stiff to very stiff, moist to wet.	
		5	8-10	2 20 43 10	63	1.0	0.8		ML		Light orangish-brown CLAYEY SILT (ML), stiff to very stiff, moist to wet.	
10	-10	6	10-12	25 20 31 39	51	0.3	0.5		GM		Light orangish-brown CLAYEY SILT and medium GRAVEL (GM), stiff, wet.	
		7	12-14	61 27 21 42	46	1.1	1.3				Light grayish-brown CLAYEY SILT (ML), trace fine Gravel, very stiff, moist to dry.	
15	-15	8	14-16	27 45 46 52	91	1.4	1.0		ML		End of boring at 16' bgs.	

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*engineers, scientists, economists*

**Remarks:**  
 bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Available/Not Applicable.  
  
 Soil samples RFI-09-57(0-2) and RFI-09-57(4-6) collected for  
 PAL analysis.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 7/13/2005 <b>Drilling Company:</b> Altech Inc. <b>Driller's Name:</b> Daniel Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 4 1/4" <b>Rig Type:</b> CME-55 ATV	<b>Northing:</b> 558906.37 <b>Easting:</b> 13305410.15 <b>Casing Elevation:</b> 723.38' AMSL  <b>Borehole Depth:</b> 16' below grade <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> R. Tuttle	<b>Well/Boring ID:</b> RFI-09-58  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	1 5 5 3	10	1.0	1.5		SP		Black (10YR 2/1) fine POORLY-GRADED SAND (SP), some fine subangular Gravel, Slag, and Coal pieces, no odor, dry. [FILL]	<p>Cement surface pad with flush-mount protective casing.            Hydrated Bentonite Seal (1.0' - 4.0' bgs)            2" ID Sch. 40 PVC Riser (0.3' - 6.0' bgs)            #5 Well Sand Pack (4.0' - 16' bgs)            2" ID Sch. 40 0.010" Slot PVC Screen (6.0' - 16' bgs)</p>
		2	2-4	1 2 5 3	7	1.5	0.5		SP		Yellow-brown (10YR 5/8) fine POORLY-GRADED SAND (SP), loose, no odor, damp.	
				1 1 2 2	3	1.5	1.2		CL		Yellow-brown (10YR 5/8) LEAN CLAY with Silt (CL), some fine Sand, medium stiff, slightly plastic, no odor, damp.	
		4	6-8	2 3 6 7	9	1.5	1.1		CL		Few fine angular Gravel, no odor, moist below 6.0' bgs.	
		5	8-10	3 3 3 26	6	1.5	1.4		SC		Yellow-brown (10YR 5/4) fine POORLY-GRADED CLAYEY SAND (SC), little Silt, few fine angular Gravel and Clay lenses approximately 2mm-thick, no odor, loose, damp.	
		6	10-12	20 40 -	NA	0.0	NA				No Recovery, Cobble in shoe.	
		7	12-14	10 29 25 -	NA	0.75	1.0		CL		Gray (10YR 5/1) LEAN CLAY with Silt (CL), few fine subrounded Gravel, few fine Sand, brittle, very stiff, slightly plastic, no odor, dry. Native Clay Till.	
		8	14-16	2 30 8 10	38	0.5	1.2		ML		Gray (10YR 5/1) CLAYEY SILT (ML), few fine subrounded Gravel, brittle, hard, no odor, dry.	


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**Remarks:**  
 bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Available/Not Applicable.  
  
 Soil samples RFI-09-58 (0-2) and RFI-09-58 (8-10) collected for  
 VOCs, SVOCs, PCBs, and Metal analysis.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 10/14/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allen Rau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 566589.9 <b>Easting:</b> 13307067.16 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 20' bgs <b>Surface Elevation:</b> 752.58 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-10-28  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
755													4" diameter Steel Protective Casing
0		1	0-2	4 5 10 12	15	1.8	0.0	-			Pale brown (10YR 6/3) SILT (ML), some Clay, few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, Roots and Vegetation in top 4-6" (Topsoil), aplastic, brittle, medium dense, no odor, dry. Native Glacial Till used as backfill.	SILT	Grout (0.5' - 2.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 8.0' bgs)
750		2	2-4	11 12 13	24	1.7	0.0	-	ML	Localized bleaching to very pale brown (10YR 8/3) at 2.0' bgs.	Bentonite Seal (2.0' - 6.0' bgs)		
5		3	4-6	8 6 5	11	1.8	0.0	-			Yellow-brown (10YR 5/4) Silty fine subangular poorly graded SAND (SM), few Clay, aplastic, no odor, loose, dry. Glacio-alluvial.	Silty SAND	#5 Well Sand Pack (6.0' - 18' bgs)
745		4	6-8	3 4 5	9	1.8	0.0	-		Light yellow-brown (10YR 6/4) color, damp at 7.5' bgs.			
10		5	8-10	2 3 3	5	1.7	0.0	-	SM	Moist at 8.5' bgs. Saturated at 10' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)	
740		7	12-14	3 4 4 5	8	1.8	0.0	-			Gray (10YR 5/1) SILT (ML), few fine subangular Sand, few Clay, aplastic, no odor, loose, saturated. Glacio-alluvial.	SILT	
15		8	14-16	3 5 2 3	7	2.0	0.0	-	ML				

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		10/12/02	10'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-10-28

Borehole Depth: 20' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
735		9	16-18	4 5 2 3	7	1.9	0.0	-	ML		Gray (10YR 5/1) SILT (ML), few fine subangular Sand, little Clay, aplastic, no odor, loose, saturated. Glacio-alluvial.	↑ SILT	<p>#5 Well Sand Pack (6.0' - 18' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)</p>
20		10	18-20	1 3 5 2	8	2.0	0.0	-	CL		Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, moderately plastic, medium stiff, no odor, increased stiffness and decreased moisture with depth, wet to moist. Native Clay Till.	↓ SILTY CLAY	
730													
25													
725													
30													
720													
35													



Remarks: bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
10/12/02	10'	

<b>Date Start/Finish:</b> 10/14/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allen Rau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 566262.12 <b>Easting:</b> 13307227.19 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 22' bgs <b>Surface Elevation:</b> 752.40 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-10-29  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
755													4" diameter Steel Protective Casing
0		1	0-2	8 16 14 13	30	1.2	0.0	-			Brown (10YR 5/3), becoming light gray (10YR 3/2) below 0.3' bgs, Silty fine poorly graded SAND (SM), trace Clay, trace fine rounded Gravel, Roots and Vegetation (Topsoil) in to 4", aplastic, no odor, medium dense, occasional Glass fragments, no odor. Fill Sand.		Grout (0.5' - 2.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 8.0' bgs)
750		2	2-4	10 11 14 13	25	1.5	0.0	-	SM		Light yellow-brown (10YR 6/4) color at 2.5' bgs.		Bentonite Seal (2.0' - 6.2' bgs)
5		3	4-6	2 3 3 4	6	1.7	0.0	-			Brown (10YR 5/3) color, becoming less loose, damp at 5.0' bgs.		
745		4	6-8	2 3 3	5	1.8	0.0	-			Moist at 8.0' bgs.		
10		5	8-10	2 3 4 5	7	1.8	0.0	-			Yellow-brown (10YR 5/4) SILT (ML), few Clay, trace subangular to subrounded fine Sand, aplastic, no odor, loose, moist becoming saturated at 9.5' bgs. Glacio-alluvial.		#5 Well Sand Pack (6.2' - 20' bgs)
740		6	10-12	3 4 6 7	10	1.7	0.0	-	ML				2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
15		7	12-14	3 4 7 8	11	1.6	0.0	-			Gray (10YR 6/1) color, increased Clay to little at 14' bgs.		
		8	14-16	3 4 4 3	8	1.7	0.0	-					



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
10/14/02	9.5'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-10-29

Borehole Depth: 22' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
735		9	16-18	H 2 4 4	6	1.7	0.0	-		ML	Gray (10YR 6/1) SILT (ML), little Clay, trace subangular to subrounded fine Sand, aplastic, no odor, loose, saturated. Glacio-alluvial.	↑	
20		10	18-20	3 3 3 2	6	2.0	0.0	-					
		11	20-22	3 3 4 5	7	2.0	0.0	-	CL				
730													
25													
725													
30													
720													
35													



Remarks: bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
10/14/02	9.5'	

<b>Date Start/Finish:</b> 3/27/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 566049.36 <b>Easting:</b> 13306798.65 <b>Casing Elevation:</b> 745.56 ft. AMSL  <b>Borehole Depth:</b> 14' bgs <b>Surface Elevation:</b> 745.55 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-10-30  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	745	1	0-2	3	6	1.7	0.2	+			Dark brown (10YR 3/2) fine to coarse subangular to subrounded WELL GRADED SILTY SAND (SM), few to little Clay, few fine to coarse angular to subangular Gravel, Vegetative debris and Roots (Topsoil) from 0 - 0.5' bgs, occasional Gravel- to pebble-sized Aggregate, aplastic, no odor, moist with rainfall/snowmelt.  Weak odor, possible presence of oil at 1.0' bgs.	<p>Cement pad with 9" diam. cast iron/PVC skirted flushmount cover</p> <p>Grout (0.5' - 0.8' bgs)</p> <p>2" ID Sch. 40 PVC Riser (0' - 4.0' bgs)</p> <p>Hydrated Bentonite Seal (0.8' - 3.1' bgs)</p> <p>#5 Well Sand Pack (3.1' - 14' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (4.0' - 14' bgs)</p>	
		2	2-4	2	5	1.1	0.0	+	SM	Yellow-brown (10YR 5/4) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, loose, dry.			
		3	4-6	2	5	1.0	0.0	-		Moist at 5.0' bgs. Saturated at 5.3' bgs.			
5	740	4	6-8	2	19	1.6	0.0	-		Yellow-brown (10YR 5/6) SILT (ML), few fine subangular Sand, little to few Clay, aplastic, no odor, loose to medium dense, saturated. Glacio-Alluvial.			
		5	8-10	5	11	1.2	0.0	-	ML	Gray (10YR 5/1) SILT (ML), few fine subrounded to subangular Sand, little Clay, aplastic, no odor, loose to medium dense, saturated.			
		6	10-12	3	6	1.8	0.0	-		Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, homogenous, moderately plastic, no odor, soft, damp. Undisturbed Native Glacial Clay Till.			
		7	12-14	H	2	1.8	0.0	-	CL				
10	735												
15	730												


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**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 0 - 2.0' bgs. Duplicate sample DUP-425 collected from 0 - 2.0' bgs.

Water Level Data		
Date	Depth	Elev.
3/27/03	5.3'	

<b>Date Start/Finish:</b> 3/27/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 566451.74 <b>Easting:</b> 13306875.13 <b>Casing Elevation:</b> 746.66 ft. AMSL  <b>Borehole Depth:</b> 14' bgs <b>Surface Elevation:</b> 746.85 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-10-31  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
745		NA	0-2	NA	NA	NA	NA	NA	GP		Cream to white coarse to pebble-sized angular POORLY GRADED GRAVEL (GP) AGGREGATE, loose, no odor, dry to wet from rainfall/snow melt.	Gravel	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
									SW		Black (10YR 2/1) fine to coarse subrounded WELL GRADED SAND (SW), some Silt, predominated by Aggregate as described above, no odor, loose, moist with rainfall/snow melt.	Sand	Grout (0.7' - 1.0' bgs)
		1	2-4	2 5 7 8	12	1.8	0.0	-	SM		Yellow-brown (10YR 5/4) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, no odor, loose, aplastic, damp.  Moist at 4.0' bgs.	SILT SAND	2" ID Sch. 40 PVC Riser (0' - 4.0' bgs)
5		2	4-6	3 6 5 5	11	1.3	0.0	-			Yellow-brown (10YR 5/6) SILT (ML), little fine subrounded Sand, little Clay, faint gray (10YR 5/1) mottling and local patches of oxidation to dark yellow-brown (10YR 4/6), no odor, loose, saturated. Glacio-Alluvial.		Hydrated Bentonite Seal (1.0' - 3.0' bgs)
740		3	6-8	5 6 7 8	13	1.2	0.0	-			Increasing gray in tone, local patches of increased Sand content up to 2" in diameter where Silt turns to a Silty Sand (SM0, increased density to medium desne locally below 8.0' bgs.		#5 Well Sand Pack (3.0' - 14' bgs)
10		4	8-10	3 8 6 8	11	1.3	0.0	-	ML		Gray (10YR 5/1) SILT (ML), few fine subangular Sand, little Clay, no odor, medium density, saturated. Glacio-Alluvial.		2" ID Sch. 40 PVC 0.010" Slotted Screen (4.0' - 14' bgs)
735		5	10-12	3 3 5 8	8	1.2	0.0	-					
		6	12-14	5 9 13	14	1.5	0.0	-					
15													



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engineers & scientists

**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 1.0 - 3.0' bgs.

Water Level Data		
Date	Depth	Elev.
3/27/03	5.2'	

Date Start/Finish: 03/18/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/MC  
 Sampler Size: 5'x2.125" Macrocore  
 Auger Size: 4 - 1/4" ID  
 Rig Type: Geoprobe 6610 DT

Northing: 566055.19  
 Easting: 13307084.95  
 Casing Elevation: 754.61' AMSL  
 Borehole Depth: 20' bgs  
 Surface Elevation: NA  
 Descriptions By: J. Kralik

Well/Boring ID: RFI-10-32  
 Client: General Motors  
 Location: GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0									FL	Brown Sandy TOPSOIL, some Silt and Clay, fine Sand, trace Gravel, plant debris, no odor, damp.	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1	0-5	0-5			5.0	0.0			CL	Yellow-brown SILTY CLAY, trace very fine to fine Sand, trace fine Gravel, thin (1") layers of road Gravel at 0.5' bgs, no odor, medium stiff, damp to moist.	Bentonite (1.0' - 4.0' bgs)	
2	5-10	5-10			4.5	0.0					Yellow-brown fine SAND, little medium Sand, trace fine Gravel and Silt, no odor, medium stiff, damp to moist.	Hydrated Bentonite Seal (4.0' - 7.0' bgs)
3	10-15	10-15			5.0	0.0			SP		Saturated 12.0' bgs.	2" ID Sch. 40 PVC Riser (0.5' - 9.0' bgs)
4	15-20	15-20			5.0	0.0						2" ID Sch. 40 PVC 0.010" Slotted Screen (9.0' - 19.0' bgs)
												#5 Well Sand Pack (7.0' - 19.0' bgs)



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
 Soli samples collected from 0.0' - 2.0', 8.0' - 10.0' and 10.0' - 12.0' bgs for VOCs, SVOCs, PCBs and metals.

**Water Level Data**

Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Well/Boring ID: RFI-10-32

Borehole Depth: 20' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20		4	15-20			5.0	0.0		SP		Yellow-brown fine SAND, little medium Sand, trace fine Gravel and Silt, no odor, medium stiff, damp to moist.  Orange (rust) staining from 17.5 - 18.0' bgs, grades into a gray fine Sand at 18.0' bgs.  Gray fine SAND.	<p>2" ID Sch. 40 PVC 0.010" Slotted Screen (9.0' - 19.0' bgs) #5 Well Sand Pack (7.0' - 19.0' bgs)</p>
									CL		Gray CLAY/SILTY CLAY, trace fine Gravel, stiff, very plastic, damp.	
25-25												
30-30												
35-35												



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
Soli samples collected from 0.0' - 2.0', 8.0' - 10.0' and 10.0' - 12.0' bgs for VOCs, SVOCs, PCBs and metals.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 6/28/2005  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-55 Tractor-Mount

Northing: 566366.46  
 Easting: 13306943.72  
 Casing Elevation: 755.30' AMSL  
 Borehole Depth: 18' below grade  
 Surface Elevation: NA  
 Descriptions By: Kristina Gross

Well/Boring ID: RFI-10-33  
 Client: General Motors  
 Location: General Motors NAO Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
1		0-2		3 4	9	1.3	4.3				Light brown fine SAND, loose, dry. [TOPSOIL] Dark brown SILT (ML), little fine Sand, trace fine Gravel, stiff, dry.	
2		2-4		2 4	9	1.4	4.1		ML		Light orangish-brown SILT (ML), trace fine SAND, stiff, moist.	Hydrated Bentonite Seal (1.3' - 5' bgs)
3	-5	4-6		2 3 4	7	1.8	0.7				Light orangish-brown fine SAND (SP), loose, moist.	2" ID Sch. 40 PVC Riser (1.5' ags - 7' bgs)
4		6-8		2 3 3	6	1.7	2.4					#5 Well Sand Pack (5' - 17' bgs)
5		8-10		2 3 3	6	1.5	0.5					
6	10-10	10-12		2 4 5 6	9	1.0	0.0		SP		Wet at 10' bgs.	2" ID Sch. 40 0.010" Slot PVC Screen (7' - 17' bgs)
7		12-14		3 6 7 5	13	0.9	0.0				Light pinkish-gray fine SAND (SP), loose, wet.	
8	15-15	14-16		5 4 5 4	9	1.4	0.0		ML		Light pinkish-gray very fine SAND (ML), medium dense, wet.	



**Remarks:**

ags = above ground surface; bgs = below ground surface;  
 AMSL = Above Mean Sea Level; NA = Not Available/Not  
 Applicable.

Soil samples RFI-10-33(0-2) and RFI-10-33(8-10) collected for  
 PAL analysis.

**Water Level Data**

Date	Depth	Elev.

**Client:**

General Motors

**Well/Boring ID:** RFI-10-33

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 18' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	5 6 6 7	12	1.2	0.0		ML		Light pinkish-gray very fine SAND (ML), medium dense, wet.	<ul style="list-style-type: none"> <li>#5 Well Sand Pack (5' - 17' bgs)</li> <li>2" ID Sch. 40 0.010" Slot PVC Screen (7' - 17' bgs)</li> </ul>
20-20											End of boring at 18' bgs.	Formation Collapse (17' - 18' bgs)
25-25												
30-30												
35-35												



**Remarks:**

ags = above ground surface; bgs = below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.

Soil samples RFI-10-33(0-2) and RFI-10-33(8-10) collected for PAL analysis.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 6/28/2005  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-55 Tractor-Mount

Northing: 566181.71  
 Easting: 13307266.59  
 Casing Elevation: 755.77' AMSL

Well/Boring ID: RFI-10-34

Client: General Motors

Borehole Depth: 18' below grade  
 Surface Elevation: NA

Location: General Motors NAO Flint  
 Flint, Michigan

Descriptions By: Kristina Gross

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											<p>Cement surface pad with stick-up protective casing.</p> <p>Hydrated Bentonite Seal (1.3' - 5' bgs)</p> <p>2" ID Sch. 40 PVC Riser (1.5' ags - 7' bgs)</p> <p>#5 Well Sand Pack (5' - 17' bgs)</p> <p>2" ID Sch. 40 0.010" Slot PVC Screen (7' - 17' bgs)</p>
		1	0-2	2 3 5	8	1.6	0.0		ML	Dark brown SILT (ML), little fine Sand, medium stiff, dry.		
		2	2-4	2 4 5	9	1.2	0.0		ML			
-5	-5	3	4-6	3 2 4	6	1.4	0.0		SM	Orangish-brown SILT and fine SAND (SM), medium dense, moist.		
		4	6-8	3 3 4	7	1.5	0.0		SP	Light orangish-brown fine SAND (SP), loose, moist.		
		5	8-10	3 3 3	6	1.0	0.0		SP			
10-10		6	10-12	3 3 2	5	0.9	0.0		SP	Wet at 10' bgs.		
		7	12-14	2 2 2	4	1.2	0.0		SP			
15-15		8	14-16	3 3 5	8	1.0	0.0		SP			
				7								



**Remarks:**

ags = above ground surface; bgs = below ground surface;  
 AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.

Soil samples RFI-10-34(0-2) and RFI-10-34(8-10) collected for PAL analysis.

**Water Level Data**

Date	Depth	Elev.

**Client:**

General Motors

**Well/Boring ID:** RFI-10-34

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 18' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	6 5 5 6	10	1.0	0.0		CL		Light pinkish-gray SILTY CLAY (CL), stiff, high plasticity, wet.	<ul style="list-style-type: none"> <li>#5 Well Sand Pack (5' - 17' bgs)</li> <li>2" ID Sch. 40 0.010" Slot PVC Screen (7' - 17' bgs)</li> <li>Formation Collapse (17' - 18' bgs)</li> </ul>
20-20											End of boring at 18' bgs.	
25-25												
30-30												
35-35												



**Remarks:**

ags = above ground surface; bgs = below ground surface;  
AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.

Soil samples RFI-10-34(0-2) and RFI-10-34(8-10) collected for PAL analysis.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 6/28/2005  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-55 Tractor-Mount

Northing: 566023.64  
 Easting: 13307256.01  
 Casing Elevation: 755.69' AMSL

Well/Boring ID: RFI-10-35

Client: General Motors

Borehole Depth: 18' below grade  
 Surface Elevation: NA

Location: General Motors NAO Flint  
 Flint, Michigan

Descriptions By: Kristina Gross

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											Cement surface pad with stick-up protective casing.
1		0-2	NA	NA	1.5	0.0				ML	Light orangish-brown SILT (ML), hard, dry.	
2		2-4	3	3	6	1.5	0.0				Light orangish-brown CLAYEY SILT (ML), medium stiff, medium plasticity, moist.	Hydrated Bentonite Seal (1.3' - 5' bgs)
3	-5	4-6	3	3	8	1.3	0.0			SP	Light orangish-brown fine SAND (SP), loose, moist.	2" ID Sch. 40 PVC Riser (1.5' ags - 7' bgs)
4		6-8	3	3	6	1.5	0.0				Wet at 10' bgs.	#5 Well Sand Pack (5' - 17' bgs)
5		8-10	3	5	8	1.4	0.0					2" ID Sch. 40 0.010" Slot PVC Screen (7' - 17' bgs)
6	10-10	10-12	2	2	4	1.5	0.0					
7		12-14	2	2	6	1.2	0.0					
8	-15	14-16	6	5	10	0.9	0.0			CL	Light pinkish-gray SILTY CLAY (CL), stiff, high plasticity, wet.	



**Remarks:**

ags = above ground surface; bgs = below ground surface;  
 AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.

Soil samples RFI-10-35(0-2) and RFI-10-35(8-10) collected for PAL analysis.

**Water Level Data**

Date	Depth	Elev.

**Client:**

General Motors

**Well/Boring ID:** RFI-10-35

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 18' below grade

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	6 5 6 6	11	1.2	0.0		CL		Light pinkish-gray SILTY CLAY (CL), stiff, high plasticity, wet.	<ul style="list-style-type: none"> <li>#5 Well Sand Pack (5' - 17' bgs)</li> <li>2" ID Sch. 40 0.010" Slot PVC Screen (7' - 17' bgs)</li> </ul>
20-20											End of boring at 18' bgs.	Formation Collapse (17' - 18' bgs)
25-25												
30-30												
35-35												



**Remarks:**

ags = above ground surface; bgs = below ground surface;  
AMSL = Above Mean Sea Level; NA = Not Available/Not  
Applicable.

Soil samples RFI-10-35(0-2) and RFI-10-35(8-10) collected for  
PAL analysis.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 6/28/2005  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-55 Tractor-Mount

Northing: 565864.26  
 Easting: 13307263.33  
 Casing Elevation: 752.82' AMSL

Well/Boring ID: RFI-10-36

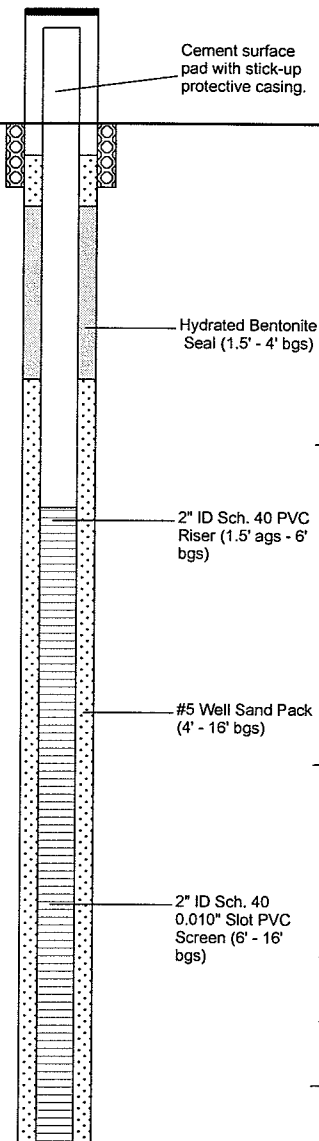
Client: General Motors

Borehole Depth: 16' below grade  
 Surface Elevation: NA

Location: General Motors NAO Flint  
 Flint, Michigan

Descriptions By: Kristina Gross

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
1		0-2		7 5 4 4	9	1.2	0.0		ML		Light orangish-brown SILT (ML), hard, dry.	
2		2-4		2 4 4 4	8	1.2	0.0				Light orangish-brown fine SAND (SP), loose, dry to moist.	
3	-5	4-6		3 3 3 4	6	1.3	0.0					
4		6-8		2 3 3 3	6	1.0	0.0					
5		8-10		2 2 2 2	4	1.6	0.0		SP		Wet at 9' bgs. Little Silt below 9.2' bgs.	
6		10-12		1 1 1 1	2	0.6	0.0					
7		12-14		3 3 5 8	8	1.4	0.0					
8	-15	14-16		1 1 2 3	3	1.5	0.0		CL		Light pinkish-gray SILTY CLAY (CL), stiff, high plasticity, wet.	



**Remarks:**  
 ags = above ground surface; bgs = below ground surface;  
 AMSL = Above Mean Sea Level; NA = Not Available/Not  
 Applicable.  
 Soil samples RFI-10-36(0-2) and RFI-10-36(8-10) collected for  
 PAL analysis.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 12/1/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA <b>Sampler Size:</b> 2" x 2' long <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME	<b>Northing:</b> 562416.31 <b>Easting:</b> 13305349.66 <b>Casing Elevation:</b> 742.44  <b>Borehole Depth:</b> 13' bgs. <b>Surface Elevation:</b> 742.44  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> RFI-12-07R2  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0									Concrete.			Portland Cement 0-1.0' bgs
										Black (10YR 2/1) fine subrounded Silty SAND (SM), rare fine subrounded Gravel, loose, no odor, damp. (Fill)			2-inch PVC Riser 0.3-3' bgs
		1	3-5'	7 10 20	30	2.0	NA	NA	SM	Moist to wet. Saturated.			Bentonite Seal 0.5-2' bgs
5	-5	2	5-7'	5 10 11 10	21	1.0	NA	NA					#5 Well Sand 2-13' bgs
											7-13' see RFI-12-07 boring log.		
10-10													2-inch ID 0.010" machine-slotted PVC Screen 3-13' bgs
15-15													



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Not Available.  
 For soil descriptions from 7-13' bgs, see RFI-12-07 boring log.

Water Level Data		
Date	Depth	Elev.
12/1/03	4.7'	

<b>Date Start/Finish:</b> 12/2/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA <b>Sampler Size:</b> 2" x 2' long <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME	<b>Northing:</b> 562971.94 <b>Easting:</b> 13305079.59 <b>Casing Elevation:</b> 742.51  <b>Borehole Depth:</b> 13' bgs. <b>Surface Elevation:</b> 742.48  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> RFI-12-09R <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0									CONCRETE.		FILL	Portland Cement 0-1.0' bgs
										Black (10YR 2/1) fine Silty SAND (SM), rare fine Gravel, damp, loose, odor. (Fill)			2-inch PVC Riser 0.3-3' bgs
		1	3-5'	2 2 1 1	3	1.5	NA	NA	SM				Bentonite Seal 0.5-2' bgs
5	-5									Saturated with product.		SILTY SAND	#5 Well Sand 2-13' bgs
		2	5-7'	1/12" 1 1	NA	1.75	NA	NA					
											7-13' see RFI-12-09 boring log.		
10-10													2-inch ID 0.010" machine-slotted PVC Screen 3-13' bgs
15-15													

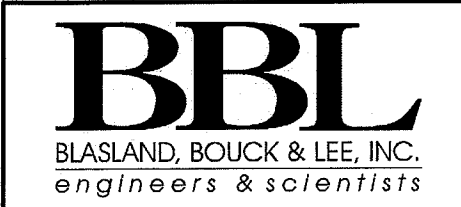


**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Not Available.  
 For description from 7-13' bgs, see RFI-12-09 boring log.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 12/2/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA <b>Sampler Size:</b> 2" x 2' long <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME	<b>Northing:</b> 562853.10 <b>Easting:</b> 13305093.89 <b>Casing Elevation:</b> 742.48  <b>Borehole Depth:</b> 13' bgs. <b>Surface Elevation:</b> 742.46  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> RFI-12-14R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										CONCRETE.	FILL	Portland Cement 0-1.0' bgs
											Black (10YR 2/1) fine Silty SAND (SM), rare fine subrounded Gravel, damp, loose, no odor. (Fill)		2-inch PVC Riser 0.3-3' bgs
		1	3-5'	1	2	1.0	NA	NA	SM				Bentonite Seal 0.5-2' bgs
5	-5			1							Saturated.	SILTY SAND	#5 Well Sand 2-13' bgs
		2	5-7'	1	2	1.75	NA	NA					
				1							7-13' see RFI-12-14 boring log.		
10	-10												2-inch ID 0.010" machine-slotted PVC Screen 3-13' bgs
15	-15												



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Not Available.  
 For descriptions from 7-13' bgs, see RFI-12-14 boring log.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 12/2/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA <b>Sampler Size:</b> 2" x 2' long <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME	<b>Northing:</b> 562618.58 <b>Easting:</b> 13305307.02 <b>Casing Elevation:</b> 742.37  <b>Borehole Depth:</b> 13' bgs. <b>Surface Elevation:</b> 742.36  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> RFI-12-22R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										CONCRETE.		
1	-5	1	3-5'	7 24 32 18	56	1.0	NA	NA	SM		Black (10YR 2/1) fine subrounded Silty SAND (SM), rare fine subrounded Gravel, damp, loose, no odor. (Fill)		Portland Cement 0-1.0' bgs 2-inch PVC Riser 0.3-3' bgs Bentonite Seal 0.5-2' bgs
2	-5	2	5-7'	5 6 5 4	11	NA	NA	NA			Saturated.		#5 Well Sand 2-13' bgs
											7-13' see RFI-12-22 boring log.		2-inch ID 0.010" machine-slotted PVC Screen 3-13' bgs
15-15													



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Not Available.  
 For descriptions from 7-13' bgs, see RFI-12-22 boring log.  
 Located 5' West of RFI-12-22.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 2/19/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME 85	<b>Northing:</b> 562755.84 <b>Easting:</b> 13305196.88 <b>Casing Elevation:</b> 742.21 ft. AMSL  <b>Borehole Depth:</b> 18.5' below grade <b>Surface Elevation:</b> 742.50 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-12-23  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
745													
0									FL	CONCRETE.		CONCRETE FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1	740	1-3		NA	NA	1.0	0.0	+	SW	Gray (10YR 5/1) fine to medium subangular to subrounded WELL GRADED SAND (SW), some Silt, little Clay, few fine to coarse subrounded to rounded Gravel, aplastic, no odor, dense. Fill.			Grout (0.6' - 5.0' bgs)
2	740	3-5		2	6	1.6	155	+	FL	CONCRETE.			2" ID Sch. 40 PVC Riser (0' - 8.0' bgs)
3	740	3-5		3					ML	Yellow-brown (10YR 5/4) SILT (ML), little Clay, trace fine to coarse subangular Sand, aplastic, no odor, loose, dry. Fill.			
5	740	3-5		7					SM	Black (10YR 2/1) POORLY GRADED SILTY SAND (SM), little Clay, trace subrounded coarse Gravel and Cinders, aplastic, loose, no odor, dry. Fill.			
3	740	5-7		2	4	1.7	23.8	+	SM	Wet with black oily material, moderate odor at 6.0' bgs.			Hydrated Bentonite Seal (5.0' - 7.2' bgs)
4	735	7-9		3	6	1.1	209	+		Gray (10YR 5/1) SILTY LEAN CLAY (CL), with brown (10YR 3/3) to yellow-brown (10YR 5/4) mottling, few fine to coarse subrounded to rounded Sand, trace fine rounded Gravel, moderately plastic, moderately stiff, moderate odor, moist. Native Clay Till Used as Backfill.			#5 Well Sand Pack (7.2' - 18.5' bgs)
5	735	7-9		4						Occasional bleaching at 9.0' bgs.			
10	735	9-11		13	18	1.0	333	+		Occasional fractures and parting planes (stringers) with moisture present throughout in tiny rivelets. at 10.5' bgs. 2"-thick lense of Sand and cinders at 11.2' bgs.			2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
6	730	11-13		8	13	2.0	324	+		Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above, but homogeneous, tiny areas of moisture/water/oily material present along fractures and parting planes (stringers) throughout, moderate odor, damp to moist.			
7	730	13-15		7	10	2.0	116	+	CL	Thin Sand lense, hard but friable/brittle, moderate odor that is more sharp/sweet than the moderate oily odor above at 14.5' bgs.			
15	730	15-17		8	14	1.5	143	+		Saturated Silt lenses Up to 6"-thick throughout to 18.5' bgs.			



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Not Available.  
 Samples collected 1.2' - 3.2' and 7.0' - 9.0' bgs.  
 + = Positive Test Result.

**Water Level Data**

Date	Depth	Elev.
2/19/03	14.8'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-12-23

Borehole Depth: 18.5' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
725		8	15-17	2 14	14	1.5	143	+	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above, but homogeneous, tiny areas of moisture/water/oily material present along fractures and parting planes (stringers) throughout, moderate odor, damp to moist.  Saturated Silt lenses Up to 6"-thick throughout to 18.5' bgs.  Dry at 18' bgs.	CLAYEY SILT ↓	 2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)  #5 Well Sand Pack (7.2' - 18.5' bgs)
		9	17-19	25 34 34	39	1.8	151	+					
20													
720													
25													
715													
30													
710													
35													




Remarks: bgs = below ground surface;  
NA = Not Applicable/Not Available.  
Samples collected 1.2' - 3.2' and 7.0' - 9.0' bgs.  
+ = Positive Test Result.

**Water Level Data**

Date	Depth	Elev.
2/19/03	14.8'	

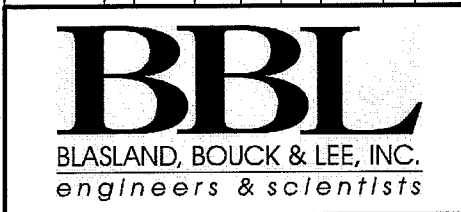
<b>Date Start/Finish:</b> 3/28/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 45B	<b>Northing:</b> 562760.37 <b>Easting:</b> 13305414.38 <b>Casing Elevation:</b> 742.12 ft. AMSL  <b>Borehole Depth:</b> 15.5' bgs <b>Surface Elevation:</b> 742.41 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-12-24  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows /6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
745													
0									FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Grout (0.5' - 1.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 5.5' bgs) Hydrated Bentonite Seal (1.1' - 3.3' bgs)
740		1	1-3	1 2 5 6	7	1.3	0.0	-			Pale brown (10YR) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, trace fine rounded Gravel, aplastic, no odor, loose, dry. Fill.		
5		2	3-5	4 5 7	12	1.0	0.0	-			Damp at 5.5' bgs.		
735		3	5-7	5 8 10 11	18	1.2	0.0	-	SM		Yellow-brown (10YR 5/4) color, moist at 6.5' bgs.		
10		4	7-9	1 2 2 4	4	1.5	0.0	-			Saturated at 7.9' bgs.		#5 Well Sand Pack (3.3' - 15.5' bgs)
		5	9-11	1 3 4 4	7	1.7	0.0	-			Becoming more gray in tone at 9.0' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (5.5' - 15.5' bgs)
730		6	11-13	H H 1 1	1	0.6	0.0	-			Brown (10YR 4/3) color, subangular to subrounded at 12.5' bgs.		
15		7	13-15	1 2 2 3	4	1.1	0.0	-	SP		Brown (10YR 4/3) fine to coarse, predominantly fine, subangular to rounded POORLY GRADED SAND (SP), increased maturity with increased grain size, little Silt, few Clay, few fine rounded Gravel, aplastic, no odor, loose, saturated. Alluvial/Riverine.		SAND

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		3/28/03	7.9	

<b>Date Start/Finish:</b> 4/3/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" OD + 2" <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 562591.61 <b>Easting:</b> 13305468.99 <b>Casing Elevation:</b> 741.85 ft. AMSL  <b>Borehole Depth:</b> 19' bgs <b>Surface Elevation:</b> 742.26 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-12-25  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
745													
0									FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/tin skirted flushmount cover
740		0-1							SM	Brown (10YR 5/3) fine to coarse, predominantly fine, subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, medium dense to medium loose, damp. Fill Sand.	SILTY SAND		Grout (1.0' - 3.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 7.0' bgs)
5		1	1-3	6 7 7 9	14	1.7	0.0	-	SM				
		2	3-5	3 5 8 8	13	1.8	0.0	+	CL	Dark brown (10YR 3/3) fine to coarse subrounded to subangular, predominantly fine, POORLY GRADED SANDY LEAN CLAY (CL), some Silt, Occasional Ash and Cinders, positive for presence of Oil, weakly plastic, no odor, soft to medium stiff, damp. Native Clay Till used as Backfill.	Sandy CLAY		Hydrated Bentonite Seal (3.0' - 4.9' bgs)
									SM	Brown (10YR 5/3) SILTY SAND (SM) as above from 1.0' - 3.3' bgs. Fill Sand.			
			5-7	2 4 5 4	9	1.7	7.6	+	CL	Brown (10YR 5/3) to gray (10YR 5/1) SANDY LEAN CLAY (CL) as above from 3.3' - 5.5' bgs, weak odor. Native Clay Till used as Backfill.			
735			7-9	2 2 3 4	5	1.5	66.4	+	CL	Moist with Oil, moderate odor at 8.5' bgs. No Recovery from 9.0' - 11' bgs due to Pebble in shoe.			#5 Well Sand Pack (4.9' - 17' bgs)
10			9-11	2 4 8 9	12	0.0	NA	NA	CL	Damp below 11' bgs.			2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)
			11-13	2 4 6 10	10	2.0	65.8	+	CL				
			13-15	1 9	NA	0.8	20.2	+	SM	2"-thick lens of fine subangular Silty Sand (SM), little to few Clay, loose, weak odor, saturated at 13' bgs.			
15			15-17	6 16	51	1.5	NA	NA	ML	Yellow-brown (10YR 5/4) SILT (ML), some Clay, few fine to medium subrounded Sand, no odor, very dense, dry. Undisturbed Native Glacial Clay Till.	SILT		



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available.  
 Samples collected from 1.0' - 3.0', 7.0' - 9.0', & 11' - 13' bgs.

Water Level Data		
Date	Depth	Elev.
4/3/03	13'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-12-25  
Borehole Depth: 19' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
725		15-17		35 50/5"	51	1.5	NA	NA			Yellow-brown (10YR 5/4) to gray (10YR 5/1) SILT (ML), some Clay, few fine to medium subrounded Sand, oxidized locally to dark yellow-brown (10YR 6/6), Varved areas indicated by increasing and decreasing zones of oxidation, aplastic, no odor, very dense, dry. Undisturbed Native Glacial Clay Till.		
		17-19		13 50/6"	NA	2.0	NA	NA	ML				
20													
720													
25													
715													
30													
710													
35													



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available.  
Samples collected from 1.0' - 3.0', 7.0' - 9.0', & 11' - 13' bgs.

**Water Level Data**

Date	Depth	Elev.
4/3/03	13'	

Date Start/Finish: 3/31/03  
 Drilling Company: Rau Drilling  
 Driller's Name: Greg Compeau  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4-1/4" ID  
 Rig Type: CME 45B

Northing: 562498.08  
 Easting: 13305513.00  
 Casing Elevation: 742.04 ft. AMSL

Boring ID: RFI-12-26  
 Client: General Motors  
 Location: GM Flint  
 Flint, Michigan

Borehole Depth: 21' bgs  
 Surface Elevation: 742.39 ft. AMSL  
 Descriptions By: SM Duly

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
745													
0									FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
740		1	1-3	7 8 8 4	16	1.1	0.0	-	SM	Brown (10YR 5/4) fine to coarse, predominantly fine, subangular POORLY GRADED SILTY SAND (SM), few Clay, few fine to coarse subrounded Gravel, aplastic, no odor, dry. Fill Sand.		SILTY SAND	Tremied Grout (0.7' - 7.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 10' bgs)
5		2	3-5	6 17 17 20	34	1.6	0.0	-	ML	Black (10YR 5/1) SILT (ML) and Slag, some Clay, few fine to coarse subangular Sand, few fine to coarse subangular to subrounded Gravel, Cinders present throughout, up to 60% Brick debris present, aplastic, no odor, dense, dry. Foundry Sand/Fill/Slag.		ML	
									FL	CONCRETE.		FILL	
735		3	6-8	3 1 1 NA	2	0.5	20.7	+	ML	Black (10YR 2/1) SILT (ML) and Slag as above from 4.8' - 6.0' bgs, but moderate odor, loose, moist. Wood debris from 8.0' - 8.1' bgs.		SILT	Hydrated Bentonite Seal (7.0' - 9.0' bgs)
									FL	CONCRETE.		FILL	
10		4	9-11	2 3 5 6	8	1.7	3.1	+	CL	Gray (10YR 4/1) with yellow-brown (10YR 9/4) and black (10YR 2/1) mottling, SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, trace fine rounded Gravel, clear light weight Oil present in stringers throughout, moderately plastic, moderate odor, damp. Native Clay Till used as Backfill.		SILTY CLAY	#5 Well Sand Pack (9.0' - 21' bgs)
730		5	11-13	2 3 4 6	7	1.3	2.7	+	CL	Silty Sand (SM) lenses up to 1"-thick throughout; Oil is now black and in stringers and lenses below 12' bgs.		SILTY CLAY	2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)
		6	13-15	7 9 13 21	22	1.4	0.9	+	ML	Brown (10YR 5/3), with gray (10YR 5/1) mottling, SILT (ML), some little Clay, no Oil present, aplastic, medium dense to medium loose, saturated to 15.4' bgs then dry. Undisturbed Glacio-Alluvial.		SILT	
15		7	15-17	5 10	63	1.8	0.0	-	ML			SILT	



Remarks: bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.

Water Level Data

Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-12-26  
Borehole Depth: 21' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction	
725		7	15-17	53/ 0.5'	52	1.8	0.0	-	ML		Gray (10YR 5/1) SILT (ML), some to little Clay, no Oil present, aplastic, medium dense to medium loose, saturated 16.1' - 16.4' bgs, otherwise dry. Undisturbed Glacio-Alluvial. Occasional varves of increased oxidation and lenses of saturated up to 1/2"-thick through below 17' bgs.	↑ SILT ↓		#5 Well Sand Pack (9.0' - 21' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)
		8	17-19	10 12 40 50/ 0.2'	52	1.8	0.0	-						
20		9	19-21	17 30 50/ 0.5	80	1.3	0.0	-	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, few fine to coarse rounded Gravel, trace rounded Pebbles, homogenous, weakly plastic, hard, no odor, dry.	SILTY CLAY		
720														
25														
715														
30														
710														
35														




Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.

Water Level Data

Date	Depth	Elev.

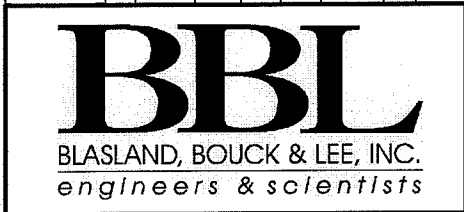
<b>Date Start/Finish:</b> 7/24/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 562465.44 <b>Easting:</b> 1330565.41 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 15' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-12-27  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0								FL	CONCRETE	CONCRETE	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover	
1	1-3	9	1-3	7	18	1.1	6117	-	SP	Black (10YR 2/1) fine subangular POORLY-GRADED SAND (SP), little Silt, few Clay, occasional subangular metallic particles up to medium sand-sized especially where oxidation is present, aplastic, no odor, medium dense, dry.	Fine SAND	Hydrated Bentonite Seal (0.5' - 3.0' bgs) 2" ID Sch. 40 PVC Riser (0.2' - 3.0' bgs)	
2	3-5	9	3-5	9	19	1.1	9546	+	SP	Pale brown (10YR 6/3) fine to medium subangular to subrounded (predominant fine) POORLY-GRADED SAND (SP), some Silt, few Clay, aplastic, no odor, medium dense, moist. Fill Sand.		#5 Well Sand Pack (3.0' - 14' bgs)	
3	5-7	5	5-7	3	5	10	73.3	+	SP	Weak odor, saturated below 5.0' bgs. Bleds of medium to dark brown oil present in oil/water shake test.			
4	7-9	3	7-9	3	7	1.8	61.4	+	CL	Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, lenses of saturated Silty Sand up to 6"-thick throughout, weakly to moderately plastic, soft to medium stiff, damp. Native Glacial Clay Till.		2" ID Sch. 40 PVC 0.010" Slotted Screen (4.0' - 14' bgs)	
5	9-11	11	9-11	7	24	2.0	0.0	+	CL	6"-thick saturated Silty Sand lense, free-phase product present as dark brown bleds during oil/water shake test. No odor, very stiff, increased stiffness and plasticity with depth below 9.0' bgs.			
6	11-13	13	11-13	11	42	2.0	0.0	-	CL	1"-thick Silt lenses, dry below 11' bgs.			
7	13-15	26	13-15	26	NA	0.8	0.0	-	CL	Wet to saturated fine to coarse subrounded Well-Graded Gravel (GW) lense, some fine to coarse subrounded Sand, little Silt, little to few Clay, no odor at 14' bgs.			

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		7/24/03	5.0	

<b>Date Start/Finish:</b> 7/23/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 563048.74 <b>Easting:</b> 13305097.18 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 15' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-12-28  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0								FL	CONCRETE	CONCRETE	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover	
1		1-3		4	8	1.3	328	-	SP	Gray-brown (10YR 5/2) to yellow-brown (10YR 5/4) fine to coarse subangular to subrounded (predominantly fine) POORLY-GRADED SAND (SP), little to some Silt, fea Clay, few to trace fine subrounded Gravel, aplastic, no odor, loose, dry. Fill Sand.	Fine SAND	Grout (0.5' - 6.5' bgs)	
2		3-5		2	6	1.0	50.6	-	SP	Yellow-brown (10YR 5/4) color, some Silt below 4.0' bgs.		2" ID Sch. 40 PVC Riser (0.2' - 11.5' bgs)	
3		5-7		3	6	1.3	56.4	-	SP	Moist below 5.0' bgs.			
4		7-9		4	6	1.5	31.3	-	CL	Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, brown (10YR 5/3) mottling in patches with localized oxidation in stringers to yellow-brown (10YR 5/8), occasional lenses of Silt and/or fine Sand up to 1"-thick throughout, weakly to moderately plastic, no odor, medium soft, damp.		Hydrated Bentonite Seal (6.5' - 9.5' bgs)	
5		9-11		2	11	1.7	257	+	CL	Homogenous throughout below 8.5' bgs.			
6		11-13		3	16	2.0	241	+	CL			#5 Well Sand Pack (9.5' - 21.5' bgs)	
7		13-15		7	10	1.8	62.6	+	CL	2"-thick saturated Silt lense at 14' bgs. 1"-thick saturated Sand lense at 14.3' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (11.5' - 21.5' bgs)	
8		15-17		7	23	1.6	74	-	CL	Dry increasing stiffness below 15' bgs.			



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.
7/24/03	14'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-12-28  
Borehole Depth: 15' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		8	15-17	12 17	23	1.6	74	-		[Hatched Pattern]	Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, localized oxidation in stringers to yellow-brown (10YR 5/8), occasional lenses of Silt and/or fine Sand up to 1"-thick throughout, weakly to moderately plastic, no odor, medium soft, damp.  3"-thick saturated Silt lens, weak odor, sheen present in oil/water shake test at 19' bgs.  5"-thick saturated Silt lens, sheen present in spoon and in oil/water shake test, weak odor at 20.5' bgs.	[Dotted Pattern]	#5 Well Sand Pack (9.5' - 21.5' bgs)  2" ID Sch. 40 PVC 0.010" Slotted Screen (11.5' - 21.5' bgs)
		9	17-19	7 9 22 31	31	2.0	53.2	+					
20-20		10	19-21	21 53 44 37	87	2.0	57.8	+					
25-25													
30-30													
35-35													



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
7/24/03	14'	

<b>Date Start/Finish:</b> 7/24/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 562834.55 <b>Easting:</b> 13305197.36 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 19' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-12-29 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0								FL	CONCRETE.		FILL	
1	1-3	1	1-3	4	10	1.1	5753	-	SM	Light yellow-brown (10YR 6/4) fine subangular SILTY POORLY-GRADED SAND (SM), little to few Clay, no odor, dry, loose. Fill Sand.		Silty SAND	Borehole Tremmie Grouted to grade.
2	3-5	2	3-5	3	12	1.0	2067	-	SP	Black (10YR 2/1) fine to coarse subangular to angular (predominantly fine to medium) POORLY-GRADED SAND (SP), little Silt, few Clay, Cinders and small sand- to silt-sized pieces of Slag also present no odor, loose, dry. Foundry Sand.		Fine SAND	
3	5-7	3	5-7	2	8	1.6	2739	-	SM	Dark brown (10YR 3/3), becoming yellow-brown (10YR 5/4) from 6.0' - 7.0' bgs, fine to medium subangular SILTY POORLY-GRADED SAND (SM), few Clay, occasional emerald green patches of discoloration up to 1/2" in diameter, aplastic, no odor, loose, moist. Foundry Sand.		Silty SAND	
4	7-9	4	7-9	2	9	1.2	182	+		Saturated at 8.0' bgs.			
5	9-11	5	9-11	2	12	1.6	113	+		Yellow-brown (10YR 5/4) fine to coarse subrounded WELL-GRADED SANDY LEAN CLAY (CL), little Silt, trace fine to medium subrounded to rounded Gravel, very plastic, soft, no odor, saturated. Fill.		Sandy CLAY	
6	11-13	6	11-13	4	26	1.8	95.5	+	CL	Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, occasional lenses of Silt present up to 1"-thick, homogenous, weakly plastic, moderate odor, stiff to very stiff, dry to damp.			
7	13-15	7	13-15	6	20	2.0	47.9	+		Yellow-brown (10YR 5/4) oxidation in patches, mottled below 11.5' bgs.			
8	15-17	8	15-17	4	14	2.0	35.4	+		Becomes predominantly yellow-brown with gray mottling below 12' bgs. Decreased stiffness and increased plasticity, weak odor, stringers of moisture throughout below 13' bgs.		Silty CLAY	



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
7/24/03	8.0	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-12-29  
Borehole Depth: 19' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction		
8	15-17	8		8	14	2.0	35.4	+	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, occasional lenses of Silt present up to 1"-thick, homogenous, weakly plastic, moderate odor, stiff to very stiff, dry to damp.  Saturated 2"-thick Sand lens, free-phase product in very dark blobs in oil/water shake test at 16.7' bgs.	← Silty CLAY →		Borehole Tremmie Grouted to grade.	
9	17-19	9		9											
20-20															
25-25															
30-30															
35-35															




Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
7/24/03	8.0	

<b>Date Start/Finish:</b> 7/24/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 562913.72 <b>Easting:</b> 13305194.15 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 13' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-12-30  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0									FL	CONCRETE.	FILL	
1		1-3		2 9 14 15	23	1.7	5273	-		SP	Black (10YR 2/1) fine to medium subangular to angular POORLY-GRADED SAND (SP), little Silt, Metallic Debris and Slag present in pieces ranging from silt- to coarse gravel-sized, aplastic, no odor, loose, dry. Foundry Sand.		Borehole Tremmie Grouted to grade.
2		3-5		43/4"	NA	0.0	NA	NA		SP	Refusal. No recovery, rubbly drilling at 3.0' bgs.		
3		5-7		1 2 5	7	1.7	95.1	+		CL	Gray (10YR 5/1) SILTY LEAN CLAY (CL), little fine to medium subrounded Sand, trace fine to coarse rounded Gravel, moderately plastic, moderate odor, sheen present on Clay and in spoon, damp. Native Clay Till used as Backfill.	Silty CLAY	
4		7-9		3 4 4 3	8	1.8	89.3	+		SP	Brown (10YR 5/2) fine subangular POORLY GRADED SAND (SP), little Silt, little Clay, free-phase product present as very dark amber-brown blobs and in oil/water shake test, moderate odor, loose, saturated. Glacio-Alluvial.  Lenses of Clay up to 1"-thick throughout below 7.0' bgs.	Fine SAND	
5		9-11		2 2 4 4	6	1.1	23.6	+		CL	Brown (10YR 5/2) SILTY LEAN CLAY (CL), as above from 5.3' - 6.4' bgs, with lenses of saturated Sand present up to 2"-thick, stringers of moisture (free water and product in cracks), sheen on Clay and in Sand lenses, weak odor, damp.	Silty CLAY	
6		11-13		3 4 6 9	10	1.5	31.6	+		CL			
15-15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>


<b>Date Start/Finish:</b> 7/25/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 563030.38 <b>Easting:</b> 13305194.91 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 4.2' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-12-31  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										CONCRETE.	CONCRETE	
1	1-3	1-3		4	13	1.2	>10000	+	ML		'Very dark brown (10YR) SILT (ML), some fine to coarse subangular Sand, little Clay, Slag/Silt to fine Gravel-sized pieces mixed in throughout, locally oxidized to yellow-brown (10YR 8/4), Rubby drilling and metallic debris also coming up with augers, medium loose to medium dense, no odor, damp. FILL.	SILT	Borehole Tremmie Grouted to grade.
2	3-4.2	3-4.2		NA	NA	0.1	NA	+	ML		Subsurface CONCRETE.	CONCRETE	
5	-5										SILT (ML) as above, no metallic debris or slag, strong oily sheen present, saturated. In jar in water, lense of very dark brown LNAPL present.  Possible top of tank. Dark brown free-phase product observed coming into borehole at 4.2' bgs.		
10	-10												
15	-15												

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 7/25/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 562472.17 <b>Easting:</b> 13305621.11 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 14' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-12-32  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0			2									
		1	0-2	8	20	1.8	4054	-			Pale brown (10YR 6/3) fine subangular POORLY GRADED SAND (SP), some Silt, few Clay, Cement debris, glass and Brick also present to 2.0' bgs, loose to medium dense, no odor, dry. Fill.		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		2	2-4	12	23	0.0	NA	-			No recovery due to presence of large piece of Cement debris from demolition activities.		Hydrated Bentonite Hole Plug (0.5' - 3.0' bgs)
				9									2" ID Sch. 40 PVC Riser (0.2' - 4.0' bgs)
5	-5	3	4-6	2	5	1.1	158	-	SP		Very loose, saturated.		
				3									
		4	6-8	1	2	1.0	0.0	-					
				1									
				1/12"									#5 Well Sand Pack (3.0' - 14' bgs)
		5	8-10	H/12"	1	0.3	0.0	-					
				1									
10	-10	6	10-12	2	10	1.5	0.0	-			Gray (10YR 5/1) fine to coarse (predominantly fine) subangular poorly graded SAND (SP), little Silt, little Clay, occasional lenses of Clay up to 1"-thick throughout, saturated, loose, no odor. Native Glacio-Alluvial.		2" ID Sch. 40 PVC 0.010" Slotted Screen (4.0' - 14' bgs)
				8									
				12									
		7	12-14	20	87	1.1	0.0	-	CL		Gray (10YR 5/1) SILTY Lean CLAY (CL), few fine to coarse subrounded to rounded Sand, trace fine to coarse rounded Gravel, homogenous, weakly plastic, no odor, medium stiff, dry. Native Glacial Clay Till		
				37							Hard, dry at 13' bgs.		
				50/5"									
15	-15												

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		Date	Depth	Elev.

<b>Date Start/Finish:</b> 8/28/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 562850.53 <b>Easting:</b> 13305203.78 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 14' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-12-33  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0								FL	CONCRETE.		CONCRETE	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1	1-2	29/5"	NA	0.5	917	-			SW	Brown (10YR 5/3) fine to coarse subangular WELL GRADED SAND (SW), little Silt, few fine to coarse subrounded Gravel, aplastic, no odor, loose, dry. Fill Sand.	INCORR. FINCONCRET	Hydrated Bentonite Hole Plug (0.5' - 3.0' bgs)	
2	2-4	2	8	10	1.1	1027	-		FL	CONCRETE debris and rubble in cuttings.		2" ID Sch. 40 PVC Riser (0.2' - 4.0' bgs)	
3	3-4	6	7	15	1.5	770	+		SM	Gray-brown (10YR 5/2) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, medium dense, damp. Fill Sand.			
4	4-6	7	8	15	1.5	770	+		SM	Moderate to strong sharp, sweet "oily" odor, Saturated at 5.0' bgs. Black sheen present on saturated material at 5.5' bgs.			
5	5-6	9	9	18	1.7	440	+		SM	Black (10YR 2/1) fine angular to subrounded POORLY GRADED SILTY SAND (SM), few Clay, moderate to strong odor, sheen, medium loose to medium dense, aplastic, Metallic debris and small amounts of slag material present at upper contact, saturated. Foundry Sand.		#5 Well Sand Pack (3.0' - 14' bgs)	
6	6-8	2	2	5	1.8	573	+		SM	Gray (10YR 5/1) fine subrounded to subangular POORLY GRADED SILTY SAND (SM), few coarse subangular Gravel and Pebbles, moderate to strong odor, black oily patches up to 1" diameter present throughout, sheen, aplastic, saturated. Fill Sand.			
7	7-8	3	7	16	1.8	108	+		CL	Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine to medium rounded Gravel, moderate to weak odor, locally oxidation present as concave varves and patches of oily Sand and Silt, stringers of oil also present in cracks. soft, damp to moist. Native Clay Till used as backfill.		2" ID Sch. 40 PVC 0.010" Slotted Screen (4.0' - 14' bgs)	
8	8-10	10	15	25	1.8	536	+		CL	2"-thick lense of fine poorly graded fine subangular to subrounded Sand, oily sheen and strong odor present, saturated at 10.8' bgs.			
9	10-12	11	15	22						1"-thick Silt lense, oily sheen and strong odor present, saturated at 11.3' bgs.			
10	12-14									Possibly Native Undisturbed Till at 13' bgs.			
11	15-15												



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 8/28/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 562812.14 <b>Easting:</b> 13305282.38 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 14' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-12-34  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0								FL	CONCRETE.		CONCRETE	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1	1-3	1	1-3	1	2	0.6	8068	-	SM	Brown (10YR 5/3), to black (10YR 2/1) at 1.3' bgs, fine to coarse POORLY GRADED SILTY SAND (SM), few coarse subangular Gravel, Metallic debris at upper contact, no odor, loose, damp. Fill Sand.	SILTY SAND	Hydrated Bentonite Hole Plug (0.5' - 3.5' bgs) 2" ID Sch. 40 PVC Riser (0.2' - 5.0' bgs)	
2	3-5	2	3-5	2	2	1.7	6675	-	SM	Brown (10YR 5/3) fine subangular POORLY GRADED SILTY SAND (SM), few coarse subangular Gravels and Pebbles, few Clay, weak odor, medium dense, moist. Fill Sand.	SAND	#5 Well Sand Pack (3.5' - 16' bgs)	
3	5-7	3	5-7	15/3"	NA	0.3	1108	+	SP	Black (10YR 5/1) fine to coarse subangular POORLY GRADED SAND (SP), little Silt, Slag, Metallic debris, and Cinders present, medium dense, no odor, moist to saturated at 8.0' bgs. Foundry Sand.	SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 16' bgs)	
4	7-8	4	7-8	50/3"	NA	1.0	NA	+	SP	Black (10YR 5/1), with yellow-brown (10YR 5/4) patches, fine to coarse subangular POORLY GRADED SAND (SP), little Silt, Metallic debris and Slag present, loose, no odor, saturated.	SAND		
5	8-10	5	8-10	9	15	1.0	1177	+	SP	Brown (10YR 5/3) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, moderate sweet, sharp odor, moist. Native Clay Till used as backfill.	SAND, CL		
6	10-12	6	10-12	4	10	1.3	48.9	+	CL	Brown (10YR 5/3) fine to coarse subangular POORLY GRADED SAND (SP), little Silt, moderate sweet, sharp odor, loose, saturated.	SAND, CL		
7	12-14	7	12-14	6	12	1.7	66.6	+	SP	Gray (10YR 5/1) SILTY LEAN CLAY (CL), as above from 11' - 11.7' bgs, brown mottling and oxidation, moderate odor and stringers of moisture and possibly oil. 2"-thick fine to medium Sand lense, oily sheen and sweet, sharp odor present, saturated at 13.8' bgs.	SAND, CL		
8	14-16	8	14-16	6	14	2.0	48.3	+	CL	1"-thick fine to medium Sand lense, oily sheen and sweet, sharp odor present, saturated at 15' bgs. 2"-thick saturated Silt lense at 15.8' bgs.	SILTY CLAY		



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.

Date Start/Finish: 8/29/03  
 Drilling Company: Rau Drilling  
 Driller's Name: Greg Compeau  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4-1/4" ID  
 Rig Type: CME 55

Northing: 562980.16  
 Easting: 13305201.46  
 Casing Elevation: 744.45  
 Borehole Depth: 17' bgs  
 Surface Elevation: NA  
 Descriptions By: SM Duly

Boring ID: RFI-12-35  
 Client: General Motors  
 Location: GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0									FL	CONCRETE.		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		1	3-5	11 24	NA	1.0	2384	+		CL	Gray-brown (10YR 5/2) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, moderate odor, lenses of saturated Silt throughout, moderately plastic, soft, moist. Native Clay Till used as backfill. 3"-thick Silt lens, sheen present on Silt, moist at 3.8' bgs.	CONCRETE	Hydrated Bentonite Hole Plug (0.7' - 3.5' bgs) 2" ID Sch. 40 PVC Riser (0.2' - 4.5' bgs)
5	-5									FL	CONCRETE.		
		2	5-7	3 2 3 3	5	1.8	5979	+		CL	Gray-brown (10YR 5/2) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, moderate odor, moderately plastic, soft, moist to saturated from 6' - 6.5' bgs. Native Clay Till used as backfill.	CONCRETE	
		3	7-9	6 11 13 9	24	1.9	1696	+		CL	Gray (10YR 5/1) SILTY LEAN CLAY (CL), as above, moderate odor, sheens on sample and stringers of oily moisture present throughout, saturated Silt lens up to 1/2"-thick throughout. Undisturbed Native Clay Till.		#5 Well Sand Pack (3.5' - 15' bgs)
10-10		4	9-11	5 6 8 9	14	2.0	473	+		CL			2" ID Sch. 40 PVC 0.010" Slotted Screen (4.5' - 14.5' bgs)
		5	11-13	4 7 10 12	17	2.0	229	+		CL			
		6	13-15	5 9 14 16	23	1.6	113	+		CL			
15-15		7	15-17	4 6	14	1.7	126	+		CL	2"-thick saturated fine poorly graded subangular to subrounded Sand lens, some Silt, weak odor, loose to medium dense at 15' bgs.		Natural Collapse (15' - 17' bgs)



Remarks: bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.

Water Level Data

Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-12-35  
Borehole Depth: 17' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headpace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction									
		7	15-17	8 9	14	1.7	126	+	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL), as above, moderate odor, sheens on sample and stringers of oily moisture present throughout, Undisturbed Native Clay Till. 3"-thick saturated Silt lense at 16' bgs. 4"-thick saturated Silt lense with few fine to coarse rounded Sand, and trace fine to coarse rounded Gravel at 16.6' bgs.	ILTY CL	<table border="1"> <tr><td>x</td><td>x</td><td>x</td></tr> <tr><td>x</td><td>x</td><td>x</td></tr> <tr><td>x</td><td>x</td><td>x</td></tr> </table> Natural Collapse (15' - 17' bgs)	x	x	x	x	x	x	x	x	x
x	x	x																				
x	x	x																				
x	x	x																				
20-20																						
25-25																						
30-30																						
35-35																						



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 4/1/2004 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 563031.42 <b>Easting:</b> 13305192.71 <b>Casing Elevation:</b> 743.89' AMSL  <b>Borehole Depth:</b> 17' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Wayne Patterson	<b>Well/Boring ID:</b> RFI-12-36  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0									CONCRETE.		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		1	2-4	4 4 1 7	10	2.0	0.0	+	CL	Brown (10YR 4/3) becoming dark brown (10YR 3/3) LEAN CLAY with SILT (CL), some fine Sand, soft, strong odor, little black staining throughout, saturated. [FILL]		Bentonite Seal (0.7' - 3.5' bgs)
5	-5	2	4-6	3 3 2 7	5	1.5	0.0	+		CONCRETE.		2" ID Sch. 40 PVC Riser (0.2' - 4.5' bgs)
									FL	CONCRETE.		2" ID Sch. 40 PVC 0.010" Slotted Screen (4.5' - 14.5' bgs)
10-10		3	9-11	3 4 4 6	8	1.8	0.0	+		Gray (10YR 5/1) LEAN CLAY with SILT (CL), few fine to coarse subrounded sand, trace fine to coarse rounded Gravel, rare Silt lenses, medium stiff to stiff, no apparent odor, dry to damp. [Native Clay TILL]		#5 Well Sand Pack (3.5' - 15.0' bgs)
		4	11-13	4 7 8 9	15	2.0	0.0	+	CL			
		5	13-15	4 4 6 7	10	2.0	0.0	+		Clay is soft below 14' bgs.		
15-15		6	15-17	5 4	9	2.0	0.0	+				Natural Collapse (15.0' - 17.0' bgs)



**Remarks:**  
 bgs = below ground surface; + = Positive Test Result; - = Negative Test Result; AMSL = Above Mean Sea Level; NA = Not Applicable/Not Available

Water Level Data		
Date	Depth	Elev.

**Client:**

General Motors

Well/Boring ID: RFI-12-36

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

Borehole Depth: 17' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction									
		6	15-17	5 8	9	2.0	0.0	+	CL		Gray (10YR 5/1) LEAN CLAY with SILT (CL), few fine to coarse subrounded sand, trace fine to coarse rounded Gravel, rare Silt lenses, dry to damp, medium stiff to stiff, no apparent odor. [Native Clay TILL]	<table border="1"> <tr><td>x</td><td>x</td><td>x</td></tr> <tr><td>x</td><td>x</td><td>x</td></tr> <tr><td>x</td><td>x</td><td>x</td></tr> </table>	x	x	x	x	x	x	x	x	x
x	x	x																			
x	x	x																			
x	x	x																			
20-20																					
25-25																					
30-30																					
35-35																					



**Remarks:**


bgs = below ground surface; + = Positive Test Result; - = Negative Test Result; AMSL = Above Mean Sea Level; NA = Not Applicable/Not Available

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 4/05/04 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 563053.71 <b>Easting:</b> 13305097.18 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 5' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> W. Patterson	<b>Well/Boring ID:</b> RFI-12-37  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
											ASPHALT	
											CONCRETE	
		1	1-3	2 5 5 5	10	1.0	0.0	-	SP		Black (10YR 2/1) fine POORLY GRADED SAND (SP), loose, no apparent odor, foundry Sand, dry.	Borehole backfilled with Bentonite to grade.
		2	3-5	5 3 4 5	7	0.3	0.0	-	CL		Black (10YR 2/1) LEAN SANDY CLAY (CL), some Silt, soft moderately plastic, no apparent odor. [FILL]	
5	5										Refusal at 5.0' bgs.	
10-10												
15-15												

 <p><b>BBL</b><sup>®</sup>  <b>BLASLAND, BOUCK &amp; LEE, INC.</b>  <i>engineers, scientists, economists</i></p>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available; +/- = Positive/Negative Test Result.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

**Date Start/Finish:** 4/05/04  
**Drilling Company:** Rau Drilling  
**Driller's Name:** Greg Compeau  
**Drilling Method:** HSA/SS  
**Sampler Size:** 2' x 2" ID  
**Auger Size:** 4-1/4" ID  
**Rig Type:** CME 55

**Northing:** 563093.33  
**Easting:** 13305116.21  
**Casing Elevation:** 742.39' AMSL  
  
**Borehole Depth:** 11' bgs  
**Surface Elevation:** NA  
  
**Descriptions By:** W. Patterson

**Well/Boring ID:** RFI-12-38  
  
**Client:** General Motors  
  
**Location:** GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
										ASPHALT		
										CONCRETE		
1		1-3		2 5 5	10	1.0	0.0	-	SP		Black (10YR 2/1) fine POORLY GRADED SAND (SP), loose, no apparent odor, foundry Sand, dry.	
2		3-5		3 4 5	7	0.3	0.0	-	CL		Black (10YR 2/1) LEAN SANDY CLAY (CL), some Silt, soft, moderately plastic, no apparent odor. [FILL]	
5	-5										Yellow Brown (10YR 5/4) and Black (10YR 2/1) SILT (ML), moist, strong odor. [FILL]	
1		5-7		7 10 8 8	18	2.0	7.4	+	ML		Dark gray (10YR 3/1) fine to medium POORLY GRADED SAND (SP), loose, strong odor, with NAPL, saturated. [FILL]	
2		7-9		3 6 6 9	12	1.5	0.0	-	SP		Dark gray (10YR 4/1) LEAN CLAY with SILT (CL), slightly plastic and stiff, no apparent odor, damp [NATIVE CLAY and SILT]	
10-10		3	9-11	4 7 6 10	13	1.5	0.0	-	CL			
15-15												



**Remarks:**  
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 NA = Not Applicable/Not Available; +/- = Positive/Negative Test Result.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 4/05/04 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 563076.42 <b>Easting:</b> 13305054.73 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 7.5' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> W. Patterson	<b>Well/Boring ID:</b> RFI-12-39  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
										ASPHALT		
										CONCRETE		
									SP		Dark yellow-brown (10YR 4/6) fine to medium POORLY GRADED SAND (SP), loose, no apparent odor, dry. [FILL]	Borehole backfilled with Bentonite to grade.
5	-5	1	5-7	1	2	1.5	0.0	-	ML		Dark yellow-brown (10YR 4/6) SILT (ML), no apparent odor, saturated. [FILL]	
		2	7-7.5	>50	>50	0.2	0.0				Refusal at 7.5' bgs.	
10-10												
15-15												



**Remarks:**  
 bgs = below ground surface; NA = Not Applicable/Not Available;  
 +/- = Positive/Negative Test Result.

Water Level Data		
Date	Depth	Elev.

Date Start/Finish: 4/05/04  
 Drilling Company: Rau Drilling  
 Driller's Name: Greg Compeau  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4-1/4" ID  
 Rig Type: CME 55

Northing: 563090.68  
 Easting: 13305068.01  
 Casing Elevation: 741.47' AMSL  
 Borehole Depth: 9' bgs  
 Surface Elevation: NA  
 Descriptions By: W. Patterson

Well/Boring ID: RFI-12-40  
 Client: General Motors  
 Location: GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0									ASPHALT		
										CONCRETE	Dark yellow-brown (10YR 4/6) fine to medium POORLY GRADED SAND (SP), loose, no apparent odor, dry. [FILL]	
5	-5	5-7		1					SP		Dark yellow-brown (10YR 4/6) SILT (ML), no apparent odor, saturated. [FILL]	
				1	2	1.5	0.0					
				1								
				5								
				2								
		1	7-9	5	14	1.5	0.0				Dark gray (10YR 4/1) LEAN CLAY with SILT (CL), slightly plastic, medium stiff to stiff, no apparent odor. [Native CLAY and SILT]	
				9								
				10								
10-10												
15-15												



**Remarks:**  
 bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Applicable/Not Available; +/- = Positive/Negative Test Result.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 8/23/04 <b>Drilling Company:</b> Prosonic <b>Driller's Name:</b> Don Bond <b>Drilling Method:</b> HSA/Macrocore <b>Sampler Size:</b> 5' Macrocore <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 563198.99 <b>Easting:</b> 13305110.70 <b>Casing Elevation:</b> 741.56' AMSL  <b>Borehole Depth:</b> 12' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Wayne Patterson	<b>Well/Boring ID:</b> RFI-12-41  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
									FL		CONCRETE.	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		1	0-5	NA	NA	2.0	0.0	NA	SM		Brown (10YR 4/3) SANDY SILT (SM), few Clay, no odor, damp. [FILL] 2" of Concrete Rubble at 2.0' bgs.  Wet below 3.5' bgs.	Bentonite Seal (0.5' - 1.5' bgs) 2" ID Sch. 40 PVC Riser (0.3' - 2.0' bgs)
5	-5								SP		Brown (10YR 4/3) fine to medium POORLY GRADED SAND (SP), no odor, native, loose, saturated.	#5 Well Sand Pack (1.5' - 12' bgs)
		2	5-10	NA	NA	4.0	0.0	NA	CL		Dark gray (10YR 4/1) LEAN CLAY with Silt (CL), little fine Sand, few fine Gravel, medium stiff, damp. [Native Clay Till]	
10-10												2" ID Sch. 40 PVC 0.010" Slotted Screen (2.0' - 12' bgs)
		NA	NA	NA	NA	NA	NA	NA				
15-15												

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers, scientists, economists</i>	<b>Remarks:</b> bgs = below ground surface; AMSL = Above Mean Sea Level; NA = Not Applicable/Not Available.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 12/8/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Denny <b>Drilling Method:</b> HSA <b>Sampler Size:</b> 2" x 2' long <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME	<b>Northing:</b> 561059.41 <b>Easting:</b> 13305678.35 <b>Casing Elevation:</b> 732.59  <b>Borehole Depth:</b> 16' bgs. <b>Surface Elevation:</b> 732.56  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> RFI-16-04R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0									Fill	ASPHALT. CONCRETE.	fill	Portland Cement 0-1.0' bgs 2-inch PVC Riser 0.3-6' bgs Bentonite Seal 0.5-4' bgs
5	-5	1	5-7'	1 2 2 4	4	0.75	NA	NA	SM	SM	Yellowish-brown (10YR 5/6) fine Silty SAND (SM), some black staining toward top, few Clay and fine angular Gravel, rare slag, moist, no odor, loose. (Fill).	Silty Sand	#5 Well Sand 4-16' bgs
		2	7-9'	1 5 9 10	11	1.5	NA	NA	CL SM	CL SM	Dark gray-brown (10YR 4/2) Silty CLAY (CL), few fine to coarse subangular to subrounded Sand, few fine subangular Gravel, medium stiff, no odor, wet. (Fill) Dark gray (10YR 4/1) fine to coarse Silty SAND (SM), some fine subangular Gravel, medium dense, saturated, no odor. (Fill)	SS SC	2-inch ID 0.010" machine-slotted PVC Screen 6-16' bgs
10-10											9-16' see RFI-16-04 boring log.		
15-15													

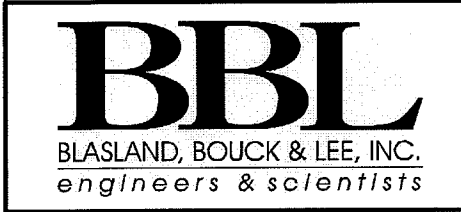


**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Not Available.  
 For descriptions from 1.2-6' and 9-16' bgs, see RFI-16-04 boring log.  
 Located 5' west of RFI-16-04. SC=Silty Clay, SS=Silty Sand

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 2/18/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> NA <b>Easting:</b> NA <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 22' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-16-24  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0								FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		1-3		21 23 24 14	47	1.8	6.4	-	SM	Dark brown (10YR5/1) to black (10YR 2/1) fine subangular POORLY GRADED SILTY SAND (SM), little to few Clay, aplastic, no odor, dense to very dense, dry. Foundry/Fill Sand.			Grout (0.5' - 2.0' bgs)
2		3-5		10 7 6 6	13	1.3	2.8	-	SM	Brown (10YR 3/3) color, less dense at 3.0' bgs. Very dark brown (10YR) color at 3.8' bgs.			2" ID Sch. 40 PVC Riser (0' - 6.0' bgs)
3		5-7		3 3 4	6	1.8	86.5	-	SM	Cinders and fine to coarse subrounded Gravel present throughout below 4.7' bgs. Loose at 5.0' bgs.			Hydrated Bentonite Seal (2.0' - 4.0' bgs)
4		7-9		4 6 NA NA	NA	0.7	73.2	-	FL	Moist at 7.5' bgs.			#5 Well Sand Pack (4.0' - 17' bgs)
5	-5								FL	CONCRETE.		FILL	
6		10-12		3 5 7 11	12	1.8	5.6	-	ML	Brown (10YR 3/3) to gray-brown (10YR 5/2) SILT (ML), some Clay, little fine to coarse subrounded Sand, trace rounded Gravel, aplastic, dense, wet to saturated to dry. Undisturbed Native Glacial Clay Till.			2" ID Sch. 40 PVC 0.010" Slotted Screen (6.0' - 16' bgs)
7		12-14		2 8 12 18	20	1.9	14.3	-	ML	Lense up to 1" thick of saturated fine to coarse subrounded Sand throughout, heavily oxidized to yellow-brown (10YR /4) along fractures from 13' to 14' bgs.			
15-15		14-16		5 12 12 20	19	2.0	0.0	-	ML	Gray (10YR 2/1), increased Sand to little and subrounded to rounded, homogenous, dry below 14' bgs.			



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available  
 WH=Weight of Hammer  
 Samples collected from 1.0'-3.0' abd 5.0'-7.0' for PAL VOCs.

Water Level Data		
Date	Depth	Elev.
2/18/03	10'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-16-24  
Borehole Depth: 22' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		8	16-18	7 15 19 23	34	1.8	0.0	-			Brown (10YR 3/3) to gray-brown (10YR 5/2) SILT (ML), some Clay, little fine to coarse subrounded Sand, trace rounded Gravel, aplastic, dense, wet to saturated to dry. Undisturbed Native Glacial Clay Till.	↑ SILT ↓	#5 Well Sand Pack (4.0' - 17' bgs)
		9	18-20	4 11 11 13	22	2.0	0.0	-	ML				Formation Collapse (17' - 22' bgs)
20-20		10	20-22	5 10 12 13	22	2.0	0.0	-					
25-25													
30-30													
35-35													




**Remarks:** bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available  
WH=Weight of Hammer  
Samples collected from 1.0'-3.0' abd 5.0'-7.0' for PAL VOCs.

**Water Level Data**

Date	Depth	Elev.
2/18/03	10'	


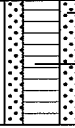
<b>Date Start/Finish:</b> 2/18/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 561274.01 <b>Easting:</b> 13305532.28 <b>Casing Elevation:</b> 736.14 ft. AMSL  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> 736.50 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-16-25  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
735		1	1-3	12	45	2.0	0.7	NA	FL	CONCRETE.		CONCRETE	Grout (0.7' - 4.0' bgs)
		2	3-5	26	33	1.5	0.4	NA	SM	Yellow-brown (10YR 5/4) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, dense, dry. Fill Sand.		SILTY SAND	2" ID Sch. 40 PVC Riser (0' - 8.0' bgs)
5				19						Concrete Rubble, Wood, Rebar, and debris, moist.		FILL	Hydrated Bentonite Seal (4.0' - 6.0' bgs)
730				17									#5 Well Sand Pack (6.0' - 18' bgs)
		3	8-10	3	8	1.8	0.8	NA	CL	Gray (10YR 5/1), with yellow-brown (10YR 5/4) mottling, SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, trace fine to coarse rounded Gravel, weakly to moderately plastic, weak sewer-type odor, damp. Native Undisturbed Glacial Clay Till.		Concrete Rubble	
10				5						Moist at 9.8' bgs. Saturated, lenses of saturated Silt or Silty Sand up to 1" thick below 10' bgs.			2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
725		5	10-12	3	6	2.0	0.0	NA	SM	Brown (10YR 3/3) fine to coarse subrounded WELL GRADED SAND (SM), some to little Silt, little Clay, few fine to medium rounded to subrounded Gravel, aplastic, no odor, saturated, loose. Glacio-Alluvial.		Fine SAND	
		6	12-14	WH	6	1.5	0.0	NA	SM	Lenses of SILTY Lean CLAY as above from 8.0' - 11.7' bgs up to 8"-thick throughout below 13' bgs.			
				2						Gray (10YR 5/1) color at 14' bgs.			
15				4						Fine to coarse Sand, decreased Silt and Clay content to few, saturated below 14.6' bgs.			
		7	14-16	9	26	2.0	0.0	NA	CL	Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above from 8' - 11.7' bgs, very stiff, no odor, dry.			
				14									
				12									
				13									

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer Samples collected from 1.0'-3.0' and 8.0'-10' for PAL VOCs.	<b>Water Level Data</b>												
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr> <td>2/18/03</td> <td>10'</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Date	Depth	Elev.	2/18/03	10'							
Date	Depth	Elev.												
2/18/03	10'													

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-16-25  
Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
720		8	16-18	3 10 13 15	23	1.8	0.0	NA	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above from 8' - 11.7' bgs, very stiff, no odor, dry.	SILTY CLAY	 #5 Well Sand Pack (6.0' - 18' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
20													
715													
25													
710													
30													
705													
35													



Remarks: bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available  
 WH=Weight of Hammer  
 Samples collected from 1.0'-3.0' abd 8.0'-10' for PAL VOCs.

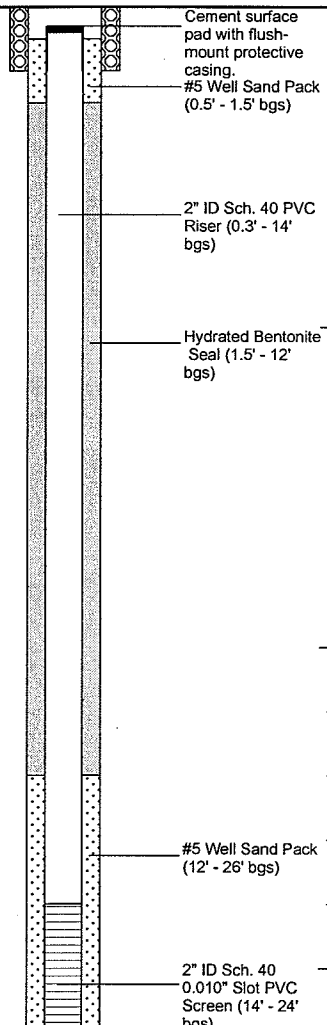
**Water Level Data**

Date	Depth	Elev.
2/18/03	10'	

Date Start/Finish: 7/14/05  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-75 Truck-Mount

Northing: 560488.61  
 Easting: 13306350.94  
 Casing Elevation: 720.38' AMSL  
 Borehole Depth: 29' below grade  
 Surface Elevation: NA  
 Descriptions By: R. Tuttle

Well/Boring ID: RFI-17-02D  
 Client: General Motors  
 Location: General Motors NAO Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Augered without sampling to 12' bgs. For geologic descriptions see RFI-17-02.	
1	12-14	1		1	2	1.75	0.0			SP	Brown-yellow (10YR 6/8) medium to coarse POORLY-GRADED SAND (SP), trace fine subangular Gravel, loose, no odor, saturated.	
15-15	14-16	2		5 5 6 7	11	1.0	0.0					



**Remarks:**  
 bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

**Client:**

General Motors

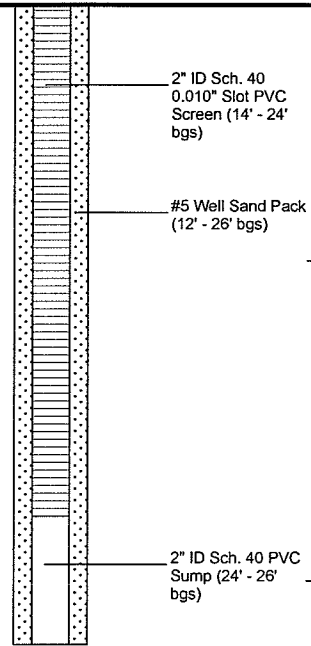
**Well/Boring ID:** RFI-17-02D

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 29' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-25	16-18	3		3	8	1.75	0.0		SP		Brown-yellow (10YR 6/8) medium to coarse POORLY-GRADED SAND (SP); trace fine subangular Gravel, loose, no odor, saturated.	
				4								
				4								
	18-20	4		6	17	1.25	0.0		SW		Gray (10YR 5/1) fine to coarse WELL-GRADED SAND (SW), little fine to medium angular to subangular Gravel, no odor, saturated.	
				7								
				10								
	20-22	6		8	20	1.0	0.0		SW			
				10								
				15								
	22-24	7		6	24	0.75	0.0		SW			
				12								
10												
24-26	8		10	43	1.0	0.0		CL		Gray (10YR 5/1) LEAN CLAY with Silt (CL), few fine subrounded Gravel and Sand, slightly plastic, no odor, damp.		
			18									
			25									
26-28	9		30	NA	1.0	0.0		CL				
			50									
			50									
28.5-29	10		28-28.5	NA	0.5	0.0		ML		Gray (10YR 5/1) CLAYEY SILT (ML), some fine Sand, brittle, hard, no odor, damp.		
			28.5-29									
30-30												
35-35												



**Remarks:**


bgs = below ground surface; AMSL = Above Mean Sea Level;  
NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.


<b>Date Start/Finish:</b> 2/20/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID HSA <b>Rig Type:</b> CME 85	<b>Northing:</b> 563019.15 <b>Easting:</b> 13305487.16 <b>Casing Elevation:</b> 741.73 ft. AMSL  <b>Borehole Depth:</b> 16' below grade <b>Surface Elevation:</b> 742.05 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-23-01R <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
745													
0									FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1	740	1	0-2	18	44	1.2	83.4	-	SM	Brown (10YR 5/3) to very pale brown (10YR 7/3) subangular POORLY GRADED SILTY SAND (SM), little Clay, trace angular coarse Gravel, aplastic, no odor, dry, dense. Fill Sand.		SAND	Grout (0.5' - 1.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 4.0' bgs)
2		2	2-4	10	15	2	105	-	CL	Brown (10YR 5/3) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, weakly plastic, medium stiff, gray (10YR 5/1) mottled Silt lenses up to 3" thick throughout, no odor, damp. Native Clay Till used as Backfill. 3"-thick saturated Silt lense (perched water) at 3.7' bgs.		CLAYEY SILT	Hydrated Bentonite Seal (1.0' - 3.0' bgs)
3	5	3	4-6	8	14	1.6	236	-	SM	Brown (10YR 5/3) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, damp, moderately dense. Fill Sand.		SILTY SAND	
4	735	4	6-8	4	8	2	84.8	-	CL	Brown (10YR 5/3), to gray (10YR 5/1) at 7.1' bgs, SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, homogenous, tiny stringers of water present occasionally throughout, no odor, damp with saturated Silt lenses up to 2"-thick throughout, medium stiff (locally soft). Undisturbed Native Clay Till.		CLAYEY SILT	#5 Well Sand Pack (3.0' - 16' bgs)
5		5	8-10	2	6	1.9	52.6	-					
6	10	6	10-12	4	6	1.8	17.8	-	CL	4"-thick lenses of fine poorly graded Sand (SW), saturated at 10.5' bgs.		CLAYEY SILT	2" ID Sch. 40 PVC 0.010" Slotted Screen (4.0' - 14' bgs)
7	730	7	12-14	3	7	2	0.9	-					
8	15	8	14-16	6	19	1.7	0.0	-					
				7							Saturated Gravel lense at 15' bgs. Dry with increased stiffness below 15.3' bgs.		
				12									
				21									

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available; + = Positive Test Result.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		2/20/03	6.5'	

<b>Date Start/Finish:</b> 2/20/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID <b>Auger Size:</b> 4 1/4" <b>Rig Type:</b> CME 85	<b>Northing:</b> 562874.47 <b>Easting:</b> 13305606.43 <b>Casing Elevation:</b> 740.08 ft. AMSL  <b>Borehole Depth:</b> 15' bgs <b>Surface Elevation:</b> 740.38 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-23-02R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	740								FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Grout (0.5' - 1.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 4.0' bgs) Hydrated Bentonite Seal (1.0' - 3.1' bgs)
1		1	1-3	14	24	1.2	23.8	-			Brown (10YR 5/3) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, trace fine to coarse rounded Gravel and Cinders, weakly plastic to stiff, no odor, dry. Native Glacial Clay Till used as Backfill.		
2		2	3-5	3	6	1.3	8.7	-			Silty Sand lenses up to 2" thick, moist at 4.0' bgs.		
3	735	3	5-7	1	2	1.8	9.2	-			Wet at 5.0' bgs. Saturated, intermittent saturated Silt lenses up to 1" thick throughout in addition to Silty Sand lenses below 5.5' bgs.		
4		4	7-9	3	7	1.7	0.2	-	CL		Becomes gray (10YR 5/1) below 6.8' bgs. Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above, but homogenous, with saturated Silty fine to coarse Sand lenses up to 3" thick and saturated Silt lenses up to 1" thick throughout to lower contact, Clay Till between lenses is damp. Native Undisturbed Glacial Clay Till.		#5 Well Sand Pack (3.1' - 14.5' bgs)
5	730	5	9-11	4	9	2	0.0	-					2" ID Sch. 40 PVC 0.010" Slotted Screen (4.0' - 14' bgs)
6		6	11-13	4	11	1.3	0.0	-			Silty Sand lense, saturated, with some fine to medium Gravel from 11.5' - 17.3' bgs.		
7		7	13-15	2	5	2.0	0.0	-			1/2"- to 1"-thick Sand lense. Till is dry and increasingly stiff from 14' - 15' bgs.		Natural Collapse (14.5' - 15' bgs)
15	725												

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available.	<b>Water Level Data</b>												
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr> <td>2/20/03</td> <td>5.5</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Date	Depth	Elev.	2/20/03	5.5							
		Date	Depth	Elev.										
		2/20/03	5.5											

<b>Date Start/Finish:</b> 10/15/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allen Rau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 568742.76 <b>Easting:</b> 13307373.15 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 24' bgs <b>Surface Elevation:</b> 749.26 ft AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-36-47  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction	
750	0												4" diameter Steel Protective Casing	
		1	0-2	NA	NA	0.0	0.0	-		ML	Very dark gray-brown (10YR 3/2) SILT, little fine to coarse subangular fine Sand, few to little Clay, trace fine to coarse rounded Gravel, Glass, Slag, and Building Debris (Cement) present, Roots and Vegetation to 0.3' (Topsoil), aplastic, medium dense, no odor, dry. Fill.	SILT	Grout (0.5' - 3.5' bgs)	
		2	2-4	NA	NA	0.0	0.0	-					2" ID Sch. 40 PVC Riser (0' - 10' bgs)	
745	5	3	4-6	6	4	10	0.5	0.0	-					Bentonite Seal (3.5' - 7.9' bgs)
		4	6-8	5	5	8	1.3	0.0	-					
740	10	5	8-10	5	5	15	1.5	0.0	-	SM	Very dark brown (10YR 4/3) Silty fine subangular poorly graded SAND (SM), few Clay, aplastic, medium dense, no odor, dry. Glacio-alluvial.	Silty SAND	#5 Well Sand Pack (7.9' - 22' bgs)	
		6	10-12	4	5	10	1.8	0.0	-					
		7	12-14	3	3	6	1.7	0.0	-					2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)
735	15	8	14-16	2	3	9	1.8	0.0	-	ML	Brown (10YR 5/3) SILT (ML), little fine subangular to subrounded SAND, few Clay, aplastic, medium dense, no odor, saturated. Glacio-Alluvial.	Silt		



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.  
 Soil description from 0 - 4' bgs based on auger cuttings due to spoon refusal.

**Water Level Data**

Date	Depth	Elev.
10/15/02	12'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-36-47  
Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction	
730 20	730	9	16-18	2	12	1.7	0.0	-	-	[Pattern]	Brown (10YR 5/3) SILT (ML), little fine subangular to subrounded SAND, few Clay, aplastic, medium dense, no odor, saturated. Glacio-Alluvial.	↑ silt ↓	2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)	
				5										
				7										
		10	18-20	2	8	1.8	0.0	-	-	ML	[Pattern]		Gray (10YR 5/1) color, increased Clay to little to some at 19' bgs.	
				3										
				5										
		11	20-22	2	7	1.8	0.0	-	-	-	[Pattern]		Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, homogenous, plastic, soft to medium stiff, increasing stiffness and decreasing moisture with depth, no odor, damp. Native Glacial Clay Till.	
				3										
				4										
		12	22-24	H	3	1.5	0.0	-	-	CL	[Pattern]		Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, homogenous, plastic, soft to medium stiff, increasing stiffness and decreasing moisture with depth, no odor, damp. Native Glacial Clay Till.	
				1										
				2										
725 25	725													
720 30	720													
715 35	715													



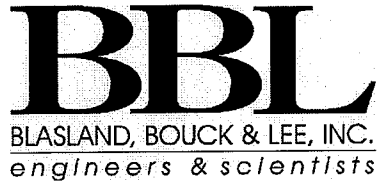
**Remarks:** bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.  
Soil description from 0 - 4' bgs based on auger cuttings due to spoon refusal.

**Water Level Data**

Date	Depth	Elev.
10/15/02	12'	

<b>Date Start/Finish:</b> 10/15/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allen Rau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 568498.38 <b>Easting:</b> 13307612.53 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 32' bgs <b>Surface Elevation:</b> 755.33 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-36-48  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
													4" diameter Steel Protective Casing
0	755	1	0-2	10 17 25 19	42	1.5	4.7	-		ML	Dark brown (10YR 3/1) SILT (ML), some fine subangular Sand, few fine to coarse subangular Gravel, Slag, and building debris, Roots and vegetation present top 4" (Topsoil), aplastic, no odor, dense, dry. Fill.	↑	Grout (0.5' - 6.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 16' bgs)
		2	2-4	11 14 22 39	36	1.5	1.9	-			Predominantly Metallis debris, Ash, and Cinders at 2.0' bgs.		
		3	4-6	11 13 14 14	27	2.0	0.0	-			Wood from 3.6' - 3.9' bgs.		
5	750	4	6-8	5 6 9 17	17	1.5	5.1	-			Ash and Coal debris at 4.5' bgs.		Bentonite Seal (6.0' - 14.1' bgs)
		5	8-10	5 9 9 12	18	1.0	12.1	-			Wood at 7.8' bgs.	↓	
10	745	6	10-12	5 9 8 8	17	1.5	0.0	-		SM	Yellow-brown (10YR 5/4) Silty fine subangular to subrounded poorly graded SAND (SM), few Clay, , aplastic, no odor, medium dense, damp. Glacio-alluvial.	↑	
		7	12-14	3 5 6 7	11	1.7	0.0	-			Darker yellow-brown (10YR 5/4) color, moist at 14' bgs.	↓	
15	740	8	14-16	4 5 5 6	10	1.2	0.0	-					#5 Well Sand Pack (14.1' - 30' bgs)



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
10/15/02	17.7'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-36-48  
Borehole Depth: 32' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction	
20	735	9	16-18	4	10	1.8	0.0	-	SM	[Pattern]	Yellow-brown (10YR 5/4) Silty fine subangular to subrounded poorly graded SAND (SM), few Clay, , aplastic, no odor, medium dense, moist. Glacio-alluvial.  Saturated at 17.7' bgs. Locally finning to a Silt (ML) and coarsening to a fine to medium Silty Sand (SM) at 18' bgs.	↑	[Diagram]	#5 Well Sand Pack (14.1' - 30' bgs)
				5										
				5										
				7										
25	730	10	18-20	1	7	1.5	0.0	-	SM	[Pattern]	Gray (10YR 5/1) SILT (ML), little fine subangular to subrounded Sand, few Clay, aplastic, medium dense to loose, no odor, daturated. Glacio-alluvial.  Increased Clay content to little at 25' bgs.	↓	[Diagram]	2" ID Sch. 40 PVC 0.010" Slotted Screen (16' - 28' bgs)
				3										
				4										
				7										
30	725	11	20-22	6	14	1.5	0.0	-	ML	[Pattern]	Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to medium subrounded Sand, lenses of saturated Silt up to 8" thick as above from 23.2' - 29.1' bgs throughout, homogenous, soft to medium stiff, plastic, no odor, damp to moist with decreased moisture and increased stiffness with depth. Native glacial Clay Till.	↑	[Diagram]	
				8										
				12										
				4										
35	720	12	22-24	4	11	1.8	0.0	-	CL	[Pattern]		↓	[Diagram]	
				4										
				7										
				9										
		13	24-26	3	6	2.0	0.0	-	ML	[Pattern]				
				3										
				3										
				6										
		14	26-28	H	4	1.5	0.0	-	ML	[Pattern]				
				2										
				2										
				3										
		15	28-30	H	5	2.0	0.0	-	CL	[Pattern]				
				4										
				6										
				1										
		16	30-32	3	5	2.0	0.0	-	CL	[Pattern]				
				2										
				2										
				4										



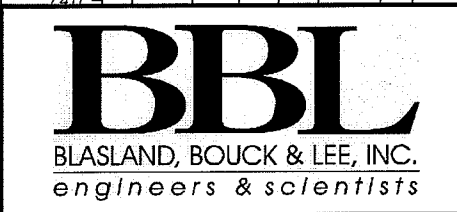
Remarks: bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
10/15/02	17.7'	

<b>Date Start/Finish:</b> 4/5/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 45B	<b>Northing:</b> 568347.09 <b>Easting:</b> 13306670.44 <b>Casing Elevation:</b> 755.71 ft. AMSL  <b>Borehole Depth:</b> 25' bgs <b>Surface Elevation:</b> 755.94 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-36-49  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
755									FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		1	1-3	6 6 5 5	11	1.1	1.3	NA			Black (10YR 2/1) fine to coarse, predominantly fine, subangular POORLY GRADED SILTY SAND (SM), few Clay, few fine to coarse subangular to subrounded Gravel, Glass and building debris present, aplastic, no odor, loose, dry. Fill.		2" ID Sch. 40 PVC Riser (0' - 15' bgs)
		2	3-5	16 25 25 35	50	0.8	0.8	NA	SM		Concrete in shoe at 5.0' bgs.		Tremmed Grout (0.5' - 10' bgs)
5													
750		3	5-7	6 7 5	12	1.7	0.5	NA			Black (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, few fine to medium rounded Gravel, lenses of ground and broken glass up to 1/2"-thick at 6.7' and 6.9' bgs, moderately plastic, soft, damp. Native Clay Till used as Backfill. 2"-thick lense of burned Wood and Ashes at 7.5' bgs. No debris as described above below 8.0' bgs.		
		4	7-9	4 4 5	9	1.6	0.7	NA	CL				
10													
745		5	9-11	3 4 5 7	9	1.8	0.5	NA			Brown (10YR 5/3) to pale brown (10YR) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, loose, dry. Fill Sand.		
		6	11-13	3 4 4 5	8	1.3	0.6	NA	SM		Damp at 12.5' bgs.		Hydrated Bentonite Seal (10' - 13.2' bgs)
		7	13-15	3 3 3	6	1.5	1.1	NA					#5 Well Sand Pack (13.2' - 25' bgs)
15													
740		8	15-17	1 1	3	1.2	1.3	NA			Moist at 15' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (15' - 25' bgs)



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 1.0' - 3.0', 7.0' - 9.0', 17' - 19' bgs.

Water Level Data		
Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-36-49  
Borehole Depth: 25' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction				
20 735		8	15-17	2	3	1.2	1.3	NA	SM	[Geologic Column Diagram]	Brown (10YR 5/3) to pale brown (10YR) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, loose, moist. Fill Sand.	↑	[Boring Construction Diagram]	#5 Well Sand Pack (13.2' - 25' bgs)			
		4															
		9	17-19	4	9	1.3	3.0	NA									
		5															
		5															
		10	19-21	4	11	1.6	0.0	NA									
		5															
		6															
8																	
25	730																
30	725																
35																	
720																	



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.  
Samples collected from 1.0' - 3.0', 7.0' - 9.0', 17' - 19' bgs.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/6/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 568066.07 <b>Easting:</b> 13307147.79 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 22' bgs <b>Surface Elevation:</b> 750.19 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-36-50  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	750	NA	0-2	NA	NA	NA	NA	NA	GP		Coarse to pebble-sized angular POORLY GRADED GRAVEL (GP), no odor, loose, dry to wet from rainfall/snow melt.	Gravel	Borehole backfilled with Bentonite to grade.
		1	24	2 3 3 4	6	2.0	0.0	-	CL		Black (10YR 2/1) at upper contact then yellow-brown (10YR 5/4) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, trace fine rounded Gravel, plastic, soft, no odor, damp. Native Clay Till used as backfill.	SILTY CLAY	
5	745	2	4-6	4 4 5 3	9	0.8	0.0	-	SM		Yellow-brown (10YR 5/4) fine subangular POORLY GRADED SILTY SAND (SM), little to few Clay, aplastic, no odor, loose, damp. Fill Sand.	SILTY SAND	
		3	6-8	2 2 2 2	4	1.6	0.0	-			Moist to wet at 6.0' bgs.		
		4	8-10	3 4 6 7	10	1.4	0.0	-			Increased density with depth, moist to damp below 10' bgs.		
10	740	5	10-12	7 7 7	14	1.6	0.0	-			Saturated, loose at 12.7' bgs.		
15	735	7	14-16	2 4 4 3	8	1.2	0.0	-					

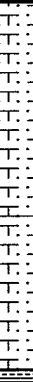
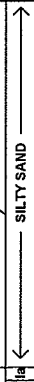
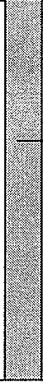



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 2.0 - 4.0', 8.0' - 10' bgs.  
 MS/MSD sample collected from 10' - 12' bgs.

Water Level Data		
Date	Depth	Elev.
3/6/03	12.7'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-36-50  
Borehole Depth: 22' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction	
20	730	8	16-18	H 3 4 4	7	1.5	0.0	-	SM		Yellow-brown (10YR 5/4), becoming gray, fine subangular POORLY GRADED SILTY SAND (SM), little to few Clay, trace rounded Gravel, aplastic, no odor, loose, damp. Fill Sand, possibly Native Glacio-Alluvial.  Gray (10YR 5/1) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, saturated. Glacio-Alluvial.  Fines downward and density increases below 21.4' bgs.			Borehole backfilled with Bentonite to grade.
		9	18-20	H 2 3 4	5	1.2	0.0	-						
		10	20-22	1 3 3 3	6	1.7	0.0	-						
25	725										Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse rounded to subrounded Sand, trace fine to medium rounded Gravel, no odor, soft, plastic, homogenous, moist. Undisturbed Native Glacial Clay Till.			
30	720													
35	715													




**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 2.0 - 4.0', 8.0' - 10' bgs.  
 MS/MSD sample collected from 10' - 12' bgs.

**Water Level Data**

Date	Depth	Elev.
3/6/03	12.7'	

<b>Date Start/Finish:</b> 3/26/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 568355.31 <b>Easting:</b> 13307172.85 <b>Casing Elevation:</b> 749.23 ft. AMSL  <b>Borehole Depth:</b> 20' bgs <b>Surface Elevation:</b> 749.48 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-36-51  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
750	0												Cement pad with 9" diam. cast iron/tin skirted flushmount cover
		1	0-2	2 2 3 2	5	1.7	0.0	-	SW	[Pattern]	Black (10YR 2/1) fine to coarse angular WELL GRADED SAND (SW), some Silt, little fine to coarse angular to subrounded Gravel, few Clay, Vegetative debris and Roots present in the first 6" at surface (Topsoil) then 25-30% Slag and Cinders, aplastic, no odor, moist with rainfall/snow melt.	SAND	Grout (0.5' - 5.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 10' bgs)
		2	2-4	2 3 5	5	1.2	0.0	-	CL	[Pattern]	Dark yellow-brown (10YR 6/4) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, plastic, no odor, soft, damp. Native Glacial Clay Till used as Backfill.	SILTY CLAY	
745	5	3	4-6	2 3 3 4	6	1.4	0.0	-		[Pattern]	Yellow-brown (10YR 5/4) fine subangular to angular POORLY GRADED SILTY SAND (SM), little Clay, aplastic, no odor, loose, damp. Fill Sand.		
		4	6-8	2 3 4 5	7	1.3	0.0	-		[Pattern]			Hydrated Bentonite Seal (5.0' - 8.0' bgs)
740	10	5	8-10	2 2 3 3	5	1.8	0.0	-	SM	[Pattern]			
		6	10-12	2 2 3 3	5	1.0	0.0	-		[Pattern]	Moist at 10.5' bgs.		#5 Well Sand Pack (8.0' - 20' bgs)
		7	12-14	1 3 5 5	8	1.7	0.0	-		[Pattern]	Saturated at 12.3' bgs.		
735	15	8	14-16	2 2 2 2	4	1.6	0.0	-	SP	[Pattern]	Gray-brown (10YR 5/2) fine to coarse, predominantly fine, subangular POORLY GRADED SAND (SP), little Silt, few fine rounded Gravel, trace Shell fragments, no odor, loose, saturated. Alluvial/Riverine.	SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		3/26/03	12.3'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-36-51  
Borehole Depth: 20' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		9	16-18	H 3	8	1.3	0.0	-	SP		Gray-brown (10YR 5/2) fine to coarse, predominantly fine, subangular POORLY GRADED SAND (SP), little Silt, few fine rounded Gravel, trace Shell fragments, no odor, loose, saturated. Alluvial/Riverine. Fines downward to a Gray (10YR 5/1) Silt below 17.4' bgs.	SAND	#5 Well Sand Pack (8.0' - 20' bgs)
	730	10	18-20	H 2	5	1.2	0.0	-	ML		Gray (10YR 5/1) SILT (ML), little fine subangular Sand at upper contact then decreasing to few Sand at 18.7' bgs, little Clay, no odor, aplastic, loose, saturated. Glacio-Alluvial.	SILT	2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)
20													
	725												
25													
	720												
30													
	715												
35													



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
3/26/03	12.3'	

<b>Date Start/Finish:</b> 10/10/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4' x 2" PVC Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> SIMCO 200 Geoprobe	<b>Northing:</b> NA <b>Easting:</b> NA <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 20.5' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-36-52  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0						FL		CONCRETE.	Fill	
1	0.4	0-4		3.0	0.0	-	SM		Yellow-brown (10YR 5/4) Silty fine to coarse subangular well graded SAND (SM), little to few Clay, aplastic, no odor, medium dense, damp. Fill Sand.	Silty SAND	Borehole backfilled with Bentonite to grade.
2	4.8			3.0	0.0	-	CL		Gray (10YR 5/1) Silty Lean CLAY (CL), few to little fine to coarse subangular to subrounded Sand, trace fine to medium rounded to subrounded Gravel, local patches of oxidation, lenses of fine poorly graded Sand (SP) with some to little Silt up to 4"-thick throughout, soft to medium stiff, plastic, no odor, damp. Glacial Clay Till used as backfill.	Silty CLAY	
3	8.12			3.7	0.0	-			Gray (10YR 5/1) Silty Lean CLAY (CL) as above from 2.1' - 8.0' bgs, homogenous, weak odor, native and undisturbed, moist.		
4	12.16			3.5	5.2	-	SP		Light gray (10YR 7/2) Silty fine to coarse (predominantly fine) subangular poorly graded SAND (SP), little Clay, faint varves distinguished by slightly darker and lighter coloration, aplastic, weak odor, medium dense, dry. Glacio-alluvial. Gray (10YR 6/1) color, occasional Silty Clay lenses as above from 8.0' - 11.2' bgs up to 2"-thick weak odor below 12' bgs. Saturated at 13' bgs.	Silty SAND	
15	15				0.0	-					




**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available.

**Water Level Data**

Date	Depth	Elev.
10/10/02	13.0'	

<b>Client:</b> General Motors  <b>Site Location:</b> GM Flint Flint, Michigan	<b>Boring ID:</b> RFI-36-52  <b>Borehole Depth:</b> 20.5' bgs
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
5		16-20		3.5	0.0	-	SP		Gray (10YR 6/1) Silty fine to medium subangular poorly graded SAND (SP), little Clay, faint varves distinguished by slightly darker and lighter coloration, occasional very dense Silt lenses up to 3"-thick throughout, aplastic, weak odor, medium dense, dry. Glacio-alluvial.	↑ Silty SAND ↓	Borehole backfilled with Bentonite to grade.
20-20		NA	NA	NA	NA						
25-25											
30-30											
35-35											



**BLASLAND, BOUCK & LEE, INC.**  
engineers & scientists

**Remarks:** bgs = below ground surface;  
NA = Not Applicable/Available.

Water Level Data		
Date	Depth	Elev.
10/10/02	13.0'	

Date Start/Finish: 03/19/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/MC  
 Sampler Size: 5"x2.125" Macrocore  
 Auger Size: 4 - 1/4" ID  
 Rig Type: Geoprobe 6610 DT

Northing: 568327.50  
 Easting: 13307535.01  
 Casing Elevation: 753.25' AMSL  
 Borehole Depth: 25' bgs  
 Surface Elevation: NA  
 Descriptions By: J. Kralik

Well/Boring ID: RFI-36-53  
 Client: General Motors  
 Location: GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0									FL	Dark brown TOPSOIL, Plant debris and Roots, frozen.	<p>Protective Steel Casing / above ground Riser with J plug (2.5' ags)</p> <p>Bentonite (2.0' - 7.0' bgs)</p> <p>2" ID Sch. 40 PVC Riser (2.5' ags - 12.0' bgs)</p> <p>Hydrated Bentonite Seal (7.0' - 10.0' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (12.0' - 22.0' bgs)</p> <p>#5 Well Sand Pack (10.0' - 22.0' bgs)</p>
1	0-5					4.5	0.0		CL	Yellow-brown CLAY, some Silt, and very fine to fine Sand, trace Plant debris and Roots, some staining at depth, no odor, medium stiff, damp to moist.		
2	5-10					5.0	0.0		SP	Yellow-brown fine SAND, trace medium to coarse Sand, few fine Gravel, no odor, loose, damp to moist.		
3	10-15					5.0	0.0 38.5 70.4			Thin ( 1" ) layer of orange stained yellow-brown wet Silt at 12.0' bgs. Gray fine SAND, trace medium to coarse Sand, few fine Gravel, light sheen, odor, loose, damp to moist.		
4	15-20					5.0	27.4				Saturated at 15.0' bgs, no sheen below 15.5' bgs.	



**Remarks:**  
 a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
 Soil samples collected from 0.0' - 2.0', 8.0' - 10.0' and 12.0' - 14.0' bgs for VOCs, SVOCs, PCBs and metals.

Water Level Data		
Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Well/Boring ID: RFI-36-53

Borehole Depth: 25' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
4		15-20				5.0	0.0			SP	Gray fine SAND, trace medium to coarse Sand, few fine Gravel, light sheen, odor, loose, damp to moist.	
20-20						0.0						
5		20-25				5.0	0.0					
25-25												
30-30												
35-35												



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
Soil samples collected from 0.0' - 2.0', 8.0' - 10.0' and 12.0' - 14.0' bgs for VOCs, SVOCs, PCBs and metals.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 7/14/2005  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-55 ATV

Northing: 568514.95  
 Easting: 13307769.87  
 Casing Elevation: 756.98' AMSL  
 Borehole Depth: 20' below grade  
 Surface Elevation: NA  
 Descriptions By: R. Tuttle

Well/Boring ID: RFI-36-54  
 Client: General Motors  
 Location: General Motors NAO Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample Interval/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											Cement Surface Pad with Stick-up Protective Casing
1	0-2	0-2		2 7 14 6	21	1.0	0.0		SP		Brown (10YR 4/3) fine POORLY GRADED SAND (SP), 3"-thick lense of white (10YR 8/1) Fill material from 0.25' - 0.5' bgs, Roots, loose, dry.	#5 Well Sand Pack (0 - 1.0' bgs)
2	2-4	2-4		2 11 9 7	20	1.25	0.0				Black (10YR 2/1) fine POORLY GRADED SILTY SAND (SM), few Clay, loose to medium dense, no odor, dry. [FILL]	2" ID Sch. 40 PVC Riser (2.0' ags - 10.0' bgs)
3	4-6	4-6		2 6 8 8	14	1.0	0.0				Few Slag below 4.0' bgs.	Hydrated Bentonite Seal (1.0' - 8.0' bgs)
4	6-8	6-8		5 5 3 3	8	1.0	0.0				Trace Slag below 6.0' bgs.	
5	8-10	8-10		1 2 3 2	5	0.75	0.0	+	SM			
6	10-12	10-12		2 3 3 2	6	1.5	0.0	+				#5 Well Sand Pack (8.0' - 20' bgs)
7	12-14	12-14		2 3 4 1	7	0.5	0.0	+			Wood debris in shoe from 12' - 14' bgs.	2" ID Sch. 40 0.010" Slot PVC Screen (10' - 20' bgs)
8	14-16	14-16		1 2 3 1	5	1.0	1.7	+			Slight fuel-like odor, moist below 14' bgs.	



**Remarks:**  
 bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Available/Not Applicable.  
 Soil samples RFI-36-54 (0-2), RFI-36-54 (8-10), and RFI-36-54 (14-16) collected for laboratory analysis.

Water Level Data		
Date	Depth	Elev.

**Client:**

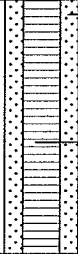
General Motors

**Well/Boring ID:** RFI-36-54

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 20' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
9		16-18		1 2 5 6	7	1.5	6.8	+		SP	Gray-brown fine POORLY-GRADED SAND (SP), slight fuel-like odor, loose, wet. 3"-thick lense of Lean Clay below 16.9' bgs.	 <p>#5 Well Sand Pack (8.0' - 20' bgs)</p> <p>2" ID Sch. 40 0.010" Slot PVC Screen (10' - 20' bgs)</p>
10		18-20		2 4 5 6	9	1.25	0.0					
20-20												
25-25												
30-30												
35-35												



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.

Soil samples RFI-36-54 (0-2), RFI-36-54 (8-10), and RFI-36-54 (14-16) collected for laboratory analysis.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 7/1/2005 <b>Drilling Company:</b> Altech Inc. <b>Driller's Name:</b> Daniel Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" <b>Rig Type:</b> CME-55 Tractor-Mount	<b>Northing:</b> 56393.96 <b>Easting:</b> 13307682.80 <b>Casing Elevation:</b> 750.49' AMSL  <b>Borehole Depth:</b> 18' below grade <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Kristina Gross	<b>Well/Boring ID:</b> RFI-36-55  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											<p>Cement surface pad with stick-up protective casing.</p> <p>Hydrated Bentonite Seal (1.3' - 5' bgs)</p> <p>2" ID Sch. 40 PVC Riser (1.5' ags - 7' bgs)</p> <p>#5 Well Sand Pack (5' - 17' bgs)</p> <p>2" ID Sch. 40 0.010" Slot PVC Screen (7' - 17' bgs)</p>
		1	0-2	2 2 3 3	5	1.4	110				Brown fine SAND (SP), trace fine Gravel, Organics (Roots, Wood), and Cinders, loose, dry.	
		2	2-4	3 3 3	6	1.0	4.6				Brown fine SAND (SP), loose, dry.	
-5	-5	3	4-6	3 4 4	7	0.6	23.7				Orangish-brown fine SAND (SP), loose, moist.	
		4	6-8	2 2 3	5	1.0	2.2					
		5	8-10	3 4 4	7	1.0	4.9			SP		
10	-10	6	10-12	3 3 3	6	1.4	2.0				Wet at 10' bgs.	
		7	12-14	1 1 1 1	2	1.7	3.0					
-15	-15	8	14-16	1 2 2	5	1.6	2.6					

<p><b>BBL</b><sup>®</sup>          BLASLAND, BOUCK &amp; LEE, INC.  <i>engineers, scientists, economists</i></p>	<b>Remarks:</b> ags = above ground surface; bgs = below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.  Soil samples RFI-36-55(0-2) and RFI-36-55(8-10) collected for PAL analysis.	<b>Water Level Data</b>															
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.												
Date	Depth	Elev.															

**Client:**

General Motors

**Well/Boring ID:** RFI-36-55

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 18' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	2 2 2 2	4	1.0	NA		ML		Light pinkish-gray SILT (ML), medium stiff, wet.	<p>#5 Well Sand Pack (5' - 17' bgs) 2" ID Sch. 40 0.010" Slot PVC Screen (7' - 17' bgs) Formation Collapse (17' - 18' bgs)</p>
20-20											End of boring at 18' bgs.	
25-25												
30-30												
35-35												



**Remarks:**

ags = above ground surface; bgs = below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.

Soil samples RFI-36-55(0-2) and RFI-36-55(8-10) collected for PAL analysis.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 7/13/2005  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-55 ATV

Northing: 568053.65  
 Easting: 13307581.90  
 Casing Elevation: 749.97' AMSL  
 Borehole Depth: 18' below grade  
 Surface Elevation: NA  
 Descriptions By: R. Tuttle

Well/Boring ID: RFI-36-56  
 Client: General Motors  
 Location: General Motors NAO Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
1		0-2	NA	NA	1.5	1.5			SP	[Pattern]	Dark gray-brown (10YR 3/2) POORLY-GRADED SAND (SP), Roots, loose, no odor, dry.	Cement Surface Pad with Stick-up Protective Casing
2		2-4		4 4 4 3	8	1.25	1.6		SM	[Pattern]	Yellow-brown (10YR 5/4) fine POORLY-GRADED SILTY SAND (SM), loose, no odor, dry.	#5 Well Sand Pack (0 - 2.0' bgs) 2" ID Sch. 40 PVC Riser (2.0' ags - 7.0' bgs)
5	-5	3	4-6	2 2 4 5	6	1.25	1.6			[Pattern]	Brown-yellow (10YR 6/8) fine to medium POORLY-GRADED SAND (SP), loose, no odor, dry.	Hydrated Bentonite Seal (2.0' - 5.0' bgs) #5 Well Sand Pack (5.0' - 17' bgs)
4		4	6-8	1 4 4 3	8	1.5	1.5			[Pattern]	Light brown-yellow (10YR 6/4) color below 6.0' bgs.	
5		5	8-10	1 3 2 1	5	1.0	0.0			[Pattern]	Saturated below 8.0' bgs.	2" ID Sch. 40 0.010" Slot PVC Screen (7.0' - 17' bgs)
10-10		6	10-12	1 1 1	2	1.75	0.0		SP	[Pattern]		
7		7	12-14	1 - -	NA	2.0	0.0			[Pattern]		
15-15		8	14-16	NA NA	NA	0.75	0.0			[Pattern]		



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Available/Not Applicable.

**Water Level Data**




Date	Depth	Elev.

**Client:**  
General Motors

**Well/Boring ID:** RFI-36-56

**Site Location:**  
General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 18' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	2 2 2 2	4	1.5	0.0		SP		Gray (10YR 5/1) fine to medium POORLY-GRADED SAND (SP), loose, no odor, saturated.	 <p>#5 Well Sand Pack (5.0' - 17' bgs)</p> <p>2" ID Sch. 40 0.010" Slot PVC Screen (7.0' - 17' bgs)</p>
									CL		Gray (10YR 5/1) LEAN CLAY with Silt (CL), trace fine subrounded Gravel, soft, highly plastic, no odor, saturated.	
20-20											End of boring at 18' bgs.	
25-25												
30-30												
35-35												



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level;  
NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 2/24/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID <b>Auger Size:</b> 4-1/4" <b>Rig Type:</b> CME 85	<b>Northing:</b> 561463.32 <b>Easting:</b> 13305814.71 <b>Casing Elevation:</b> 735.17 ft. AMSL  <b>Borehole Depth:</b> 15' bgs <b>Surface Elevation:</b> 735.63 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-40-10R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	735								FL	CONCRETE.			Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		1-3		12	57	2	0.0	-	SM		Brown (10YR 5/3) fine to coarse subangular POORLY GRADED SILTY SAND (SM), few fine to coarse subrounded Gravel, few Clay, aplastic, very dense, no odor, dry. Fill Sand.	SILTY SAND	Grout (0.5' - 1.5' bgs)
2		3-5		7	13	1.8	0.0	-			Dark brown (10YR 3/3) to yellow-brown (10YR 5/4), mottled with black (10YR 2/1) patches, SILTY LEAN CLAY (CL), few to little fine to coarse subrounded to rounded Sand, few to trace fine to coarse subrounded to rounded Gravel and Cinders (up to 2"-thick throughout), weakly plastic, moderately stiff, no odor, dry. Native Clay Till used as Backfill.		2" ID Sch. 40 PVC Riser (0' - 5.0' bgs)
3		5-7		2	4	0.8	0.0	-	CL		3"-thick saturated Clayey poorly graded Sand (SC) lense, some Silt, medium dense to loose, no odor at 6.7' bgs.		Hydrated Bentonite Seal (1.5' - 3.0' bgs)
4		7-9		4	70	1.7	0.0	-			2"-thick saturated Silty fine to coarse subrounded poorly graded Sand (SM) lense, little Clay, no Cinders, occasional gray (10YR 5/1) streaks and mottling, no odor, medium dense at 7.9' bgs.		#5 Well Sand Pack (3.0' - 15' bgs)
5	730										Brick debris at 4.8' bgs.		
6		11-13		6	16	2	0.0	-	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above, few fine to coarse subrounded to rounded Sand, trace fine to medium rounded Gravel, weakly plastic, stiff, no odor, damp to dry. Saturated Silt/Sand lenses present throughout up to 3"-thick. Undisturbed Native Glacial Clay Till.		2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)
7		13-15		6	18	1.9	0.0	-			4"-thick saturated Silty Sand lense at 14.7' bgs.		
10	725												
15	720												

**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Not Available.

Water Level Data		
Date	Depth	Elev.
2/24/03	6.7'	

<b>Date Start/Finish:</b> 2/17/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 561242.54 <b>Easting:</b> 13305911.00 <b>Casing Elevation:</b> 730.82 ft. AMSL  <b>Borehole Depth:</b> 13' bgs <b>Surface Elevation:</b> 731.22 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-40-11  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows /6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0										FL	ASPHALT. CONCRETE.	FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
730		1	1-3	25 30 14 11	44	2.0	0.0	-	ML	ML	Black (10YR 2/1) SILT (ML), some Clay, few to locally some fine subrounded to rounded poorly graded Sand, little Cinders, Ashes, and fine Metallic debris to 2.2' bgs, aplastic, very dense, no odor, dry. FILL. Yellow-brown (10YR 5/4) rare Cinders, Ashes, and fine Metallic debris below 2.2' bgs. Black (10YR 2/1) Cinders present below 3.0' bgs.	SILT	Grout (0.5' - 3.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 7.0' bgs)
		2	3-5	2 2 4 3	6	1.6	0.0	-	SM	SM	Brown (10YR 5/3) fine to coarse subrounded to rounded fine to medium WELL GRADED SILTY SAND (SM), little Clay, aplastic, loose, no odor, moist. FILL.	SILTY SAND	Hydrated Bentonite Seal (3.0' - 5.0' bgs)
5		3	5-7	2 2 4 5	6	1.6	0.0	-	CL	CL	Yellow-brown (10YR 5/4) SILTY LEAN CLAY (CL), few fine to coarse rounded to subrounded Sand, trace fine to coarse rounded Gravel, weakly plastic, very stiff to hard, no odor, damp. Unidsturbed Native Clay Till.	SILTY CLAY	#5 Well Sand Pack (5.0' - 13' bgs)
		4	7-9	6 6 9 12	15	2.0	0.0	-	CL	CL	Gray (10YR 5/1) saturated Silty Sand and Silt lenses throughout up to 3" thick at 8.0' bgs.		
10		5	9-11	2 4 13 15	24	2.0	0.0	-	CL	CL	No saturated lenses, Oxidation to yellow-brown (10YR 6/4) along fractures and fracture selvages in Till, dry below 9.0' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 12' bgs)
720		6	11-13	10 17 23 25	40	0.7	0.0	-	CL	CL	Till is dry with no evidence of oxidation below 12' bgs.		
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer Samples collected from 0.9' - 2.9' & 4.9' - 6.9' for PAL VOCs.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		2/17/03	8.0'	

<b>Date Start/Finish:</b> 3/24/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 45B	<b>Northing:</b> 561595.58 <b>Easting:</b> 13305941.02 <b>Casing Elevation:</b> 732.71 ft. AMSL  <b>Borehole Depth:</b> 23' bgs <b>Surface Elevation:</b> 732.96 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-40-12  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
735													
0													Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		1-3		5	16	0.5	0.0	-	ML	[Pattern]	Brown (10YR 5/3) SILT (ML), some fine to coarse subangular to subrounded Sand, little Clay, few fine to coarse rounded Gravel, Aggregate, Rubble, and Building debris present throughout, aplastic, no odor, medium dense, moist with rainfall. Fill and Building debris and Rubble.	SILT	2" ID Sch. 40 PVC Riser (0' - 12' bgs)
2		3-5		8	14	1.0	0.0	-	SM	[Pattern]	Yellow-brown (10YR 5/4) fine subangular POORLY GRADED SILTY SAND (SM), little Clay, aplastic, no odor, medium dense, damp. Fill Sand.	SILTY SAND	Tremmed Grout (0.6' - 7.9' bgs)
3		5-7		4	16	2.0	0.0	-	CL	[Pattern]	Yellow-brown (10YR 5/4) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine to medium rounded Gravel, plastic, soft becoming medium stiff, no odor, damp. Native Clay Till used as Backfill.	SILTY CLAY	Hydrated Bentonite Seal (7.9' - 10' bgs)
4		7-9		7	19	2.0	0.0	-					
5				9	16	2.0	23.8	-	CL	[Pattern]	3"-thick Silt lens, wet at 11.5' bgs.	SILTY CLAY	#5 Well Sand Pack (10' - 22' bgs)
6		11-13		9	33	2.0	18	-					
7		13-15		6	17	2.0	2056	+	CL	[Pattern]	Yellow-brown (10YR 5/4) SILTY LEAN CLAY (CL) as above, but homogenous. Undisturbed Native Glacial Clay Till.	SILTY CLAY	2" ID Sch. 40 PVC 0.010" Slotted Screen (12' - 22' bgs)
8		15-17		8	17	2.0	2056	+					
15				5	12	1.0	1524	+	SP	[Pattern]	Gray (10YR 5/1) to black (10YR 2/1) fine subangular POORLY GRADED SAND (SP), Oily material present, moderate to strong odor, saturated. Alluvial-Riverine.	SAND	



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 0 - 2.0', 8.0' - 10', 12' - 14' bgs.

Water Level Data		
Date	Depth	Elev.
3/24/03	14.8	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-40-12  
Borehole Depth: 23' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
715		8	15-17	6 4	12	1.0	1524	+	SP		Gray (10YR 5/1) to black (10YR 2/1) fine subangular POORLY GRADED SAND (SP), little Silt, trace fine to coarse rounded Gravel, aplastic, loose, Oily material present, moderate to strong odor, saturated. Alluvial-Riverine.	↑ SAND	
		9	17-19	6 7 9	13	1.7	1846	+					
20		10	19-21	3 7 10	17	1.8	2070	+	SM		Fining downward, increased Silt content becoming Silty Sand (SM) at 20' bgs.	↓ SILTY SAND	
		11	21-23	H 2 5 6	7	1.7	2049	+					
710													
25													
705													
30													
700													
35													



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.  
Samples collected from 0 - 2.0', 8.0' - 10', 12' - 14' bgs.

Water Level Data		
Date	Depth	Elev.
3/24/03	14.8	

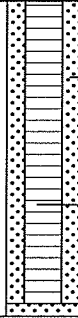
<b>Date Start/Finish:</b> 9/2/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> NA <b>Easting:</b> NA <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 21' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-40-12R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										No Samples collected. See log for RFI-40-12 (3/24/03) for Lithology.		
5	-5												
10	-10												
15	-15												

	<b>Remarks:</b> bgs = below ground surface.	<b>Water Level Data</b>													
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.										
Date	Depth	Elev.													

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Boring ID: RFI-40-12R  
 Borehole Depth: 21' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
20-20											No Samples collected. See log for RFI-40-12 (3/24/03) for Lithology.		 <p>#5 Well Sand Pack (8.7' - 21' bgs)            2" ID Sch. 40 PVC 0.010" Slotted Screen (10.8' - 20.8' bgs)</p>
25-25													
30-30													
35-35													



Remarks: bgs = below ground surface.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/25/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 561635.06 <b>Easting:</b> 13305982.55 <b>Casing Elevation:</b> 731.92 ft. AMSL  <b>Borehole Depth:</b> 19.5' bgs <b>Surface Elevation:</b> 732.88 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-40-13  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
735													
0									FL	ASPHALT.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		0-2		4	9	1.1	0.0	-	SM	Coarse angular POORLY GRADED GRAVEL (GP) Aggregate, loose, no odor. Aggregate.	SILTY SAND	2" ID Sch. 40 PVC Riser (0' - 9.0' bgs)	
2	730	2-4		4	6	1.7	0.0	-	SM	Black (10YR 2/1), yellow-brown (10YR 5/4) color at 1.3' bgs, fine to coarse subangular to subrounded WELL GRADED SILTY SAND (SM), little to few Clay, few fine to coarse rounded Gravel, aplastic, no odor, loose, damp. Fill.		Grout (1.0' - 5.0' bgs)	
3	5	4-6		3	13	1.6	0.0	-		Brown (10YR 5/3) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, occasional rounded fine Gravel, weakly plastic, medium stiff, no odor, dry. Native Clay Till used as Backfill.		Hydrated Bentonite Seal (5.0' - 7.0' bgs)	
4		6-8		3	11	2.0	0.0	-		Pale olive- green color at 7.6' bgs.			
5	725	8-10		5	17	2.0	8.7	-		Brown (10YR 5/3) color, occasional 6"-thick Silt lenses, moist throughout below 9.0' bgs.			
6	10	10-12		7	30	2.0	23.2	-	CL	Gray (10YR 5/1) SILTY LEAN CLAY (CL), as above but homogenous. Undisturbed Native Clay Till.		#5 Well Sand Pack (7.0' - 19' bgs)	
7	720	12-14		11	46	2.0	58.4	-		Saturated Silt lense, oxidized to yellow-brown (10YR 5/4) from 14.8' - 15.6' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (9.0' - 19' bgs)	
8	15	14-16		4	10	1.3	2457	+					



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 0.5 - 2.5', 8.5' - 10.5', 12.5' - 14.5' bgs.  
 Duplicate sample DUP-422 collected from 8.5' - 10.5' bgs.

**Water Level Data**

Date	Depth	Elev.
3/25/03	14.8	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-40-13  
Borehole Depth: 19.5' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
715		9	16-18	2 4 15 33	19	1.5	1676	+	SM	[Symbol]	Black (10YR 2/4) to gray (10YR 5/1) POORLY GRADED SILTY SAND (SM), little Clay, few fine rounded Gravel, Oily material/liquid present (Oil is occasionally lighter and nearly clear and then black - possibly more than one oil), aplastic, strong odor, saturated. Alluvial/Riverine	SILTY SAND	#5 Well Sand Pack (7.0' - 19' bgs)
		10	18-19.5	12 40 50	90	0.5	943	+	SC	[Symbol]	Gray (10YR 5/1) fine to coarse subangular WELL GRADED SAND with CLAY (SC), little to some Silt, few fine to coarse rounded Gravel, aplastic, moderate to strong odor, very dense, damp. Glacio-Alluvial. Large Cobble/Pebble causing high blow counts and low recovery below 18' bgs.	SAND w/ CLAY	2" ID Sch. 40 PVC 0.010" Slotted Screen (9.0' - 19' bgs)
20													
710													
25													
705													
30													
700													
35													



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.  
Samples collected from 0.5 - 2.5', 8.5' - 10.5', 12.5' - 14.5' bgs.  
Duplicate sample DUP-422 collected from 8.5' - 10.5' bgs.

**Water Level Data**

Date	Depth	Elev.
3/25/03	14.8	

<b>Date Start/Finish:</b> 3/25/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 561681.48 <b>Easting:</b> 13305991.21 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 22' bgs <b>Surface Elevation:</b> 732.45 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-40-14 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
735													
0									FL	ASPHALT.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		0-2		3	6	1.0	0.0	-	SM	Coarse angular POORLY GRADED GRAVEL (GP) Aggregate, loose, no odor, dry. Aggregate.		SILTY SAND	2" ID Sch. 40 PVC Riser (0' - 10' bgs)
2	730	2-4		2	4	1.6	0.0	-	SM	Black (10YR 2/1), yellow-brown (10YR 5/4) at 2.0' bgs, fine to coarse WELL GRADED SILTY SAND (SM), few Clay, few fine to coarse subrounded to rounded Gravel, aplastic, no odor, loose, damp. Fill.		SILTY SAND	Grout (0.6' - 6.4' bgs)
3	5	4-6		3	4	1.5	0.0	-	CL	Yellow-brown (10YR 5/4) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, rare fine rounded Gravel, lenses of Silt or Silty Sand up to 3"-thick throughout, moderately to weakly plastic, no odor, damp to dry. Native Clay Till used as Backfill.		SILTY CLAY	Hydrated Bentonite Seal (6.4' - 9.0' bgs)
4	725	6-8		2	8	1.7	0.0	-	CL	Moist to wet at 5.7' bgs. 2"-thick fine subangular poorly graded Silty Sand (SM) lense, aplastic, loose, no odor, saturated at 7.0' bgs. 2"-thick Silty Sand (SM) lense, saturated at 7.5', 7.8', and 8.0' bgs. Dry below 8.0' bgs.		SILTY CLAY	#5 Well Sand Pack (9.0' - 20' bgs)
5		8-10		3	25	2.0	0.0	-	CL			SILTY CLAY	
6	10	10-12		4	57	2.0	0.0	-	CL			SILTY CLAY	
7	720	12-14		11	40	2.0	0.0	-	CL	Yellow-brown (10YR 5/4) SILTY LEAN SAND (CL) as above from 3.4' - 12' bgs, but homogenous, weakly plastic, very stiff to hard, dry. Undisturbed Native Clay Till.		SILTY CLAY	2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)
8	15	14-16		16	84	1.7	0.0	-	SW	Gray (10YR 5/1) fine to coarse subangular to rounded WELL GRADED SAND (SW), increased maturity with grain size, little to some Silt, little Clay, few fine to coarse rounded Gravel, very dense, no odor, moist to wet. Glacio-Alluvial.		Sand	



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 0.5 - 2.5' & 4.5' - 6.5' bgs.

**Water Level Data**

Date	Depth	Elev.
3/25/03	16.5	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-40-14

Borehole Depth: 22' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
71.5		9	16-18	11 18 37 44	55	2.0	0.0	-	SW		Gray (10YR 5/1) fine to coarse subangular to rounded WELL GRADED SAND (SW), increased maturity with grain size, little to some Silt, little Clay, few fine to coarse rounded Gravel, very dense, no odor, moist to wet, saturated ta 16.5' bgs. Glacio-Alluvial.  Low recovery due to stones in shoe at 18' bgs.	↑ SAND ↓	<p>#5 Well Sand Pack (9.0' - 20' bgs)  2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)</p>
20		10	18-20	12 21 17 15	38	0.3	0.0	-					
		11	20-22	5 11 12 22	28	1.8	0.0	-	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above from 2.0' - 14.5' bgs, but homogenous, hard to very stiff, damp. Undisturbed Native Glacial Clay Till.	SILTY CLAY	
71.0													
25													
70.5													
30													
70.0													
35													



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.  
Samples collected from 0.5 - 2.5' & 4.5' - 6.5' bgs.

**Water Level Data**

Date	Depth	Elev.
3/25/03	16.5	

<b>Date Start/Finish:</b> 4/3/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 561684.55 <b>Easting:</b> 13305997.94 <b>Casing Elevation:</b> 732.18 ft. AMSL  <b>Borehole Depth:</b> 23' bgs <b>Surface Elevation:</b> 732.56 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-40-15  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
735													
0													Cement pad with 9" diam. cast iron/tin skirted flushmount cover
		NA	0-2	NA	NA	NA	NA	NA	ML	x x x x	Brown (10YR 5/3) FILL consisting of SILT (ML) and BUILDING RUBBLE, aplastic, loose, no odor, moist with rainfall/snow melt. Rubble	FILL	Grout (0.5' - 8.2' bgs)
									GP	○ ○ ○ ○	Coarse to pebble-sized angular GRAVEL AGGREGATE (GP), loose, no odor, moist.	GRAVEL	2" ID Sch. 40 PVC Riser (0' - 13' bgs)
730		1	2-4	3 4	8	1.9	0.0	-			Gray-brown (10YR 5/3) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, moderately plastic, no odor, soft, moist. Native Clay Till used as Backfill.		
5		2	4-6	3 4	8	1.7	0.0	-			Occasional Silt and Silty Sand lenses up to 1"-thick throughout, increased stiffness with depth below 5.0' bgs.		
		3	6-8	3 4 6 8 10 13	18	2.0	0.0	-	CL			SILTY CLAY	
725		4	8-10	4 9 13 13	24	1.7	0.0	-			Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above, homogenous, damp. Undisturbed Native Glacial Clay Till.		Hydrated Bentonite Seal (8.2' - 11' bgs)
10		5	10-12	2 7 12 13	19	2.0	0.0	-					
720		6	12-14	2 13 13 15	26	2.0	0.0	-					#5 Well Sand Pack (11' - 23' bgs)
15		7	14-16	5 16 21 23	37	1.9	0.0	-	ML		Gray (10YR 5/1) SILT (ML), some to little Clay, homogenous, no odor, aplastic, dense, dry. Glacio-Alluvial.	SILT	2" ID Sch. 40 PVC 0.010" Slotted Screen (13' - 23' bgs)



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 2.0' - 4.0', 8.0' - 10', & 14' - 16' bgs.

Water Level Data		
Date	Depth	Elev.
4/3/03	17'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-40-15  
Borehole Depth: 23' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
715		8	16-18	3 4 5 6	9	1.8	0.0	-	ML		Gray (10YR 5/1) SILT (ML), some to little Clay, homogenous, no odor, aplastic, dense, dry. Glacio-Alluvial. Saturated at 17' bgs.	SILT	#5 Well Sand Pack (11' - 23' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (13' - 23' bgs)
20		9	18-20	3 7 8 10	15	1.5	0.0	-	ML				
		10	20-22	3 4 8 11	12	1.3	0.0	-	SP		Brown-gray (10YR 5/3) fine to coarse, predominantly fine, subangular to subrounded POORLY GRADED SAND (SP), little Silt, increased maturity with increased grain size, medium loose, aplastic, no odor, saturated. Alluvial/Riverine. Coarsens to fine to medium, occasional fine to coarse rounded Gravel, possible Shell fragments below 20' bgs.	SAND	
710													
25													
705													
30													
700													
35													



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.  
Samples collected from 2.0' - 4.0', 8.0' - 10', & 14' - 16' bgs.

**Water Level Data**

Date	Depth	Elev.
4/3/03	17'	

Date Start/Finish: 8/24/04  
 Drilling Company: Prosonic  
 Driller's Name: Don Bond  
 Drilling Method: Direct Push  
 Sampler Size: 5' Macrocore  
 Auger Size: 4-1/4" ID  
 Rig Type: CME 85

Northing: 561595.58  
 Easting: 13305926.02  
 Casing Elevation: NA

Well/Boring ID: RFI-40-16

Client: General Motors

Borehole Depth: 9.5' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Flint, Michigan

Descriptions By: Wayne Patterson

DEPTH	ELEVATION	Sample Run Number	Sample/int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
1	0-5	NA	NA	2.5	NA	NA			FL	<p>FILL consisting of Clay, Gravel, and building debris.</p>	<p>Borehole backfilled with Soil Cuttings to grade.</p>	
									CONCRETE.			
5	-5								ML	<p>Very dark gray (10YR 3/1) fine SANDY SILT (ML), no odor, dry.</p>		
2	5-9.5	NA	NA	4.0	NA	NA			FL	<p>FILL consisting of Gravel, Asphalt, few Sand.</p>		
									CL	<p>Dark gray (10YR 4/1) and dark yellow-brown (10YR 4/4) mottled LEAN CLAY with Silt (CL), no odor, stiff, dry.</p>		
10-10												
15-15												



**Remarks:**

bgs = below ground surface; NA = Not Applicable/Not Available.  
 Soil sample collected from 0.0' - 2.0' bgs.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 8/24/04  
 Drilling Company: Prosonic  
 Driller's Name: Don Bond  
 Drilling Method: Direct Push  
 Sampler Size: 5' Macrocore  
 Auger Size: 4-1/4" ID  
 Rig Type: CME 85

Northing: 561580.58  
 Easting: 13305941.02  
 Casing Elevation: NA  
 Borehole Depth: 7.0' bgs  
 Surface Elevation: NA  
 Descriptions By: Wayne Patterson

Well/Boring ID: RFI-40-18  
 Client: General Motors  
 Location: GM Flint  
 Flint, Michigan





DEPTH	ELEVATION	Sample Run Number	Sample/int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
1	0.4	04	NA	NA	3.0	0.0	NA		FL		GRAVEL FILL, some Clay and building debris.	Borehole backfilled with Soil Cuttings to grade.
									ML		Black (10YR 2/1) SILT (ML), few Clay, no odor, damp.	
5	-5	2	4-7	NA	NA	3.0	0.0	NA	SM		3"-thick dark gray (10YR 4/1) and dark yellow-brown (10YR 4/4) mottled Clay layer at 4.5' bgs. Very dark gray (10YR 3/1) fine to medium SILTY SAND (SM), no odor, dense, wet. [FILL]	
									CL		Dark gray (10YR 4/1) and dark yellow-brown (10YR 4/4) mottled LEAN CLAY and Silt (CL), stiff, no odor, damp.	
10-10												
15-15												



**Remarks:**  
 bgs = below ground surface; NA = Not Applicable/Not Available.  
 Soil sample collected from 0.0' - 2.0' bgs.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 12/16/04 <b>Drilling Company:</b> EDAC <b>Driller's Name:</b> B. Emerick <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID <b>Auger Size:</b> 4-1/4" <b>Rig Type:</b> CME 85	<b>Northing:</b> 561512.95 <b>Easting:</b> 13305898.67 <b>Casing Elevation:</b> 735.77' AMSL  <b>Borehole Depth:</b> 5' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> David Straccia	<b>Boring ID:</b> RFI-40-19  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
0	0											
		1	0-2	6 6 4 4	10	1.0	NA	(-)			CONCRETE.	
		2	2-4	8 6 6 5	12	1.5	NA	(+)	SM		Brown-black SILTY SAND, fine to coarse SAND, trace Clay, no odor, moist. Shake test indicated no sheen.	Borehole backfilled with cement-bentonite grout to grade.
		3	4-5	8 8	NA	1.0	NA	(+)			Black SILTY SAND, fine to coarse Sand, little Clay, strong odor, wet. Shake test indicated a sheen.	
											Black SILTY SAND, fine Sand, little to some Clay, very strong odor. Shake test indicated a sheen.	
5	5											
10-10												
15-15												



**Remarks:** bgs = below ground surface; AMSL = Above Mean Sea Level; NA = Not Applicable/Not Available.  
 Auger refusal at 5' bgs - could not drill further.  
 (+) = Sheen shown in oil/water Shake test.  
 (-) = NO sheen shown in oil/water Shake test

Water Level Data		
Date	Depth	Elev.

Date Start/Finish: 12/16/04  
 Drilling Company: EDAC  
 Driller's Name: Emerick  
 Drilling Method: Hollow Stem Auger  
 Sampler Size: 2" x 2" Split Spoon  
 Auger Size: 4-1/4" ID  
 Rig Type: CME-85

Northing: 561515.41  
 Easting: 13305874.30  
 Casing Elevation: 738.47' AMSL

Boring ID: RFI-40-20  
 Client: General Motors

Borehole Depth: 10.0' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Flint, Michigan

Descriptions By: David Straccia

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction	
0	0												
		1	0-2	8 4 2 2	6	0.2	NA	(-)	SW	CONCRETE. Brown well graded fine to coarse SAND, little Gravel and Silt, moist.			
		2	2-4	12 10 13 12	23	1.8	NA	(-)	CL	Brown well sorted fine to coarse SAND, little Gravel and Silt, wet. Olive-brown to green-white fine to coarse SAND, stiff, dry. Black Silty GRAVEL, fine to coarse SAND, sheen, odor, wet.			
5	-5	3	4-6	8 7 6 6	13	1.0	NA	(+)	GM CL	Black Silty GRAVEL, some fine to coarse Sand, sheen, odor, wet. Olive Silty CLAY, fine Sand, little fine to coarse Gravel, odor, moist.			
		4	6-8	6 6 4 5	10	1.0	NA	(+)	GM	Brown Silty fine to coarse SAND and GRAVEL, moist. Olive Silty CLAY, fine Sand, little fine to coarse Gravel, odor, moist.			
		5	8-10	8 8 8 9	16	1.8	NA	(-)	CL	Olive CLAY, stiff, dry to moist. Wet at 9.0' bgs.			
10-10													
15-15													



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 (+) = Sheen shown in oil/water Shake test.  
 (-) = No sheen shown in oil/water Shake test.

**Water Level Data**

Date	Depth	Elev.
12/22/04	7.05'	(TOC)

<b>Date Start/Finish:</b> 12/16/04 <b>Drilling Company:</b> EDAC <b>Driller's Name:</b> Emerick <b>Drilling Method:</b> Hollow Stem Auger <b>Sampler Size:</b> 2" x 2' Split Spoon <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 561541.30 <b>Easting:</b> 13305903.31 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 6.0' bgs <b>Surface Elevation:</b> 735.81' AMSL  <b>Descriptions By:</b> David Straccia	<b>Boring ID:</b> RFI-40-21  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
0												
735		NA	NA	NA	NA	NA	NA	(-)	NA		CONCRETE.	Borehole backfilled with cement-bentonite grout to grade.
				6					SP		Copper-brown poorly sorted fine SAND, dry.	
		1	0-2	10	18	0.5	NA	(+)	SM		Brown-black Silty fine to medium SAND, little Gravel, odor, dry. Shake test shows sheen.	
				8					CL		Brown CLAY, stiff, dry.	
		2	2-4	7	12	2.0	NA	(-)	SM		Brown-black Silty fine SAND, some Clay.	
5				4					SM		Black Silty fine SAND, sheen, moist to wet.	
730		3	4-5	NA	NA	1.0	NA	(-)				
				NA								
10												
725												
15												
720												

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers, scientists, economists</i>	<b>Remarks:</b> bgs = below ground surface; AMSL = Above Mean Sea Level; NA = Not Applicable/Not Available. Auger refusal at 5' bgs - could not drill further. (+) = Sheen shown in oil/water Shake test. (-) = No sheen shown in oil/water Shake test.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 12/17/04 <b>Drilling Company:</b> EDAC <b>Driller's Name:</b> Emerick <b>Drilling Method:</b> Hollow Stem Auger <b>Sampler Size:</b> 2" x 2' Split Spoon <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME-85	<b>Northing:</b> 561564.70 <b>Easting:</b> 13305892.16 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 6.0' bgs <b>Surface Elevation:</b> 735.82' AMSL  <b>Descriptions By:</b> David Straccia	<b>Boring ID:</b> RFI-40-22  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
0	0	NA	NA	NA	NA	NA	NA	NA	NA		CONCRETE.	
1	0-2	9	8	17	1.2	NA	(-)	SP			Brown poorly sorted fine SAND, dry.	Borehole backfilled with cement-bentonite grout to grade.
2	2-4	9	8	19	2.0	NA	(+)	SM			Black Silty fine SAND, sheen, odor, moist.	
5	-5	3	4-5	NA	NA	1.0	NA	NA				
10-10												
15-15												

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 engineers, scientists, economists

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 Auger refusal at 5' bgs.  
 (+) = Sheen shown in oil/water Shake test.  
 (-) = No sheen shown in oil/water Shake test.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 12/17/04 <b>Drilling Company:</b> EDAC <b>Driller's Name:</b> Emerick <b>Drilling Method:</b> Hollow Stem Auger <b>Sampler Size:</b> 2" x 2' Split Spoon <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME-85	<b>Northing:</b> 561501.30 <b>Easting:</b> 13305914.93 <b>Casing Elevation:</b> 732.32' AMSL  <b>Borehole Depth:</b> 10.0' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> David Straccia	<b>Well/Boring ID:</b> RFI-40-23  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sampler/mt/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction	
0	0												
		1	0-2	18 15 13 19	28	0.8	NA	(-)	SW		Dark brown well graded fine to coarse SAND, dry.		
				14 11 12 14	23	1.0	NA	(+)	SM		Brown well graded fine to coarse GRAVEL, dry. Brown Silty fine SAND, some Clay, odor, moist. Sheen at 3' bgs.		
		2	2-4	14 9 7 9	16	2.0	NA	(+)	SM		Brown CLAY, medium stiff, dry.		
5	-5	3	4-6	12 9 7 12	20	2.0	NA	(-)	CL		Brown fine to coarse SAND, some Gravel, sheen, odor, wet.		
		4	6-8	14 7 13 12	20	2.0	NA	(-)	CL		Brown Silty CLAY, stiff, dry.		
		5	8-10	11 12 17 15	29	2.0	NA	(-)	CL		Brown CLAY, trace fine to coarse Sand, stiff, dry.		
10	-10												
15	-15												

Borehole backfilled with cement-bentonite grout to grade.



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 NA = Not Applicable/Not Available. (+) = Sheen shown in oil/water Shake test. (-) = No sheen shown in oil/water Shake test.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 12/17/04 <b>Drilling Company:</b> EDAC <b>Driller's Name:</b> Emerick <b>Drilling Method:</b> Hollow Stem Auger <b>Sampler Size:</b> 2" x 2' Split Spoon <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME-85	<b>Northing:</b> 561478.91 <b>Easting:</b> 13305910.36 <b>Casing Elevation:</b> 731.96' AMSL  <b>Borehole Depth:</b> 12.0' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> David Straccia	<b>Well/Boring ID:</b> RFI-40-24  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	9 6 11	17	2.0	NA	(-)	SM		Brown-black Silty fine to coarse SAND, very slight sheen, strong odor, dry to moist.	Borehole backfilled with cement-bentonite grout to grade.
				11 13							Dark brown SILTY CLAY, soft, dry to slightly moist.	
		2	2-4	11 12 17	29	2.0	NA	(+)	CL		Olive Silty CLAY, sheen, stiff, strong odor, moist.	
				11 12 15							Dark brown to black well graded Gravel, some fine to coarse Sand, sheen, strong odor, wet.	
5	-5	3	4-6	11 11 15	23	2.0	NA	(+)	GW		Olive Clay, small Silty SAND lens, strong odor, dry.	
		4	6-8	9 8 10 10	18	1.8	NA	(-)			Olive-gray CLAY, orange-brown banding, stiff, dry.	
		5	8-10	6 4 4 6	8	2.0	NA	(-)	CL			
10-10				5 5 7 4	12	1.7	NA	(+)			Black-gray Silty CLAY, trace fine to coarse Sand, sheen, soft, strong odor, moist to wet.	
		6	10-12								Gray SILTY CLAY, moist.	
15-15												

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 NA = Not Applicable/Not Available. (+) = Sheen shown in oil/water Shake test. (-) = No sheen shown in oil/water Shake test.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 12/17/04, 12/22/04 <b>Drilling Company:</b> EDAC <b>Driller's Name:</b> Emerick <b>Drilling Method:</b> Hollow Stem Auger <b>Sampler Size:</b> 2" x 2' Split Spoon <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME-85	<b>Northing:</b> 561445.91 <b>Easting:</b> 13305902.84 <b>Casing Elevation:</b> 734.17' AMSL  <b>Borehole Depth:</b> 14.0' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> David Straccia	<b>Boring ID:</b> RFI-40-25  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
0	0								NA	ASPHALT.		Stickup surface completion.
1		0-2		10					NA	Black-brown SILTY CLAY, fine Sand, stiff, dry.		Cement/bentonite Grout (0.0' - 0.5' bgs)
2		2-4		11 9	20	2.0	NA	(-)	CL	Olive-brown-orange CLAY.		Bentonite Seal (0.5' - 4' bgs)
3	-5	4-6		12 15 19 17	34	2.0	NA	(-)	WG	Dark brown Gravel, some fine to coarse Sand, strong odor, wet.		2" PVC Riser (1' ags - 6' bgs)
4		6-8		12 7	16	2.0	NA	(-)	CL	Olive-orange Clay stiff, dry.		Sandpack (4' - 16' bgs)
5		8-10		12 4 4 7	8	2.0	NA	(-)	ML	Olive-brown SILT, trace Clay, no odor, dry.		0.010" Slot screen (6' - 16' bgs)
6	10-10	10-12		12 14 10 22 24	21	2.0	NA	(-)	ML			
7		12-13		10 17 22 19	32	1.0	NA	(-)	ML	Gray color at 13' bgs.		
15-15												Cap (16.0' - 16.1' bgs)



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 (-) = No sheen shown in oil/water Shake test.

**Water Level Data**

Date	Depth	Elev.
12/22/04	9.93'	(TOC)

<b>Date Start/Finish:</b> 12/21/04 <b>Drilling Company:</b> EDAC <b>Driller's Name:</b> <b>Drilling Method:</b> Hollow Stem Auger <b>Sampler Size:</b> 2" x 2' Split Spoon <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME-85	<b>Northing:</b> 561550.15 <b>Easting:</b> 13305915.98 <b>Casing Elevation:</b> 738.37' AMSL  <b>Borehole Depth:</b> 22.0' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> BTL	<b>Boring ID:</b> RFI-40-26  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
0	0											Stickup surface completion.
		NA	NA	NA	NA	NA	NA	NA	NA		CONCRETE from demolition. Drilled without sample collection.	Cement/bentonite Grout (0.0' - 0.5' bgs)
											CONCRETE, Gravel Asphalt.	Bentonite Seal (0.5' - 8' bgs)
5	-5	1	4-6	22	12	2.0	0.0	(-)	SM		Dark brown to black SAND and SILT.	2" PVC Riser (1' ags - 10' bgs)
				8							Light brown SANDY CLAY with gray mottles.	
				6							Dark brown to black SAND with Clay and Silt,	
				6							Brown CLAY, with gray mottles, stiff.	
		2	6-8	5	12	1.4	0.0	(-)	CL			
				7								
				10								
				6							No Recovery.	
				8								
		3	8-10	11	19	2.0	0.0	(-)	NA		Dark brown-gray CLAY with subangular Gravel.	Sandpack ( 8' - 22' bgs)
				12								
10-10				5							Brown CLAY with angular Gravel, some mottles, stiff.	
				9								
		4	10-12	12	21	2.0	0.0	(-)	CL		Brown CLAY, very stiff.	
				14								
				12							No Recovery.	
				12								
		5	12-14	15	27	0.0	0.0	(-)	NA			0.010" Slot screen (10' - 20' bgs)
				19								
				6							Brown CLAY, stiff.	
				14								
15-15		6	14-16	22	36	1.8	0.0	(-)	ML		Gray SILT, dry.	
				25								



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 (+) = Sheen shown in oil/water Shake test.  
 (-) = No sheen shown in oil/water Shake test.

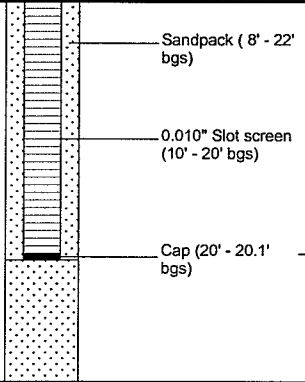
**Water Level Data**

Date	Depth	Elev.
12/22/04	17.19'	(TOC)

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-40-26

Borehole Depth: 22.0' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		7	16-18	15 17 12	29	1.5	0.0	(-)			Gray SILT, dry.  Clay and subangular Gravel, lense at 17.5' - 17.6' bgs	
20-20		8	18-20	6 8 13	21	1.6	0.0	(-)	ML	Gray SILT and CLAY, stiff, dry.  Gray SILT, trace Clay, wet.		
		9	20-22	6 8 13 24	21	1.6	0.0	(-)				
25-25												
30-30												
35-35												



Remarks: bgs = below ground surface. AMSL = Above Mean Sea Level; NA = Not Applicable/Not Available.  
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Water Level Data

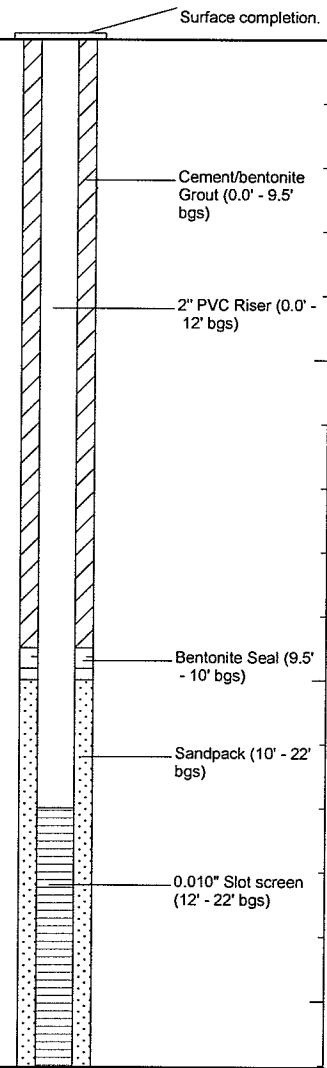
Date	Depth	Elev.
12/22/04	17.19'	(TOC)

Date Start/Finish: 12/21/04  
 Drilling Company: EDAC  
 Driller's Name: E. Kish  
 Drilling Method: Hollow Stem Auger  
 Sampler Size: 2" x 2' Split Spoon  
 Auger Size: 4-1/4" ID  
 Rig Type: CME-85

Northing: 561550.73  
 Easting: 13305974.85  
 Casing Elevation: 731.71' AMSL  
 Borehole Depth: 22.0' bgs  
 Surface Elevation: NA  
 Descriptions By: BTL

Boring ID: RFI-40-27  
 Client: General Motors  
 Location: GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
0	0										ASPHALT.	
1		0-2		10	14	1.0	0.0	(-)	NA		Reddish-brown coarse SAND and GRAVEL.	
				8					SW		Dark brown fine SAND, with rounded Gravel, moist.	
				6					SM		Fine to medium SAND and SILT, wet.	
2		2-4		4	15	1.5	0.0	(-)	CL		Brown CLAY, with gray mottles, stiff.	
				7					CL			
				8					SM		SAND and SILT, loose, saturated.	
5	-5	3	4-6	6	13	1.8	0.0	(-)	CL		Brown CLAY, with gray mottles, stiff.	
				9					CL			
				4					CL		Brown CLAY, with gray and red mottles, trace rounded Gravel.	
				6					CL			
				9	15	2.0	0.0	(-)	CL		Brown CLAY, with gray and red mottles, stiff.	
				8					CL			
				14					CL		Gray-brown CLAY, stiff, dry.	
10-10		6	10-12	11	26	2.0	0.0	(-)	SM		Gray SILT and CLAY, trace red mottles, trace rounded Gravel, dry.	
				15					SM			
				29					SM		Gray SILT and CLAY, with rounded Gravel, dry.	
				9					SM			
				16	37	1.5	0.0	(-)	SM		Gray SILT with Clay, trace Gravel, dry.	
				21					SM			
				27					SM			
				7					SM			
				11	30	1.2	0.0	(-)	SM		Gray SILT with Clay, trace Gravel, dry.	
				19					SM			
				20					SM			
15-15		8	14-16	5	17	1.5	0.0	(-)	SM		Gray SILT with Clay, trace Gravel, red mottles, moist.	
				8					SM			
				9					SM			
				13					SM			



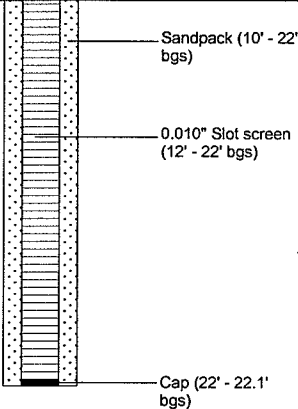
Remarks: bgs = below ground surface. AMSL = Above Mean Sea Level; NA = Not Applicable/Not Available.  
 (+) = Sheen shown in oil/water Shake test.  
 (-) = No sheen shown in oil/water Shake test.

Water Level Data		
Date	Depth	Elev.
12/22/04	9.50'	(TOC)

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-40-27

Borehole Depth: 22.0' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		9	16-18	11 10 8	18	1.7	0.0	(-)			Gray SILT with Clay, trace Gravel, dry. Moisture increases with depth.	
				5 4						Saturated at 18' bgs.		
20-20		10	18-20	7	11	2.0	0.0	(-)	SM	Brown coarse SAND, saturated.		
				6								
		11	20-22	6 5 5	11	2.0	0.0	(-)				
25-25												
30-30												
35-35												



Remarks: bgs = below ground surface. AMSL = Above Mean Sea Level; NA = Not Applicable/Not Available.  
(+) = Sheen shown in oil/water Shake test.  
(-) = No sheen shown in oil/water Shake test.

**Water Level Data**

Date	Depth	Elev.
12/22/04	9.50'	(TOC)

Date Start/Finish: 10/16/02  
 Drilling Company: Rau Drilling  
 Driller's Name: Allen Rau  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4" ID  
 Rig Type: CME 75

Northing: 560786.1  
 Easting: 13305531.45  
 Casing Elevation: NA

Boring ID: RFI-44-06R

Client: General Motors

Borehole Depth: 24' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Flint, Michigan

Descriptions By: SM Duly

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0	NA	0-1	NA	NA	NA	NA	NA	FL	CONCRETE.		Fill	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1	1-3			11					SM	Brown (10YR 5/3) Silty fine to coarse (predominantly fine) subangular to subrounded poorly graded SAND (SM), few Clay, few fine rounded Gravel, aplastic, moderate odor, dense, dry. Fill Sand. Color change to black (10YR 2/1) at 1.8' bgs.	Silty Sand	Grout (0.5' - 3.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 14' bgs)	
2	3-5			4	12	1.4	0.0	-	SM	Yellow-brown (10YR 3/8) Silty SAND (SM) as above from 0.7' - 2.0' bgs, no odor. Fill Sand.	Silty Sand	Hydrated Bentonite Seal (3.0' - 11.7' bgs)	
3	5-7			8	13	26	1.8	0.0	SM	Color change to pale brown (10YR 6/3) at 6.3' bgs.	Silty Sand		
4	7-9			5	10	26	2.0	0.0	CL	Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, homogenous, weakly plastic, very stiff, no odor, dry. Native Glacial Clay Till.	Silty Clay	#5 Well Sand Pack (11.7' - 24' bgs)	
5	9-11			11	22	46	2.0	0.0	CL		Silty Clay	2" ID Sch. 40 PVC 0.010" Slotted Screen (14' - 24' bgs)	
6	11-13			12	19	43	1.7	0.0	CL		Silty Clay		
7	13-15			8	16	50	1.9	0.0	CL		Silty Clay		
8	15-17			4	12	29	2.0	0.0	CL		Silty Clay		
													5"-thick Silty Sand lense, moist at 14.6' bgs. 3"-thick Silty Sand lense, saturated at 16' bgs.



Remarks: bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

Water Level Data

Date	Depth	Elev.
10/16/02	19.5'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-44-06R  
Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
20-20		8	15-17	17 24	29	2.0	0.0	-	CL		Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, homogenous, weakly plastic, very stiff, no odor, dry. Native Glacial Clay Till.	↑ Silty Clay	
		9	17-19	5 15 30 34	45	1.8	0.0	-					
		10	19-21	7 19 19 21	38	1.7	0.0	-	SC		Gray (10YR 5/1) Clayey fine to coarse subangular to subrounded well graded SAND (SC), little Silt, trace to few fine to medium rounded Gravel, Silty Clay lenses (up to 5"-thick) throughout, aplastic, no odor, dense, saturated. Glacio-alluvial.	↑ Clayey Sand	
		11	21-23	7 11 14 22	25	2.0	0.0	-					
		NA	23-24	NA	NA	NA	NA	NA	-				
25-25													
30-30													
35-35													




Remarks: bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
10/16/02	19.5'	

<b>Date Start/Finish:</b> 9/12/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> NA <b>Easting:</b> NA <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 15' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-55-11  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0								FL	ASPHALT		ASPHALT	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1	1-3	1		10	19	1.0	1818	+	CL	Brown (10YR 5/3) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, trace fine to medium rounded Gravel, no odor, stiff, dry. Glacial Clay Till used as backfill.	SILTY CLAY	SILTY CLAY	Grout (0.7' - 2.0' bgs)
2	3-5	2		5	10	1.3	4310	+	SP	Yellow-brown (10YR 4/6) fine to coarse POORLY GRADED SAND (SP), little Silt, few fine to coarse subrounded Gravel, aplastic, loose, no odor, dry. Fill Sand.	SAND	SAND	2" ID Sch. 40 PVC Riser (0.2' - 5.0' bgs)
3	5-7	3		5	11	1.6	7179	+	CL	Gray-brown (10YR 5/2) SILTY LEAN CLAY (CL), little fine to coarse subangular Sand, trace fine to coarse subrounded Gravel, lenses of Silty fine Sand and/or Silt up to 2" thick throughout, no odor, stiff to medium stiff, dry to moist. Clay Till used as backfill.	SILTY CLAY	SILTY CLAY	Hydrated Bentonite Hole Plug (2.0' - 4.0' bgs)
4	7-9	4		4	11	1.7	1779	+	ML	Brown (10YR 5/3) to yellow-brown (10YR 5/4) SILT (ML), little Clay, few fine subrounded to subangular Sand, occasional gray (10YR 5/1) mottling, aplastic, medium dense, no odor, saturated. Backfill.	SILT	SILT	#5 Well Sand Pack (4.0' - 15' bgs)
5	9-11	5		12	27	1.4	2575	-	ML	Highly oxidized to orange color at 10.6' bgs. Gray (10YR 5/2) color from 11' - 15' bgs. Native Undisturbed Glacial Silt.	SILT	SILT	2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)
6	11-13	6		7	15	2.0	1338	-					
7	13-15	7		6	14	2.0	3451	-					
15	15			10									

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available; H = Weight of Hammer.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 9/12/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 567078.05 <b>Easting:</b> 13305788.29 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 17' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-55-12  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0								FL	ASPHALT	ASPHALT	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Grout (0.7' - 2.0' bgs) 2" ID Sch. 40 PVC Riser (0.2' - 5.0' bgs) Hydrated Bentonite Hole Plug (2.0' - 4.0' bgs)	
1		1-3		3 6 9 11	15	1.3	7350	+	SP	Gray-brown (10YR 5/2) to brown (10YR 5/3) fine to coarse subangular to subrounded POORLY GRADED SAND (SP), little Silt, few fine to coarse subrounded Gravel and occasional rounded Pebbles, aplastic, no odor, loose, dry. Fill Sand.	SAND, FINE		
2		3-5		8 8 5	16	1.1	4468	+	CL	Gray-brown (10YR 5/2) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, weakly plastic, no odor, stiff, dry. Glacial Clay Till used as backfill.  Brown (10YR 5/3) color at 5.5' bgs.	SILTY CLAY		
3		5-7		3 5 7 9	12	1.8	7891	+	ML	Brown (10YR 5/3) to gray-brown (10YR 5/2) SILT (ML), little to few Clay, few fine subangular Sand, aplastic, no odor, medium dense, moist.  Saturated at 7.4' bgs.	SILT	#5 Well Sand Pack (4.0' - 15.2' bgs)	
4		7-9		3 8 13 17	21	1.9	9917	+					
5	-5			9 19 23 21	42	1.6	4201	+					
6		9-11		5 7 9 11	16	1.3	410	+	ML	2"-thick lense of oxidation to orange at 10.3' bgs.  Gray (10YR 5/1) color from 12' - 17' bgs. Native Glacial Silt.		2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)	
7		11-13		4 6 8 9	14	1.3	180	-					
8		13-15		4 5	10	1.4	30.6	-					Natural Collapse (15.2' - 17' bgs)

**BBL**  
 BLASLAND, BOUCK & LEE, INC.  
 engineers & scientists

**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Boring ID: RFI-55-12  
 Borehole Depth: 17' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction								
		8	15-17	5 4	10	1.4	30.6	-	ML		Gray (10YR 5/1) SILT (ML), little to few Clay, few fine subangular Sand, aplastic, no odor, medium dense, saturated. Native Glacial Silt.	SILT	<table border="1"> <tr> <td>x</td><td>x</td></tr> <tr> <td>x</td><td>x</td></tr> <tr> <td>x</td><td>x</td></tr> <tr> <td>x</td><td>x</td></tr> </table> Natural Collapse (15.2' - 17' bgs)	x	x	x	x	x	x	x	x
x	x																				
x	x																				
x	x																				
x	x																				
20-20																					
25-25																					
30-30																					
35-35																					



Remarks: bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.

**Water Level Data**


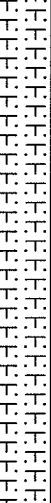
Date	Depth	Elev.


<b>Date Start/Finish:</b> 3/12/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA /SS <b>Sampler Size:</b> 2" OD + 2' <b>Auger Size:</b> 2-1/4" ID <b>Rig Type:</b> CME-45B	<b>Northing:</b> 564410.68 <b>Easting:</b> 13305818.63 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 10' bgs. <b>Surface Elevation:</b> 746.05 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-81-36  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
745									FL	CONCRETE.		<p>Borehole backfilled with Bentonite to grade.</p>	
										STEEL PLATE.			
5		NA	0-10	NA	NA	NA	NA		SM	Black (10 YR 2/1) fine to coarse, predominantly fine, subangular POORLY GRADED SILTY SAND (SM), few Clay, few fine to coarse subangular Gravel, Metallic debris, Slag, and Cinders also present, aplastic, no odor, loose, dry. Foundary Sand.			
740											Black (10 YR 2/1) SILTY SAND (SM) as above, but too compacted and dense to push split-spoon. Sample from inside of auger teeth.		
10													
735													
15													

<p><b>BBL</b>          BLASLAND, BOUCK &amp; LEE, INC.  <i>engineers &amp; scientists</i></p>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b>															
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.												
		Date	Depth	Elev.													

<b>Date Start/Finish:</b> 3/12/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA /SS <b>Sampler Size:</b> 2" OD + 2" <b>Auger Size:</b> 2-1/4" ID <b>Rig Type:</b> CME-45B	<b>Northing:</b> 564273.29 <b>Easting:</b> 13305833.74 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 10.0' bgs. <b>Surface Elevation:</b> 746.09 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-81-37  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
745									FL		CONCRETE.	↑	Borehole backfilled with Bentonite to grade.
5	740	NA	0-10	NA	NA	NA	NA	-	SM		Black (10YR 2/1) fine to coarse, predominantly fine, subangular POORLY GRADED SILTY SAND (SM), few fine to coarse subangular Gravel, little to few Clay, Slag and Cinders present, aplastic, no odor, loose, dry. Foundary Sand.  Metallic debris present at 6.0' bgs.  Increase Slag and Cinders content, fines of metallic debris present at 7.0' bgs.	↓ FILL ↑ ↓ SILTY SAND	
10	735												
15													



 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>


<b>Date Start/Finish:</b> 3/17/2003 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4' Acetate Liners <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 564765.06 <b>Easting:</b> 13305970.00 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 5.0' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-81-38 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										
							FL		CONCRETE.	FILL	Borehole backfilled with Bentonite to grade.
		1	1-4	2.5	NA	+	SP		Brown (10YR 5/3) fine to medium, predominantly fine, POORLY GRADED SAND (SP), little Silt, strong sweet odor, loose, saturated with light weight oil and possible water. Fill.	↑	
		2	4-5	NA	NA	+			Oil is medium weight and dark brown to black in color at 4.0' bgs. Refusal encountered at Concrete at 5.0' bgs.	↓	
5	5										
10	10										
15	15										

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b> <table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.												
	Date	Depth	Elev.														

<b>Date Start/Finish:</b> 3/12/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4' Acetate Liners <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 564717.46 <b>Easting:</b> 13306006.17 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 1.5' bgs <b>Surface Elevation:</b> 746.10 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-81-39  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0											
745		1	0-1.5	NA	NA	NA	FL		CONCRETE. VOID. CONCRETE.	FILL	 Borehole backfilled with Bentonite to grade.
5											
740											
10											
735											
15											

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 4/5/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 564716.86 <b>Easting:</b> 13306055.00 <b>Casing Elevation:</b> 745.77 ft. AMSL  <b>Borehole Depth:</b> 17' bgs <b>Surface Elevation:</b> 746.07 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-81-39R <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
745									FL		CONCRETE, smells like "moth balls" as it is being ground.	CONCRETE	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Grout (0.5' - 3.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 7.0' bgs)
		1	3-5	3 4	6	1.5	1850	-			Black (10YR 2/1) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, 10-20% Slag and obvious metallic debris such as wire and bolts, moderate "moth ball"-like odor, aplastic, loose, dry. Foundry Sand.		
5											Yellow-brown (10YR 5/4) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, tenses of Silty Sand as above up to 3"-thick throughout, aplastic, moderate "moth ball"-like odor, loose, dry. Fill.		Hydrated Bentonite Seal (3.0' - 5.0' bgs)
740		2	5-7	2 2 2	4	1.4	1737	-					
		3	7-9	1 1 3	4	1.1	1358	-					#5 Well Sand Pack (5.0' - 17' bgs)
10									SM		Black (10YR 2/1) SILTY SAND (SM) as above from 1.7' - 3.9' bgs, but no Slag, strong odor, damp. Fill Sand.		
		4	9-11	3 2 3	5	0.3	2783	+			Light weight Oil present on oil/water shake test, saturated below 10' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)
735													
		5	11-13	10 20 26	46	0.0	NA	+					
15											Blind Drill to 17' bgs.		




**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 1.7' - 3.7' & 7.7' - 9.7' bgs.

**Water Level Data**

Date	Depth	Elev.
4/5/03	10'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-81-39R  
Borehole Depth: 17' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
750									SM		Black (10YR 2/1) SILTY SAND (SM) as above from 1.7' - 3.9' bgs, but no Slag, strong odor, damp. Fill Sand.	SILTY SAND	 <p>#5 Well Sand Pack (5.0' - 17' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)</p>
20													
725													
25													
720													
30													
715													
35													



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.  
Samples collected from 1.7' - 3.7' & 7.7' - 9.7' bgs.

**Water Level Data**

Date	Depth	Elev.
4/5/03	10'	

<b>Date Start/Finish:</b> 3/12/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA /SS <b>Sampler Size:</b> 2" OD + 2" <b>Auger Size:</b> 2-1/4" ID <b>Rig Type:</b> CME-45B	<b>Northing:</b> 564477.54 <b>Easting:</b> 13306304.69 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 744.54 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-81-40  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
745	0	1	0-2	17 32 37 41	69	1.8	0.0	-	SM		Black (10YR 2/1) fine to coarse, predominantly fine, subangular POORLY GRADED SILTY SAND (SM), few Clay, few fine to coarse subrounded Gravel, Slag, Cinders, Ash, and Cement/Concrete debris throughout, aplastic, no odor, dense, dry. Foundary Sand.	SILTY SAND	 Borehole backfilled with Bentonite to grade.
740	5												
735	10												
730	15												

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface;+ = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b>															
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.												
	Date	Depth	Elev.														


<b>Date Start/Finish:</b> 3/12/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA /SS <b>Sampler Size:</b> 2" OD + 2" <b>Auger Size:</b> 2-1/4" ID <b>Rig Type:</b> CME-45B	<b>Northing:</b> 564501.49 <b>Easting:</b> 13306328.40 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 743.58 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-81-41  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
745													
0		1	0-2	28 41 49 64	90	1.8	0.0	-	CL		Brown (10YR 5/3) to black (10YR 2/1) SILTY LEAN CLAY (CL), little fine to coarse subrounded to angular Sand, few fine to coarse subrounded to angular Gravel, Pale green patches up to 1/2" in diameter of Clay-like particles, Slag, Ash and Cinders also present, extensively mottled, hard, weakly plastic, no odor, dry. Native Clay Till used as Backfill and mixed with other Fill.	SILTY CLAY	Borehole backfilled with Bentonite to grade.
740													
5													
735													
10													
730													
15													

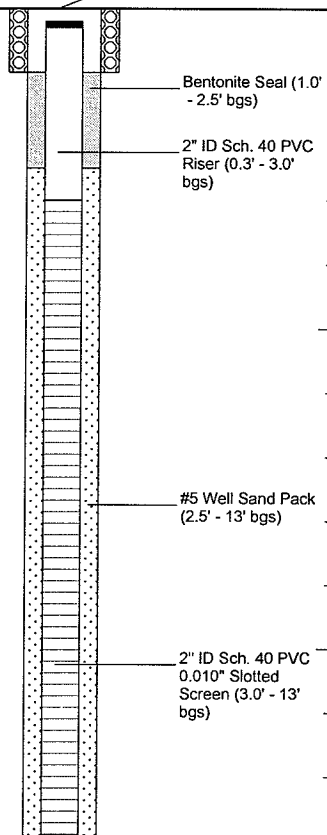
	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 4/5/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" OD + 2' <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME-45B	<b>Northing:</b> 564761.87 <b>Easting:</b> 13306054.78 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 746.02 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-81-42  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
745									FL	CONCRETE.		FILL	Borehole backfilled with Bentonite to grade.
									SM	Black (10YR 2/1) fine to coarse subangular SILTY SAND (SM), few Clay, few fine to coarse rounded to subrounded Gravel, 20% Slag, Metallic debris such as Wire and Washers, aplastic, no odor, loose, damp. Foundry Sand and Debris.	SILTY SAND		
											Refusal at 2.0' bgs - Concrete.		
5													
740													
10													
735													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available. Sample collected from 0.7' - 2.0' bgs.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 3/31/04 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 564775.99 <b>Easting:</b> 13306344.92 <b>Casing Elevation:</b> 743.76' AMSL  <b>Borehole Depth:</b> 13' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Ryan Tuttle	<b>Well/Boring ID:</b> RFI-81-43  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										No samples collected from 0.0' - 3.0' bgs. See log location 70-107 for geologic description.	 <p>Cement pad with 9" diam. cast iron/PVC skirted flushmount cover</p> <p>Bentonite Seal (1.0' - 2.5' bgs)</p> <p>2" ID Sch. 40 PVC Riser (0.3' - 3.0' bgs)</p> <p>#5 Well Sand Pack (2.5' - 13' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (3.0' - 13' bgs)</p>
5	-5	1	3-5	17 37 >50 NA	37	1.25	0.0	+	CL	Dark gray (10YR 3/1) LEAN CLAY with SILT (CL), little Sand, trace fine Gravel, trace Slag, soft, slightly plastic, no odor, dry to damp.		
									FL	CONCRETE		
		2	5-7	4 4 4	8	1.75	0.0	+	SM	Yellow-brown (10YR 5/4) nonplastic, subrounded POORLY GRADED SILTY SAND (SM), trace Slag, trace fine angular gravel, no odor, loose, moist.		
										Saturated at 7.0' bgs.		
		3	7-9	2 2 2	4	1.0	0.0	+			0.25" Black stain on Silty Sand at 8.85' bgs	
10-10											No samples collected from 0.0' - 3.0' bgs. See log location 70-107 for geologic description.	
15-15												

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**Remarks:**  
 bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Applicable/Not Available; +/- = Positive/Negative Test Result.

Water Level Data		
Date	Depth	Elev.

Date Start/Finish: 3/31/04  
 Drilling Company: Rau Drilling  
 Driller's Name: Greg Compeau  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4-1/4" ID  
 Rig Type: CME 55

Northing: NA  
 Easting: NA  
 Casing Elevation: NA  
  
 Borehole Depth: 9' bgs  
 Surface Elevation: NA  
  
 Descriptions By: Ryan Tuttle

Well/Boring ID: RFI-81-44  
 Client: General Motors  
  
 Location: GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										No samples collected from 0.0' - 3.0' bgs. See log for location 70-107 for geologic description.	
5	-5	2	3-5	4	8	1.5	0.0	+	SP	[Patterned Box]	Dark gray (10YR 3/1) mostly fine surrounded SAND (SP), few Silt, no odor, loose, moist, increasing moisture content with depth.	Borehole backfilled with Bentonite to grade
				4							Brownish yellow (10YR 6/5).	
				3							Saturate at 6.0' bgs .	
		3	5-7	4	7	2.0	0.0	+			At 6.25' bgs Greyish brown.	
		4	7-9	2	4	1.5	0.0	+			Black stain -0.25" at 9.0' bgs	
				2								
				2								
				2								
10-10												
15-15												



**Remarks:**  
 bgs = below ground surface; NA = Not Applicable/Not Available;  
 +/- = Positive/Negative Test Result.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/31/04 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 564689.18 <b>Easting:</b> 13306371.71 <b>Casing Elevation:</b> 742.87' AMSL  <b>Borehole Depth:</b> 13' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Ryan Tuttle	<b>Well/Boring ID:</b> RFI-81-45  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0									TOPSOIL		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
											Brown (10YR 4/3) mostly fine subrounded POORLY GRADED SAND (SP), trace angular Gravel, no odor, moist.	Bentonite Seal (1.0' - 2.5' bgs)
2	-5	3-5		9 11 13	22	1.0	0.0	+			Black (10YR 2/1) LEAN CLAY with SILT (CL), few fine to medium subrounded Sand, ~2' Slag layer at 4.0' bgs, few Wood debris, slightly plastic, strong odor, wet. [FILL]	2" ID Sch. 40 PVC Riser (0.3' - 3.0' bgs)
3		5-7		4 5 6	10	1.0	0.0	+	SP		Soft very plastic at 6.5' bgs. Few fine angular Gravel strong odor, sheen present on spoon, saturated, below 7.0' bgs.	#5 Well Sand Pack (2.5' - 13' bgs)
4		7-9		9 NA NA	11	1.0	0.0	+			Mostly Slag from 9.0' - 11.0' bgs. Steel chunk at 10.0' bgs.	2" ID Sch. 40 PVC 0.010" Slotted Screen (3.0' - 13' bgs)
10-10												
15-15												

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 NA = Not Applicable/Not Available; +/- = Positive/Negative Test Result.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/31/04 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 564532.60 <b>Easting:</b> 13306367.15 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 4' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Ryan Tuttle	<b>Well/Boring ID:</b> RFI-81-46  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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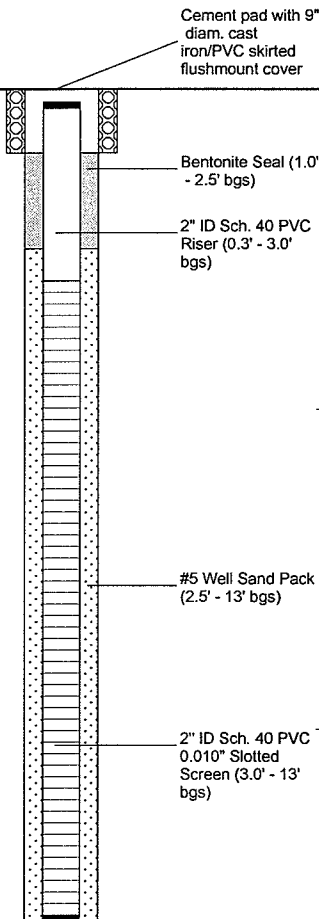
DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	4 5 6 6	11	2.0	0.0	-	SP		Brown-yellow (10YR 6/8) mostly fine, subrounded POORLY GRADED SAND (SP), no odor, loose, dry to damp.	
		2	2-4	9 9 6 6	15	0.0	0.0	+	CL		Black (10YR 2/1) LEAN CLAY with SILT (CL), little Sand, few Slag, no odor, medium stiff, slightly plastic, damp. [FILL]	
5	-5										Refusal - hit pipe (fire line) at 4.0' bgs.	
10	-10											
15	-15											

	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available; +/- = Positive/Negative Test Result.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

Date Start/Finish: 4/02/04  
 Drilling Company: Rau Drilling  
 Driller's Name: Greg Compeau  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4-1/4" ID  
 Rig Type: CME 55

Northing: 564509.21  
 Easting: 13306391.39  
 Casing Elevation: 742.38' AMSL  
 Borehole Depth: 13' bgs  
 Surface Elevation: NA  
 Descriptions By: W. Patterson

Well/Boring ID: RFI-81-47  
 Client: General Motors  
 Location: GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
											TOPSOIL	
1		1-3		6	13	2.0	0.0	+	CL		Dark Yellow-brown (10YR 4/6) and Black (10YR 2/1) LEAN CLAY with SILT (CL), some fine Sand, Slag, medium stiff, no apparent odor, damp. [FILL]	 <p>Cement pad with 9" diam. cast iron/PVC skirted flushmount cover</p> <p>Bentonite Seal (1.0' - 2.5' bgs)</p> <p>2" ID Sch. 40 PVC Riser (0.3' - 3.0' bgs)</p> <p>#5 Well Sand Pack (2.5' - 13' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (3.0' - 13' bgs)</p>
2		3-5		7			0.0	+			Dark brown (10YR 3/3) and Black (10YR 2/1) fine poorly graded SAND (SP), some Slag, loose, no apparent odor, dry to damp.	
3	-5	5-7		9	13	1.0	0.0	+	SP		Saturated at 6.8' bgs. Color is Black (10YR 2/1) few Slag At. 7.0' bgs.	
4		7-9		3	5	1.0	0.0	+				
5		9-11		3	6	1.0	0.0	+				
6		11-13		6					ML		Black (10YR 2/1) Silt (ML), no apparent odor, saturated.	
				7					CL		Gray (10YR 5/1) and brown (10YR 5/3) mottled LEAN CLAY and SILT (CL), stiff, moderately plastic, no apparent odor, damp. [FILL]	
				4								
				3								
15	-15											



**Remarks:**


bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Applicable/Not Available; +/- = Positive/Negative Test Result.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 4/02/04 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 55	<b>Northing:</b> 564488.72 <b>Easting:</b> 13306405.48 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 13' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> W. Patterson	<b>Well/Boring ID:</b> RFI-81-48  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0			NA	NA	NA	NA	NA			TOPSOIL	
1	1-3	1	1-3	6	14	1.0	0.0	-			Dark yellow-brown (10YR 4/6) SILT (ML), dense, no apparent odor, dry. [FILL]	
2	3-5	2	3-5	8	12	1.0	0.0	-	ML			
3	5-7	3	5-7	8	4	1.0	0.0	-				
4	7-9	4	7-9	2	3	0.1	0.0	-			Little fine Sand, few Clay, no apparent odor, saturated at 8.0' bgs.	Borehole backfilled with Bentonite to grade.
5	9-11	5	9-11	1	1	1.5	0.0	-			Dark yellow-brown (10YR 4/4) SILTY SAND (SM), some Slag.	
6	11-13	6	11-13	1	5	1.5	0.0	+	SM		Black stained NAPL at 11.0' bgs.	
7	13-15	7	13-15	4	7	12	0.0	+	CL		Gray (10YR 5/1 and brown mottled (10YR 5/3) LEAN CLAY with SILT (CL), stiff no apparent odor, moderately plastic, [FILL]	
15	15			11								

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		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 8/23/04 <b>Drilling Company:</b> Prosonic <b>Driller's Name:</b> Don Bond <b>Drilling Method:</b> HSA/Macrocore <b>Sampler Size:</b> 5' Macrocore <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 564449.41 <b>Easting:</b> 13306388.80 <b>Casing Elevation:</b> 742.71' AMSL  <b>Borehole Depth:</b> 15' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Wayne Patterson	<b>Well/Boring ID:</b> RFI-81-49  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											Cement pad with 9" diam. cast iron/PVC skirted flushmount cover  Bentonite Seal (0.5' - 2.0' bgs)  2" ID Sch. 40 PVC Riser (0.3' - 3.0' bgs)
		1	0-5	NA	NA	4.75	0.0		NA		Brown (10YR 5/3) TOPSOIL, Roots, no odor, dry.  Black (10YR 2/1) and yellow-brown (10YR 5/6) fine SILTY SAND (SM), some Slag, no odor, damp. [FILL]	
5	-5						34.5					
		2	5-10	NA	NA	2.5			NA	SM		#5 Well Sand Pack (2.0' - 15' bgs)
10-10												2" ID Sch. 40 PVC 0.010" Slotted Screen (3.0' - 13' bgs)
		3	10-15	NA	NA	4.0	1.0		NA			
										CL	Dark gray-brown (10YR 4/2) and dark yellow-brown (10YR 4/6) mottled LEAN CLAY with Silt (CL), no odor, medium stiff, damp.	
15	-15											

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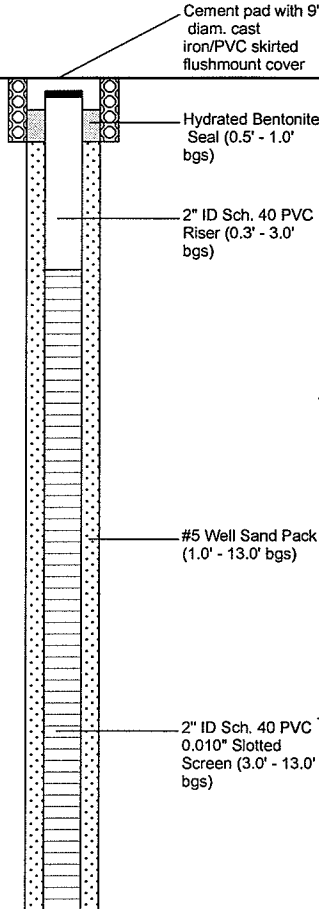
**Remarks:**  
 bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Applicable/Not Available.

Water Level Data		
Date	Depth	Elev.

Date Start/Finish: 03/19/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/MC  
 Sampler Size: 5"x2.125" Macrocore  
 Auger Size: 4 - 1/4" ID  
 Rig Type: Geoprobe 6610 DT

Northing: 564579.18  
 Easting: 13306483.09  
 Casing Elevation: 740.60' AMSL  
 Borehole Depth: 15' bgs  
 Surface Elevation: NA  
 Descriptions By: J. Kralik

Well/Boring ID: RFI-81-50  
 Client: General Motors  
 Location: GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
1	0.5	0.5				4.0	0.1		FL	Railroad GRAVEL, Gray medium Gravel, some fine gray Sand, Metal debris and Wood fragments, loose, damp, thin (<1") wet layers. [FILL]	 <p>Cement pad with 9" diam. cast iron/PVC skirted flushmount cover</p> <p>Hydrated Bentonite Seal (0.5' - 1.0' bgs)</p> <p>2" ID Sch. 40 PVC Riser (0.3' - 3.0' bgs)</p> <p>#5 Well Sand Pack (1.0' - 13.0' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (3.0' - 13.0' bgs)</p>	
5	-5						2.3		CL	Yellow-brown SANDY CLAY, fine Sand, some Silt, some orange staining, no odor, medium stiff to stiff, damp to moist.		
2	5-10					5.0	0.3		SP	Yellow-brown fine SAND, some fine Gravel, little orange staining, slight odor, loose to medium dense, wet to saturated.  Some gray fine Sand from 7.9' - 8.3' bgs, no sheen, no odor.  Some dark gray fine Sand from 10.0' - 11.0' bgs, slight odor.		
3	10-15						0.2		CL	Gray SILTY CLAY, no odor, plastic to very plastic, stiff to very stiff, damp.		
15	15											



**Remarks:**  
 a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.

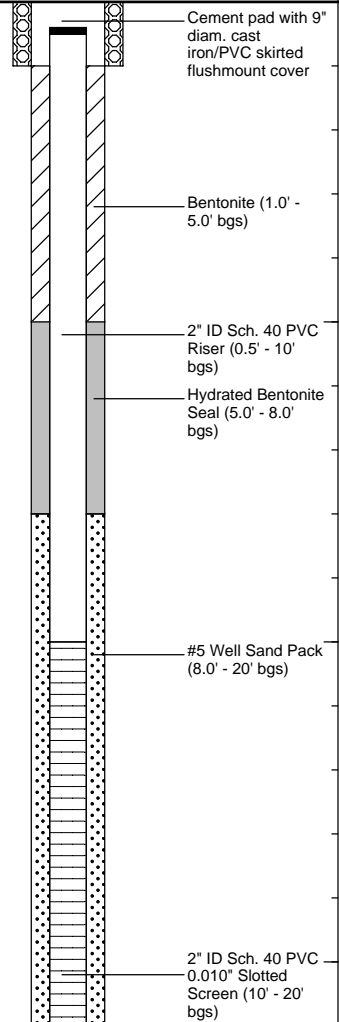
Water Level Data		
Date	Depth	Elev.

**Date Start/Finish:** 03/17/05  
**Drilling Company:** Altech  
**Driller's Name:** D. Wells  
**Drilling Method:** HSA/SS  
**Sampler Size:** 2"x2" ID  
**Auger Size:** 4 - 1/4" ID  
**Rig Type:** CME 55 ATV

**Northing:** NA  
**Easting:** NA  
**Casing Elevation:** NA  
  
**Borehole Depth:** 22' bgs  
**Surface Elevation:** NA  
  
**Descriptions By:** J. Kralik

**Well/Boring ID:** RFI-81-51  
  
**Client:** General Motors  
  
**Location:** GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0			2					FL	CONCRETE.		
		1	0-2	6	12	1.2	0.0				Yellow-brown fine SAND, medium dense, damp.	
		2	2-4	6	17	1.5	0.0				Dark brown to black-brown SAND, some fine Gravel, little Silt, trace Clay, and medium to coarse Sand, some Brick, Concrete, Metal, Glass, and Slag debris, medium dense, damp.	
		3	4-6	4	13	1.5	0.0					
5	-5	4	6-8	6	27	2.0	0.0					
		5	8-10	8	28	2.0	0.0		SP			
		6	10-12	4	8	2.0	0.0					
		7	12-14	4	NA	2.0	0.0				Wet from 13.0' - 14.0' bgs.	
15-15		8	14-16	4	NA	2.0	0.0		ML		Light gray SILT, some Clay, some olive and orange mottling, no odor, stiff, damp.	



**Remarks:**  
 a/bgs = above/below ground surface; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
 Soil samples collected from 0.0' - 2.0', 8.0' - 10.0' and 11.0' - 13.0' bgs for VOCs, SVOCs, PCBs and metals.

**Water Level Data**

Date	Depth	Elev.

**Client:**

General Motors

**Well/Boring ID:** RFI-81-51

**Site Location:**

GM Flint  
Flint, Michigan

**Borehole Depth:** 22' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20		9	16-18	2 4 6 12	10	2.0	0.0		ML		Light gray SILT, some Clay, some olive and orange mottling, no odor, stiff, damp.	<p>#5 Well Sand Pack (8.0' - 20' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)</p>
		10	18-20	2 4 6 10	10	2.0	0.0					
		11	20-22	6 8 12 24	20	2.0	0.0		CL		Gray CLAY, some fine Gravel, little fine Sand and Silt, slightly plastic, becomes extremely hard at 19.8' bgs, damp.	
25-25												
30-30												
35-35												




**Remarks:**


a/bgs = above/below ground surface; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
Soil samples collected from 0.0' - 2.0', 8.0' - 10.0' and 11.0' - 13.0' bgs for VOCs, SVOCs, PCBs and metals.

**Water Level Data**

Date	Depth	Elev.

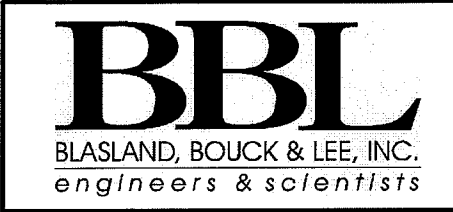
<b>Date Start/Finish:</b> 3/6/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4' Acetate Liners <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 563395.49 <b>Easting:</b> 13305137.03 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 3.0' bgs <b>Surface Elevation:</b> 745.65 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-17R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	745								CONCRETE.	FILL	Borehole backfilled with Bentonite to grade.
		1	1-3	2.0	0.0	-	SP	 Black (10YR 2/1), fine subangular POORLY GRADED SILTY SAND (SP), few Clay, trace fine angular Gravel, occasional woody splinters/debris, aplastic, no odor, loose, dry. Fill Sand.	SILTY SAND		
5	740								CONCRETE floor - Refusal at 3.0' bgs.		
10	735										
15	730										

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface;+ = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b> <table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.												
	Date	Depth	Elev.														

<b>Date Start/Finish:</b> 9/04/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 1.5" Acetate Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 564144.9497 <b>Easting:</b> 13305396.53 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 11.5' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-30  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0						FL		CONCRETE.	FILL	Borehole backfilled with Bentonite to grade.
1	0.4	0-4	3.3	0.8	-		SM		Black (10YR 2/1) Silty fine subangular poorly graded SAND (SM), trace Clay, trace fine to coarse rounded Gravel, Slag present, medium dense to loose, aplastic, no odor, dry. Foundry Sand. Weathered Concrete fragments from 1.0' - 1.3' bgs.	Silty SAND	
				0.6	-				Increased Gravel content to few to little at 3.3' bgs.		
5	-5	2	4-8	3.0	0.9	-			6" of gray, pale brown and white discoloration at 4.5' bgs.		
				0.3	-		CL		Brown (10YR 5/3) Silty Lean CLAY (CL), few fine to coarse subrounded to subangular Sand, few fine to medium rounded Gravel, weakly to moderately plastic, stiff, no odor, moist. Native Clay Till used as backfill. Moist at 8.0' bgs.	Silty CLAY	
10-10		3	8-11.5	2.5	1.5	-					
				0.4	-						
15-15											



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.



Water Level Data		
Date	Depth	Elev.

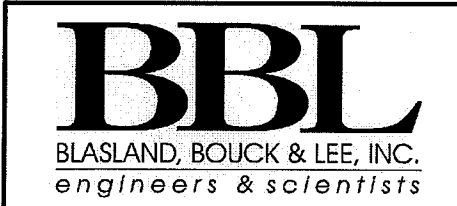
<b>Date Start/Finish:</b> 9/04/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 1.5" Acetate Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 564125.47 <b>Easting:</b> 13305408.03 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 12' bgs <b>Surface Elevation:</b> 745.88 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-31  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	745						FL		CONCRETE.	FILL	Borehole backfilled with Bentonite to grade.
		1	0-4	2.0	0.0	-			Light yellow-brown (10YR 6/4) Silty fine to medium (predominantly fine) subangular poorly graded SAND (SM), trace Clay, aplastic, loose, no odor, dry. Fill Sand.	↑ Silty SAND	
					0.2	-			2" - 3" weathered Concrete fragments at 5.4' bgs.		
5	740	2	4-8	3.0	0.0	+	SM		Black (10YR 2/1) Silty SAND (SM) as above, moist of damp. Fill Sand and Slag.		
10	735	3	8-12	2.3	3.1	+			Weathered Concrete from 10.8' - 11.3' bgs. Slag and Oil present at 11.3' bgs.		
15	730										

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available;	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		9/4/02	11.3'	

<b>Date Start/Finish:</b> 9/04/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 1.5" Acetate Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 564069.7433 <b>Easting:</b> 13305317.91 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 745.62 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-32  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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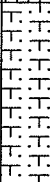
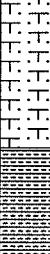


DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	745	1	0-2	2.0	16.8	-	FL		CONCRETE.	Fill	Borehole backfilled with Bentonite to grade.
							SM		Black (10YR 2/1) Silty fine subangular to angular poorly graded SAND (SM), few Clay, Slag present, aplastic, loose, no odor, dry. Foundry Sand.	Silty Sand	
5	740										
10	735										
15	730										




**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available.


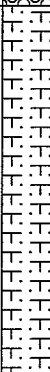
Water Level Data		
Date	Depth	Elev.


<b>Date Start/Finish:</b> 9/04/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 1.5" Acetate Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 563968.2094 <b>Easting:</b> 13305402.92 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 12' bgs <b>Surface Elevation:</b> 745.65 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-33 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0											
745		1	0-4	1.8		0.8	FL		CONCRETE.	FILL	Borehole backfilled with Bentonite to grade.
						9.8	SM		Very dark gray (10YR 3/1) Silty fine subangular poorly graded SAND (SM), few Clay, trace fine angular Gravel, slag present, aplastic, no odor, loose, dry. Foundry Sand and Slag.	Silty SAND	
5	740	2	4-8	3.7		4.9	CL		Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subangular to subrounded Sand, trace fine to coarse rounded Gravel, aplastic to moderately plastic, stiff, no odor, moist to damp. Native Glacial Clay Till used as backfill.  Becomes Native Glacial Clay Till below 8' bgs.	Silty CLAY	
						9.8			5"-thick Silt lense, saturated at 9.4' bgs.		
10	735	3	8-12	4.0		39.2	SP		Gray (10YR 6/1) fine subangular poorly graded SAND (SP), little Silt, trace Clay, aplastic, no odor, loose, saturated. Glacio-alluvial.	SAND	
15	730										

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		9/4/02	9.4'	

<b>Date Start/Finish:</b> 9/04/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 1.5" Acetate Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 563432.42 <b>Easting:</b> 13305137.10 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 6.5' bgs <b>Surface Elevation:</b> 745.71 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-34  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0											
745		1	04	3.0	0.4	+	FL		CONCRETE.	FILL	Borehole backfilled with Bentonite to grade.
					0.1	-	SM		Brown-yellow (10YR 6/6) Silty fine subangular poorly graded SAND (SM), trace Clay, few fine to coarse rounded Gravel to 2.0' bgs, black (10YR 2/1) to brown (10YR 5/3) mottling from 0.7' - 2.0', apiastic, no odor, loose, dry. Fill Sand.	Silty SAND	
5	740	2	4-6.5	2.1	0.4	-			Brown (10YR 4/3) color from 5.2' - 5.5' bgs.  Moist to wet at 6.5' bgs.		
10	735										
15	730										

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 9/04/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 1.5" Acetate Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 563432.41 <b>Easting:</b> 13305109.19 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 11' bgs <b>Surface Elevation:</b> 745.50 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-35  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	745						FL		CONCRETE.	FILL	Borehole backfilled with Bentonite to grade.
		1	0-4	2.0	0.0	-	SM		Black (10YR 2/1) Silty fine subangular to angular poorly graded SAND (SM), few Clay, few fine to coarse subangular Gravel, Slag present, aplastic, no odor, loose, dry. Foundry Sand.	Silty SAND	
					0.0	+	ML		Light yellow-brown (10YR 6/4) SILT (ML), few Clay, aplastic, medium dense, no odor, dry. Fill.	SILT	
5	740	2	4-8	3.8	0.1	-	SM		Light yellow-brown (10YR 6/4) Silty fine subangular poorly graded SAND (SM), trace Clay, aplastic, loose, no odor, dry. Fill Sand. Dark gray-brown (10YR 4/2) color from 4.0' - 4.3' bgs. Moist, increasing moisture with depth below 6.5' bgs.	Silty SAND	
					0.0	-			Saturated at 8.2' bgs.		
10	735	3	8-11	2.9	0.8	-	CL		Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subrounded to subangular Sand, trace fine to medium rounded Gravel, stiff, moderately to weakly plastic, no odor, moist. Native Glacial Clay Till.	Silty CLAY	
15	730										

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		9/4/02	8.2'	

<b>Date Start/Finish:</b> 9/04/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 1.5" Acetate Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 563317.118 <b>Easting:</b> 13305089.55 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 11' bgs <b>Surface Elevation:</b> 745.71 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-36  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	745	1	0-4	3.2	0.0	-	FL		CONCRETE.	Fill	Borehole backfilled with Bentonite to grade.
					0.0	-	SM		Black (10YR 2/1) to brown (10YR 4/3) Silty fine to coarse (predominantly fine) subangular to subrounded poorly graded SAND (SM), little Clay, few to little fine to coarse subrounded to rounded Gravel, aplastic, dense, no odor, dry, Fill Sand.	Silty SAND	
					0.0	+	CL		Very dark gray-brown (10YR 3/2) Silty Lean Clay (CL), few fine to coarse subangular to subrounded Sand, rare fine to medium rounded Gravel, weakly to moderately plastic, stiff, no odor, damp. Native Clay Till used as backfill.	Clay	
						-	FL		Weathered CONCRETE Rubble.	Fill	
5	740	2	4-8	3.7	0.2	-	ML		Yellow-brown (10YR 5/6) SILT (ML), few to little Clay, aplastic, no odor, dense, damp to moist. Fill.	SILT	
					0.8	-	SM		Light yellow-brown (10YR 6/4) Silty fine to subangular poorly graded SAND (SM), few to trace Clay, aplastic, no odor, loose, dry. Fill Sand.	Silty SAND	
10	735	3	8-11	3.0	0.0	-	SM		Saturated, color darkening to brown (10YR 4/3) below 8.8' bgs.	Silty SAND	
15	730										

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>												
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr> <td>9/4/02</td> <td>8.8'</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Date	Depth	Elev.	9/4/02	8.8'							
		Date	Depth	Elev.										
		9/4/02	8.8'											

<b>Date Start/Finish:</b> 9/04/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 1.5" Acetate Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 563308.688 <b>Easting:</b> 13305123.15 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 10' bgs <b>Surface Elevation:</b> 745.62 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-37  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0											
745					0.0	+	FL		CONCRETE.	Fill	Borehole backfilled with Bentonite to grade.
		1	0-4	2.8	0.0	-	SM		Black (10YR 2/1) Silty fine to coarse (predominantly fine) subangular to subrounded poorly graded SAND (SM), few fine rounded Gravel, trace Clay, Slag and Metallic debris present, aplastic, loose, no odor, dry, Foundry Sand and Slag.	Silty SAND	
					0.0	-	CL		Very dark brown (10YR 2/2) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, rare fine rounded Gravel, moderately plastic, no odor, damp. Native Clay Till used as backfill.	Clay	
5	740				0.0	-	ML		Brown-yellow (10YR 6/6) SILT (ML), little to few Clay, aplastic, medium dense, no odor, moist to dense. Backfill/Fill.	SILT	
		2	4-8	4.0	0.0	-	SM		Light brown-yellow (10YR 6/4) Silty fine subangular poorly graded SAND (SM), few to trace Clay, no odor, loose, moist.	Silty SAND	
					0.0	-			Moist to wet at 7.5' bgs.		
		3	8-10	2.0	0.0	-			Saturated, color darkens to yellow-brown (10YR 5/4) below 8.6' bgs.		
10											
735											
15											
730											

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		9/4/02	8.6'	

<b>Date Start/Finish:</b> 3/12/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4' Acetate Liners <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 564179.7033 <b>Easting:</b> 13305484.94 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 7.0' bgs. <b>Surface Elevation:</b> 745.97 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-38 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0											
745								CONCRETE.			
									See log for RFI-83/84-27 (installed on 12/31/02) for stratigraphy and soil descriptions.		Borehole backfilled with Bentonite to grade.
5											
740		1	5-7	NA	4.2	-	SM		Black (10YR 2/1) fine subangular POORLY GRADED SILTY SAND (SM), little Slag, few Clay, aplastic, no odor, loose, dry. Foundary Sand.	SILTY SAND	
10											
735											
15											
730											



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available  
 WH=Weight of Hammer  
 Located 1' from RFI-83/84-27R.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/19/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4' Acetate Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 564073.26 <b>Easting:</b> 13305502.69 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 10' bgs <b>Surface Elevation:</b> 745.56 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-39  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0											
745							FL		CONCRETE.	FILL	Borehole backfilled with Bentonite to grade.
		1	0-4	2.7	158	+			Black (10YR 2/1) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, loose, dry. Fill Sand.	SILTY SAND	
					182	+					
5	740	2	4-8	3.5	422	+	SM		Oily material with moderate odor, wet to moist at 7.0' bgs.  Saturated at 8.0' bgs.		
					1320	+					
		3	8-10	2.0	628	+					
10											
735											
15											
730											




 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available. Samples collected from 1.1' - 3.1' bgs & 5.1' - 7.1' bgs.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		3/19/03	8.0'	


<b>Date Start/Finish:</b> 3/6/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allan Rau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4' Acetate Sleeve <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 564039.26 <b>Easting:</b> 13305421.31 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.5' bgs <b>Surface Elevation:</b> 745.67 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-40  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0											
745							FL		CONCRETE.	FILL	Borehole backfilled with Bentonite to grade.
1	1-2.5	1.5	0.0	+	SM			Black (10YR 2/1) fine to coarse, predominantly fine, subangular POORLY GRADED SILTY SAND (SM), few Clay, few fine angular Gravel, Cinders, and possible Slag present, aplastic, no odor, loose, dry. Fill/Foundry Sand.	SILTY SAND		
									Refusal at 2.0' bgs due to presence of Concrete.		
5											
740											
10											
735											
15											
730											


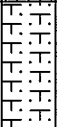
 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b> <table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.												
	Date	Depth	Elev.														

<b>Date Start/Finish:</b> 3/5/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4' Acetate Liners <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 563463.66 <b>Easting:</b> 13305083.26 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs. <b>Surface Elevation:</b> 745.82 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-41  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0											
745		1	1-2	1.0	0.0	-	SW	 CONCRETE.   Gray (10YR 4/1) fine to coarse subangular to subrounded SAND (SW), few Silt, wood and concrete debris present throughout, aplastic, no odor, dry, loose. Fill	SAND FILL	 Borehole backfilled with Bentonite to grade.	
5											
740											
10											
735											
15											
730											




 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b> <table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.												
	Date	Depth	Elev.														


<b>Date Start/Finish:</b> 3/5/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4" Acetate Liners <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 563438.8 <b>Easting:</b> 13305067.51 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 3.0' bgs <b>Surface Elevation:</b> 745.80 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-42  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Snake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0											
745									CONCRETE.	FILL	Borehole backfilled with Bentonite to grade.
		1	1-3	2.0	0.0	-	SM		Yellow-brown (10YR 5/4) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, weak odor, medium dense to loose, dry. Fill Sand.	SILTY SAND	
5											
740											
10											
735											
15											
730											

<h1 style="margin: 0;">BBL</h1> <p style="margin: 0;">BLASLAND, BOUCK &amp; LEE, INC. engineers &amp; scientists</p>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:33%;">Date</th> <th style="width:33%;">Depth</th> <th style="width:33%;">Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.												
	Date	Depth	Elev.														

<b>Date Start/Finish:</b> 3/5/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 4' Acetate Liners <b>Auger Size:</b> NA <b>Rig Type:</b> Truck-mounted Geoprobe	<b>Northing:</b> 563418.09 <b>Easting:</b> 13305096.79 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 3.5 bgs <b>Surface Elevation:</b> 745.63 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-43  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	745								CONCRETE.	FILL	 Borehole backfilled with Bentonite to grade.
1	1-3	2.0	0.0	-	SM		Dark brown (10YR 3/3) fine to coarse, predominantly fine, subrounded to subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, loose, dry. Fill Sand.	SILTY SAND			
5	740										
10	735										
15	730										

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

Date Start/Finish: 3/16/03  
 Drilling Company: Rau Drilling  
 Driller's Name: Greg Compeau  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4-1/4" ID  
 Rig Type: CME 45B

Northing: 564563.84  
 Easting: 13305265.89  
 Casing Elevation: 746.16 ft. AMSL  
 Borehole Depth: 19' bgs  
 Surface Elevation: 746.44 ft. AMSL  
 Descriptions By: SM Duly

Boring ID: RFI-83/84-44  
 Client: General Motors  
 Location: GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
745		1	1-3	4					ML	CONCRETE.		CONCRETE	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
				4							Very dark brown (10YR 2/2) fine to coarse, predominantly fine, subangular SILTY SAND (SM), few fine to coarse subangular to rounded Gravel, Slag, Cinders, and Ash present, aplastic, no odor, medium dense, dry. Foundry Sand.		Grout (0.5' - 2.4' bgs)
				7	11	1.5	0.0	-					2" ID Sch. 40 PVC Riser (0' - 8.0' bgs)
				8									Hydrated Bentonite Seal (2.4' - 5.9' bgs)
5		2	3-5	10					SM		Mottled to black (10YR 2/1) to dark yellow-brown (10YR 4/6) at 5' bgs.		
				14	24	1.3	0.0	-					
				18									
740		3	5-7	8							Brown (10YR 5/4) color, fine rather than fine to coarse at 6.8' bgs.		
				9									
				10	19	1.6	0.0	-					
				11									
				3									
				3	7	1.7	0.0	-			Yellow-brown (10YR 5/6) fine subangular POORLY GRADED SAND (SP), little Silt, aplastic, loose, no odor, dry. Fill Sand.		#5 Well Sand Pack (5.9' - 19' bgs)
				4									
				5									
10		5	9-11	5					SP		Wet at 10' bgs.		
				10	15	1.3	0.0	-					
				12							Saturated at 10.8' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
735		6	11-13	4							Gray (10YR 5/1) fine to medium, predominantly fine, POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, medium dense, saturated. Undisturbed Native Glacio-Alluvial.		
				10	22	1.5	0.0	-					
				12									
				16									
				4									
				9									
				8	17	1.3	0.0	-			Gray (10YR 5/1) SILT (ML), few fine subangular Sand, little Clay, aplastic, no odor, moderately dense, saturated.		
				11									
15		8	15-17	5					ML				
				5	15	1.2	0.0	-					



Remarks: bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 1.0' - 3.0' & 7.0' - 9.0' bgs.

**Water Level Data**

Date	Depth	Elev.
3/16/03	10.8	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-83/84-44

Borehole Depth: 19' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction		
730		8	15-17	10 12	15	1.2	0.0	-		ML	Gray (10YR 5/1) SILT (ML), few fine subangular Sand, little Clay, aplastic, no odor, moderately dense, saturated.	↑			
		9	17-19	11 12 18 22	30	1.6	0.0	-							↓
20															
725															
25															
720															
30															
715															
35															



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.  
Samples collected from 1.0' - 3.0' & 7.0' - 9.0' bgs.

**Water Level Data**

Date	Depth	Elev.
3/16/03	10.8	

<b>Date Start/Finish:</b> 3/6/03 - 3/10/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 4' Liners (0-10')/2' x 2" ID (10-19') <b>Auger Size:</b> 3-1/4" ID <b>Rig Type:</b> Geoprobe (0-10')/CME 45B (10-19')	<b>Northing:</b> 564582.4 <b>Easting:</b> 13305247.72 <b>Casing Elevation:</b> 746.22 ft. AMSL  <b>Borehole Depth:</b> 19' bgs <b>Surface Elevation:</b> 746.57 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-45  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
									ML	CONCRETE.		CONCRETE	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
745		1	0-4	NA	NA	2.0	0.0	-	SM	Black (10YR 2/1) to dark brown (10YR 3/3) fine to coarse, predominantly fine, subangular POORLY GRADED SILTY SAND (SM), few fine to coarse angular Gravel, Metallic Slag, Glass, and Building debris, aplastic, no odor, loose, dry. Fill/Foundry Sand.		SILTY SAND	Grout (0.6' - 2.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 8.0' bgs) Hydrated Bentonite Seal (2.0' - 6.0' bgs)
5										Yellow-brown (10YR 5/4) color at 5.5' bgs. 5"-thick black glassy angular Cinders at 5.7' bgs. 5"-thick black glassy angular Cinders at 5.7' bgs.			
740		2	4-8	NA	NA	4.0	0.0	-	ML	Brown (10YR 5/3) to black (10YR 2/1) to gray-brown (10YR 5/2) SILT (ML), little Clay, aplastic, no odor, dense, damp. Fill.		SILT	#5 Well Sand Pack (6.0' - 19' bgs)
10		3	8-11	NA	NA	3.0	0.0	-	SP	Brown (10YR 4/3) subangular POORLY GRADED SAND (SP), little to locally some Silt, aplastic, medium dense, no odor, damp becoming moist at 10' bgs. Fill Sand. Refusal with Geoprobe, switch to Hollow Stem Auger. Saturated at 11' bgs.		SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
735		4	11-13	8	26	1.3	0.0	-	ML	Gray (10YR 5/1) SILT (ML), little Clay, aplastic, loose, no odor, saturated. Native Undisturbed Glacio Alluvial		SILT	
		5	13-15	4	6	1.8	0.0	-	SM	Gray (10YR 5/1) fine to medium, predominant fine, subangular POORLY GRADED SILTY SAND (SM), little to few Clay, aplastic, no odor, loose, saturated. Native Undisturbed Glacio-Alluvial.		SILTY SAND	
15		6	15-17	10	20	1.7	0.0	-					



**Remarks:** bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.  
Samples collected from 0.9' - 2.9' & 7.9' - 9.9' bgs.  
Duplicate sample DUP-418 collected from 7.9' - 9.9' bgs.

**Water Level Data**

Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-83/84-45

Borehole Depth: 19' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730		6	15-17	9 8	20	1.7	0.0	-		ML	Gray (10YR 5/1) SILT (ML) as above from 14' - 14.9' bgs, saturated. Native Undisturbed Glacio Alluvial.	SILT	<p>2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)</p> <p>#5 Well Sand Pack (6.0' - 19' bgs)</p>
		7	17-19	7 9 13 12	22	1.3	0.0	-					
20													
725													
25													
720													
30													
715													
35													



**Remarks:** bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.  
Samples collected from 0.9' - 2.9' & 7.9' - 9.9' bgs.  
Duplicate sample DUP-418 collected from 7.9' - 9.9' bgs.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 3/18/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/DP <b>Sampler Size:</b> 4' Acetate Liners <b>Auger Size:</b> 3-1/4" ID <b>Rig Type:</b> Geoprobe/CME 45B	<b>Northing:</b> 564643.23 <b>Easting:</b> 13305188.53 <b>Casing Elevation:</b> 746.38 ft. AMSL  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> 746.65 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-46  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows /6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
745		1	0-4			2.3			FL	CONCRETE.		CONCRETE	Grout (0.5' - 3.7' bgs)
							4.6				Black (10YR 2/1) fine to coarse subangular, predominant fine, POORLY GRADED SAND (SP), some Silt, few Clay, few fine to coarse angular Gravel, Slag, and Cinders present, aplastic, loose, no odor, dry, Foundry Sand.		2" ID Sch. 40 PVC Riser (0' - 8.0' bgs)
							18.8						
5		2	4-8			4.0			SP		Increased Clay to locally some in patches and lenses up to 2" in diameter at 7.5'.	SAND	Hydrated Bentonite Seal (3.7' - 6.0' bgs)
740													#5 Well Sand Pack (6.0' - 18' bgs)
							11.1						
							11.1						
10		3	8-12			4.0			CL		Black (10YR 2/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, few fine to coarse subrounded to rounded Gravel, weakly plastic, stiff, weak odor, dry to damp with increased moisture with depth after 11' bgs. Native Clay Till used as Backfill.	SILTY CLAY	2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
735									FL		WOOD debris, moderate sweet odor, saturated.	WOOD	
							51.7				Gray (10YR 5/1) fine subangular poorly graded SILTY SAND (SM), Oily material/liquid present, aplastic, moderate sweet odor, saturated. Glacio-Alluvial.		
									SM		Low recovery from 12' - 16' bgs due to collapse. Pushed spoon with rods to 18' bgs.	SILTY SAND	
15		4	12-16			1.0							



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
3/18/03	12'	

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Boring ID: RFI-83/84-46  
 Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730									SM		Gray (10YR 5/1) fine subangular poorly graded SILTY SAND (SM), Oily material/liquid present, aplastic, moderate sweet odor, saturated. Glacio-Alluvial.	SILTY SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs) #5 Well Sand Pack (6.0' - 18' bgs)
20													
725													
25													
720													
30													
715													
35													



Remarks: bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
3/18/03	12'	

<b>Date Start/Finish:</b> 4/7/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" OD + 2' <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 564586.82 <b>Easting:</b> 13305188.34 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 17' bgs <b>Surface Elevation:</b> 746.51 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-47  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
									FL		CONCRETE.	FILL	
745		1	1-3	3 3 2 2	5	0.8	4727	-			Black (10YR 2/1) fine to coarse, predominantly fine, subangular POORLY GRADED SILTY SAND (SM), few fine to coarse subangular to subrounded Gravel, occasional Slag, Cinders, and Ash, aplastic, no odor, loose, dry. Foundry Sand.		Borehole backfilled with Bentonite to grade.
		2	3-5	5 7 9 20	16	1.0	170	-			Increased Slag content to 10-15% throughout at 4.0' bgs.		
5		3	5-7	8 11 13 14	24	1.1	1009	-	SM		Increased Slag content to 25% throughout at 6.0' bgs.  Low recovery due to presence of Slag in shoe at 7.0' bgs.		
		4	7-9	8 13 3 2	16	0.5	1320	+					
10		5	9-11	2 2 3 6	5	0.8	24.8	+					
		6	11-13	5 7 7 8	14	1.1	159	+	CL		Black (10YR 2/1) SILTY LEAN CLAY (CL), some Silt, few fine to coarse subrounded to rounded Gravel, trace subrounded well graded Sand, very plastic, soft, weak odor, moist to saturated with sheen present at 10.8' bgs. Native Clay Till used as Backfill.	SILTY CLAY	
		7	13-15	10 10 9 8	19	0.9	4.5	-	ML		Gray (10YR 5/1) SILT (ML), some Clay, few fine subangular Sand, aplastic, no odor, medium dense, saturated. Native Glacial-Alluvial.	SILT	
15		8	15-17	6 8	18	0.6	1.9	-					

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available. Sample collected from 1.0' - 3.0' bgs with Duplicate; and from 8.0' - 10' bgs.	<b>Water Level Data</b>										
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr> <td>4/7/03</td> <td>10.8'</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Date	Depth	Elev.	4/7/03	10.8'					
Date	Depth	Elev.										
4/7/03	10.8'											

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Boring ID: RFI-83/84-47

Borehole Depth: 17' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730		8	15-17	10 6	18	0.6	1.9	-	ML		Gray (10YR 5/1) SILT (ML), some Clay, few fine subangular Sand, aplastic, no odor, medium dense, saturated. Native Glacial-Alluvial.	silt	Borehole backfilled with Bentonite to grade.
20													
725													
25													
720													
30													
715													
35													




**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available.  
 Sample collected from 1.0' - 3.0' bgs with Duplicate;  
 and from 8.0' - 10' bgs.

**Water Level Data**

Date	Depth	Elev.
4/7/03	10.8'	

<b>Date Start/Finish:</b> 4/7/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 540 ATV	<b>Northing:</b> 564585.53 <b>Easting:</b> 13305128.30 <b>Casing Elevation:</b> 746.23 ft. AMSL  <b>Borehole Depth:</b> 17.5' bgs <b>Surface Elevation:</b> 746.56 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-48  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0									FL	CONCRETE	CONCRETE	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Grout (0.5' - 3.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 7.5' bgs)	
745		1	1-3	2 2 3 4	5	1.8	1458	-	SM	Black (10YR 2/1) fine to coarse, predominantly fine, subangular POORLY GRADED SILTY SAND (SM) and Slag, few Clay, few fine to coarse subangular to subrounded Gravel, approximately 40-50% Slag, Ashes, Cinders, and large pieces of Metal throughout, aplastic, no odor, loose, dry. Foundry Sand and Slag.	SILTY SAND	Hydrated Bentonite Seal (3.0' - 5.0' bgs)	
5		2	3-5	4 3 3 2	6	0.8	113	-	SM				
740		3	5-7	10 11 7 6	18	1.3	42.9	-	FL	Black (10YR 2/1) fine to coarse angular to fine to medium angular Gravel-sized SLAG, some Cinders and little Silt as above from 1.0' - 6.3' bgs, aplastic, no odor, loose, dry. Slag used as Fill.	SLAG		
		4	7-9	2 1 4 9	5	1.6	24.7	-	CL	Gray-brown (10YR 5/3) to black (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, small Sand- to Silt-sized pieces of Slag, Cinders, and Ash mixed in where Clay is black, moderately plastic, soft. Native Clay Till used as Backfill.	SILTY CL	#5 Well Sand Pack (5.0' - 17.5' bgs)	
10		5	9-11	5 5 5 5	10	1.5	38.6	+	SM	Fine to coarse subangular to subrounded WELL GRADED SILTY SAND (SM), few Clay, few fine to coarse rounded Gravel, aplastic, no odor, loose, dry. Fill Sand.	SILTY SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (7.5' - 17.5' bgs)	
735		6	11-13	3 5 5 6	10	1.3	0.0	-	SM	Brown (10YR 5/3) to yellow-brown (10YR 5/4) fine POORLY GRADED SILTY SAND (SM), few Clay, faint sheen on soils in spoon and on cuttings, aplastic, loose, moist then saturated at 10.2' bgs. Fill Sand.	SILTY SAND		
		7	13-15	4 5 5 8	10	1.1	0.0	-	ML	Gray (10YR 5/1) SILT (ML) some Clay, few fine subangular Sand, aplastic, no odor, loose to medium dense, saturated. Undisturbed Native Glacio-Alluvial.	SILT		
15		8	15-17	5 7	13	1.4	0.0	-					

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available; H = Weight of Hammer. Samples collected from 1.0' - 3.0' & 7.0' - 9.0' bgs. MS/MSD collected from 1.0' - 3.0' bgs.	<b>Water Level Data</b>												
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr> <td>4/7/03</td> <td>10.2'</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Date	Depth	Elev.	4/7/03	10.2'							
Date	Depth	Elev.												
4/7/03	10.2'													

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-83/84-48

Borehole Depth: 17.5' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730		8	15-17	6 7	13	1.4	0.0	-	ML		Gray (10YR 5/1) SILT (ML) some Clay, few fine subangular Sand, aplastic, no odor, loose to medium dense, saturated. Undisturbed Native Glacio-Alluvial.	SILT	<p>2" ID Sch. 40 PVC 0.010" Slotted Screen (7.5' - 17.5' bgs)</p> <p>#5 Well Sand Pack (5.0' - 17.5' bgs)</p>
20													
725													
25													
720													
30													
715													
35													



**Remarks:** bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.  
Samples collected from 1.0' - 3.0' & 7.0' - 9.0' bgs.  
MS/MSD collected from 1.0' - 3.0' bgs.

**Water Level Data**

Date	Depth	Elev.
4/7/03	10.2'	

<b>Date Start/Finish:</b> 4/9/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 564014.65 <b>Easting:</b> 13305496.46 <b>Casing Elevation:</b> 745.25 ft. AMSL  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> 745.53 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-49  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	745								FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		1	1-3	NA 6 7 12	13	1.0	1162	-	SM	Black (10YR 2/1) fine to coarse subangular SILTY SAND (SM), little Clay, few fine to coarse subrounded Gravel, Slag and Wood present, aplastic, weak odor, loose, damp. Foundry Sand.		SILTY SAND	Grout (0.5' - 3.5' bgs) 2" ID Sch. 40 PVC Riser (0' - 8.0' bgs)
									FL	CONCRETE.		FILL	
5	740	2	5-7	4 5 12 15	17	1.0	1006	+	SM	Black (10YR 2/1) SILTY SAND (SM) as above from 0.9' - 3.0' bgs. Foundry Sand.		SILTY SAND	Hydrated Bentonite Seal (3.5' - 5.8' bgs)
		3	7-9	10 7 5 3	12	0.5	78.6	+					#5 Well Sand Pack (5.8' - 18' bgs)
10	735	4	9-11	3 5 8 9	13	1.5	113	+	CL	Black (10YR 2/1) SILTY LEAN CLAY (CL), little fine to coarse, predominantly fine poorly graded subrounded Sand, plastic, weak odor, soft, moist. Native Clay Till used as Backfill.		SILTY CLAY	2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
		5	11-13	4 7 7 7	14	1.3	17.9	+	SP	Dark gray (10YR 3/1) fine subangular POORLY GRADED SAND (SP), some to little Silt, Oily sheen present at tip of spoon, aplastic, weak odor, moist. Fill Sand. Slag present, saturated below 11' bgs. Gray (10YR 5/1) color, Slag present at 12' bgs. 1"-thick black lense, Oily sheen on material in spoon at 13' bgs. Blind Drill to 18' bgs.		SAND	



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 0.9' - 2.9', 4.5' - 6.5', 8.5' - 10.5' bgs.  
 Duplicate sample DUP-437 collected from 8.5' - 10.5' bgs.

**Water Level Data**

Date	Depth	Elev.
4/9/03	11'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-83/84-49  
Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
									sp		Dark gray (10YR 3/1) fine subangular POORLY GRADED SAND (SP), some to little Silt, Oily sheen present at tip of spoon, aplastic, weak odor, moist. Fill Sand.	↑ SAND ↓	<p>2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs) #5 Well Sand Pack (5.8' - 18' bgs)</p>
20	725												
25	720												
30	715												
35	710												




**Remarks:** bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.  
Samples collected from 0.9' - 2.9', 4.5' - 6.5', 8.5' - 10.5' bgs.  
Duplicate sample DUP-437 collected from 8.5' - 10.5' bgs.

**Water Level Data**

Date	Depth	Elev.
4/9/03	11'	

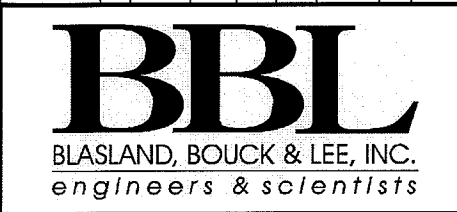
<b>Date Start/Finish:</b> 4/10/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" OD + 2" <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 564604.15 <b>Easting:</b> 13305287.05 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 15' bgs <b>Surface Elevation:</b> 742.69 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-50  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
745													
0									FL	x x x x x x x x x x	CONCRETE debris and angular Pebble-sized AGGREGATE. Fill.	FILL	Borehole backfilled with Bentonite to grade.
740		1	3-5	6 16 13 9	39	1.4	2805	+	SM		Dark yellow-brown (10YR 4/6) fine to coarse, predominantly fine, subangular SILTY SAND (SM), few to little Clay, aplastic, no odor, medium dense, dry. Fill Sand.  Decreased density to loose, moist to damp at 5.0' bgs.	SILTY SAND	
5		2	5-7	5 6 7 9	13	2.0	575	+	SM				
735		3	7-9	6 6 10 11	16	1.1	62	+	ML		Gray (10YR 5/1) SILT (ML), some fine subangular fine poorly graded Sand, few Clay, faint sheen of very light weight Oil present until 11' bgs, aplastic, no odor, medium dense to loose, saturated. Native Glacio-Alluvial.	SILT	
10		4	9-11	3 4 9 10	13	1.5	106	+	ML				
730		5	11-13	4 5 7 8	12	1.7	8.3	-	ML				
15		6	13-15	3 4 5 6	9	1.5	0.0	-	ML				

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available. Sample collected from 3.0' - 5.0' bgs with MS/MSD; and from 5.0' - 7.0' bgs with Duplicate.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>
		4/10/03	8.0'	

<b>Date Start/Finish:</b> 4/10/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 564605.27 <b>Easting:</b> 13305339.98 <b>Casing Elevation:</b> 742.39 ft. AMSL  <b>Borehole Depth:</b> 17' bgs <b>Surface Elevation:</b> 742.68 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-51  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
745													
0													Cement pad with 9' diam. cast iron/PVC skirted flushmount cover
740									FL	XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX	ASPHALT.  Coarse angular, predominantly large, Pebble-sized to coarse Gravel-sized AGGREGATE, Railroad ties present, no odor, loose, dry. Aggregate.	FILL	Grout (0.5' - 3.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 7.0' bgs)
5		1	3-5	6 8 9 8	17	1.6	386	-	SM		Dark yellow-brown (10YR 4/3) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, medium loose to medium dense, dry. Fill Sand.	SILTY SAND	Hydrated Bentonite Seal (3.0' - 5.0' bgs)
		2	5-7	4 6 7	13	1.8	52.4	-	CL		Yellow-brown (10YR 5/6) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, weakly plastic, no odor, damp. Native Clay Till used as Backfill.	Y C	
735		3	7-9	4 6 7 8	13	1.4	12.9	+	SM		Yellow-brwn (10YR 6/4) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, medium dense to medium loose, damp with increasing moisture content with depth. Fill Sand.  Saturated, very faint sheen in oil/water shake test at 8.0' bgs.	SILTY SAND	#5 Well Sand Pack (5.0' - 17' bgs)
10		4	9-11	6 5 7 6	12	1.3	27.6	+			Gray (10YR 5/1) SILT (ML), some to little fine subangular poorly graded Sand, few Clay, aplastic, moderate "moth ball"-like odor at 11' bgs, loose to moderately dense, saturated. Native Glacio-Alluvial.		2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)
730		5	11-13	3 5 7 7	12	1.7	3.0	+	ML		Faint "moth ball"-like odor at 13' bgs.		
15		6	13-15	4 7 9 11	16	1.4	3.0	-			No odor below 14' bgs.		
		7	15-17	11 21	45	1.5	0.0	-			Gray (10YR 5/1) SILT (ML), some to little fine subangular		



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 3.0' - 5.0' & 5.0' - 7.0' bgs.  
 Duplicate sample DUP-439 collected from 5.0' - 7.0' bgs.

Water Level Data		
Date	Depth	Elev.
4/10/03	8.0'	

Client:  
 General Motors  
 Site Location:  
 GM Flint  
 Flint, Michigan

Boring ID: RFI-83/84-51

Borehole Depth: 17' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		7	15-17	24 23	45	1.5	0.0	-	ML		poorly graded Sand, few Clay, aplastic, moderate "moth ball"-like odor at 11' bgs, loose to moderately dense, saturated. Native Glacio-Alluvial.	silt	 #5 Well Sand Pack (5.0' - 17' bgs)  2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)
725													
20													
720													
25													
715													
30													
710													
35													



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 3.0' - 5.0' & 5.0' - 7.0' bgs.  
 Duplicate sample DUP-439 collected from 5.0' - 7.0' bgs.

**Water Level Data**

Date	Depth	Elev.
4/10/03	8.0'	

<b>Date Start/Finish:</b> 4/11/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" OD + 2' <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 563915.18 <b>Easting:</b> 13305490.62 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 13' bgs <b>Surface Elevation:</b> 745.53 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-52  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	745								FL		CONCRETE.	FILL	Borehole backfilled with Bentonite to grade.
		1	1-3	2 3	5	1.4	3672	+			Black (10YR 2/1) for first 2", then brown (10YR 4/3) SILT (ML), some Clay, little fine to coarse, predominantly fine, poorly graded subrounded Sand, aplastic, no odor, loose, dry. Native Glacial Till used as Backfill.	↑	
		2	3-5	2 3 3	6	1.7	3076	+	ML		Weak "Oily" odor, very dark brown (10YR 3/2) color at 5.0' bgs.	↓	
5	740	3	5-7	2 3 4 5	7	1.1	2271	+				↓	
		4	7-9	3 2 4 6	6	1.8	364	+	CL		Dark brown (10YR 3/3) SILTY LEAN CLAY (CL), few fine to coarse Sand, trace fine rounded Gravel, moderate odor, weakly to moderately plastic, soft, damp. Native Clay Till used as Backfill.	↑	
10	735	5	9-11	4 7 6 7	13	1.6	404	+				↓	
		6	11-13	3 3 2 4	5	1.1	31.8	+	SP		Gray (10YR 5/1) fine to coarse, predominantly fine, subangular POORLY GRADED SAND (SP), some Silt, few Clay, moderate odor, aplastic, medium dense to loose, sheen on spoon, clear very light weight Oil, moist then wet then saturated at 10.7' bgs.	↑	
15	730												



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available.  
 Sample collected from 0.9' - 2.9' bgs;  
 and from 2.9' - 4.9' bgs with Duplicate.

**Water Level Data**

Date	Depth	Elev.
4/11/03	10.7'	

<b>Date Start/Finish:</b> 4/11/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 563891.02 <b>Easting:</b> 13305501.34 <b>Casing Elevation:</b> 745.32 ft. AMSL  <b>Borehole Depth:</b> 17' bgs <b>Surface Elevation:</b> 745.63 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-53  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	745								FL	CONCRETE.		CONCRETE	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		1	1-3	3 2 3	5	1.4	7.4	-	SP	Black (10YR 2/1) fine to coarse, predominantly fine, POORLY GRADED SAND (SP), some Silt, few Clay, 10-15% pieces of Wood, Metallic debris, and Slag, aplastic, no odor (except wood has weak odor), loose, dry. Foundry/Fill Sand.	SAND	Grout (0.8' - 3.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 7.0' bgs)	
2		2	3-5	2 2 2	4	1.3	18.9	-	ML	Brown (10YR 5/3) SILT (ML), little fine to coarse, predominantly fine, poorly graded Sand, few to little Clay with increased Clay content in patches, aplastic, no odor, loose, dry. Native Glacial Clay Till used as Backfill.  Dark gray-brown (10YR 3/1) color at 4.0' bgs.	SILT	Hydrated Bentonite Seal (3.0' - 5.4' bgs)	
3	740	3	5-7	3 5 4 6	9	1.4	47.6	+	CL	Dark brown (10YR 3/3) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, moderately plastic, soft, no odor, damp. Native Clay Till used as Backfill.	SILTY CLAY	#5 Well Sand Pack (5.4' - 17' bgs)	
4		4	7-9	2 2 4 7	6	1.3	58.7	+	CL	Dark brown (10YR 3/3) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, moderately plastic, soft, no odor, damp. Native Clay Till used as Backfill.	SILTY CLAY		
5	735	5	9-11	6 7 8 11	15	1.1	68.9	+	SP	Gray (10YR 6/1) fine to coarse, predominantly fine, POORLY GRADED SAND (SP), little Silt, few Clay, very light weight and clear Oil present, aplastic, weak odor, medium dense to loose, damp to moist at 10' bgs. Glacio-Alluvial.  Saturated at 10.9' bgs.  Fines to a Silty Sand at 11.9' bgs.  No odor present below 13' bgs.	SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)	
6		6	11-13	4 5 6 8	11	1.2	50.1	+	SP	Gray (10YR 6/1) fine to coarse, predominantly fine, POORLY GRADED SAND (SP), little Silt, few Clay, very light weight and clear Oil present, aplastic, weak odor, medium dense to loose, damp to moist at 10' bgs. Glacio-Alluvial.	SAND		
7		7	13-15	6 7 8 10	15	1.4	0.4	+	CL	Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, trace fine to medium rounded Gravel, occasional Silty Sand lenses up to 1"-thick throughout, weakly to moderately plastic, no odor, soft, damp becoming increasingly dry with depth. Undisturbed Native Glacial Clay Till.	SILTY CLAY		
8	730	8	15-17	2 1	3	1.1	0.0	-	CL	Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, trace fine to medium rounded Gravel, occasional Silty Sand lenses up to 1"-thick throughout, weakly to moderately plastic, no odor, soft, damp becoming increasingly dry with depth. Undisturbed Native Glacial Clay Till.	SILTY CLAY		




**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 0.9' - 2.9', 6.9' - 8.9', 8.9' - 10.9' bgs.

Water Level Data		
Date	Depth	Elev.
4/11/03	10.9'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-83/84-53

Borehole Depth: 17' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		8	15-17	2 2	3	1.1	0.0	-	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded to rounded Sand, trace fine to medium rounded Gravel, occasional Silty Sand lenses up to 1"-thick throughout, weakly to moderately plastic, no odor, soft, damp becoming increasingly dry with depth. Undisturbed Native Glacial Clay Till.	ILTY CL	 <p>#5 Well Sand Pack (5.4' - 17' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)</p>
20	725												
25	720												
30	715												
35	710												



Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.  
Samples collected from 0.9' - 2.9', 6.9' - 8.9', 8.9' - 10.9' bgs.

**Water Level Data**

Date	Depth	Elev.
4/11/03	10.9'	

<b>Date Start/Finish:</b> 4/11/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allen Rau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 550 ATV	<b>Northing:</b> 564792.77 <b>Easting:</b> 13305030.85 <b>Casing Elevation:</b> 746.41 ft. AMSL  <b>Borehole Depth:</b> 16' bgs <b>Surface Elevation:</b> 746.65 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-83/84-54  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows /6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0													
745		1	0-2	3	6	1.0	7.2	+	FL	ASPHALT.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		2	2-4	2	4	0.8	0.0	+	SP	Black (10YR 2/1) fine to coarse, predominantly fine, subangular to subrounded POORLY GRADED SAND (SP), some to little Silt, few Clay, large pieces of Metallic debris and other foundry Slag mixed in throughout, aplastic, no odor, loose, dry.		SAND	Grout (0.6' - 1.8' bgs)
		3	4-6	4	5	0.0	NA	NA		Brick fragments and Wood, moist at 4.0' bgs.			2" ID Sch. 40 PVC Riser (0' - 6.0' bgs)
740		4	6-8	1	2	0.5	3.4	-	OL	Black (10YR 5/1) FAT CLAY with Silt (OL), possibly Organic-rich indicated by Plant debris such as Root fragments and Wood debris, increasing Sand content with depth, soft, very plastic, no odor, saturated. Alluvial/Riverine - low energy environment of deposition.		CLAY AND SILT	Hydrated Bentonite Seal (1.8' - 4.1' bgs)
10		5	8-10	2	7	1.1	5.4	-		Brown (10YR 5/3) fine subangular to subrounded POORLY GRADED SILTY SAND (SM), few to little Clay with increased Clay content in patches, loose, no odor, saturated. Glacio-Alluvial.			
735		6	10-12	4	5	1.5	0.0	-	SM	Gray (10YR 5/1) to brown (10YR 5/3) Silt (ML) lenses up to 5" thick, saturated throughout below 11' bgs.		SILTY SAND	#5 Well Sand Pack (4.1' - 16' bgs)
		7	12-14	6	6	1.3	0.0	-		Fines downward below 12' bgs.			
15		8	14-16	5	7	1.2	0.0	-	ML	Gray (10YR 5/1) SILT (ML), few fine subrounded Gravel, little to some Clay, aplastic, no odor, loose, saturated. Glacio-Alluvial.		SILT	2" ID Sch. 40 PVC 0.010" Slotted Screen (6.0' - 16' bgs)



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.  
 Samples collected from 0.6 - 2.6' bgs.

**Water Level Data**

Date	Depth	Elev.
4/11/03	6.0	

Date Start/Finish: 7/21/05  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-75 Truck-Mount

Northing: 560823.79  
 Easting: 13306222.82  
 Casing Elevation: 727.23' AMSL

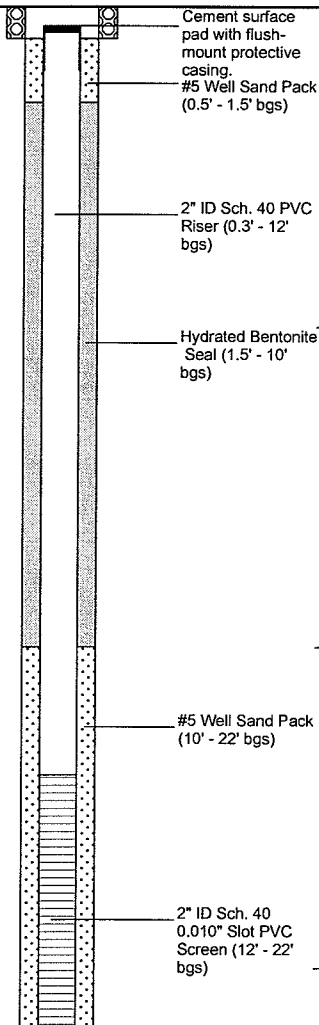
Well/Boring ID: RFI-84-03S

Client: General Motors

Borehole Depth: 22' below grade  
 Surface Elevation: NA

Location: General Motors NAO Flint  
 Flint, Michigan

Descriptions By: R. Tuttle/J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Augered without sampling to 22' bgs. For geologic descriptions see RFI-84-03D.	 <p>Cement surface pad with flush-mount protective casing.            #5 Well Sand Pack (0.5' - 1.5' bgs)            2" ID Sch. 40 PVC Riser (0.3' - 12' bgs)            Hydrated Bentonite Seal (1.5' - 10' bgs)            #5 Well Sand Pack (10' - 22' bgs)            2" ID Sch. 40 0.010" Slot PVC Screen (12' - 22' bgs)</p>
5	-5											
10	-10											
15	-15											



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

**Client:**

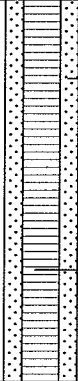
General Motors

**Well/Boring ID:** RFI-84-03S

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 22' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20											Augered without sampling to 22' bgs. For geologic descriptions see RFI-84-03D.	 <p>#5 Well Sand Pack (10' - 22' bgs)</p> <p>2" ID Sch. 40 0.010" Slot PVC Screen (12' - 22' bgs)</p>
25-25												
30-30												
35-35												



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 7/20/05  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-75 Truck-Mount

Northing: 560827.64  
 Easting: 13306219.64  
 Casing Elevation: 727.13' AMSL

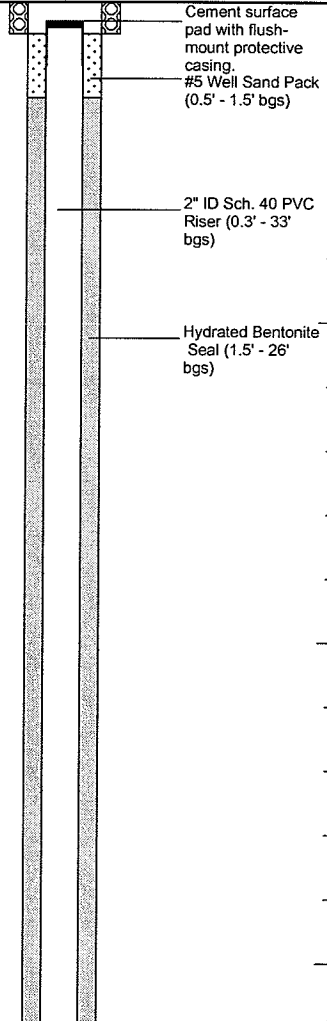
Well/Boring ID: RFI-84-031

Client: General Motors

Borehole Depth: 33' below grade  
 Surface Elevation: NA

Location: General Motors NAO Flint  
 Flint, Michigan

Descriptions By: R. Tuttle/J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
5	-5										Augered without sampling to 33' bgs. For geologic descriptions see RFI-84-03D.	 <p>Cement surface pad with flush-mount protective casing.            #5 Well Sand Pack (0.5' - 1.5' bgs)            2" ID Sch. 40 PVC Riser (0.3' - 33' bgs)            Hydrated Bentonite Seal (1.5' - 26' bgs)</p>
10	-10											
15	-15											



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

**Client:**

General Motors

**Well/Boring ID:** RFI-84-03I

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 33' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20											Augered without sampling to 33' bgs. For geologic descriptions see RFI-84-03D.	<p>2" ID Sch. 40 PVC Riser (0.3' - 33' bgs)</p> <p>Hydrated Bentonite Seal (1.5' - 26' bgs)</p> <p>#5 Well Sand Pack (26' - 33' bgs)</p> <p>2" ID Sch. 40 0.010" Slot PVC Screen (28' - 33' bgs)</p>
25-25												
30-30												
35-35												



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level;  
NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 7/19/05 - 7/20/05  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-75 Truck-Mount

Northing: 560822.40  
 Easting: 13306218.90  
 Casing Elevation: 727.20' AMSL

Well/Boring ID: RFI-84-03D

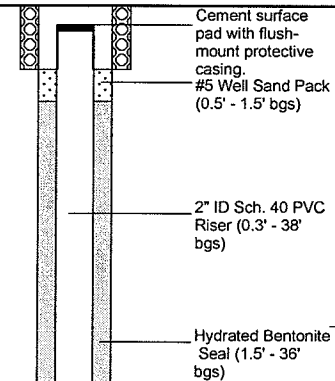
Client: General Motors

Borehole Depth: 46' below grade  
 Surface Elevation: NA

Location: General Motors NAO Flint  
 Flint, Michigan

Descriptions By: R. Tuttle/J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/In/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										CONCRETE.	
		1	0-2	NA	NA	NA	NA		FL			
		2	2-4	2	5	0.75	0.0		CL		Brown (10YR 4/3) LEAN CLAY with Silt (CL), little fine Sand, few fine subrounded Gravel and coarse Sand, slightly plastic, medium stiff, no odor, dry. Native Clay used as Fill.	
		3	4-6	3	8	1.25	0.0		CL			
		4	6-8	3	3	1.1	0.0		SP		Dark yellow-brown (10YR 4/4) fine POORLY-GRADED SAND (SP), few fine subangular Gravel and Clay, loose, no odor, moist. Fill. 1"-thick Clay lenses from 7.5' - 8.0' bgs.	
		5	8-10	2	4	1.0	0.0		CL		Brown (10YR 4/3) LEAN CLAY with Silt (CL), some fine Sand, few fine subrounded Gravel and coarse Sand, slightly plastic, medium stiff, no odor, moist. Native Clay used as Fill.	
		6	10-12	1	7	1.75	0.0		ML		Dark yellow-brown (10YR 4/4), with gray (10YR 4/1) mottling, CLAYEY SILT (ML), medium dense, no odor, moist.	
		7	12-14	3	7	1.4	0.0		CL		Gray (10YR 4/1) LEAN CLAY with Silt (CL), little very fine Sand, orange oxidation to 12.5' bgs, moderately plastic, medium stiff, no odor, moist.	
		8	14-16	1	6	1.5	0.0		SP		Gray (10YR 5/1) fine POORLY-GRADED SAND (SP), trace fine subrounded Gravel, loose, no odor, saturated.	



**Remarks:**

bgs = below ground surface; AMSL= Above Mean Sea Level;  
 NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

**Client:**  
General Motors

**Well/Boring ID:** RFI-84-03D

**Site Location:**  
General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 46' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20		9	16-18	2	6	1.0	0.0				Gray (10YR 5/1) fine to coarse WELL-GRADED SAND (SW), little fine subangular Gravel, trace medium subrounded Gravel, loose, no odor, saturated. Fluvial Deposit.	2" ID Sch. 40 PVC Riser (0.3' - 38' bgs)
				2								
				4								
20-20		10	18-20	4	12	2.0	0.0				Medium dense below 18' bgs.	
				6								
				8								
20-20		11	20-22	4	20	2.0	0.0				Light brownish-gray (5YR 6/1) fine to coarse WELL-GRADED SAND (SW), little fine to medium subrounded to subangular Gravel, medium dense, no odor, saturated. Fluvial Deposit.	Hydrated Bentonite Seal (1.5' - 36' bgs)
				5								
				15								
25-25		12	22-24	2	21	1.0	0.0		SW		Light brownish-gray (5YR 6/1) fine to coarse WELL-GRADED SAND (SW), little fine to medium subrounded to subangular Gravel, medium dense, no odor, saturated. Fluvial Deposit.	
				9								
				12								
25-25		13	24-26	4	12	1.0	0.0				Trace coarse subrounded Gravel below 26' bgs.	
				5								
				7								
30-30		14	26-28	4	22	1.0	0.0				Light brownish-gray (5YR 6/1) SILT (ML), medium dense, no odor, saturated. Fluvial Deposit.	
				8								
				14								
30-30		15	28-30	5	21	1.5	0.0				Light brownish-gray Silt in tip of sampler.	
				9								
				12								
30-30		16	30-32	6	20	1.5	0.0		ML		Light brownish-gray (5YR 6/1) SILT (ML), medium dense, no odor, saturated. Fluvial Deposit.	
				8								
				12								
35-35		17	32-34	4	20	1.5	0.0				Light brownish-gray (5YR 6/1) fine to coarse WELL-GRADED SAND (SW), little fine to medium subrounded to subangular Gravel, medium dense, no odor, saturated. Fluvial Deposit.	
				9								
				11								
35-35		18	34-36	3	17	1.8	0.0		SP		Brownish-gray (5YR 4/1) fine to medium POORLY-GRADED SAND (SP), trace Silt and coarse Sand, medium dense, saturated. Fluvial Deposit.	
				7								
				10								



**Remarks:**

bgs = below ground surface; AMSL= Above Mean Sea Level;  
NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

**Client:**  
General Motors

**Well/Boring ID:** RFI-84-03D

**Site Location:**  
General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 46' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
40-40		19	36-38	5 20 14	34	1.5	0.0		SP		Brownish-gray (5YR 4/1) fine to medium POORLY-GRADED SAND (SP), trace Silt and coarse Sand, medium dense, saturated. Fluvial Deposit.	
		20	38-40	10 20 25	45	1.5	0.0					
		21	40-42	6 12 12 20	24		0.0					
45-45		22	42-44	5 7 15	22	1.5	0.0		CL		LIMESTONE Rock fragments.	
				20							Brownish-gray (5YR 4/1) fine SANDY CLAY (CL), trace to little Silt, hard, no odor, damp. Some fine subangular to subrounded Gravel below 44' bgs.	
		23	44-46	10 20 70	90	1.5	0.0					
50-50												
55-55												



**Remarks:**

bgs = below ground surface; AMSL= Above Mean Sea Level;  
NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 7/21/05  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-75 Truck-Mount

Northing: 560971.64  
 Easting: 13306087.83  
 Casing Elevation: 727.23' AMSL

Well/Boring ID: RFI-84-04I

Client: General Motors

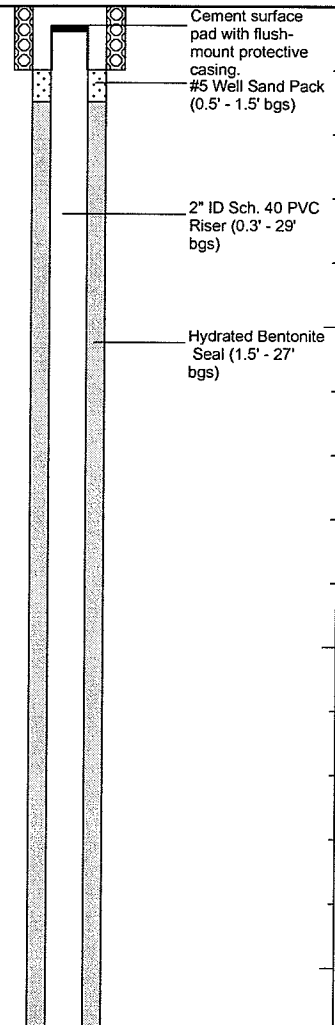
Borehole Depth: 34' below grade  
 Surface Elevation: NA

Location: General Motors NAO Flint  
 Flint, Michigan

Descriptions By: R. Tuttle/J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
5	-5											
10-10												
15-15												

Augered without sampling to 34' bgs. For geologic descriptions see RFI-84-04D.



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

**Client:**

General Motors

**Well/Boring ID:** RFI-84-04I

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 34' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20											Augered without sampling to 34' bgs. For geologic descriptions see RFI-84-04D.	<p>2" ID Sch. 40 PVC Riser (0.3' - 29' bgs)</p> <p>Hydrated Bentonite Seal (1.5' - 27' bgs)</p> <p>#5 Well Sand Pack (27' - 34' bgs)</p> <p>2" ID Sch. 40 0.010" Slot PVC Screen (29' - 34' bgs)</p>
25-25												
30-30												
35-35												



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level;  
NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 7/21/05  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-75 Truck-Mount

Northing: 560972.35  
 Easting: 13306082.38  
 Casing Elevation: 727.08' AMSL

Well/Boring ID: RFI-84-04D

Client: General Motors

Borehole Depth: 50' below grade  
 Surface Elevation: NA

Location: General Motors NAO Flint  
 Flint, Michigan

Descriptions By: R. Tuttle/J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										CONCRETE.	
		1	0-2	NA	NA	NA	NA		FL			Cement surface pad with flush-mount protective casing. #5 Well Sand Pack (0.5' - 1.5' bgs)
		2	2-4	4	7	1.5	0.0				Brown (10YR 4/3) CLAY (CL), little fine Sand, few fine subrounded Gravel and medium to coarse Sand, medium stiff, extremely hard, no odor, damp. Fill.	2" ID Sch. 40 PVC Riser (0.3' - 42.5' bgs)
				3							Stiff below 4.0' bgs.	
5	-5	3	4-6	4	12	2.0	0.0				Very stiff below 6.0' bgs.	Hydrated Bentonite Seal (1.5' - 40' bgs)
				5								
		4	6-8	8	18	2.0	0.0					
				10								
				12								
		5	8-10	5	21	1.8	0.0		CL			
				9								
10	-10	6	10-12	10	28	1.8	0.0					
				12								
				16								
				20								
		7	12-14	4	18	2.0	0.0				Light brownish-gray (5YR 6/1) CLAY (CL), little fine Sand and fine subrounded to subangular Gravel, extremely hard, very stiff, no odor, damp.	
				6								
				12								
				14								
15	-15	8	14-16	4	18	2.0	0.0					
				8								
				10								
				2								



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

**Client:**  
General Motors

**Well/Boring ID:** RFI-84-04D

**Site Location:**  
General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 50' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20		9	16-18	4	18	2.0	0.0		CL		Light brownish-gray (5YR 6/1) CLAY (CL), little fine Sand and fine subrounded to subangular Gravel, extremely hard, very stiff, no odor, damp.	2" ID Sch. 40 PVC Riser (0.3' - 42.5' bgs)
				6							Trace Clay below 18' bgs.	
				12							Weathered Rock fragments at 19.3' bgs.	
25-25		10	18-20	3	12	1.8	0.0		ML			Hydrated Bentonite Seal (1.5' - 40' bgs)
				4								
				8								
30-30		11	20-22	4	20	2.0	0.0		ML			
				8								
				12								
35-35		12	22-24	4	16	2.0	0.0		SW			
				6								
				10								
35-35		13	24-26	NA	NA	2.0	0.0		SW			
				10								
				25								
35-35		14	26-28	10	50	2.0	0.0		SW			
				25								
				17								
35-35		15	28-30	10	30	2.0	0.0		SP			
				15								
				15								
35-35		16	30-32	4	8	2.0	0.0		SP			
				3								
				5								
35-35		17	32-34	2	8	2.0	0.0		SP			
				4								
				6								
35-35		18	34-36	4	19	2.0	0.0		SP			
				7								
				12								
				25								



**Remarks:**  
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NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

**Client:**

General Motors

**Well/Boring ID:** RFI-84-04D

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 50' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
40-40		19	36-38	5 8 13 20	21	2.0	0.0			SP	Light brownish-gray medium to coarse POORLY-GRADED SAND (SP), little to trace fine subrounded Gravel, trace Clay inclusions, medium dense, no odor, saturated. Fluvial Deposits.	<p>2" ID Sch. 40 PVC Riser (0.3' - 42.5' bgs)</p> <p>Hydrated Bentonite Seal (1.5' - 40' bgs)</p> <p>#5 Well Sand Pack (40' - 49' bgs)</p> <p>2" ID Sch. 40 0.010" Slot PVC Screen (42.5' - 47.5' bgs)</p> <p>2" ID Sch. 40 PVC Sump (47.5' - 49' bgs)</p> <p>Hydrated Bentonite Seal (49' - 50' bgs)</p>
		20	38-40	NA	NA	2.0	0.0				Light brownish-gray fine POORLY-GRADED SAND (SP), trace medium Sand, no odor, saturated.	
		21	40-42	10 14 25 22	39	1.5	0.0			Light brownish-gray medium to coarse POORLY-GRADED SAND (SP), trace fine subrounded Gravel, trace Clay inclusions, medium dense, no odor, saturated. Fluvial Deposits.		
		22	42-44	4 18 35 35	53	1.5	0.0					
45-45		23	44-46	NA	NA	1.5	0.0			SW	Light brownish-gray fine to coarse WELL-GRADED SAND (SW), some fine to coarse Gravel, little Silt, trace Clay and Rock fragments, no odor, wet to moist.	
		24	46-48	15 30 20 20	50	1.5	0.0					
50-50		25	48-50	18 25 30 30	55	1.5	0.0			CL	Brownish-gray (5YR 4/1) fine SANDY CLAY (CL), trace Silt, hard, no odor, damp.	
55-55												



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NA = Not Available/Not Applicable.

Water Level Data		
Date	Depth	Elev.

<b>Date Start/Finish:</b> 2/21/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID <b>Auger Size:</b> 4-1/4" <b>Rig Type:</b> CME 85	<b>Northing:</b> 560401.27 <b>Easting:</b> 13306155.18 <b>Casing Elevation:</b> 728.12 ft. AMSL  <b>Borehole Depth:</b> 13' bgs <b>Surface Elevation:</b> 728.54 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-84-06R <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730													
0									FL	ASPHALT. CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Grout (0.5' - 1.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 3.0' bgs) Hydrated Bentonite Seal (1.0' - 2.5' bgs)
1		1-3		15	34	2	0.0	-	CL	Brown (10YR 5/3) to yellow brown (10YR 5/4) SILTY LEAN CLAY (CL), little fine to coarse subrounded to rounded Sand, few fine to coarse rounded Gravel, weakly plastic, very stiff to hard, no odor, dry. Native Clay Till used as Backfill.		SILTY CLAY	
2		3-5		2	10	1.4	0.0	-	SP	Yellow-brown (10YR 5/4) fine to medium POORLY GRADED SAND (SP), little Silt, aplastic, medium dense to loose, saturated (perched?). Fill Sand.		SAND	
3		5-7		3	14	2	0.0	-	CL	Gray (10YR 5/1) SILTY LEAN CLAY, few fine to coarse subrounded to rounded Sand, trace fine to coarse rounded Gravel, weakly to moderately plastic, medium stiff, no odor, moist to damp. Saturated Sand and Silt lenses throughout up to 1" thick. Tiny stringers of water present throughout. Undisturbed Native Glacial Clay Till. Saturated Sand lense at 4.2' bgs.		SILTY CLAY	
4		7-9		2	15	2	0.0	-	CL	6"-thick saturated Silt lense at 9.3' bgs.		SILTY CLAY	#5 Well Sand Pack (2.5' - 13' bgs)
5		9-11		4	9	NA	0.0	-	CL	Saturated Silt lense from 11.4' - 12.2' bgs.		SILTY CLAY	2" ID Sch. 40 PVC 0.010" Slotted Screen (3.0' - 13' bgs)
6		11-13		3	31	NA	0.0	-	CL			SILTY CLAY	
715													
15													



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Not Available.

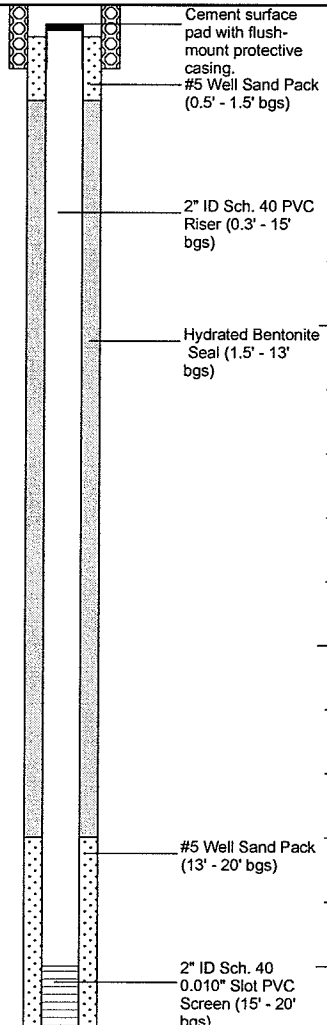
**Water Level Data**

Date	Depth	Elev.
2/20/03	11.4	

Date Start/Finish: 7/14/05  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-75 Truck-Mount

Northing: 560405.07  
 Easting: 13306158.44  
 Casing Elevation: 720.18' AMSL  
 Borehole Depth: 22' below grade  
 Surface Elevation: NA  
 Descriptions By: SM Duly

Well/Boring ID: RFI-84-06RD  
 Client: General Motors  
 Location: General Motors NAO Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Augered without sampling to 10' bgs. For geologic descriptions see RFI-84-06R2.	
10-10		1	10-12	5 8 10 12	18	1.5	0.0		ML	Gray (10YR 5/1) SILT (ML), few Clay, brittle, no odor, dry to damp.		
		2	12-14	10 15 25	NA	1.0	0.0		ML			
15-15		3	14-16	8 10 10 15	20	1.5	0.0		SP	Gray fine POORLY-GRADED SAND (SP), little silt, loose, no odoe, saturated.		



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 NA = Not Available/Not Applicable.

Water Level Data		
Date	Depth	Elev.

**Client:**

General Motors

**Well/Boring ID:** RFI-84-06RD

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 22' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20		4	16-18	4	12	1.1	0.0		SP		Gray fine POORLY-GRADED SAND (SP), little Silt, loose, no odoe, saturated.	
				6								
20-20		6	18-20	6	36	1.2	0.0		SW		Gray fine to coarse WELL-GRADED SAND (SW), little fine subrounded Gravel, loose, no odor, saturated.	
				8								
20-20		7	20-22	10	60	0.5	0.0		ML		Gray (10YR 5/1) CLAYEY SILT (ML), few fine to coarse subrounded Sand, hard, no odor, moist.	
				18								
20-20				18								
				20								
20-20				15								
				30								
20-20				30								
				30								
20-20				30								
				30								
25-25												
30-30												
35-35												



**Remarks:**

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NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 6/30/2005  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-75 Truck-Mount

Northing: 560993.31  
 Easting: 13306252.29  
 Casing Elevation: 727.12' AMSL

Well/Boring ID: RFI-84-07

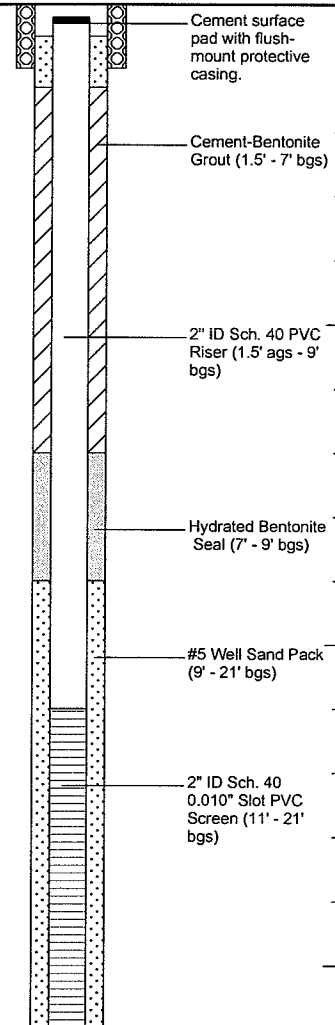
Client: General Motors

Borehole Depth: 22' below grade  
 Surface Elevation: NA

Location: General Motors NAO Flint  
 Flint, Michigan

Descriptions By: Kristina Gross

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0			NA	NA						CONCRETE. Auger to 2' bgs.	
1		2-4		3	8	1.4	0.0		ML		Light brown SILT (ML), some fine to medium Sand, trace Cinders, hard, dry. [FILL]	
2	-5	4-6		4	8	1.4	0.0		SP		Light brown fine SAND (SP), loose, dry.	
3		6-8		3	9	1.0	1.6		ML		Light brown SILT (ML), little fine Sand, medium stiff, dry.	
4		8-10		2	12	1.5	3.0		ML		Light gray CLAYEY SILT (ML), some orange mottling, medium stiff, moist.	
5	-10	10-12		8	19	1.8	0.8		CL		Light orangish-brown SILT (ML), medium stiff, moist.	
6		12-14		4	8	1.0	0.8		ML		Light pinkish-gray SILTY CLAY (CL), stiff, moist.	
7	-15	14-16		2	10	1.0	1.8		ML		Light pinkish-gray CLAYEY SILT (SP), medium stiff, moist to wet at 14' bgs.	



**Remarks:**

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 NA = Not Available/Not Applicable.

Soil samples RFI-84-07(2-4) and RFI-84-07(14-16) collected for PAL analysis.

**Water Level Data**

Date	Depth	Elev.

**Client:**  
General Motors

**Well/Boring ID:** RFI-84-07

**Site Location:**  
General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 22' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows /6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
8		16-18		2 3 3 5	6	1.8	0.7		ML		Light pinkish-gray CLAYEY SILT (SP), medium stiff, moist to wet at 14' bgs.	<p>#5 Well Sand Pack (9' - 21' bgs)</p> <p>2" ID Sch. 40 0.010" Slot PVC Screen (11' - 21' bgs)</p> <p>Formation Collapse (21' - 22' bgs)</p>
9		18-20		2 3 3 3	6	2.0	0.6		SP		Brown fine to medium SAND (SP), loose, wet.	
10		20-22		1 2 2 2	4	1.5	NA					
25-25											End of boring at 22' bgs.	
30-30												
35-35												



**Remarks:**

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Soil samples RFI-84-07(2-4) and RFI-84-07(14-16) collected for PAL analysis.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 7/18/05  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-75 Truck-Mount

Northing: 560988.38  
 Easting: 13306251.60  
 Casing Elevation: 727.52' AMSL

Well/Boring ID: RFI-84-07D

Client: General Motors

Borehole Depth: 31' below grade  
 Surface Elevation: NA

Location: General Motors NAO Flint  
 Flint, Michigan

Descriptions By: SM Duly

DEPTH	ELEVATION	Sample Run Number	Sample/int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
1		0-2	NA	NA	NA	NA			FL		CONCRETE.	<p>Cement surface pad with flush-mount protective casing.            #5 Well Sand Pack (0.5' - 1.5' bgs)            2" ID Sch. 40 PVC Riser (0.3' - 24' bgs)            Hydrated Bentonite Seal (1.5' - 22' bgs)</p>
2		2-4	2	3	6	1.4	0.0		CL		Yellow-brown (10YR 5/4), with gray (10YR 4/1) mottling, LEAN CLAY with Silt (CL), little fine Sand, few fine subrounded Gravel, slightly plastic, stiff, no odor, dry. Native Clay used as Fill.	
3	-5	4-6	2	3	7	1.5	0.0		SP		Dark yellow-brown (10YR 4/4) fine to medium POORLY-GRADED SAND (SP), no odor, loose, damp.	
4		6-8	3	3	8	1.3	0.0		CL		Yellow-brown (10YR 5/4), with gray (10YR 4/1) mottling, LEAN CLAY with Silt (CL), little fine Sand, few fine subrounded Gravel, slightly plastic, stiff, no odor, dry. Native Clay used as Fill.	
5		8-10	2	3	11	1.7	0.0		CL		No mottling, trace fine angular Gravel, damp below 8.0' bgs.	
6	10-10	10-12	3	5	13	1.8	0.0		CL		Gray (10YR 4/1) mottling and orange oxidation below 10' bgs.	
7		12-14	3	3	12	1.7	0.0		CL		Gray (10YR 4/1) LEAN CLAY with Silt (CL), few fine subrounded Gravel and coarse Sand, slightly plastic, stiff, no odor, damp.	
8	15-15	14-16	4	4	8	1.5	0.0		ML		Gray (10YR 4/1) CLAYEY SILT (ML), medium dense, no odor.	



**Remarks:**

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 NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

**Client:**

General Motors

**Well/Boring ID:** RFI-84-07D

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 31' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
9	16-18			1	11	1.6	0.0		ML		Gray (10YR 4/1) CLAYEY SILT (ML), medium dense, no odor.	2" ID Sch. 40 PVC Riser (0.3' - 24' bgs)
				4								
				7								
10	18-20			1	2	1.0	0.0		CL		Dark gray-brown (10YR 4/2) fine to medium POORLY-GRADED SAND (SP), little fine subrounded Gravel, loose, no odor, saturated.	Hydrated Bentonite Seal (1.5' - 22' bgs)
				1								
				1								
11	20-22			3	10	2.0	0.0		CL			
				3								
				7								
12	22-24			1	6	0.4	0.0		CL			
				2								
				4								
13	24-26			2	10	2.0	0.0		CL			#5 Well Sand Pack (22' - 31' bgs)
				4								
				6								
14	26-28			2	7	2.0	0.0		SP		Dark gray-brown (10YR 4/2) fine to coarse WELL-GRADED SAND (SP), little fine subrounded Gravel, slight fuel odor, loose, saturated.	2" ID Sch. 40 0.010" Slot PVC Screen (24' - 29' bgs)
				2								
				5								
15	28-30			5	43	1.25	0.0		CL		Gray (10YR 4/1) LEAN CLAY with Silt (CL), few fine subrounded Gravel and coarse Sand, slightly plastic, stiff to very stiff, damp. Native Clay Till.	2" ID Sch. 40 PVC Sump (29' - 31' bgs)
				8								
				35								
30-30				35					CL			
				35								
35-35												



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.

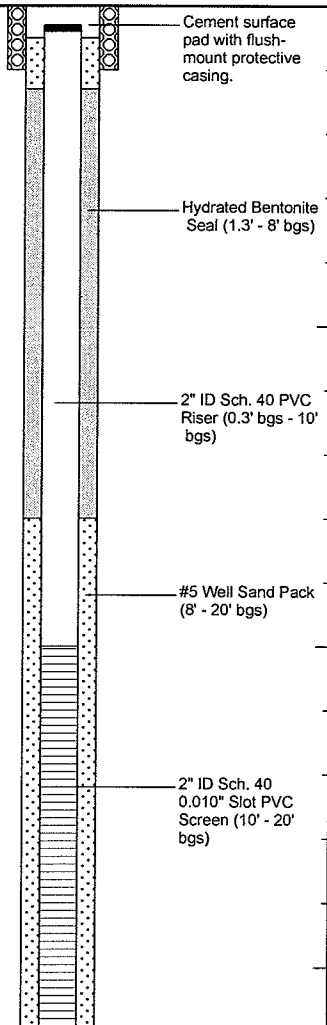
**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 6/28/2005 - 6/29/05  
 Drilling Company: Altech Inc.  
 Driller's Name: Daniel Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4"  
 Rig Type: CME-75 Truck-Mount

Northing: 560846.21  
 Easting: 13306316.33  
 Casing Elevation: 727.22' AMSL  
 Borehole Depth: 20' below grade  
 Surface Elevation: NA  
 Descriptions By: Kristina Gross/ Wayne Patterson

Well/Boring ID: RFI-84-08S  
 Client: General Motors  
 Location: General Motors NAO Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Augered without sampling to 20' bgs. For geologic descriptions see RFI-84-08D.	 <p>Cement surface pad with flush-mount protective casing.            Hydrated Bentonite Seal (1.3' - 8' bgs)            2" ID Sch. 40 PVC Riser (0.3' bgs - 10' bgs)            #5 Well Sand Pack (8' - 20' bgs)            2" ID Sch. 40 0.010" Slot PVC Screen (10' - 20' bgs)</p>
5	-5											
10	-10											
15	-15											



**Remarks:**  
 bgs = below ground surface; AMSL = Above Mean Sea Level;  
 NA = Not Available/Not Applicable.  
 Soil samples RFI-84-08(2-3), RFI-84-08(8-10), and RFI-84-08(28-30) collected for PAL analysis.

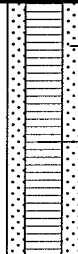
Water Level Data		
Date	Depth	Elev.

**Client:**  
General Motors

**Well/Boring ID:** RFI-84-08S

**Site Location:**  
General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 20' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20											Augered without sampling to 20' bgs. For geologic descriptions see RFI-84-08D.	 <p>#5 Well Sand Pack (8' - 20' bgs)</p> <p>2" ID Sch. 40 0.010" Slot PVC Screen (10' - 20' bgs)</p>
25-25											End of boring at 20' bgs.	
30-30												
35-35												



**Remarks:**

bgs = below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable.

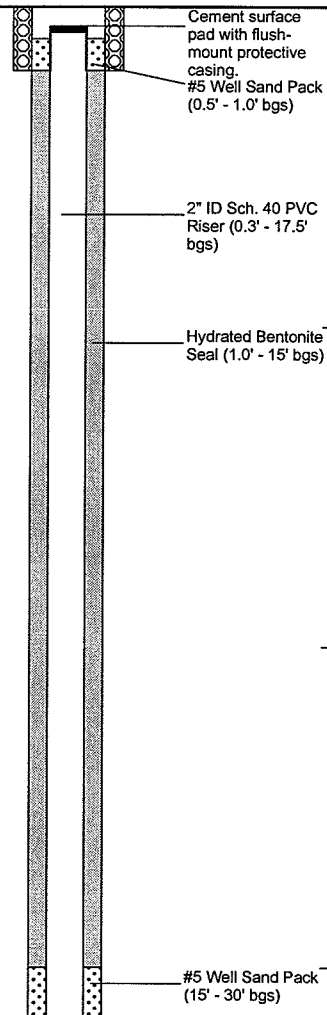
Soil samples RFI-84-08(2-3), RFI-84-08(8-10), and RFI-84-08(28-30) collected for PAL analysis.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 7/15/05 <b>Drilling Company:</b> Altech Inc. <b>Driller's Name:</b> Daniel Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" <b>Rig Type:</b> CME-75 Truck-Mount	<b>Northing:</b> 13306505.69 <b>Easting:</b> 560507.35 <b>Casing Elevation:</b> 719.27  <b>Borehole Depth:</b> 34' below grade <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Well/Boring ID:</b> RFI-84-09D  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0			3					FL	ASPHALT.		
1		0-2		4	NA	1.0	0.0				Dark yellow-brown (10YR 3/4) to black (10YR 2/1) fine POORLY-GRADED SAND (SP), little Slag, loose, no odor, dry. Foundry Sand.	
2		2-4		4	10	1.0	0.0				Black (7.5 7/1) color below 3.8' bgs. Increased Slag to some, Cinders and Metallic fragments present below 4.0' bgs.	
3	-5	4-6		2	4	1.2	NA		SP		Black (10YR 2/1) fine to very fine POORLY-GRADED SAND (SP), some angular fine to coarse sand-sized Slag, Cinders, and Metallic fragments, loose, no odor, dry to damp. Foundry Sand.	
4		6-8		2	8	1.0	0.0				No Recovery.	
5		8-10		4	12	0.0	NA					
6	10-10	10-12		2	7	1.0	0.0		FL	x x x x x x x x x x x x x x x	Black (10YR 2/1) FILL consisting of very fine to fine Poorly-Graded Sand, Concrete rubble, saturated.	
7		12-14		2	4	1.0	0.0				Olive (5Y 5/3) , with yellow-brown (10YR 5/6) mottling, LEAN CLAY with Silt (CL), some fine Sand, very soft, moderately plastic, no odor, saturated. Reworked Native Glacial Till.	
8	15-15	14-16		2	4	1.0	0.0		CL			



**Remarks:**  
 bgs = below ground surface; NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

**Client:**  
General Motors

**Well/Boring ID:** RFI-84-09D

**Site Location:**  
General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 34' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction	
9	16-18			3 4 6 6	10	1.0	0.0				Gray (10YR 5/1) fine to medium POORLY-GRADED SAND (SP), trace fine subangular Gravel, loose, no odor, saturated.		
10	18-20			1 1 1 2	2	2.0	0.0						
11	20-22			1 1 1 2	2	1.75	0.0		SP				
12	22-24			6 9 11 13	20	2.0	0.0						
13	24-26			6 9 11 11	20	2.0	0.0						
14	26-28			6 7 10 14	17	2.0	0.0		ML		Gray (10YR 5/1) CLAYEY SILT (ML), some fine to very fine Sand, loose to medium dense, no odor, saturated.		
15	28-30			12 18 20 20	38	0.7	0.0				Gray (10YR 5/1) LEAN CLAY with Silt (CL), few fine subrounded Gravel and medium Sand, stiff, slightly plastic, no odor, damp to moist. Native Glacial Clay Till.		
16	30-32			18 25 30 40	55	1.0	0.0		CL				
17	32-34			18 25 30 50	55	1.5	0.0				Pink mottling below 33.25' bgs.		
35-35													



**Remarks:**


bgs = below ground surface; NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 7/16/05 <b>Drilling Company:</b> Altech Inc. <b>Driller's Name:</b> Troy Barber <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" <b>Rig Type:</b> CME-75 Truck-Mount	<b>Northing:</b> 13306498.58 <b>Easting:</b> 560512.49 <b>Casing Elevation:</b> 719.43  <b>Borehole Depth:</b> 15' below grade <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Well/Boring ID:</b> RFI-84-09S  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											Cement surface pad with flush-mount protective casing.  2" ID Sch. 40 PVC Riser (0.3' - 3.0' bgs) Hydrated Bentonite Seal (1.0' - 3.0' bgs)  #5 Well Sand Pack (3.0' - 15' bgs)  2" ID Sch. 40 0.010" Slot PVC Screen (5.0' - 15' bgs)
5	-5										Augered without sampling to 15' bgs. For geologic descriptions see RFI-84-09D.	
10	-10											
15	-15											

	<b>Remarks:</b> bgs = below ground surface; NA = Not Available/Not Applicable.  Soil samples RFI-84-09S (0.5-2.5) and RFI-84-09S (8-10) collected for laboratory analysis.	<b>Water Level Data</b> <table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.												
	Date	Depth	Elev.														

**Date Start/Finish:** 7/15/05  
**Drilling Company:** Altech Inc.  
**Driller's Name:** Daniel Wells  
**Drilling Method:** HSA/SS  
**Sampler Size:** 2' x 2" ID  
**Auger Size:** 4 1/4"  
**Rig Type:** CME-75 Truck-Mount

**Northing:** 13306505.69  
**Easting:** 560507.35  
**Casing Elevation:** 719.27  
**Borehole Depth:** 34' below grade  
**Surface Elevation:** NA  
**Descriptions By:** SM Duly

**Well/Boring ID:** RFI-84-09D  
**Client:** General Motors  
**Location:** General Motors NAO Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
		1	0-2	3 4 7	NA	1.0	0.0		FL	ASPHALT.		Cement surface pad with flush-mount protective casing. #5 Well Sand Pack (0.5' - 1.0' bgs)
		2	2-4	4 4 6 7	10	1.0	0.0		SP	Dark yellow-brown (10YR 3/4) to black (10YR 2/1) fine POORLY-GRADED SAND (SP), little Slag, loose, no odor, dry. Foundry Sand.		2" ID Sch. 40 PVC Riser (0.3' - 17.5' bgs)
5	-5	3	4-6	2 2 3	4	1.2	NA		SP	Black (7.5 7/1) color below 3.8' bgs. Increased Slag to some, Cinders and Metallic fragments present below 4.0' bgs.		Hydrated Bentonite Seal (1.0' - 15' bgs)
		4	6-8	2 3 5 6	8	1.0	0.0		SP	Black (10YR 2/1) fine to very fine POORLY-GRADED SAND (SP), some angular fine to coarse sand-sized Slag, Cinders, and Metallic fragments, loose, no odor, dry to damp. Foundry Sand.		
		5	8-10	4 5 7 8	12	0.0	NA			No Recovery.		
10	-10	6	10-12	2 3 4 5	7	1.0	0.0		FL	Black (10YR 2/1) FILL consisting of very fine to fine Poorly-Graded Sand, Concrete rubble, saturated.		
		7	12-14	2 2 2	4	1.0	0.0		CL	Olive (5Y 5/3), with yellow-brown (10YR 5/6) mottling, LEAN CLAY with Silt (CL), some fine Sand, very soft, moderately plastic, no odor, saturated. Reworked Native Glacial Till.		
15	-15	8	14-16	2 2 2	4	1.0	0.0		CL			#5 Well Sand Pack (15' - 30' bgs)



**Remarks:**  
 bgs = below ground surface; NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

**Client:**

General Motors

**Well/Boring ID:** RFI-84-09D

**Site Location:**

General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 34' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20		9	16-18	3 4 6 6	10	1.0	0.0		SP		Gray (10YR 5/1) fine to medium POORLY-GRADED SAND (SP), trace fine subangular Gravel, loose, no odor, saturated.	<p>#5 Well Sand Pack (15' - 30' bgs)</p> <p>2" ID Sch. 40 PVC Riser (0.3' - 17.5' bgs)</p> <p>2" ID Sch. 40 0.010" Slot PVC Screen (17.5' - 27.5' bgs)</p> <p>2" ID Sch. 40 PVC Sump (27.5' - 29.5' bgs)</p> <p>Hole Plug (30' - 34' bgs)</p>
		10	18-20	1 1 2	2	2.0	0.0					
25-25		11	20-22	1 1 1 2	2	1.75	0.0		SP			
		12	22-24	6 9 11 13	20	2.0	0.0					
30-30		13	24-26	6 9 11 11	20	2.0	0.0		ML		Gray (10YR 5/1) CLAYEY SILT (ML), some fine to very fine Sand, loose to medium dense, no odor, saturated.	
		14	26-28	6 7 10 14	17	2.0	0.0					
35-35		15	28-30	12 18 20 20	38	0.7	0.0		CL		Gray (10YR 5/1) LEAN CLAY with Silt (CL), few fine subrounded Gravel and medium Sand, stiff, slightly plastic, no odor, damp to moist. Native Glacial Clay Till.	
		16	30-32	18 25 30 40	55	1.0	0.0					
		17	32-34	18 25 30 50	55	1.5	0.0				Pink mottling below 33.25' bgs.	



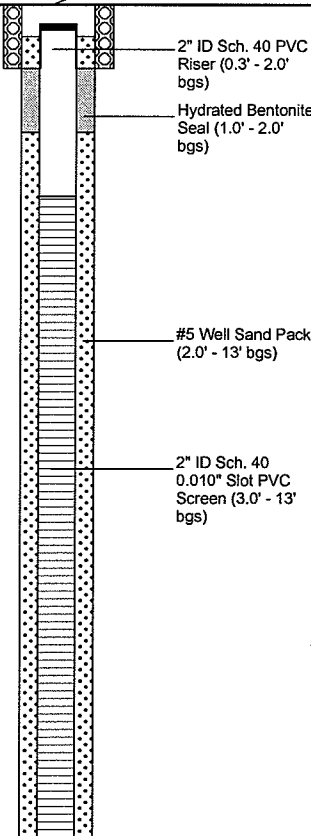
**Remarks:**


bgs = below ground surface; NA = Not Available/Not Applicable.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 7/16/05 <b>Drilling Company:</b> Altech Inc. <b>Driller's Name:</b> Troy Barber <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" <b>Rig Type:</b> CME-75 Truck-Mount	<b>Northing:</b> 13306426.25 <b>Easting:</b> 560667.93 <b>Casing Elevation:</b> 718.70  <b>Borehole Depth:</b> 13' below grade <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Well/Boring ID:</b> RFI-84-10S  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
5	-5										Augered without sampling to 13' bgs. For geologic descriptions see RFI-84-08D.	
10	-10											
15	-15											

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers, scientists, economists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Available/Not Applicable.  Soil samples RFI-84-09S (0.7-2.7) and RFI-84-09S (2.7-4.7) collected for laboratory analysis.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 7/15/05 <b>Drilling Company:</b> Altech Inc. <b>Driller's Name:</b> Daniel Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" <b>Rig Type:</b> CME-75 Truck-Mount	<b>Northing:</b> 13306429.97 <b>Easting:</b> 560663.21 <b>Casing Elevation:</b> 718.64  <b>Borehole Depth:</b> 29' below grade <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Well/Boring ID:</b> RFI-84-10D  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows /6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0			-					FL	ASPHALT.		
		1	0-2	3	6	1.0	0.0	-	SP	Yellow-brown (10YR 5/6) fine to coarse, predominantly medium, angular to subangular POORLY-GRADED SAND (SP), few Silt, few Silt, aplastic, no odor, loose, damp. [FILL SAND]		Cement surface pad with flush-mount protective casing.
				3						Very dark gray-brown (10YR 3/2) LEAN CLAY with Silt (CL), some fine to coarse angular to subangular Sand, few fine to coarse angular Gravel, occasional ground up Glass fragments, fine gravel-sized Cinder fragments, no odor, soft, damp to moist. [FILL] Brick fragments and Concrete, wet to moist at 3.0' bgs.		2" ID Sch. 40 PVC Riser (0.3' - 16' bgs)
		2	2-4	1	7	1.4	0.0	-				
				3								
				4								
5	-5	3	4-6	1	4	0.8	0.0	-	CL	Saturated below 5.0' bgs.		Hydrated Bentonite Seal (1.5' - 14' bgs)
				3								
		4	6-8	1	2	1.5	0.0	-				
				3								
		6	8-10	1	10	1.8	0.0	-				
				2								
				8								
10-10				9								
		7	10-12	2	16	1.6	0.0	-				
				5								
				11								
				18								
		8	12-14	3	25		0.0	-	ML	Saturated below 13' bgs.		
				9								
				16								
				11								
15-15		9	14-16	3	30	1.5	0.0	-				#5 Well Sand Pack (14' - 28.5' bgs)
				16								
				14								
				11								



**Remarks:**  
 bgs = below ground surface; NA = Not Available/Not Applicable; +/- = positive/negative shake test result.

**Water Level Data**

Date	Depth	Elev.

**Client:**  
General Motors

**Well/Boring ID:** RFI-84-10D

**Site Location:**  
General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 29' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction	
20-20		10	16-18	19 28 29 14	57	1.6	0.0	-	ML		Gray (10YR 5/1) SILT (ML), little to some Clay, trace fine rounded Sand, aplastic, no odor, medium dense with increasing density with depth, damp. Glacial Till [NATIVE]		
		11	18-20	12 17 10	27	1.3	0.0	-			Occasional lenses of Lean Clay with Silt up to 1"-thick throughout below 16.8' bgs. Increased Clay content to Lean Clay with Silt below 18.8' bgs.		
25-25		12	20-22	5 7 10 12	12	1.7	0.0	-	SW		Gray (10YR 7/1) WELL GRADED fine to coarse subangular to subrounded SAND (SW), little fine to coarse subrounded to rounded Gravel, little Silt, few Clay, aplastic, medium dense, no odor, saturated. Rework Glacial Clay Till with water - Alluvial.		
		13	22-24	3 12 11 5	18	1.5	0.0	-			Fines downward to Poorly-Graded medium Sand (SP), little fine to coarse rounded Gravel from 21.7' - 22.7' bgs.  Occasional rounded Pebbles present, decreased Silt content to few, trace Clay below 23.6' bgs.		
30-30		14	24-26	6 10 17 12	27	1.8	0.0	-	CL		Increased coarsness to medium to coarse Gravel, Well-Graded Sand with Gravel (SW) below 24.7' bgs. Fines downward to Poorly-Graded fine Sand below 25.2' bgs.		
		15	26-28	50/6"	NA	0.5	0.0	-			Brown (10YR 5/3) LEAN CLAY with Silt (CL), few to little fine to coarse subrounded Sand, trace fine to coarse subrounded Gravel, very stiff to hard, dry. Native Glacial Clay Till.		
35-35													



**Remarks:**

bgs = below ground surface; NA = Not Available/Not Applicable; +/- = positive/negative shake test result.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 7/15/05 <b>Drilling Company:</b> Altech Inc. <b>Driller's Name:</b> Daniel Wells <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" <b>Rig Type:</b> CME-75 Truck-Mount	<b>Northing:</b> 13306549.04 <b>Easting:</b> 560946.93 <b>Casing Elevation:</b> 721.97  <b>Borehole Depth:</b> 24' below grade <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Well/Boring ID:</b> RFI-84-11  <b>Client:</b> General Motors  <b>Location:</b> General Motors NAO Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0			4					FL	ASPHALT.		<p>Cement surface pad with flush-mount protective casing.</p> <p>2" ID Sch. 40 PVC Riser (0.3' - 2.0' bgs)</p> <p>Hydrated Bentonite Seal (1.0' - 2.0' bgs)</p> <p>#5 Well Sand Pack (2.0' - 13' bgs)</p> <p>2" ID Sch. 40 0.010" Slot PVC Screen (3.0' - 13' bgs)</p>
1	0-2	1	0-2	5	12	1.5	0.0	-	CL	Very dark gray-brown (10YR 3/2) LEAN CLAY with Silt (CL), some to locally few fine to coarse subangular to subrounded Sand, most Sand consists of black angular Foundry Sand with Slag, Cinders, and Metallic debris, weakly plastic, no odor, damp. Fill and Foundry Sand.		
2	2-4	2	2-4	1	4	1.2	0.0	-	CL	Lenses of up to 3"-thick of yellow-brown (10YR 5/4) fine Poorly-graded Sand (SP), some Silt, present throughout.		
3	4-6	3	4-6	2	4	1.7	0.0	-	SP	Yellow-brown (10YR 5/4) POORLY GRADED fine subangular SAND (SP), little to some Silt, aplastic, very loose, no odor, damp, increasing moisture with depth. Becomes Well-Graded fine to coarse subrounded Sand (GW), saturated below 5.5' bgs.		
4	6-8	4	6-8	2	4	1.8	0.0	-	CL	Yellow-brown (10YR 5/4) with gray (10YR 5/1) mottling, LEAN CLAY with Silt (CL), few to trace fine to coarse subrounded to rounded Sand, decreasing mottling with depth, weakly to moderately plastic, stiff, no odor, damp. Native Glacial Clay Till. 1"- to 2"-thick lenses of fine to coarse subrounded Well-graded Sand (SW), few fine rounded Gravel, little Silt, few Clay, no odor, loose, saturated at 7.3 and 7.8' bgs.		
6	8-10	6	8-10	1	12	1.3	0.0	-	CL	2"-thick lenses of fine to coarse subrounded Well-graded Sand (SW), little Silt, few Clay, no odor, loose, saturated at 9.2' bgs. Homogeneous gray (10YR 5/1), no mottling, increased stiffness and decreased plasticity with depth below 9.4' bgs.		
7	10-12	7	10-12	2	16	1.7	0.0	-	ML	1"- to 2"-thick lenses of fine rounded Gravel, no odor, loose, saturated at 10.5' bgs.		
8	12-14	8	12-14	6	30	1.7	0.0	-	ML	Gray (10YR 5/1) SILT (ML), some to little Clay, trace to few fine to coarse subrounded to rounded Sand, aplastic, medium dense but with increasing density with depth, no odor, damp but becoming increasingly moist with depth. Glacial Till.		
9	14-16	9	14-16	10	75	1.2	0.0	-	ML	Zones of saturation throughout up to 8"-thick below 13' bgs.		
10-10				15						Increased Sand to some fine to coarse subangular to subrounded Sand, saturated below 14' bgs.		
15-15				25						Well-rounded Cobble in shoe, higher than expected blow counts due to presence of Cobble, damp to moist below 15' bgs.		

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 engineers, scientists, economists

**Remarks:**  
 bgs = below ground surface; NA = Not Available/Not Applicable; +/- = positive/negative shake test result.  
  
 Soil samples RFI-84-09S (0.5-2.5) and RFI-84-09S (3.5-5.5) collected for laboratory analysis.

Water Level Data		
Date	Depth	Elev.

**Client:**  
General Motors

**Well/Boring ID:** RFI-84-11

**Site Location:**  
General Motors NAO Flint  
Flint, Michigan

**Borehole Depth:** 24' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20-20	10	16-18		10 20 22 20	42	1.7	0.0	-	CL		Gray (10YR 6/1) LEAN CLAY with Silt (CL), little to few fine to coarse subrounded Sand, weakly plastic, very stiff to hard, no odor, damp. Native Glacial Clay Till.	
	11	18-20		10 26 36 20	62	1.5	0.0	-				
	12	20-22		10 29 30 39	59	1.8	0.0	-				
	13	22-24		9 20 25 20	45	1.3	0.0	-				
25-25											End of Boring at 24' bgs. Abandon hole and stop out to set well.	
30-30												
35-35												



**Remarks:**

bgs = below ground surface; NA = Not Available/Not Applicable; +/- = positive/negative shake test result.

Soil samples RFI-84-09S (0.5-2.5) and RFI-84-09S (3.5-5.5) collected for laboratory analysis.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 8/22/02 - 8/23/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 563489.17 <b>Easting:</b> 13305860.97 <b>Casing Elevation:</b> 746.74 ft. AMSL  <b>Borehole Depth:</b> 20' bgs <b>Surface Elevation:</b> 747.03 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-85-08  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0										FL	ASPHALT.		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
0-1		1	0-2	2	2	0.7	0.0			SW	Black (10YR 2/1) to very dark gray-brown (10YR 3/2) fine to coarse subangular to angular well graded SAND (SW), little Silt, few fine to coarse angular to subangular Gravel, trace to few Clay. Metallic building debris and Cinders present, aplastic, no odor, loose, dry. Foundry Sand.	Sand	Grout (0.5' - 2.5' bgs) 2" ID Sch. 40 PVC Riser (0' - 7.5' bgs)
1-2	745	2	2-4	1	2	1.5	0.0			SM	Yellow-brown (10YR 5/8) Silty fine subangular poorly graded SAND (SM), few Clay, rare fine to coarse rounded Gravel, aplastic, no odor, loose, dry. Fill Sand. 2" of Concrete fragments at 7.8' bgs.  Damp at 4.0' bgs.	Silty Sand	Hydrated Bentonite Seal (2.5' - 5.2' bgs)
2-3		3	4-6	2	4	1.6	0.0			ML	Black (10YR 2/1) SILT (ML), some subangular fine Sand, aplastic, no odor, loose, dry. Foundry Sand.	Silty Sand/Silt	
3-4	740	4	6-8	2	7	1.4	0.0			SM	Yellow-brown Silty SAND (SM) as above from 1.3' - 6.8' bgs.	Silty Sand	#5 Well Sand Pack (5.2' - 18' bgs)
4-5		5	8-10	3	5	1.5	0.0			CL	Yellow-brown (10YR 5/4) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, saturated Silt lenses throughout, very plastic, soft, no odor, moist. Native Clay Till used as backfill. 1"-thick Silt lens, saturated at 8.7' bgs. 2"-thick Silt lens, saturated at 9.0' bgs. 1/2"-thick Silt lens, saturated at 9.2' bgs. 3/4"-thick Silt lens, saturated at 9.5' bgs.	Silty Clay	2" ID Sch. 40 PVC 0.010" Slotted Screen (7.5' - 17.5' bgs)
5-6	735	6	10-12	2	4	1.3	0.0			CL	2"-thick Silt lens, saturated at 11' bgs. 1/2"-thick Silt lens, saturated at 11.2' bgs. 3"-thick Silt lens, saturated at 11.4' bgs. 2"-thick Silt lens, saturated at 12' bgs.	Silty Clay	
6-7		7	12-14	5	7	1.3	0.0			SM	4"-thick Silt lens, saturated at 12.8' bgs.  Yellow-brown (10YR 5/4) Silty SAND (SM) as above from 1.3' - 6.8' bgs, loose, saturated. Fill Sand (?).	Silty Sand	
7-8		8	14-16	3	9	1.4	0.0			SM	Yellow-brown (10YR 5/4) Silty SAND (SM) as above from 1.3' - 6.8' bgs, loose, saturated. Fill Sand (?).	Silty Sand	



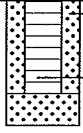
**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
8/21/02	13.3'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-85-08  
Borehole Depth: 20' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730	9	16-18		3 3 5 7	8	1.6	0.0	-	SM	SM	- 6.8' bgs, loose, saturated. Fill Sand (?). Gray (10YR 6/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to medium rounded Gravel, homogenous, medium stiff, very plastic, no odor, moist. Native Glacial Clay Till.	Jan	 <p>#5 Well Sand Pack (5.2' - 18' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (7.5' - 17.5' bgs)</p>
20	10	18-20		3 3 4 4	7	1.9	0.0	-	CL	CL	Becoming increasingly stiff and less plastic with depth.	Silty Clay	
725													
25													
720													
30													
715													
35													



Remarks: bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
8/21/02	13.3'	

<b>Date Start/Finish:</b> 2/27/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 85	<b>Northing:</b> 563106.92 <b>Easting:</b> 13306451.02 <b>Casing Elevation:</b> 731.51 ft. AMSL  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> 731.81 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-86-16 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0									FL	CONCRETE.		CONCRETE	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
730		1	0-2	23	50	1.1	0.0	-			Yellow-brown (10YR 5/4) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, dense, dry. Fill Sand.		Grout (1.0' - 4.1' bgs)
		2	2-4	10	11	20	1.5	0.0	SM		Moist to damp at 3.0' bgs.		2" ID Sch. 40 PVC Riser (0' - 8.0' bgs)
5		3	4-6	8	5	19	2.0	0.0					Hydrated Bentonite Seal (4.1' - 6.0' bgs)
725		4	6-8	4	8	17	2.0	0.0	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, weakly plastic, stiff, no odor, damp. Native Clay Till used as Backfill.		#5 Well Sand Pack (6.0' - 18' bgs)
		5	8-10	2	3	6	2.0	0.0	SM		Yellow-brown (10YR 5/4) fine subangular POORLY GRADED SILTY SAND (SM), few Clay, aplastic, no odor, dense, dry. Fill Sand.		
10		6	10-12	2	3	8	2.0	0.0			Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, saturated Silt and/or Sand lenses up to 2" thick throughout. homogeneous, weakly plastic, medium stiff, no odor, damp. Undisturbed Native Glacial Clay Till.		2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
720		7	12-14	2	3	6	1.2	0.0	CL		1/2" thick Silt lens, saturated at 11.8' bgs.		
		8	14-16	3	2	5	1.6	0.0			2" thick saturated Silt lens at 12.8' bgs.		
15				3							2" thick saturated Silt lens at 14.5' bgs.		
				3							3" thick saturated fine poorly graded subangular Sand lense, little Silt, aplastic, loose at 15.8' bgs.		



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; WH = Weight of Hammer.  
 Samples collected from 0.8' - 2.8'(with MS/MSD), 7.8' - 9.8' and 9.8' - 11.8' bgs for PAL.

**Water Level Data**

Date	Depth	Elev.
2/27/03	11.8'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-86-16  
Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
715		9	16-18	4 10 10 12	20	1.6	0.0	-	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, saturated Silt and/or Sand lenses up to 2" thick throughout, homogeneous, weakly plastic, medium stiff, no odor, damp. Undisturbed Native Glacial Clay Till. Dry, becoming increasingly hard with depth below 16.8' bgs.	SILTY CLAY	#5 Well Sand Pack (6.0' - 18' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
20													
710													
25													
705													
30													
700													
35													



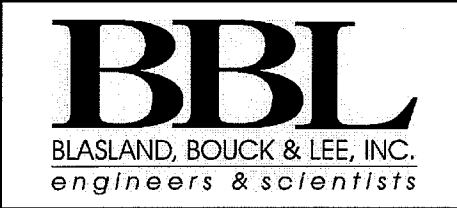
**Remarks:** bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; WH = Weight of Hammer.  
Samples collected from 0.8' - 2.8'(with MS/MSD), 7.8' - 9.8' and 9.8' - 11.8' bgs for PAL.

**Water Level Data**

Date	Depth	Elev.
2/27/03	11.8'	

<b>Date Start/Finish:</b> 4/1/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 4-1/4" ID <b>Rig Type:</b> CME 45B	<b>Northing:</b> 563108.36 <b>Easting:</b> 13306456.36 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 26' bgs <b>Surface Elevation:</b> 731.65 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-86-16R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	730										No samples collected from 0 - 10' bgs. See log for RFI-86-16 for geologic information.		Flushmount Grout (0 - 6.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 10' bgs)
5	725												Hydrated Bentonite Seal (6.0' - 8.0' bgs)
10	720	1	10-12	2 4 4 5	8	2.0	0.0	-	CL		Gray (10YR 5/1) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, few to trace fine to medium rounded Gravel, saturated Silt and Silty Sand lenses up to 2"-thick throughout, homogenous, moderately plastic, soft, no odor, damp to dry. Undisturbed Native Glacial Clay Till.  Saturated at 12' bgs.	← SILTY CLAY →	#5 Well Sand Pack (8.0' - 24' bgs)
		2	12-14	2 3 3 3	6	1.5	0.0	-	ML		Gray (10YR 5/1) SILT (ML), few fine subangular to subrounded Sand, little to some Clay, homogenous, aplastic, no odor, loose, saturated. Glacio-Alluvial.  2"-thick fine subangular to subrounded poorly graded Silty Sand (SM) lense, little Clay, aplastic, no odor, loose, saturated at 13.9' bgs.	← SILT →	2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)
15		3	14-16	3 4 4 6	8	2.0	0.0	-	SP		Gray (10YR 6/1) fine subangular POORLY GRADED SAND (SP), little to some Silt, aplastic, no odor, dense, damp. Glacio-Alluvial.	← SAND →	



**Remarks:** bgs = below ground surface; + = Positive Test Result  
 NA = Not Applicable/Not Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.
4/1/03	12'	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-86-16R  
Borehole Depth: 26' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction	
715		4	16-18	9 10 13 13	23	2.0	0.0	-	SP		Gray (10YR 6/1) fine subangular POORLY GRADED SAND (SP), little to some Silt, aplastic, no odor, dense, damp. Glacio-Alluvial.	AN ↑ SILTY CLAY ↓	<p>#5 Well Sand Pack (8.0' - 24' bgs)</p> <p>2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 20' bgs)</p> <p>Formation Collapse (24' - 26' bgs)</p>	
		5	18-20	8 14 18 22	32	2.0	0.0	-			Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above from 10' - 12.7' bgs, but very stiff, homogenous, dry. Undisturbed Native Glacial Clay Till. 4"-thick lense of poorly graded Sand (SP) as at 15.7' - 16.3' bgs but wet to saturated and with fine rounded Gravel at 17.5' bgs.			
20		6	20-22	12 12 19 31	36	2.0	0.0	-	CL					
710		7	22-24	16 19 38 35	57	2.0	0.0	-						
25		8	24-26	21 42 43 NA	85	1.5	0.0	-						
705														
30														
700														
35														

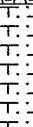




Remarks: bgs = below ground surface; + = Positive Test Result  
NA = Not Applicable/Not Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.
4/1/03	12'	


<b>Date Start/Finish:</b> 3/12/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA /SS <b>Sampler Size:</b> 2" OD + 2' <b>Auger Size:</b> 2-1/4" ID <b>Rig Type:</b> CME-45B	<b>Northing:</b> 562982.61 <b>Easting:</b> 13306116.94 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 3.0' bgs <b>Surface Elevation:</b> 737.17 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-86-17  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
740													
0													
735		1	1-3	7 11 13 12	24	1.7	0.0	-	SM		CONCRETE.  Brown (10YR 5/3) SILTY LEAN CLAY (CL), few fine to coarse subrounded Sand, trace fine rounded Gravel, lense up to 3"-thick of orange Silt and areas of orange discoloration throughout up to 1" in diameter, Slag, Cinders and Silt also present throughout (especially as a 4"-thick lense at 2.3' bgs), moderately stiff, plastic, no odor, dry. Native Clay Till used as Backfill with Foundary Sand.		 Borehole backfilled with Bentonite to grade.
5													
730													
10													
725													
15													

	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b> <table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.									
	Date	Depth	Elev.											

<b>Date Start/Finish:</b> 3/12/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA /SS <b>Sampler Size:</b> 2" OD + 2" <b>Auger Size:</b> 2-1/4" ID <b>Rig Type:</b> CME-45B	<b>Northing:</b> 562979.14 <b>Easting:</b> 13306077.88 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 3.0' bgs <b>Surface Elevation:</b> 737.73 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-86-18 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
740													
0										CONCRETE.		FILL	
735		1	1-3	9 9 11 13	20	1.5	0.0	-	SM	Black (10YR 2/1) fine to coarse angular to subangular, predominantly fine, POORLY GRADED SILTY SAND (SM), few Clay, trace fine angular Gravel, Slag, Cinders, and Ash throughout, orange color in last 1" of unit, aplastic, no odor, medium dense, dry. Foundary Sand.		SILTY SAND	Borehole backfilled with Bentonite to grade.
5													
730													
10													
725													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; + = Positive Test Result NA = Not Applicable/Not Available WH=Weight of Hammer	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 2/21/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2"x2" ID <b>Auger Size:</b> 4 1/4" <b>Rig Type:</b> CME 85	<b>Northing:</b> 561351.09 <b>Easting:</b> 13306846.93 <b>Casing Elevation:</b> 727.35 ft. AMSL  <b>Borehole Depth:</b> 16' bgs <b>Surface Elevation:</b> 727.71 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-94-02R  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730													
0									FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		0-2		10	26	1.7	0.0	-	ML	Dark brown (10YR 2/2) SILT (ML), some fine poorly graded subangular Sand, few to little Clay, aplastic, dense, no odor, dry. Fill.		SILT	Grout (0.8' - 5.8' bgs) 2" ID Sch. 40 PVC Riser (0' - 10' bgs)
2	725	2-4		2	7	1.5	0.0	-	CL	Yellow-brown (10YR 5/4) SILTY LEAN CLAY (CL), few to little fine to coarse subrounded to rounded Sand, few to trace fine to medium rounded Gravel, weakly plastic, moderately stiff, no odor, dry. Native Clay Till used as Backfill.		CL	
3	5	4-6		5	9	1.4	0.0	-	SM	Black (10YR 2/1) fine to coarse POORLY GRADED SILTY SAND (SM), few Clay and fine to coarse subangular Gravel, Cinders, and Ash, weak odor, loose, dry. Foundry Sand.		CL	
4	720	6-8		3	3	1.3	0.0	-	ML	Yellow-brown (10YR 5/4) SILTY LEAN CLAY as above at 3.3'-3.9' bgs. Native Clay Till used as Backfill. Dark brown (10YR 3/3) SILT as above at 0.5' - 3.3' bgs.		SILT	Hydrated Bentonite Seal (5.8' - 8.0' bgs)
5				1						Brown (10YR 5/3) SILTY LEAN CLAY as above at 3.3' - 3.9' bgs, few Clay, trace subrounded Gravel, medium dense to loose, poorly graded, wet. Native Clay Till used as Backfill.			
6	10	10-12		2	10	1.7	0.0	-	CL	Becomes yellow-brown (10YR 5/4) below 7.8' bgs. 9"-thick lense of fine to coarse subangular to subrounded Silty Sand (SM), few Clay, trace subrounded Gravel, no odor, medium dense to loose, wet at 8.0' bgs.		SILTY CLAY	#5 Well Sand Pack (8.0' - 16' bgs)
7	715	12-14		3	21	2	0.0	-	SM	Gray (10YR 3/1) mottling at 10' bgs. 2"-thick Silty Sand lense as at 8' bgs, damp to moist at 10.8' bgs.		SILT	2" ID Sch. 40 PVC 0.010" Slotted Screen (10' - 15' bgs)
8	15	14-16		7	20	1.5	0.0	-	SM	Yellow-brown (10YR 5/4) fine subangular POORLY GRADED SILTY SAND (SM), few to locally little Clay, local patches of increased Silt content, no odor, medium dense to loose, saturated. Glacio-Alluvial.		SILTY SAND	
				5	14	1.6	0.0	-	CL	Gray (10YR 5/1) SILTY LEAN CLAY (CL) as above from 3.3' - 3.9' bgs, but homogenous, undisturbed, stiff with increased stiffness with depth, dry.		SILTY CLAY	




**Remarks:** bgs = below ground surface;  
NA = Not Applicable/Not Available.

Water Level Data		
Date	Depth	Elev.
2/21/03	12.9'	

<b>Date Start/Finish:</b> 5/9/01 <b>Drilling Company:</b> Mateco <b>Driller's Name:</b> Gary Swift <b>Drilling Method:</b> Direct Push <b>Sampler Size:</b> 2 ft cont. acetate sleeve <b>Auger Size:</b> 2 1/4" ID <b>Rig Type:</b> 66 DT Advance Geoprobe	<b>Northing:</b> 561723.65 <b>Easting:</b> 13306393.62 <b>Casing Elevation:</b> 727.48  <b>Borehole Depth:</b> 22.5' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Brian Loomis	<b>Boring ID:</b> RFI-94-05  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
730													
0										Fill	CONCRETE.	FILL	Flush-mount cover.
1		0-2				1.5	4.6	NA	SP		Very dark brown fine to medium SAND, trace Clay, dry, loose.	SAND	Sand drain. Hydro-Ben grout well (0.8 - 3.9' bgs).
2	725	2-4				2.0	4.7	NA			Yellowish-brown fine to medium SAND, some Silt, moist.		
3	5	4-6				2.0	3.0	NA			Brown SILT, little fine Sand, dry, stiff.		Bentonite seal (3.2 - 3.9' bgs).
4	720	6-8				2.0	5.2	NA	ML				2" ID Sch. 40 PVC riser (0.2 - 5.5' bgs).
5		8-10				2.0	12.1	NA					Global filter sand pack #5 (3.9 - 15.5' bgs).
6	10	10-12				2.0	2.7	NA	CL		Dark gray SILT, trace medium Gravel, dry, dense. Dark gray CLAY, trace medium to coarse Gravel, dry.		
7	715	12-14				2.0	3.8	NA			Dark gray SILT, trace medium Gravel, dry, dense.		2" ID Sch. 40 PVC 0.010" slotted screen (5.5 - 15.5' bgs).
8	15	14-16				0.5	5.7	NA	ML				

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface NA = Not Applicable/Not Available Samples collected 0.5-2' 8-10' and 18-20' bgs. Monitoring well installed adjacent to original soil boring.	<b>Water Level Data</b>										
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr> <td>5/9/01</td> <td>21.0</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Date	Depth	Elev.	5/9/01	21.0					
Date	Depth	Elev.										
5/9/01	21.0											

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-94-05  
Borehole Depth: 22.5' bgs

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
71.0		9	16-18		2.0	5.6	NA				Dark gray SILT, trace medium Gravel, dry, dense.	↑ SILT	
		10	18-20		2.0	2.5	NA	ML		Gray SILT, some fine Sand, dry, loose.			
20		11	20-22		2.0	3.7	NA		CL		Dark gray CLAY, some Silt, little fine Sand, trace Gravel, dry.	↓ SILTY CLAY	▼
								SP		Dark gray fine to medium SAND, some Silt, wet, dense.			
								ML		Gray SILT, some fine Sand, dry, loose.			
70.5		NA	22-22.5		NA	NA	NA		SP		Dark gray fine to medium SAND, some Silt, wet, dense.		
25													
700													
30													
695													
35													



Remarks: bgs = below ground surface  
NA = Not Applicable/Not Available  
Samples collected 0.5-2' 8-10' and 18-20' bgs.  
Monitoring well installed adjacent to original soil boring.

**Water Level Data**

Date	Depth	Elev.
5/9/01	21.0	

<b>Date Start/Finish:</b> 8/21/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 561082.04 <b>Easting:</b> 13306774.72 <b>Casing Elevation:</b> 720.32 ft. AMSL  <b>Borehole Depth:</b> 16' bgs <b>Surface Elevation:</b> 720.81 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-94-07 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	720	NA	0-2	NA	NA	NA	NA	-	FL	ASPHALT.		↑ FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
										ASPHALT AND CONCRETE Rubble.		↓	Grout (0.5' - 2.0' bgs)
		1	2-4	2	5	1.2	0.0	-	SW	Light yellow-brown (10YR 6/4) fine to coarse subangular well graded SAND (SW), little Silt, few fine to coarse Gravel as Concrete and Asphalt Rubble, few Clay, aplastic, no odor, loose. Fill Sand and Rubble.	Sand	↓	2" ID Sch. 40 PVC Riser (0' - 5.0' bgs)
				2					CL	Dark gray-brown (10YR 4/2) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, few to rare fine rounded Gravel, extensive oxidation and mottling, moderately plastic, soft, no odor, dry. Native Clay Till used as backfill.	Silty Clay	↑	Hydrated Bentonite Seal (2.0' - 4.0' bgs)
				3					SM	Dark yellow-brown (10YR 4/4) Silty fine to medium subangular well graded SAND (SM), little Clay, trace fine to coarse rounded to subrounded Gravel, aplastic, no odor, loose, moist. Fill Sand.		↓	
5	715	2	4-6	6	12	1.6	0.0	-		Yellow-brown (10YR 5/6) Silty Lean CLAY (CL) as above from 3.1' - 3.6' bgs, large saturated Silt lenses throughout with damp to moist Clay in between, dry. Native Clay Till used as backfill.		↑	#5 Well Sand Pack (4.0' - 16' bgs)
				4					CL	4"-thick Silt lens, saturated at 6.5' bgs. 6"-thick Silt lens, saturated at 6.9' bgs. 4"-thick Silt lens, saturated at 7.7' bgs.	Silty Clay	↑	
				5						Gray (10YR 5/1) Silty Lean CLAY (CL) as above from 4.4' - 8.0' bgs, homogenous, very stiff, dry to damp. Native Glacial Clay Till.		↓	
				6						4"-thick Silt lens, saturated at 10.3' bgs.		↑	2" ID Sch. 40 PVC 0.010" Slotted Screen (5.0' - 15' bgs)
10	710	3	6-8	4	9	1.5	0.0	-		Gray (10YR 5/1) Silty fine to coarse subrounded well graded SAND (SM), little to some Clay, trace fine to medium rounded Gravel, medium dense, no odor, aplastic, saturated. Glacio-alluvial.		↓	
				7					SM	Silty Sand becomes poorly graded and fine grained after 12.5' bgs. 4"-thick Silt lens, moist to damp at 12.6' bgs.	Silty Sand	↑	
				8								↓	
				9								↑	
				10								↓	
				11								↑	
				12								↓	
15	705	4	10-12	5	23	1.8	0.0	-		Silty lean CLAY (CL), as above from 8.0' - 11.2' bgs, homogenous, hard, dry.	Silty Clay	↑	
				13								↓	
				14								↑	
				15								↓	
				16								↑	
				17								↓	
				18								↑	
				19								↓	
				20								↑	
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				98								↑	
				99								↓	
				100								↑	



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.
8/21/02	11.2'	

<b>Date Start/Finish:</b> 12/1/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> <b>Easting:</b> <b>Casing Elevation:</b>  <b>Borehole Depth:</b> 28' bgs <b>Surface Elevation:</b>  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> RFI-94-08  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0												
		NA	0-2	NA	NA	NA	NA						Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
		1	2-4	2 2 NA	NA	1.2	NA						
5	-5	NA	4-6	NA NA NA	NA	NA	NA						Grout (0.5' - 16.0' bgs)
		2	6-8	1/ 18"	NA	0.75	NA						2" ID Sch. 40 PVC Riser (0' - 20.0' bgs)
		3	8-10	9 13 18 19	31	2.0	NA		CL		Dark yellow-brown (10YR 4/4) and gray-brown (10YR 5/2) mottled Silty CLAY (CL), few fine to coarse subrounded Sand, rare fine subrounded Gravel, weakly plastic, no odor, dry, stiff. (Fill) at 8', color changes to yellowish-brown (10YR 5/4).		
10	-10	4	10-12	7 11 13 20	24	2.0	NA						
		5	12-14	9 14 21 30	35	2.0	NA				Little mottling with yellow-brown (10YR 5/6).		
15	-15	6	14-16	5 9 15 23	24	NA	NA				Dark gray (10YR 4/1) Silty CLAY (CL), rare fine to coarse subrounded Sand and fine subrounded Gravel, weakly plastic, stiff, no odor, dry.		

**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-94-08  
Borehole Depth: 28' bgs

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
20-20		7	16-18	5	24	2.0	NA		CL		Dark gray (10YR 4/1) Silty CLAY (CL), rare fine to coarse subrounded Sand and fine subrounded Gravel, weakly plastic, stiff, no odor, dry.	↑ Silty Clay ↓	<p>2" ID Sch. 40 PVC Riser (0' - 20.0' bgs) Hydrated Bentonite Seal (16.0' - 18.0' bgs) #5 Well Sand Pack (18.0' - 25.0' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (20.0' - 25.0' bgs)</p>
				10									
				14									
				23									
25-25		8	18-20	6	28	2.0	NA		ML		Dark gray-brown (10YR 4/2) Sandy SILT (ML), some fine to medium subangular to subrounded Sand, few Clay and fine to medium subangular to subrounded Gravel, moist to wet, no odor.	↑ Silty Silt ↓	
				10									
30-30		9	20-22	7	44	NA	NA		SM		Dark gray (10YR 4/1) fine subangular to subrounded Silty SAND (SM), few Clay, moderately dense, saturated, no odor.	↑ Silty Sand ↓	
				13									
				31									
				33									
35-35		10	22-24	11	61	NA	NA		ML		Dark gray (10 YR 4/1) SILT (ML), rare fine Gravel, dense, no odor, dry.	↑ SILT ↓	<p>Natural collapse (25.0 - 28.0')</p>
				30									
35-35		11	24-26	48	NA	1.0	NA		ML				
				50/3"									
35-35		12	26-28	50	NA	0.5	NA		ML				
				50/3"									



Remarks: bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.

Water Level Data

Date	Depth	Elev.

**Date Start/Finish:** 12/5/03  
**Drilling Company:** Rau Drilling  
**Driller's Name:** Greg Compeau  
**Drilling Method:** HSA/SS  
**Sampler Size:** 2' x 2" ID  
**Auger Size:** 4 1/4" ID  
**Rig Type:** CME 75

**Northing:** 561289.14  
**Eastings:** 13306940.18  
**Casing Elevation:** 719.71

**Borehole Depth:** 19' bgs  
**Surface Elevation:** 719.70

**Descriptions By:** Wayne Patterson

**Boring ID:** RFI-94-09

**Client:** General Motors

**Location:** GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0								FL	ASPHALT over Brick.			Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		1-3		7 5 4 3	9	2.0	NA		CL	Yellow-brown (10YR 5/6) Silty CLAY (CL), black stained to 4' bgs, rare fine to coarse subangular Sand (some in upper 2'), moderately stiff, no odor, damp. (Fill)		2" ID Sch. 40 PVC Riser (0' - 7.0' bgs)	
2		3-5		2 4 4	8	2.0	NA		CL	Mottled with gray (10YR 6/1), little fine to coarse subangular to subrounded Sand, little fine subangular to subrounded Gravel, stiff.		Hydrated Bentonite Seal (0.5' - 6.0' bgs)	
3		5-7		4 4 6 8	10	1.5	NA		CL				
4		7-9		4 7 11 18	18	2.0	NA		CL				
5	-5	9-11		6 22 19 15	41	2.0	NA		CL	At 10.5', 3" lens rock fragments.		#5 Well Sand Pack (6.0' - 17.0' bgs)	
6		11-13		8 16 32 41	48	1.9	NA		ML	Dark gray (10YR 4/1) Silty CLAY (CL), little fine to coarse subangular to subrounded Sand and fine subangular to subrounded Gravel, stiff, no odor, dry.			
7		13-15		16 21 23 20	44	NA	NA		SM	Dark gray (10YR 4/1) fine to coarse subangular to subrounded Silty SAND (SM), rare fine subangular Gravel, moist to wet, no odor, dense.			
8	-15	15-17		7 18	39	1.8	NA		GW	At 13', saturated, alternating layers of Silt and Silty Sand.			
									GW	Dark gray (10YR 4/1) fine to coarse angular to subrounded SAND and GRAVEL (GW), well graded and increasing grain size with depth, medium dense, saturated, no odor.		2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17.0' bgs)	



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.  
 S&G = Sand & Gravel

**Water Level Data**

Date	Depth	Elev.
12/5/03	11.5'	
12/5/03	10.6'	

**Client:**  
General Motors  
**Site Location:**  
GM Flint  
Flint, Michigan

**Boring ID:** RFI-94-09  
**Borehole Depth:** 19' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		8	15-17	21 30	39	1.8	NA		GW		Dark gray (10YR 4/1) fine to coarse angular to subrounded SAND and GRAVEL (GW), well graded and increasing grain size with depth, medium dense, saturated, no odor.	S&G	#5 Well Sand Pack (6.0' - 17.0' bgs)
		9	17-19	43 54/ 4"	NA	2.0	NA		CL		Dark gray (10YR 4/1) Silty CLAY (CL), as at 10.75' - 11.0'.	Silty Clay	2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17.0' bgs) Natural collapse (17.0 - 19.0')
20-20													
25-25													
30-30													
35-35													



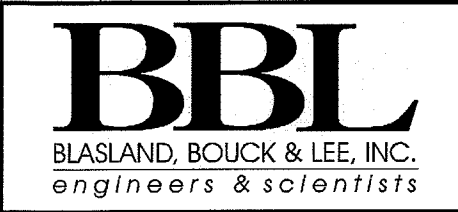
**Remarks:** bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.  
S&G = Sand & Gravel

**Water Level Data**

Date	Depth	Elev.
12/5/03	11.5'	
12/5/03	10.6'	

<b>Date Start/Finish:</b> 12/5/03 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 561235.34 <b>Easting:</b> 13306921.68 <b>Casing Elevation:</b> 719.56  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> 719.56  <b>Descriptions By:</b> Wayne Patterson	<b>Boring ID:</b> RFI-94-10  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0								FL	ASPHALT over Brick.			Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		1-3		3	5	1.0	NA		CL	Yellow-brown (10YR 5/6) Silty CLAY (CL), black stained to 3' bgs, rare fine to coarse subangular Sand, some fine to coarse subangular Sand in upper 2', medium stiff to soft, damp to moist, no odor. AC Titan plugs, rare glass and metal present in upper 3'. (Fill)		2" ID Sch. 40 PVC Riser (0' - 7.0' bgs)	
2		3-5		6	11	1.0	NA		CL			Hydrated Bentonite Seal (0.5' - 6.0' bgs)	
3		5-7		4	8	1.0	NA		CL	Mottled with gray (10YR 6/1), rare fine to coarse subangular to subrounded Sand.			
4		7-9		4	14	1.5	NA		CL	4" lens yellow-brown (10YR 5/6) Silt (ML), wood debris, saturated.		#5 Well Sand Pack (6.0' - 17.0' bgs)	
5	-5			3									
5	-5			4									
5	-5			4									
5	-5			7									
5	-5			7									
5	-5			7									
5	-5			13									
5	-5			8									
5	-5			14									
5	-5			24	38	2.0	NA		ML	Yellow-brown (10YR 5/6) SILT, damp, no odor.			
5	-5			24					ML	Dark gray (10YR 4/1), few fine to medium subrounded Sand.			
5	-5			11					ML				
5	-5			21	41	1.9	NA		ML	Dark gray (10YR 4/1) SILT (ML), little fine to coarse subangular Sand, saturated, no odor. 2" thick fine to medium subangular to subrounded Sand lens at top.			
5	-5			20					ML				
5	-5			23					ML				
5	-5			12									
5	-5			25	55	1.9	NA						2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17.0' bgs)
5	-5			30									
5	-5			33									
15	-15			21	64	2.0	NA						
15	-15			22									



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.

**Client:**  
General Motors  
**Site Location:**  
GM Flint  
Flint, Michigan

**Boring ID:** RFI-94-10

**Borehole Depth:** 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		8	15-17	42 50	64	2.0	NA		ML		Dark gray (10YR 4/1) SILT (ML), little fine to coarse subangular Sand, saturated, no odor.	Silt	<p>#5 Well Sand Pack (6.0' - 17.0' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17.0' bgs)</p>
		9	17-19	29 56	NA	1.0	NA		CL		Dark gray (10YR 4/1) Silty CLAY (CL), few fine to coarse subangular to subrounded Sand and fine subangular to subrounded Gravel, stiff, dry, no odor.	Silty Clay	
20-20													<p>Natural collapse (17.0 - 18.0')</p>
25-25													
30-30													
35-35													



**Remarks:** bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.

**Water Level Data**

Date	Depth	Elev.

Date Start/Finish: 03/17/05  
 Drilling Company: Altech  
 Driller's Name: D. Wells  
 Drilling Method: HSA/SS  
 Sampler Size: 2"x2" ID SS  
 Auger Size: 4 - 1/4" ID  
 Rig Type: CME 55 ATV

Northing: 561342.26  
 Easting: 13306955.55  
 Casing Elevation: 719.54' AMSL

Well/Boring ID: RFI-94-11

Client: General Motors

Borehole Depth: 18' bgs  
 Surface Elevation: NA

Location: GM Flint  
 Flint, Michigan

Descriptions By: J. Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0											
1	0-2	1	0-2	NA	NA	1.0	0.0		FL	ASPHALT/ Road Bed.		Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
2	2-4	2	2-4	2	6	2.0	0.0		SP	Dark brown fine SAND, some Clay, little fine Gravel, and Silt, no odor, loose, damp. Brick fragments from 3.5' - 4.5' bgs.		Bentonite (1.0' - 3.0' bgs)
3	4-6	3	4-6	6	8	2.0	0.0		CL	Yellow-brown CLAY, some fine Gravel, little medium to coarse Sand, trace Silt, no odor, very stiff, damp. Isolated layers (<.5") of saturated yellow-brown Silt, from 5.5' - 7.5' bgs.		Hydrated Bentonite Seal (3.0' - 6.0' bgs)
4	6-8	4	6-8	8	4	2.0	0.0		CL	Dark brown deposits on horizontal fractures from 7.0' - 8.5' bgs. Gray and orange mottling present to 8.5' bgs.		2" ID Sch. 40 PVC Riser (0.5' - 8.0' bgs)
5	8-10	5	8-10	10	20	2.0	0.0		ML	Gray SILT/Clayey SILT, trace very fine Sand, no odor, very stiff, damp.		2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18.0' bgs)
6	10-12	6	10-12	10	10	2.0	0.0		ML			#5 Well Sand Pack (6.0' - 18.0' bgs)
7	12-14	7	12-14	10	20	2.0	0.0		SP	Brown-gray fine SAND, trace medium to coarse Sand, no sheen, no odor, wet.		
8	14-16	8	14-16	10	21	2.0	0.0		CL	Brown-gray Silty CLAY, little fine Sand and Fine Gravel, thin (<1-1") fine wet Sand layers, no odor. Cobble at 15' bgs.		



**Remarks:**

a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
 Soil samples collected from 1.5' - 3.5', 8.0' - 10.0' and 10.5' - 12.5' bgs for VOCs, SVOCs, PCBs and metals.


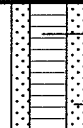
**Water Level Data**

Date	Depth	Elev.

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Well/Boring ID: RFI-94-11

Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
9	16-18			10 10 10 12	14	2.0	0.0		CL		Brown-gray to gray CLAY, some fine Gravel, little fine Sand, no odor, stiff to very stiff, extremely hard, damp.	 2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18.0' bgs) #5 Well Sand Pack (6.0' - 18.0' bgs)
20-20												
25-25												
30-30												
35-35												



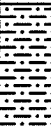

**Remarks:**


a/bgs = above/below ground surface; AMSL = Above Mean Sea Level; NA = Not Available/Not Applicable; +/- = Positive/negative test results.  
Soil samples collected from 1.5' - 3.5', 8.0' - 10.0' and 10.5' - 12.5' bgs for VOCs, SVOCs, PCBs and metals.

**Water Level Data**

Date	Depth	Elev.

<b>Date Start/Finish:</b> 8/29/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> NA <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> NA	<b>Northing:</b> 560343.49 <b>Easting:</b> 13304202.51 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 749.18 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-BG-01  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
750													
0		1	0-2	NA	NA	NA	0.0	-	ML		Gray-brown (10YR 5/2) SILT (ML), little to some Clay, few fine to coarse subrounded well graded Sand, trace fine rounded Gravel, Organic matter such as Roots present, aplastic, no odor, dense, dry. Topsoil.	↑ SILT ↓	 Borehole backfilled to grade.
745													
5													
740													
10													
735													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>										
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.							
Date	Depth	Elev.										

<b>Date Start/Finish:</b> 8/29/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> NA <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> NA	<b>Northing:</b> 561500.58 <b>Easting:</b> 13304130.74 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 751.98 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-BG-02  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0		1	0-2	NA	NA	NA	0.0	-	ML		Gray-brown (10YR 5/2) SILT (ML), some to little Clay, few fine to coarse subangular to subrounded well graded Sand, trace fine rounded Gravel, Organic matter such as Roots present, aplastic, no odor, dense, dry. Topsoil.	← SILT →	Borehole backfilled to grade.
750													
5													
745													
10													
740													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 8/29/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> NA <b>Auger Size:</b> 4" <b>Rig Type:</b> NA	<b>Northing:</b> 562090.48 <b>Easting:</b> 13304106.13 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 756.05 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-BG-03  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	755	1	0-2	NA	NA	NA	0.0	-	ML		Gray-brown (10YR 5/2) SILT (ML), little to few Clay, little fine to coarse subrounded to rounded well graded Sand, few fine to coarse rounded Gravel, Organic matter such as Roots present, aplastic, no odor, dense, dry. Topsoil.	← SILT →	Borehole backfilled to grade.
5	750												
10	745												
15													


 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>


<b>Date Start/Finish:</b> 8/29/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> NA <b>Auger Size:</b> 4" <b>Rig Type:</b> NA	<b>Northing:</b> 562774.61 <b>Easting:</b> 13304154.65 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 742.44 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-BG-04  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
745													
0		1	0-2	NA	NA	NA	0.0	-	ML		Dark gray-brown (10YR 4/2) SILT (ML), some Clay, few fine to coarse rounded well graded Sand, few fine to medium rounded Gravel, Organic matter such as Roots present, aplastic, no odor, dense, dry. Topsoil.	↑ ← SILT ↓	Borehole backfilled to grade.
740													
5													
735													
10													
730													
15													

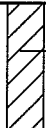
	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>												
		<table border="1"> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	Date	Depth	Elev.									
		Date	Depth	Elev.										


<b>Date Start/Finish:</b> 8/29/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> NA <b>Auger Size:</b> 4" <b>Rig Type:</b> NA	<b>Northing:</b> 564918.08 <b>Easting:</b> 13304965.81 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 748.91 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-BG-05  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
750													
0		1	0-2	NA	NA	NA	0.0	-	SM		Dark gray-brown (10YR 4/2) Silty fine to coarse (predominantly medium) subangular poorly graded SAND (SM), little Clay, few fine to coarse rounded to subrounded Gravel, Slag present, Organic matter such as Roots present, aplastic, no odor, loose, dry. Topsoil mixed with Slag.	Silty SAND	 Borehole backfilled to grade.
745													
5													
740													
10													
735													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 8/29/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> NA <b>Auger Size:</b> 4" <b>Rig Type:</b> NA	<b>Northing:</b> 566238.13 <b>Easting:</b> 13304951.72 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 753.84 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-BG-06  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
755													
0		1	0-2	NA	NA	NA	0.0	-	SM		Dark gray-brown (10YR 4/2) Silty fine angular to subangular poorly graded SAND (SM), little Clay, trace to few fine rounded Gravel, some fine to coarse angular aggregate Slag and Foundry Sand present, Organic matter such as Roots present, aplastic, no odor, loose, dry. Topsoil, Aggregate, and Foundry/Slag mix.	Silty SAND	 Borehole backfilled to grade.
750													
5													
745													
10													
740													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>

<b>Date Start/Finish:</b> 8/29/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> NA <b>Auger Size:</b> 4" <b>Rig Type:</b> NA	<b>Northing:</b> 567707.07 <b>Easting:</b> 13305976.56 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 753.37 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-BG-07  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
755													
0		1	0-2	NA	NA	NA	0.0	-	ML		Black (10YR 2/1) SILT (ML), little Clay, few fine to coarse rounded well graded Sand, Organic matter such as Roots present, aplastic, no odor, dense, damp. Topsoil.	↑ SILT ↓	 Borehole backfilled to grade.
750													
5													
745													
10													
740													
15													


 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>		
		<b>Date</b>	<b>Depth</b>	<b>Elev.</b>


<b>Date Start/Finish:</b> 8/29/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> NA <b>Auger Size:</b> 4" <b>Rig Type:</b> NA	<b>Northing:</b> 568863.93 <b>Easting:</b> 13306132.72 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 755.47 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-BG-08  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	755	1	0-2	NA	NA	NA	0.0	-	ML		Gray-brown (10YR 5/2) SILT (ML), few Clay, little fine to coarse subrounded well graded Sand, few fine to coarse rounded Gravel, rare rounded Cobbles, Organic matter such as Roots present, aplastic, no odor, dense, damp. Topsoil.	← SILT →	 Borehole backfilled to grade.
5	750												
10	745												
15	740												

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b> <table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.												
	Date	Depth	Elev.														

<b>Date Start/Finish:</b> 8/29/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> NA <b>Auger Size:</b> 4" <b>Rig Type:</b> NA	<b>Northing:</b> 568893.99 <b>Easting:</b> 13306638.87 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 753.58 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-BG-09  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
755													
0		1	0-2	NA	NA	NA	0.0	-	SM		Dark gray-brown (10YR 4/2) Silty fine to medium (predominantly fine) subangular to subrounded poorly graded SAND (SM), little Clay with increased Clay content in patches, little fine to coarse subangular Gravel, Metallic debris and brick fragments presnet (Fill). Organic material such as Roots present, aplastic, no odor, medium dense, moist. Topsoil.	Silty SAND	 Borehole backfilled to grade.
750													
5													
745													
10													
740													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>															
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		Date	Depth	Elev.													


<b>Date Start/Finish:</b> 8/29/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> Hand Auger <b>Sampler Size:</b> NA <b>Auger Size:</b> 4" <b>Rig Type:</b> NA	<b>Northing:</b> 569686.56 <b>Easting:</b> 13306724.35 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 2.0' bgs <b>Surface Elevation:</b> 747.46 ft. AMSL  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-BG-10 <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
750													
0		1	0-2	NA	NA	NA	0.0	-	ML		Dark gray-brown (10YR 4/2) SILT (ML), few Clay, little fine to coarse subrounded well graded Sand, trace fine to medium rounded Gravel, trace Slag, Organic matter such as Roots present, aplastic, no odor, dense, dry. Topsoil.	↑ SILT ↓	 Borehole backfilled to grade.
745													
5													
740													
10													
735													
15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>															
		<table border="1"> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	Date	Depth	Elev.												
		Date	Depth	Elev.													


<b>Date Start/Finish:</b> 8/27/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 563066.3227 <b>Easting:</b> 13306160.83 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 13' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-SS-01  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0	NA	0-1	NA	NA	NA	NA	NA	FL	ASPHALT. CONCRETE.	FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Grout (0.5' - 1.0' bgs) Bentonite Seal (1.0' - 2.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 2.5' bgs)	
1	1-3	1	1-3	4 4 6 7	10	1.5	0.0	-	ML	Yellow-brown (10YR 5/4) Silty fine to medium poorly graded SAND (SM), little to few Clay, aplastic, no odor, dense, damp to moist. Fill Sand. Saturated at 2.0' bgs.	Silty SAND	2" ID Sch. 40 PVC Riser (0' - 2.5' bgs)	
2	3-5	2	3-5	1 2 2	3	1.6	0.0	-	CL	Pale brown (10YR 6/2) SILT (ML), aplastic, no odor, dense, damp to moist. Glacio-alluvial material used as backfill.	SILT	#5 Well Sand Pack (2.0' - 12.5' bgs)	
3	5-7	3	5-7	3 3 4 5	7	1.8	0.0	-		Gray (10YR 5/1) fine to coarse subangular to subrounded well graded SAND (SW), increased roundness with increased grain size, little Silt, few fine to medium rounded Gravel, aplastic, no odor, loose, saturated. Glacio-alluvial (?) material/lenses of Silt up to 2" thick from 3.7' - 6.2' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (2.5' - 12.5' bgs)	
4	7-9	4	7-9	1 2 3 5	5	1.5	0.0	-		Coarsening downward below 6.0' bgs.			
5	9-11	5	9-11	3 4 4 5	8	1.5	0.0	-		Fine to coarse (predominantly coarse) Sand at 8.5' bgs.			
6	11-13	6	11-13	3 5 5 7	10	1.4	0.0	-		Increased Gravel content to little below 10.5' bgs.			
15-15													

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available	<b>Water Level Data</b>												
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr> <td>8/27/02</td> <td>2.0'</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Date	Depth	Elev.	8/27/02	2.0'							
		Date	Depth	Elev.										
		8/27/02	2.0'											


<b>Date Start/Finish:</b> 8/27/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 563083.8272 <b>Easting:</b> 13306165.73 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 13' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-SS-02  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0	NA	0-1	NA	NA	NA	NA	NA	FL	ASPHALT. CONCRETE.	FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Grout (0.5' - 1.0' bgs) Bentonite Seal (1.0' - 2.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 2.5' bgs)	
1	1-3	1	1-3	5 6 6 6	12	1.3	0.0	-	SM	Brown (10YR 5/3) Silty fine to coarse (predominantly fine to medium) poorly graded SAND (SM), aplastic, loose, no odor, damp. Fill Sand.  Saturated at 2.5' bgs.	↑ Silty SAND	#5 Well Sand Pack (2.0' - 12.5' bgs)	
2	3-5	2	3-5	2 3 4 5	7	1.3	0.0	-	SW	Gray (10YR 5/1) fine to coarse subangular to subrounded well graded SAND (SW), increasing rounded with increased grain size, little Silt, few fine to coarse Gravel, loose, no odor, saturated, Glacio-alluvial (?)	↑ Fine SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (2.5' - 12.5' bgs)	
3	5-7	3	5-7	2 2 5 6	7	1.5	0.0	-	SW				
4	7-9	4	7-9	2 2 3 4	5	1.5	0.0	-	SW	Coarsens downward below 9.0' bgs.			
5	9-11	5	9-11	2 3 3 4	6	1.5	0.0	-	SG	Gray (10YR 6/1) fine to coarse subangular to subrounded well graded SAND with fine to medium rounded GRAVEL (SG), few Silt, aplastic, loose, no odor, saturated.	↑ SAND and GRAVEL		
6	11-13	6	11-13	3 3 5 6	8	1.5	0.0	-	SG				
15	15												

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available	<b>Water Level Data</b>													
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Depth	Elev.										
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
<b>Date Start/Finish:</b> 8/26/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 563259.3319 <b>Easting:</b> 13306099.75 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 19' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-SS-03  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0	NA	0-1	NA	NA	NA	NA	NA	FL	CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		1	1-3	7 9 16	16	1.5	0.0	-	SM	Very dark gray-brown (10YR 3/2) Silty fine to coarse subangular well graded SAND (SM), few Clay, Cinders and Metallic debris present, no odor, medium dense to loose, dry. Foundry Sand.		Silty SAND	Grout (0.5' - 3.0' bgs) 2" ID Sch. 40 PVC Riser (0' - 7.0' bgs)
2		2	3-5	1 2 3 3	5	1.5	0.0	-	CL/SM	Brown (10YR 4/3) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace rounded Gravel, soft, plastic, no odor, dry, interbedded with Silty fine subangular poorly graded SAND (SM), few Clay, few fine to coarse subrounded Gravel, no odor, loose, dry. Native Glacio-Alluvial material used as backfill.		Silty CLAY & Silty SAND	Bentonite Seal (3.0' - 5.0' bgs)
3		3	5-7	2 2 2	4	1.4	0.0	-	CL	Becomes yellow-brown (10YR 5/4), damp at 6.0' bgs. Damp to moist at 6.8' bgs.		Silty CLAY	#5 Well Sand Pack (5.0' - 17' bgs)
4		4	7-9	2 3 4 6	7	1.8	0.0	-	CL	Yellow-brown (10YR 5/4) SILTY Lean CLAY (CL), few fine to coarse subrounded Sand, trace rounded Gravel, soft, plastic, no odor, damp to moist. Native Clay Till used as backfill.		Silty CLAY	
5	-5	5	9-11	2 3 3 6	6	1.8	0.0	+	SM	Yellow-brown (10YR 5/4) Silty fine subangular poorly graded SAND (SM), few Clay, few fine to coarse subrounded Gravel, strong to moderate odor, saturated. Fill Sand.		Silty SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)
6		6	11-13	2 3 3 5	6	1.7	0.0	+	SM	Becomes gray-brown (10YR 5/2) at 11' bgs. Black, oily liquid present, moderate odor from 11.8' - 12.1' bgs. Becomes yellow-brown (10YR 5/6) at 12.1' bgs.		Silty SAND	
7		7	13-15	2 3 3 5	6	1.4	27.7	+	SM	Oily liquid present, dark gray (10YR 4/1), moderate to weak odor at 14.4' bgs.		Silty SAND	
8	15-15	8	15-17	3 5	12	1.8	58.4	+	SM			Silty SAND	

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> bgs = below ground surface; NA = Not Applicable/Not Available	<b>Water Level Data</b>										
		<table border="1"> <thead> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> </thead> <tbody> <tr> <td>8/26/02</td> <td>8.9'</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Date	Depth	Elev.	8/26/02	8.9'					
Date	Depth	Elev.										
8/26/02	8.9'											

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-SS-03  
Borehole Depth: 19' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		8	15-17	7 8	12	1.8	58.4	+		SM	Yellow-brown (10YR 5/4) Silty fine subangular poorly graded SAND (SM), few Clay, few fine to coarse subrounded Gravel, strong to moderate odor, saturated. Fill Sand.	↑ Silty SAND ↓	 <p>#5 Well Sand Pack (5.0' - 17' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (7.0' - 17' bgs)</p>
		9	17-19	2 4 8 6	9	1.2	42.2	+			Becomes yellow-brown (10YR 5/6) at 18.6' bgs.		
20-20													
25-25													
30-30													
35-35													



Remarks: bgs = below ground surface;  
NA = Not Applicable/Not Available

**Water Level Data**

Date	Depth	Elev.
8/26/02	8.9'	



<b>Date Start/Finish:</b> 8/27/02 - 8/29/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2" x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> NA <b>Easting:</b> NA <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-SS-04  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0	NA	0-1	NA	NA	NA	NA	NA	FL		CONCRETE.	FILL	
1		1	1-3	17 36 50/ 5"	NA	1.2	0.0	-	SM		Very dark gray (10YR 3/1) Silty fine to coarse subangular to angular well graded SAND (SM), predominantly composed of Slag, Cinders, few Clay, aplastic, no odor, dense, dry. Slag and Foundry Sand.	↑ Silty SAND ↓	Temporary 2" ID Sch. 40 PVC Riser (0' - 8.0' bgs)
2		2	3-5	2 2 7	4	1.8	0.0	-			Black (10YR 2/1) Silty fine subangular poorly graded SAND (SM), few Clay, occasional patches of Slag and Cinders, aplastic, no odor, loose, dry. Foundry Sand.		
3		3	5-7	9 14 2 3	16	1.0	0.0	-			Slag, Cinders and Metallic debris present below 5.0' bgs.		
4		4	7-9	5 7 3 4	10	0.1	0.0	-			Brown (10YR 8/2) 2"-thick bleached area at 6.8' bgs. Slag and Metallic Debris at 7.0' bgs.		
5	-5										No Recovery. 3' void space from 9.0' -12' bgs, not due to presence of tank, pipe, or sewer.		
6		6	12-14	4 6 7 9	13	1.6	0.0	+	SM		Black (10YR 2/1) to dark gray (10YR 4/1) Silty fine subangular poorly graded SAND (SM), few Clay, aplastic, medium dense, no odor, loose, moist. Fill Sand. Saturated, product (black light weight oil) also present at 12.8' bgs.	↑ Silty SAND ↓	
7		7	14-16	4 7 6 7	13	1.7	0.0	+	CL		Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to medium rounded Gravel, Silt lenses throughout, moderately plastic to plastic, stiff, no odor, moist to damp. Native Clay Till. 4"-thick saturated Silt lense at 15.2' bgs.		
10-10		5	9-12	NA	NA	0.0	NA	NA					Temporary 2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)

 <b>BLASLAND, BOUCK &amp; LEE, INC.</b> <i>engineers &amp; scientists</i>	<b>Remarks:</b> Temporary well screen set from 8.0' - 18' bgs with no surface finishing. bgs = below ground surface; NA = Not Applicable/Available.	<b>Water Level Data</b>												
		<table border="1"> <tr> <th>Date</th> <th>Depth</th> <th>Elev.</th> </tr> <tr> <td>8/27/02</td> <td>12.7'</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	Date	Depth	Elev.	8/27/02	12.7'							
		Date	Depth	Elev.										
8/27/02	12.7'													

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-SS-04  
Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		8	16-18	4 4 6 8	12	1.4	0.0	-	CL		Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to medium rounded Gravel, Silt lenses throughout, moderately plastic to plastic, stiff, no odor, moist to damp. Native Clay Till. 3"-thick saturated Silt lense at 16.8' bgs.	silty CLAY	 Temporary 2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
20-20													
25-25													
30-30													
35-35													



Remarks: Temporary well screen set from 8.0' - 18' bgs with no surface finishing.  
bgs = below ground surface; NA = Not Applicable/Available.

**Water Level Data**

Date	Depth	Elev.
8/27/02	12.7'	

<b>Date Start/Finish:</b> 9/3/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allen Rau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 565340.8463 <b>Easting:</b> 13306205.02 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-SS-05  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0												
		1	0-2	4	NA	0.8	0.0	+	FL	ASPHALT. CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover Grout (0.5' - 1.5' bgs) 2" ID Sch. 40 PVC Riser (0' - 6.0' bgs)
		2	2-4	6 7	13	1.4	0.0	-		Black (10YR 2/1) Silty fine subangular poorly graded SAND (SM), few Clay, aplastic, no odor, medium dense, dry. Fill/Foundry Sand.			
		3	4-6	2 4	6	1.8	0.0	+	SM	Color change to dark yellow-brown (10YR 4/6) at 3.9' bgs. Color change to brown-yellow (10YR 6/6) at 4.3' bgs. 2"-thick Silty Clay lense at 4.8' bgs.			Bentonite Seal (1.5' - 4.9' bgs)
		4	6-8	3 3	6	1.5	0.0	+		Dark brown (10YR 3/3) Silty SAND (SM) as above from 0.8' - 5.5' bgs, local patches of oxidation to red, trace fine to coarse rounded Gravel, trace Slag and Cinders, loose.			#5 Well Sand Pack (4.9' - 16' bgs)
		5	8-10	2 1	3	1.2	0.0	-		Damp at 8.0' bgs. Saturated at 8.9' bgs.			
		6	10-12	2 3	5	1.6	0.0	-	CL	Gray (10YR 5/1) to black (10YR 2/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace to rare fine to medium rounded Gravel, occasional saturated lenses of Silt and Silty Sand throughout, very plastic, no odor, moist to saturated. 2"-thick Silty Sand lense, saturated at 9.5' bgs. Native Clay Till used as backfill.			2" ID Sch. 40 PVC 0.010" Slotted Screen (6.0' - 16' bgs)
		7	12-14	4 5 6	11	1.7	0.0	-	SM	Gray (10YR 6/1) Silty fine to medium (predominantly fine) subangular poorly graded SAND (SM), few fine to coarse rounded Gravel, trace Clay, aplastic, medium dense, no odor, saturated. Glacio-Alluvial (?)			
		8	14-16	3 3 5	8	1.6	0.0	-	CL	Gray (10YR 5/1) Silty Lean CLAY (CL) as above from 9.3' - 11.9' bgs, lenses of saturated Silt throughout, homogenous, plastic, stiff, moist. Native Clay Till.			



**Remarks:** bgs = below ground surface;  
NA = Not Applicable/Available.

**Water Level Data**

Date	Depth	Elev.
9/3/02	8.9' bgs	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-SS-05  
Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		9	16-18	3 5 7 9	12	1.8	0.0	-	CL		Gray (10YR 5/1) Silty Lean CLAY (CL) as above from 9.3' - 11.9' bgs, lenses of saturated Silt throughout, homogenous, plastic, stiff with increasing stiffness with depth, moist with increasing dryness with depth. Native Clay Till.	silty CLAY	
20-20													
25-25													
30-30													
35-35													



Remarks: bgs = below ground surface;  
NA = Not Applicable/Available.

**Water Level Data**

Date	Depth	Elev.
9/3/02	8.9' bgs	

<b>Date Start/Finish:</b> 9/3/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allen Rau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 565341.8476 <b>Easting:</b> 13306218.47 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-SS-06  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0										ASPHALT.	FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1	0-2	0-2		6	NA	1.0	0.0	-	FL	Weathered CONCRETE, Fill and Metallic Debris.	FILL	Grout (0.5' - 1.5' bgs)	
2	2-4	2-4		7		1.5	0.0	-	FL	Black (10YR 2/1) to dark yellow-brown (10YR 4/6) mottled Silty fine subangular poorly graded SAND (SM), few Clay, few fine rounded Gravel, few Slag and Cinders, Wood debris from 1.0' - 2.0' bgs, medium dense, no odor, dry. Fill and Foundry Sand.		2" ID Sch. 40 PVC Riser (0' - 6.0' bgs)	
3	4-6	4-6		7		1.4	0.0	-	SM			Bentonite Seal (1.5' - 4.9' bgs)	
4	6-8	6-8		2		1.6	0.0	++	SM	6"-thick lense of gray Slag and Cinders at 7.4' bgs.		#5 Well Sand Pack (4.9' - 16' bgs)	
5	8-10	8-10		1		1.5	0.0	++	CL	Gray (10YR 4/1) fine subangular poorly graded Sandy Lean CLAY (CL), little Silt, few fine to coarse rounded Gravel, occasional saturated Sand and Silt lenses throughout, soft, very plastic, moist to saturated. Native Clay Till used as backfill. Color change to black (10YR 2/1) at 9.8' bgs.	Silty SAND		
6	10-12	10-12		1		1.4	0.0	-	CL				2" ID Sch. 40 PVC 0.010" Slotted Screen (6.0' - 16' bgs)
7	12-14	12-14		7		1.8	0.0	-	SM	Gray (10YR 5/1) Silty fine to coarse (predominantly fine) subangular to subrounded SAND (SM), few Clay, few fine to medium rounded Gravel, aplastic, no odor, medium dense, saturated. Glacio-Alluvial.	Sandy CLAY		
8	14-16	14-16		4		1.9	0.0	-	SM	Fining downward below 13.6' bgs.	Silty SAND		
15-15				8				-	CL	Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, occasional saturated Silt lenses throughout, no odor, moist.	CLAY		



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available;  
 \* = faint to very light sheen observed.

**Water Level Data**

Date	Depth	Elev.
9/3/02	8.6' bgs	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-SS-06  
Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		9	16-18	4 4 8 8	12	1.6	0.0	-	CL		Gray (10YR 5/1) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, occasional saturated Silt lenses throughout, no odor, moist becoming increasingly dry with depth.  2"-thick saturated Silt lense at 17.6' bgs.	silty clay	
20-20													
25-25													
30-30													
35-35													



Remarks: bgs = below ground surface;  
NA = Not Applicable/Available;  
\* = faint to very light shen observed.

**Water Level Data**

Date	Depth	Elev.
9/3/02	8.6' bgs	

<b>Date Start/Finish:</b> 9/3/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Allen Rau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 565343.2494 <b>Easting:</b> 13306232.23 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 17' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-SS-07  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0	NA	0-1	NA	NA	NA	NA	NA	FL	ASPHALT. CEMENT/ASPHALT Rubble.	FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover	
1		1	1-3	27 21 21 23	42	1.2	0.6	++	SM	Black (10YR 2/1) Silty fine subangular to angular poorly graded SAND (SM), few fine to coarse subangular to rounded Gravel, few Clay, Cinders and Slag present, aplastic, no odor, dense, dry.  1"-thick lense of gray Slag and Cinders at 3.0' bgs.	Silty SAND	2" ID Sch. 40 PVC Riser (0' - 6.0' bgs)	
2		2	3-5	4 3 2	5	1.4	0.7	++	SM	3"-thick lense of weathered Concrete at 4.3' bgs.  Brown (10YR 5/3) mottling, loose to very loose at 4.8' bgs.	Silty SAND	Bentonite Seal (1.0' - 4.6' bgs)	
3		3	5-7	2 4 3	6	1.6	0.9	-	SM		Silty SAND	#5 Well Sand Pack (4.6' - 16' bgs)	
4		4	7-9	4 3 1	4	1.0	0.2	-	SM	Saturated at 8.2' bgs.	Silty SAND		
5		5	9-11	2 2 5 6	7	1.8	3.0	+	CL	Gray-brown (10YR 5/2) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, occasional saturated Silt and Silty Sand lenses throughout, soft, very plastic, no odor, moist to saturated. Native Glacial Clay Till used as backfill.	Silty CLAY		
6		6	11-13	4 11 13 16	24	1.1	0.0	++	SW	Gray (10YR 5/1) fine to coarse subangular to subrounded well graded SAND (SW), some to little Silt, little to few Clay, few fine to medium rounded Gravel, aplastic, weak odor, loose, saturated. Glacio-Alluvial. No odor below 11' bgs.	SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (6.0' - 16' bgs)	
7		7	13-15	5 4 6 8	10	1.7	0.0	+	SW	Fines downward to a Silt in the last 6" of unit to lower contact below 14' bgs.	SAND		
8		8	15-17	3 5	14	1.6	0.3	-	CL	Gray (10YR 5/1) homogenous Silty Lean CLAY (CL) as above from 8.6' - 10.4' bgs. Silty fine poorly graded subangular Sand (SM) lense, little Clay, dense saturated from 15' - 15.8' bgs. Gray brown silty homogenous Silty Lean CLAY (CL) as above	CLAY		



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available;  
 \* = faint to very light sheen observed.

Water Level Data		
Date	Depth	Elev.
9/3/02	8.2' bgs	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-SS-07  
Borehole Depth: 17' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		8	15-17	9 9	14	1.6	0.3	-	CL		from 8.6' - 10.4' bgs, stiff with increasing stiffness with depth, moist with decreasing moisture with depth. Native Glacial Clay Till.	Silty CL	
20-20													
25-25													
30-30													
35-35													



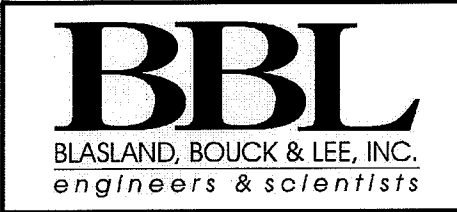
Remarks: bgs = below ground surface;  
NA = Not Applicable/Available;  
\* = faint to very light sheen observed.

**Water Level Data**

Date	Depth	Elev.
9/3/02	8.2' bgs	

<b>Date Start/Finish:</b> 8/29/02 <b>Drilling Company:</b> Rau Drilling <b>Driller's Name:</b> Greg Compeau <b>Drilling Method:</b> HSA/SS <b>Sampler Size:</b> 2' x 2" ID <b>Auger Size:</b> 4 1/4" ID <b>Rig Type:</b> CME 75	<b>Northing:</b> 566221.4307 <b>Easting:</b> 13305596.05 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 18' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> SM Duly	<b>Boring ID:</b> RFI-SS-08  <b>Client:</b> General Motors  <b>Location:</b> GM Flint Flint, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0								FL	Surface CONCRETE.		FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		0-2		2	4	1.1	0.0	-	CL	Dark yellow-brown (10YR 4/6) Silty Lean CLAY (CL), few fine to coarse subrounded Sand, trace fine to coarse rounded Gravel, soft to medium stiff, plastic, no odor, dry. Native Clay Till used as backfill.	Silty CLAY	Grout (0.5' - 3.5' bgs) 2" ID Sch. 40 PVC Riser (0' - 8.0' bgs)	
2		2-4		3	7	1.4	0.0	-		Dark yellow-brown (10YR 4/4) Silty fine to medium (predominantly fine) poorly graded SAND (SM), aplastic, no odor, loose to medium dense, dry. Fill Sand. 4"-thick Silty Clay lense, moist at 3.6' bgs. Trace medium Sand at 4.0' bgs.		Bentonite Seal (3.5' - 6.1' bgs)	
3	-5	4-6		4	13	1.7	0.0	-		Moist at 5.7' bgs.			
4		6-8		3	13	1.3	0.0	-		Moist to wet at 8.0' bgs.		#5 Well Sand Pack (6.1' - 18' bgs)	
5		8-10		6	14	1.9	0.0	-	SM	Saturated below 9.3' bgs.	Silty SAND	2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)	
6	10-10	10-12		2	11	1.4	0.0	-					
7		12-14		3	5	1.5	0.0	-					
8	15-15	14-16		H	3	1.4	0.0	-		4	Becoming gray to gray-brown (10YR 5/2) at 15.5' bgs.		



**Remarks:** bgs = below ground surface;  
 NA = Not Applicable/Available.

Water Level Data		
Date	Depth	Elev.
8/29/02	9.3' bgs	

Client:  
General Motors  
Site Location:  
GM Flint  
Flint, Michigan

Boring ID: RFI-SS-08  
Borehole Depth: 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		9	16-18	1 3 7 9	10	1.9	0.0	-	SM		Dark yellow-brown (10YR 4/4) Silty fine to medium (predominantly fine) poorly graded SAND (SM), aplastic, no odor, loose to medium dense, dry. Fill Sand. Gray (10YR 6/1) Silty fine to medium (predominantly fine) subangular to angular SAND (SM), few Clay, no odor, loose. Glacio-Alluvial.	Silty SAND	#5 Well Sand Pack (6.1' - 18' bgs) 2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
20-20													
25-25													
30-30													
35-35													



Remarks: bgs = below ground surface;  
NA = Not Applicable/Available.

**Water Level Data**

Date	Depth	Elev.
8/29/02	9.3' bgs	

Date Start/Finish: 8/29/02  
 Drilling Company: Rau Drilling  
 Driller's Name: Greg Compeau  
 Drilling Method: HSA/SS  
 Sampler Size: 2' x 2" ID  
 Auger Size: 4 1/4" ID  
 Rig Type: CME 75

Northing: 566221.5886  
 Easting: 13305607.41  
 Casing Elevation: NA

Borehole Depth: 18' bgs  
 Surface Elevation: NA

Descriptions By: SM Duly

Boring ID: RFI-SS-09

Client: General Motors

Location: GM Flint  
 Flint, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
0	0									FL	Surface CONCRETE.	FILL	Cement pad with 9" diam. cast iron/PVC skirted flushmount cover
1		0-2		2	5	0.8	0.0	+			Black (10YR 5/3) Silty fine to coarse (predominantly fine) subangular to subrounded SAND (SM), little Clay, aplastic, no odor, loose, dry. Fill Sand.		Grout (0.5' - 3.8' bgs)
2		2-4		4	9	1.6	0.0	-			Yellow-brown (10YR 5/4) Silty fine to coarse subangular to subrounded (predominantly fine) poorly graded SAND (SM), few Clay, aplastic, no odor, loose, dry. Fill Sand.		2" ID Sch. 40 PVC Riser (0' - 8.0' bgs)
3	-5	4-6		4	9	1.4	0.0	-			Occasional patches/lenses of yellow-brown (10YR 5/4) Silty Lean Clay (CL), few fine to coarse subrounded Clay, rare fine to coarse rounded Gravel, medium stiff, plastic, no odor, damp at 4.0' bgs.		Bentonite Seal (3.8' - 6.0' bgs)
4		6-8		3	8	1.6	0.0	+			Occasional mottling to oxidation, bleaching, or staining at 6.0' bgs.		#5 Well Sand Pack (6.0' - 18' bgs)
5		8-10		2	6	1.9	0.0	+	SM		Moist to wet at 8.0' bgs.		
6	10-10	10-12		H	H	1.8	0.0	-			Saturated, no mottling, very light weight Oily liquid present in water at 9.3' bgs		
7		12-14		H	3	1.5	0.0	-			No oily liquid present at 10' bgs.		2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
8	15-15	14-16		H	3	1.7	0.0	-			Color change to gray to gray-brown (10YR 5/2) at 15.4' bgs.		



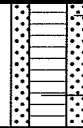
Remarks: bgs = below ground surface;  
 NA = Not Applicable/Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.
8/29/02	9.3' bgs	

**Client:**  
General Motors  
**Site Location:**  
GM Flint  
Flint, Michigan

**Boring ID:** RFI-SS-09

**Borehole Depth:** 18' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows / 6 Inches	N - Value	Recovery (feet)	PID Headspace (ppm)	Oil/Water Shake Test	USCS Code	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Boring Construction
		9	16-18	H 1 1 2	2	2.0	0.0	-	SM	       	Gray (10YR 6/1) Silty fine to medium subangular poorly graded SAND (SM), few Clay, no odor, loose, saturated. Glacio-Alluvial.	Silty SAND	 #5 Well Sand Pack (6.0' - 18' bgs)  2" ID Sch. 40 PVC 0.010" Slotted Screen (8.0' - 18' bgs)
20-20													
25-25													
30-30													
35-35													



**Remarks:** bgs = below ground surface;  
NA = Not Applicable/Available; H = Weight of Hammer.

Water Level Data		
Date	Depth	Elev.
8/29/02	9.3' bgs	

# **Appendix B**

## **Soil Analytical Data**



**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	Units	84-07	84-07	84-07	BD01-04	BD01-04	EP 94-02C	EP 94-02C	EP 94-02D
		0 - 2 03/07/05	8 - 10 03/07/05	15 - 17 03/07/05	0.3 - 2.3 04/02/03	6.3 - 8.3 04/02/03	0.5 - 2.5 08/21/02	2.5 - 4.5 08/21/02	0.5 - 2.5 08/21/02
Benzo(a)anthracene	mg/kg	0.20 J	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Benzo(a)pyrene	mg/kg	0.20 J	ND(0.30)	ND(0.30)	ND(0.18 J)	ND(0.22) [ND(0.21)]	NA	NA	NA
Benzo(b)fluoranthene	mg/kg	0.20 J	ND(0.30)	ND(0.30)	ND(0.18 J)	ND(0.22) [ND(0.21)]	NA	NA	NA
Benzo(g,h,i)perylene	mg/kg	0.090 J	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Benzo(k)fluoranthene	mg/kg	0.10 J	ND(0.30)	ND(0.30)	ND(0.18 J)	ND(0.22) [ND(0.21)]	NA	NA	NA
Biphenyl	mg/kg	ND(0.30)	0.030 J	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
bis(2-Chloroethoxy)methane	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
bis(2-Chloroethyl)ether	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.035)	ND(0.043) [ND(0.042)]	NA	NA	NA
bis(2-Ethylhexyl)phthalate	mg/kg	0.080 J	ND(0.30)	ND(0.30)	0.39	ND(0.22) [0.58]	NA	NA	NA
Butyl benzylphthalate	mg/kg	0.020 J	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Caprolactam	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Carbazole	mg/kg	0.020 J	0.020 J	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Chrysene	mg/kg	0.20 J	0.10 J	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Dibenz(a,h)anthracene	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Dibenzofuran	mg/kg	ND(0.30)	0.060 J	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Diethyl phthalate	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Dimethyl phthalate	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Di-n-butylphthalate	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Di-n-octyl phthalate	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18 J)	ND(0.22) [ND(0.21)]	NA	NA	NA
Fluoranthene	mg/kg	0.30	0.060 J	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Fluorene	mg/kg	0.030 J	0.080 J	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Hexachlorobenzene	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Hexachlorobutadiene	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Hexachlorocyclopentadiene	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Hexachloroethane	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Indeno(1,2,3-cd)pyrene	mg/kg	0.090 J	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Isophorone	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Methylphenols, Total	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.36)	ND(0.44) [ND(0.43)]	NA	NA	NA
Naphthalene	mg/kg	0.020 J	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Nitrobenzene	mg/kg	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.072)	ND(0.087) [ND(0.084)]	NA	NA	NA
N-Nitrosodi-n-propylamine	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
N-Nitrosodiphenylamine	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Pentachlorophenol	mg/kg	ND(0.70)	ND(0.70)	ND(0.70)	ND(0.72)	ND(0.87) [ND(0.84)]	NA	NA	NA
Phenanthrene	mg/kg	0.20 J	0.20 J	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Phenol	mg/kg	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
Pyrene	mg/kg	0.30	0.060 J	ND(0.30)	ND(0.18)	ND(0.22) [ND(0.21)]	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	mg/kg	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.037)	ND(0.045) [ND(0.044)]	ND(0.038)	ND(0.039)	ND(0.037)
Aroclor-1221 (PCB-1221)	mg/kg	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.037)	ND(0.045) [ND(0.044)]	ND(0.038)	ND(0.039)	ND(0.037)
Aroclor-1232 (PCB-1232)	mg/kg	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.037)	ND(0.045) [ND(0.044)]	ND(0.038)	ND(0.039)	ND(0.037)
Aroclor-1242 (PCB-1242)	mg/kg	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.037)	ND(0.045) [ND(0.044)]	ND(0.038)	ND(0.039)	ND(0.037)
Aroclor-1248 (PCB-1248)	mg/kg	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.037)	ND(0.045) [ND(0.044)]	ND(0.038)	ND(0.039)	ND(0.037)
Aroclor-1254 (PCB-1254)	mg/kg	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.037)	ND(0.045) [ND(0.044)]	ND(0.038)	ND(0.039)	ND(0.037)
Aroclor-1260 (PCB-1260)	mg/kg	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.037)	ND(0.045) [ND(0.044)]	ND(0.038)	ND(0.039)	ND(0.037)
Total PCBs	mg/kg	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.037)	ND(0.045) [ND(0.044)]	ND(0.038)	ND(0.039)	ND(0.037)
<b>Inorganic</b>									
Antimony	mg/kg	NA	NA	NA	0.043 J	0.012 J [0.11 J]	NA	NA	NA
Arsenic	mg/kg	2.3	1.7	6.6	4.4 J	5.7 J [7.7 J (RDC)]	NA	NA	NA
Barium	mg/kg	39	52	23	22	61 [98]	NA	NA	NA
Beryllium	mg/kg	NA	NA	NA	0.13 J	0.45 J [0.61 J]	NA	NA	NA
Cadmium	mg/kg	0.60	0.12	0.17	ND(0.12)	ND(0.14) [0.24]	NA	NA	NA
Chromium III (Trivalent)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	mg/kg	39	6.2	5.3	6.0	19 [26]	NA	NA	NA
Chromium VI (Hexavalent)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/kg	NA	NA	NA	2.9 J	9.3 J [10 J]	NA	NA	NA
Copper	mg/kg	NA	NA	NA	3.6 J	13 J [20 J]	NA	NA	NA
Cyanide (total)	mg/kg	NA	NA	NA	ND(0.20)	ND(0.30) [ND(0.30)]	NA	NA	NA
Lead	mg/kg	130	7.8	13	5.9 J	9.4 J [14 J]	NA	NA	NA
Manganese	mg/kg	NA	NA	NA	150	330 [290]	NA	NA	NA
Mercury	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	0.048 J	0.072 J [0.051 J]	NA	NA	NA
Nickel	mg/kg	NA	NA	NA	9.3 J	21 J [29 J]	NA	NA	NA
Selenium	mg/kg	0.20	0.39	0.71	0.23 J	0.085 J [0.18 J]	NA	NA	NA
Silver	mg/kg	ND(0.20)	ND(0.20)	ND(0.20)	0.032 J	0.084 J [0.11 J]	NA	NA	NA
Thallium	mg/kg	NA	NA	NA	0.076 J	0.19 [0.31]	NA	NA	NA
Vanadium	mg/kg	NA	NA	NA	13 J	31 J [44 J]	NA	NA	NA
Zinc	mg/kg	NA	NA	NA	21 J	46 J [60 J]	NA	NA	NA

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	EP 94-02D 2.5 - 4.5 08/21/02	FEP-1 0.5 - 3.5 07/25/05	FEP-2 1 - 3 07/25/05	FEP-3 0.7 - 3 07/25/05	FEP-4 0.8 - 3 07/25/05	FEP-5 0.7 - 3 07/25/05	FEP-6 0.9 - 3 07/25/05	FEP-7 0.9 - 3 07/25/05	
<b>Miscellaneous</b>									
Total Petroleum Hydrocarbons	NA	24,000	ND(50)	ND(50)	420 [510]	ND(50)	ND(50)	ND(50)	
Total Solids	87	81	91	91	88 [84]	88	83	83	
<b>VOC</b>									
1,1,1-Trichloroethane	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
1,1,2,2-Tetrachloroethane	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
1,1,2-Trichloroethane	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
1,1-Dichloroethane	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
1,1-Dichloroethene	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
1,2,4-Trichlorobenzene	NA	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	ND(0.10)	
1,2-Dibromo-3-chloropropane (DBCP)	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
1,2-Dibromoethane (Ethylene Dibromide)	NA	ND(0.020 M)	ND(0.020 M)	ND(0.020 M)	ND(0.030 M) [ND(0.020 M)]	ND(0.020 M)	ND(0.030 M)	ND(0.020 M)	
1,2-Dichlorobenzene	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
1,2-Dichloroethane	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
1,2-Dichloropropane	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
1,3-Dichlorobenzene	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
1,4-Dichlorobenzene	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
2-Butanone (Methyl Ethyl Ketone)	NA	ND(0.80)	ND(0.80)	ND(0.90)	ND(0.90) [ND(0.80)]	ND(0.80)	ND(1.0)	ND(0.80)	
2-Hexanone	NA	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0) [ND(3.0)]	ND(3.0)	ND(3.0)	ND(3.0)	
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0) [ND(3.0)]	ND(3.0)	ND(3.0)	ND(3.0)	
Acetone	NA	0.80 BJ	0.60 BJ	0.60 BJ	0.70 BJ [0.70 BJ]	0.50 BJ	0.70 BJ	0.60 BJ	
Benzene	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Bromodichloromethane	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Bromoform	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Bromomethane (Methyl Bromide)	NA	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	
Carbon disulfide	NA	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	
Carbon tetrachloride	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Chlorobenzene	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Chloroethane	NA	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	
Chloroform (Trichloromethane)	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Chloromethane (Methyl Chloride)	NA	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	
cis-1,2-Dichloroethene	NA	0.040 J	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
cis-1,3-Dichloropropene	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Cyclohexane	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Dibromochloromethane	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Dichlorodifluoromethane (CFC-12)	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Ethylbenzene	NA	0.040 J	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Isopropylbenzene	NA	ND(0.060)	ND(0.050)	ND(0.060)	0.070 [0.010 J]	ND(0.050)	ND(0.070)	ND(0.050)	
m&p-Xylene	NA	0.090	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Methyl acetate	NA	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0) [ND(3.0)]	ND(3.0)	ND(3.0)	ND(3.0)	
Methyl cyclohexane	NA	0.010 J	ND(0.050)	ND(0.060)	0.43 [0.10]	ND(0.050)	ND(0.070)	ND(0.050)	
Methyl Tert Butyl Ether	NA	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	
Methylene chloride	NA	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	
o-Xylene	NA	0.050 J	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Styrene	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Tetrachloroethene	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Toluene	NA	0.040 BJ	0.010 BJ	ND(0.060)	0.020 BJ [0.020 BJ]	0.010 BJ	0.020 BJ	0.010 BJ	
trans-1,2-Dichloroethene	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
trans-1,3-Dichloropropene	NA	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Trichloroethene	NA	0.10	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
Trichlorofluoromethane (CFC-11)	NA	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	ND(0.10)	
Trifluorotrichloroethane (Freon 113)	NA	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	ND(0.10)	
Vinyl chloride	NA	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	ND(0.10)	
Xylenes (total)	NA	0.14 J	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)	ND(0.070)	ND(0.050)	
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	
2-Methylnaphthalene	NA	2.0 X	NA	NA	ND(0.30)	NA	NA	NA	
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	
4,6-Dinitro-2-methylpheno	NA	NA	NA	NA	NA	NA	NA	NA	
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	
4-Chloro-3-methylpheno	NA	NA	NA	NA	NA	NA	NA	NA	
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	
Acenaphthene	NA	3.0 X	NA	NA	ND(0.30)	NA	NA	NA	
Acenaphthylene	NA	ND(1.0 X)	NA	NA	ND(0.30)	NA	NA	NA	
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	
Anthracene	NA	3.0 X	NA	NA	ND(0.30)	NA	NA	NA	
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	EP 94-02D 2.5 - 4.5 08/21/02	FEP-1 0.5 - 3.5 07/25/05	FEP-2 1 - 3 07/25/05	FEP-3 0.7 - 3 07/25/05	FEP-4 0.8 - 3 07/25/05	FEP-5 0.7 - 3 07/25/05	FEP-6 0.9 - 3 07/25/05	FEP-7 0.9 - 3 07/25/05
Benzo(a)anthracene	NA	5.0 X	NA	NA	ND(0.30)	NA	NA	NA
Benzo(a)pyrene	NA	4.0 X (RDC)	NA	NA	ND(0.30)	NA	NA	NA
Benzo(b)fluoranthene	NA	5.0 X	NA	NA	ND(0.30)	NA	NA	NA
Benzo(g,h,i)perylene	NA	2.0 X	NA	NA	ND(0.30)	NA	NA	NA
Benzo(k)fluoranthene	NA	3.0 X	NA	NA	ND(0.30)	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	6.0 X	NA	NA	ND(0.30)	NA	NA	NA
Dibenz(a,h)anthracene	NA	ND(1.0 X)	NA	NA	ND(0.30)	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	12 X	NA	NA	ND(0.30)	NA	NA	NA
Fluorene	NA	3.0 X	NA	NA	ND(0.30)	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	2.0 X	NA	NA	ND(0.30)	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	ND(1.0 X)	NA	NA	ND(0.30)	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	11 X	NA	NA	ND(0.30)	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	13 X	NA	NA	ND(0.30)	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	ND(0.040)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	ND(0.040)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	ND(0.040)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	ND(0.040)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	ND(0.040)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	ND(0.040)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	ND(0.040)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	ND(0.040)	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic</b>								
Antimony	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA	NA
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	NA	NA	NA	NA	NA	NA	NA	NA
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (total)	NA	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA	NA
Silver	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	FEP-8 1 - 3 07/25/05	FEP-9 0.7 - 3 07/25/05	FEP-10 0.5 - 3 07/25/05	FEP-11 0.6 - 3 07/25/05	FEP-12 0.8 - 3 07/25/05	RFI-02-03R 0 - 2 03/07/05	RFI-02-12 1.2 - 3.2 02/24/03
<b>Miscellaneous</b>							
Total Petroleum Hydrocarbons	ND(50)	ND(50)	ND(50)	710	ND(50)	NA	NA
Total Solids	81	87	78	88	89	89 [84]	97
<b>VOC</b>							
1,1,1-Trichloroethane	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035 J)
1,1,2,2-Tetrachloroethane	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.070)
1,1,2-Trichloroethane	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
1,1-Dichloroethane	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
1,1-Dichloroethene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
1,2,4-Trichlorobenzene	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	NA	ND(0.15)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.15)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.020 M)	ND(0.020 M)	ND(0.030 M)	ND(0.020 M)	ND(0.020 M)	NA	ND(0.15)
1,2-Dichlorobenzene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.070)
1,2-Dichloroethane	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035 J)
1,2-Dichloropropane	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035 J)
1,3-Dichlorobenzene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.070)
1,4-Dichlorobenzene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.070)
2-Butanone (Methyl Ethyl Ketone)	ND(0.90)	ND(0.70)	ND(1.0)	ND(0.90)	ND(0.90)	NA	ND(0.30)
2-Hexanone	ND(3.0)	ND(2.0)	ND(3.0)	ND(3.0)	ND(3.0)	NA	ND(0.70)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(3.0)	ND(2.0)	ND(3.0)	ND(3.0)	ND(3.0)	NA	ND(1.5)
Acetone	0.70 BJ	0.50 BJ	0.60 BJ	0.50 BJ	0.60 BJ	NA	ND(0.30)
Benzene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
Bromodichloromethane	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.070)
Bromoform	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.070)
Bromomethane (Methyl Bromide)	ND(0.30)	ND(0.20)	ND(0.30)	ND(0.30)	ND(0.30)	NA	ND(0.15 J)
Carbon disulfide	ND(0.30)	ND(0.20)	ND(0.30)	ND(0.30)	ND(0.30)	NA	ND(0.15)
Carbon tetrachloride	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
Chlorobenzene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
Chloroethane	ND(0.30)	ND(0.20)	ND(0.30)	ND(0.30)	ND(0.30)	NA	ND(0.15)
Chloroform (Trichloromethane)	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
Chloromethane (Methyl Chloride)	ND(0.30)	ND(0.20)	ND(0.30)	ND(0.30)	ND(0.30)	NA	ND(0.15)
cis-1,2-Dichloroethene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
cis-1,3-Dichloropropene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
Cyclohexane	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.15)
Dibromochloromethane	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.070)
Dichlorodifluoromethane (CFC-12)	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.070)
Ethylbenzene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
Isopropylbenzene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.15)
m&p-Xylene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.070)
Methyl acetate	ND(3.0)	ND(2.0)	ND(3.0)	ND(3.0)	ND(3.0)	NA	ND(0.15)
Methyl cyclohexane	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.15)
Methyl Tert Butyl Ether	ND(0.30)	ND(0.20)	ND(0.30)	ND(0.30)	ND(0.30)	NA	ND(0.15)
Methylene chloride	ND(0.30)	ND(0.20)	ND(0.30)	ND(0.30)	ND(0.30)	NA	ND(0.15)
o-Xylene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
Styrene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
Tetrachloroethene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
Toluene	0.020 BJ	0.010 BJ	0.020 BJ	0.010 BJ	0.010 BJ	NA	ND(0.070)
trans-1,2-Dichloroethene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
trans-1,3-Dichloropropene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
Trichloroethene	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.035)
Trichlorofluoromethane (CFC-11)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	NA	ND(0.070)
Trifluorotrchloroethane (Freon 113)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	NA	ND(0.15)
Vinyl chloride	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	NA	ND(0.070)
Xylenes (total)	ND(0.060)	ND(0.050)	ND(0.070)	ND(0.060)	ND(0.060)	NA	ND(0.070)
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	ND(0.18)
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	ND(0.18)
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	ND(0.18)
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	ND(0.18)
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	ND(0.18)
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	ND(0.69)
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	ND(0.69)
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	ND(0.18)
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	ND(0.18)
2-Chlorophenol	NA	NA	NA	NA	NA	NA	ND(0.18)
2-Methylnaphthalene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
2-Methylphenol	NA	NA	NA	NA	NA	NA	ND(0.18)
2-Nitroaniline	NA	NA	NA	NA	NA	NA	ND(0.69)
2-Nitrophenol	NA	NA	NA	NA	NA	NA	ND(0.18)
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	ND(0.35 J)
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	ND(0.69)
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	ND(0.69)
4,6-Dinitro-2-methylpheno	NA	NA	NA	NA	NA	NA	ND(0.69)
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	ND(0.18)
4-Chloro-3-methylpheno	NA	NA	NA	NA	NA	NA	ND(0.18)
4-Chloroaniline	NA	NA	NA	NA	NA	NA	ND(0.69)
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	ND(0.69)
4-Nitroaniline	NA	NA	NA	NA	NA	NA	ND(0.69)
4-Nitrophenol	NA	NA	NA	NA	NA	NA	ND(0.69)
Acenaphthene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Acenaphthylene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Acetophenone	NA	NA	NA	NA	NA	NA	ND(0.18)
Anthracene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Atrazine	NA	NA	NA	NA	NA	NA	ND(0.18)
Benzaldehyde	NA	NA	NA	NA	NA	NA	ND(0.18 J)

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	FEP-8 1 - 3 07/25/05	FEP-9 0.7 - 3 07/25/05	FEP-10 0.5 - 3 07/25/05	FEP-11 0.6 - 3 07/25/05	FEP-12 0.8 - 3 07/25/05	RFI-02-03R 0 - 2 03/07/05	RFI-02-12 1.2 - 3.2 02/24/03
Benzo(a)anthracene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Benzo(a)pyrene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Benzo(b)fluoranthene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Benzo(g,h,i)perylene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Benzo(k)fluoranthene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Biphenyl	NA	NA	NA	NA	NA	NA	ND(0.18)
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	ND(0.18)
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	ND(0.034)
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	ND(0.18)
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	ND(0.18)
Caprolactam	NA	NA	NA	NA	NA	NA	ND(0.18)
Carbazole	NA	NA	NA	NA	NA	NA	ND(0.18)
Chrysene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Dibenz(a,h)anthracene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Dibenzofuran	NA	NA	NA	NA	NA	NA	ND(0.18)
Diethyl phthalate	NA	NA	NA	NA	NA	NA	ND(0.18)
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	ND(0.18)
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	ND(0.18)
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	ND(0.18)
Fluoranthene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Fluorene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	ND(0.18)
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	ND(0.18)
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	ND(0.18)
Hexachloroethane	NA	NA	NA	NA	NA	NA	ND(0.18)
Indeno(1,2,3-cd)pyrene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Isophorone	NA	NA	NA	NA	NA	NA	ND(0.18)
Methylphenols, Total	NA	NA	NA	NA	NA	NA	ND(0.35)
Naphthalene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Nitrobenzene	NA	NA	NA	NA	NA	NA	ND(0.069)
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	ND(0.18)
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	ND(0.18)
Pentachlorophenol	NA	NA	NA	NA	NA	NA	ND(0.69)
Phenanthrene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
Phenol	NA	NA	NA	NA	NA	NA	ND(0.18)
Pyrene	NA	NA	NA	ND(0.30)	NA	NA	ND(0.18)
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	ND(0.036)
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	ND(0.036)
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	ND(0.036)
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	ND(0.036)
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	ND(0.036)
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	ND(0.036)
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	ND(0.036)
Total PCBs	NA	NA	NA	NA	NA	NA	ND(0.036)
<b>Inorganic</b>							
Antimony	NA	NA	NA	NA	NA	NA	0.021 J
Arsenic	NA	NA	NA	NA	NA	NA	4.5
Barium	NA	NA	NA	NA	NA	NA	11
Beryllium	NA	NA	NA	NA	NA	NA	0.15 J
Cadmium	NA	NA	NA	NA	NA	NA	0.077
Chromium III (Trivalent)	NA	NA	NA	NA	NA	7.4 [38]	NA
Chromium Total	NA	NA	NA	NA	NA	7.4 [38]	5.1
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	ND(1.0 J) [ND(1.0 J)]	NA
Cobalt	NA	NA	NA	NA	NA	NA	2.5
Copper	NA	NA	NA	NA	NA	NA	5.3
Cyanide (total)	NA	NA	NA	NA	NA	NA	ND(0.20)
Lead	NA	NA	NA	NA	NA	NA	4.1
Manganese	NA	NA	NA	NA	NA	NA	130
Mercury	NA	NA	NA	NA	NA	NA	ND(0.071)
Nickel	NA	NA	NA	NA	NA	NA	5.9
Selenium	NA	NA	NA	NA	NA	NA	0.043 J
Silver	NA	NA	NA	NA	NA	NA	0.020 J
Thallium	NA	NA	NA	NA	NA	NA	0.062 J
Vanadium	NA	NA	NA	NA	NA	NA	9.0
Zinc	NA	NA	NA	NA	NA	NA	21



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-02-12 7 - 9 02/24/03	RFI-02-13 0.5 - 2.5 10/16/02	RFI-02-14 2 - 4 03/08/05	RFI-02-14 8 - 10 03/08/05	RFI-02-19 1.7 - 4 03/22/05	RFI-02-19 8 - 10 03/22/05	RFI-02-20 1.5 - 3.5 03/23/05	RFI-02-20 8 - 10 03/23/05
Benzo(a)anthracene	ND(0.21) [ND(0.21)]	ND(0.19)	0.10 J	0.70	0.70 J	ND(0.30)	ND(0.30)	ND(0.30)
Benzo(a)pyrene	ND(0.21) [ND(0.21)]	ND(0.19)	0.10 J	0.90 J	0.90	ND(0.30)	ND(0.30)	ND(0.30)
Benzo(b)fluoranthene	ND(0.21) [ND(0.21)]	ND(0.19)	0.10 J	0.50 J	0.90	ND(0.30)	ND(0.30)	ND(0.30)
Benzo(g,h,i)perylene	ND(0.21) [ND(0.21)]	ND(0.19)	0.080 J	0.30 J	0.60	ND(0.30)	ND(0.30)	ND(0.30)
Benzo(k)fluoranthene	ND(0.21) [ND(0.21)]	ND(0.19)	0.090 J	0.60 J	0.70	ND(0.30)	ND(0.30)	ND(0.30)
Biphenyl	ND(0.21) [ND(0.21)]	ND(0.19)	0.030 J	0.090 J	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
bis(2-Chloroethoxy)methane	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
bis(2-Chloroethyl)ether	ND(0.041) [ND(0.041)]	ND(0.037)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
bis(2-Ethylhexyl)phthalate	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Butyl benzylphthalate	ND(0.21) [0.52]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Caprolactam	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Carbazole	ND(0.21) [ND(0.21)]	ND(0.19)	0.020 J	0.10 J	0.10 J	ND(0.30)	ND(0.30)	ND(0.30)
Chrysene	ND(0.21) [ND(0.21)]	ND(0.19)	0.20 J	1.3	0.90	ND(0.30)	0.030 J	ND(0.30)
Dibenz(a,h)anthracene	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30 J)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Dibenzofuran	ND(0.21) [ND(0.21)]	ND(0.19)	0.060 J	0.30	0.050 J	ND(0.30)	ND(0.30)	ND(0.30)
Diethyl phthalate	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Dimethyl phthalate	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Di-n-butylphthalate	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Di-n-octyl phthalate	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30 J)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Fluoranthene	0.12 J [ND(0.21)]	ND(0.19)	0.30	1.6	1.9	ND(0.30)	0.050 J	ND(0.30)
Fluorene	ND(0.21) [ND(0.21)]	ND(0.19)	0.010 J	0.50 J	0.060 J	ND(0.30)	ND(0.30)	ND(0.30)
Hexachlorobenzene	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Hexachlorobutadiene	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Hexachlorocyclopentadiene	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Hexachloroethane	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Indeno(1,2,3-cd)pyrene	ND(0.21) [ND(0.21)]	ND(0.19)	0.070 J	0.20 J	0.60	ND(0.30)	ND(0.30)	ND(0.30)
Isophorone	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Methylphenols, Total	ND(0.42) [ND(0.42)]	ND(0.38)	ND(0.30)	R	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Naphthalene	ND(0.21) [ND(0.21)]	ND(0.19)	0.10 J	0.20 J	0.080 J	ND(0.30)	ND(0.30)	ND(0.30)
Nitrobenzene	ND(0.083) [ND(0.083)]	ND(0.075)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
N-Nitrosodi-n-propylamine	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
N-Nitrosodiphenylamine	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Pentachlorophenol	ND(0.83) [ND(0.83)]	ND(0.75)	ND(0.70)	R	ND(0.70)	ND(0.70)	ND(0.70)	ND(0.70)
Phenanthrene	0.14 J [ND(0.21)]	0.069 J	0.30	2.0 J	1.0 J	ND(0.30)	0.040 J	ND(0.30)
Phenol	ND(0.21) [ND(0.21)]	ND(0.19)	ND(0.30)	R	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Pyrene	0.088 J [ND(0.21)]	ND(0.19)	0.20 J	1.4	1.3	ND(0.30)	ND(0.30)	ND(0.30)
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	ND(0.043) [ND(0.043)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1221 (PCB-1221)	ND(0.043) [ND(0.043)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1232 (PCB-1232)	ND(0.043) [ND(0.043)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1242 (PCB-1242)	ND(0.043) [ND(0.043)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1248 (PCB-1248)	ND(0.043) [ND(0.043)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1254 (PCB-1254)	ND(0.043) [ND(0.043)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1260 (PCB-1260)	ND(0.043) [ND(0.043)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Total PCBs	ND(0.043) [ND(0.043)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
<b>Inorganic</b>								
Antimony	ND(0.17) [ND(0.18)]	R	ND(0.50)	ND(0.50)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Arsenic	7.5 [4.2]	3.5 J	1.1 J	1.7 J	1.2	0.60	2.3	0.56
Barium	84 [66]	29 J	18 J	18 J	33	62	70	230
Beryllium	0.47 J [0.46 J]	0.20 J	ND(0.10)	0.12	ND(0.50)	ND(0.50)	ND(0.50)	1.3
Cadmium	0.19 [0.16]	0.12	0.19	0.15	ND(0.20)	0.23	0.28	ND(0.20)
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	19 [14]	9.3 J	20	5.1	9.7	3.4	9.9	24
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	9.4 [9.9]	4.3	1.4	1.7	1.8	1.9	5.6	16
Copper	58 [14]	6.4 J	12	10	17	6.9	140	16
Cyanide (total)	ND(0.20) [ND(0.20)]	ND(0.20)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)
Lead	18 [30]	12 J	28	62	30	7.0	400	13
Manganese	340 [400]	150 J	130	150	150	390	310	550
Mercury	0.012 J [0.014 J]	0.026 J	ND(0.050)	ND(0.050)	0.060	ND(0.050)	0.080	ND(0.050)
Nickel	24 [18]	7.4 J	14	6.0	8.7	3.4	19	45
Selenium	0.098 [0.24]	0.057 J	0.24	ND(0.20)	0.34	ND(0.20)	0.27	ND(0.20)
Silver	0.093 J [0.051 J]	0.021 J	ND(0.20)	ND(0.20)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)
Thallium	0.18 [0.14 J]	0.082 J	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.50)	0.82	ND(0.50)
Vanadium	28 [22]	15 J	2.9	5.2	3.5	5.7	13	19
Zinc	66 [47]	30 J	7.3 J	14 J	17	11	76	49



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-02-21 1.5 - 3.5 03/23/05	RFI-02-21 8 - 10 03/23/05	RFI-02-22 0 - 3 03/23/05	RFI-02-22 8 - 10 03/23/05	RFI-02-22 11 - 13 03/23/05	RFI-02-23 1.7 - 3.7 03/24/05	RFI-02-23 8 - 10 03/24/05	RFI-02-24 1.3 - 3.3 03/24/05
Benzo(a)anthracene	0.060 J	ND(0.30)	0.070 J	ND(0.30) [0.040 J]	0.10 J	ND(0.30)	ND(0.30)	ND(0.30)
Benzo(a)pyrene	ND(0.30)	ND(0.30)	0.080 J	ND(0.30) [ND(0.30)]	0.20 J	ND(0.30)	ND(0.30 J)	ND(0.30 J)
Benzo(b)fluoranthene	0.060 J	ND(0.30)	0.090 J	ND(0.30) [ND(0.30)]	0.10 J	ND(0.30)	ND(0.30 J)	ND(0.30 J)
Benzo(g,h,i)perylene	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30 J)	ND(0.30 J)
Benzo(k)fluoranthene	0.070 J	ND(0.30)	0.060 J	ND(0.30) [ND(0.30)]	0.10 J	ND(0.30)	ND(0.30 J)	ND(0.30 J)
Biphenyl	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
bis(2-Chloroethoxy)methane	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
bis(2-Chloroethyl)ether	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
bis(2-Ethylhexyl)phthalate	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Butyl benzylphthalate	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Caprolactam	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Carbazole	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Chrysene	0.070 J	ND(0.30)	0.080 J	ND(0.30) [0.040 J]	0.20 J	ND(0.30)	ND(0.30)	ND(0.30)
Dibenz(a,h)anthracene	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30 J)	ND(0.30 J)
Dibenzofuran	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Diethyl phthalate	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Dimethyl phthalate	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Di-n-butylphthalate	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Di-n-octyl phthalate	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Fluoranthene	0.10 J	ND(0.30)	0.20 J	ND(0.30) [0.090 J]	0.20 J	ND(0.30)	0.050 J	ND(0.30)
Fluorene	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Hexachlorobenzene	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Hexachlorobutadiene	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Hexachlorocyclopentadiene	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Hexachloroethane	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Indeno(1,2,3-cd)pyrene	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30 J)	ND(0.30 J)
Isophorone	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Methylphenols, Total	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Naphthalene	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Nitrobenzene	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20) [ND(0.20)]	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
N-Nitrosodi-n-propylamine	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
N-Nitrosodiphenylamine	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Pentachlorophenol	ND(0.70)	ND(0.70)	ND(0.70)	ND(0.70) [ND(0.70)]	ND(0.70)	ND(0.70)	ND(0.70)	ND(0.70)
Phenanthrene	0.080 J	ND(0.30)	0.20 J	ND(0.30) [0.050 J]	0.10 J	0.030 J	0.080 J	ND(0.30)
Phenol	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Pyrene	0.10 J	ND(0.30)	0.20 J	ND(0.30) [0.070 J]	0.20 J	ND(0.30)	0.040 J	ND(0.30)
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1221 (PCB-1221)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1232 (PCB-1232)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1242 (PCB-1242)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1248 (PCB-1248)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1254 (PCB-1254)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1260 (PCB-1260)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Total PCBs	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
<b>Inorganic</b>								
Antimony	ND(0.30)	ND(0.30)	0.92	1.3 [0.86]	1.5	ND(0.30)	ND(0.30)	ND(0.30)
Arsenic	1.3	1.1	2.0	0.84 [1.3]	1.3	1.2	0.93	3.0
Barium	16	50	370	180 [170]	170	13	21	33
Beryllium	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50) [0.63]	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Cadmium	ND(0.20)	ND(0.20)	1.2	1.6 [0.69]	1.3	ND(0.20)	ND(0.20)	0.25
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	2.3	4.2	20	16 [32]	25	15	ND(2.0)	5.2
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	1.8	2.3	5.4	3.1 [5.7]	2.6	1.6	1.3	1.4
Copper	23	5.6	110	82 [33]	86	24	3.6	7.2
Cyanide (total)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)
Lead	28	6.4	570 (RDC)	590 (RDC) [290]	880 (RDC)	6.0	4.0	18
Manganese	140	67	810	470 [1,300]	920	180	160	190
Mercury	ND(0.050)	ND(0.050)	1.1	0.67 [0.51]	1.4	ND(0.050)	ND(0.050)	ND(0.050)
Nickel	3.8	4.9	17	12 [16]	12	11	2.8	4.9
Selenium	0.87	0.31	0.39	ND(0.20) [ND(0.20)]	0.24	ND(0.20)	ND(0.20)	0.34
Silver	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)
Thallium	ND(0.50)	ND(0.50)	1.2	1.2 [0.61]	1.7	ND(0.50)	ND(0.50)	ND(0.50)
Vanadium	3.8	5.4	10	7.2 [15]	6.4	2.2	3.4	4.0
Zinc	31	17	400	360 [200]	410	7.3	7.6	21

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-02-24 8 - 10 03/24/05	RFI-03-09 0 - 2 08/23/02	RFI-03-10 0 - 2 08/23/02	RFI-03-11 0 - 2 03/07/03	RFI-03-12 0.8 - 2.8 03/11/03	RFI-03-13 0.8 - 2.8 03/11/03	RFI-03-14 0.8 - 2.8 03/11/03
<b>Miscellaneous</b>							
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA
Total Solids	90	91	88	84	91	89	95
<b>VOC</b>							
1,1,1-Trichloroethane	ND(0.060)	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	ND(0.060 J)	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	ND(0.060)	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	ND(0.060)	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	ND(0.060)	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	ND(0.10 J)	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.060 J)	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.060)	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	ND(0.060)	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	ND(0.060)	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	ND(0.060)	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	ND(0.060 J)	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	ND(0.060)	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	ND(0.80 J)	NA	NA	NA	NA	NA	NA
2-Hexanone	ND(3.0 J)	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(3.0 J)	NA	NA	NA	NA	NA	NA
Acetone	ND(0.80 J)	NA	NA	NA	NA	NA	NA
Benzene	ND(0.060)	NA	NA	NA	NA	NA	NA
Bromodichloromethane	ND(0.060)	NA	NA	NA	NA	NA	NA
Bromoform	ND(0.060 J)	NA	NA	NA	NA	NA	NA
Bromomethane (Methyl Bromide)	R	NA	NA	NA	NA	NA	NA
Carbon disulfide	ND(0.30)	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	ND(0.060)	NA	NA	NA	NA	NA	NA
Chlorobenzene	ND(0.060)	NA	NA	NA	NA	NA	NA
Chloroethane	ND(0.30)	NA	NA	NA	NA	NA	NA
Chloroform (Trichloromethane)	ND(0.060)	NA	NA	NA	NA	NA	NA
Chloromethane (Methyl Chloride)	ND(0.30)	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	ND(0.060)	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	ND(0.060)	NA	NA	NA	NA	NA	NA
Cyclohexane	ND(0.060 J)	NA	NA	NA	NA	NA	NA
Dibromochloromethane	ND(0.060 J)	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	ND(0.060)	NA	NA	NA	NA	NA	NA
Ethylbenzene	ND(0.060)	NA	NA	NA	NA	NA	NA
Isopropylbenzene	ND(0.060)	NA	NA	NA	NA	NA	NA
m&p-Xylene	ND(0.060)	NA	NA	NA	NA	NA	NA
Methyl acetate	ND(3.0)	NA	NA	NA	NA	NA	NA
Methyl cyclohexane	ND(0.060)	NA	NA	NA	NA	NA	NA
Methyl Tert Butyl Ether	ND(0.30)	NA	NA	NA	NA	NA	NA
Methylene chloride	ND(0.30)	NA	NA	NA	NA	NA	NA
o-Xylene	ND(0.060)	NA	NA	NA	NA	NA	NA
Styrene	ND(0.060)	NA	NA	NA	NA	NA	NA
Tetrachloroethene	ND(0.060)	NA	NA	NA	NA	NA	NA
Toluene	ND(0.060)	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	ND(0.060)	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	ND(0.060 J)	NA	NA	NA	NA	NA	NA
Trichloroethene	ND(0.060)	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (CFC-11)	ND(0.10)	NA	NA	NA	NA	NA	NA
Trifluorotrchloroethane (Freon 113)	ND(0.10)	NA	NA	NA	NA	NA	NA
Vinyl chloride	ND(0.10)	NA	NA	NA	NA	NA	NA
Xylenes (total)	ND(0.060)	NA	NA	NA	NA	NA	NA
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	ND(0.30)	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	ND(0.30)	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	ND(0.30)	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	ND(0.30)	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	ND(0.30)	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	ND(0.70 J)	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ND(0.30)	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	ND(0.30)	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	ND(0.30)	NA	NA	NA	NA	NA	NA
2-Chlorophenol	ND(0.30)	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	ND(0.30)	NA	NA	NA	NA	NA	NA
2-Methylphenol	ND(0.30)	NA	NA	NA	NA	NA	NA
2-Nitroaniline	ND(0.70)	NA	NA	NA	NA	NA	NA
2-Nitrophenol	ND(0.30)	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	ND(0.70)	NA	NA	NA	NA	NA	NA
3-Methylphenol	ND(0.30)	NA	NA	NA	NA	NA	NA
3-Nitroaniline	ND(0.70)	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylpheno	ND(0.70 J)	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	ND(0.30)	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylpheno	ND(0.30)	NA	NA	NA	NA	NA	NA
4-Chloroaniline	ND(0.70)	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ND(0.30)	NA	NA	NA	NA	NA	NA
4-Nitroaniline	ND(0.70)	NA	NA	NA	NA	NA	NA
4-Nitrophenol	ND(0.70)	NA	NA	NA	NA	NA	NA
Acenaphthene	ND(0.30)	NA	NA	NA	NA	NA	NA
Acenaphthylene	ND(0.30)	NA	NA	NA	NA	NA	NA
Acetophenone	ND(0.30)	NA	NA	NA	NA	NA	NA
Anthracene	ND(0.30)	NA	NA	NA	NA	NA	NA
Atrazine	ND(0.30)	NA	NA	NA	NA	NA	NA
Benzaldehyde	ND(0.30)	NA	NA	NA	NA	NA	NA

**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-02-24 8 - 10 03/24/05	RFI-03-09 0 - 2 08/23/02	RFI-03-10 0 - 2 08/23/02	RFI-03-11 0 - 2 03/07/03	RFI-03-12 0.8 - 2.8 03/11/03	RFI-03-13 0.8 - 2.8 03/11/03	RFI-03-14 0.8 - 2.8 03/11/03
Benzo(a)anthracene	ND(0.30 J)	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	ND(0.30 J)	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	ND(0.30 J)	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	ND(0.30 J)	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	ND(0.30)	NA	NA	NA	NA	NA	NA
Biphenyl	ND(0.30)	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ND(0.30)	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	ND(0.30)	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	ND(0.30)	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	ND(0.30)	NA	NA	NA	NA	NA	NA
Caprolactam	ND(0.30)	NA	NA	NA	NA	NA	NA
Carbazole	ND(0.30)	NA	NA	NA	NA	NA	NA
Chrysene	ND(0.30)	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	ND(0.30 J)	NA	NA	NA	NA	NA	NA
Dibenzofuran	ND(0.30)	NA	NA	NA	NA	NA	NA
Diethyl phthalate	ND(0.30)	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	ND(0.30)	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	ND(0.30)	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	ND(0.30)	NA	NA	NA	NA	NA	NA
Fluoranthene	ND(0.30)	NA	NA	NA	NA	NA	NA
Fluorene	ND(0.30)	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	ND(0.30)	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	ND(0.30)	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	ND(0.30)	NA	NA	NA	NA	NA	NA
Hexachloroethane	ND(0.30)	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ND(0.30 J)	NA	NA	NA	NA	NA	NA
Isophorone	ND(0.30)	NA	NA	NA	NA	NA	NA
Methylphenols, Total	ND(0.30)	NA	NA	NA	NA	NA	NA
Naphthalene	ND(0.30)	NA	NA	NA	NA	NA	NA
Nitrobenzene	ND(0.20)	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	ND(0.30)	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	ND(0.30)	NA	NA	NA	NA	NA	NA
Pentachlorophenol	ND(0.70)	NA	NA	NA	NA	NA	NA
Phenanthrene	ND(0.30)	NA	NA	NA	NA	NA	NA
Phenol	ND(0.30)	NA	NA	NA	NA	NA	NA
Pyrene	ND(0.30)	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	ND(0.33)	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	ND(0.33)	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	ND(0.33)	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	ND(0.33)	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	ND(0.33)	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	ND(0.33)	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	ND(0.33)	NA	NA	NA	NA	NA	NA
Total PCBs	ND(0.33)	NA	NA	NA	NA	NA	NA
<b>Inorganic</b>							
Antimony	ND(0.30)	NA	NA	NA	NA	NA	NA
Arsenic	1.3	NA	NA	NA	NA	NA	NA
Barium	70	NA	NA	NA	NA	NA	NA
Beryllium	ND(0.50)	NA	NA	NA	NA	NA	NA
Cadmium	ND(0.20)	NA	NA	NA	NA	NA	NA
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA
Chromium Total	4.0	NA	NA	NA	NA	NA	NA
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA
Cobalt	2.8	NA	NA	NA	NA	NA	NA
Copper	4.6	NA	NA	NA	NA	NA	NA
Cyanide (total)	ND(0.10)	NA	NA	NA	NA	NA	NA
Lead	5.0	NA	NA	NA	NA	NA	NA
Manganese	180	230 J	3,100 J (IPSIK)	4,700 (IPSIK,RPSIK)	3,800 J (IPSIK,RPSIK)	2,500 J (IPSIK)	620 J
Mercury	ND(0.050)	NA	NA	NA	NA	NA	NA
Nickel	6.1	NA	NA	NA	NA	NA	NA
Selenium	0.39	NA	NA	NA	NA	NA	NA
Silver	ND(0.10)	NA	NA	NA	NA	NA	NA
Thallium	ND(0.50)	NA	NA	NA	NA	NA	NA
Vanadium	5.7	NA	NA	NA	NA	NA	NA
Zinc	14	NA	NA	NA	NA	NA	NA

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-03-15 0.9 - 2.9 04/10/03	RFI-03-15 6.9 - 8.9 04/10/03	RFI-05-26 7 - 9 04/12/02	RFI-05-31 7 - 9 03/11/03	RFI-07-01R 4 - 6 07/25/03	RFI-07-10 0 - 2 03/19/03	RFI-07-10 6 - 8 03/19/03	RFI-07-11 0 - 2 03/18/03
<b>Miscellaneous</b>								
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids	89	89 [90]	85	91	83	87	89	88
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
1,1,2,2-Tetrachloroethane	ND(0.077)	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079 J)	ND(0.077 J)	ND(0.078 J)
1,1,2-Trichloroethane	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
1,1-Dichloroethane	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
1,1-Dichloroethene	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
1,2,4-Trichlorobenzene	ND(0.17)	ND(0.17) [ND(0.16)]	NA	NA	ND(0.18)	ND(0.17)	ND(0.16)	ND(0.17)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.17)	ND(0.17) [ND(0.16)]	NA	NA	ND(0.18)	ND(0.17)	ND(0.16)	ND(0.17)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.17)	ND(0.17) [ND(0.16)]	NA	NA	ND(0.18)	ND(0.17)	ND(0.16)	ND(0.17)
1,2-Dichlorobenzene	ND(0.077)	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079)	ND(0.077)	ND(0.078)
1,2-Dichloroethane	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
1,2-Dichloropropane	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
1,3-Dichlorobenzene	ND(0.077)	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079)	ND(0.077)	ND(0.078)
1,4-Dichlorobenzene	ND(0.077)	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079)	ND(0.077)	ND(0.078)
2-Butanone (Methyl Ethyl Ketone)	ND(0.33)	ND(0.34) [ND(0.33)]	NA	NA	ND(0.35 J)	ND(0.34 J)	ND(0.33 J)	ND(0.33 J)
2-Hexanone	ND(0.077)	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079 J)	ND(0.077 J)	ND(0.078 J)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(1.7)	ND(1.7) [ND(1.6)]	NA	NA	ND(1.8)	ND(1.7 J)	ND(1.6 J)	ND(1.7 J)
Acetone	ND(0.33)	ND(0.34) [ND(0.33)]	NA	NA	0.13 J	0.033 J	ND(0.33 J)	0.13 J
Benzene	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
Bromodichloromethane	ND(0.077)	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079)	ND(0.077)	ND(0.078)
Bromoform	ND(0.077)	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079)	ND(0.077)	ND(0.078)
Bromomethane (Methyl Bromide)	ND(0.17 J)	ND(0.17 J) [ND(0.16 J)]	NA	NA	ND(0.18)	ND(0.17)	ND(0.16)	ND(0.17 J)
Carbon disulfide	ND(0.17)	ND(0.17) [ND(0.16)]	NA	NA	ND(0.18 J)	ND(0.17 J)	ND(0.16 J)	ND(0.17 J)
Carbon tetrachloride	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
Chlorobenzene	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
Chloroethane	ND(0.17)	ND(0.17) [ND(0.16)]	NA	NA	ND(0.18)	ND(0.17)	ND(0.16)	ND(0.17)
Chloroform (Trichloromethane)	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
Chloromethane (Methyl Chloride)	ND(0.17)	ND(0.17) [ND(0.16)]	NA	NA	ND(0.18)	ND(0.17)	ND(0.16)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
cis-1,3-Dichloropropene	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
Cyclohexane	0.046 J	ND(0.17) [ND(0.16)]	NA	NA	ND(0.18)	ND(0.17)	ND(0.16)	0.084 J
Dibromochloromethane	ND(0.077)	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079)	ND(0.077)	ND(0.078)
Dichlorodifluoromethane (CFC-12)	ND(0.077)	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079)	ND(0.077)	ND(0.078 J)
Ethylbenzene	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	0.032 J
Isopropylbenzene	ND(0.17)	ND(0.17) [ND(0.16)]	NA	NA	ND(0.18)	ND(0.17)	ND(0.16)	0.030 J
m&p-Xylene	0.088	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079)	ND(0.077)	0.17
Methyl acetate	ND(0.17 J)	ND(0.17 J) [ND(0.16 J)]	NA	NA	ND(0.18 J)	ND(0.17 J)	ND(0.16 J)	ND(0.17 J)
Methyl cyclohexane	ND(0.17)	ND(0.17) [ND(0.16)]	NA	NA	ND(0.18)	ND(0.17)	ND(0.16 J)	0.40 J
Methyl Tert Butyl Ether	ND(0.17)	ND(0.17) [ND(0.16)]	NA	NA	ND(0.18)	ND(0.17 J)	ND(0.16 J)	ND(0.17 J)
Methylene chloride	0.040 J	0.038 J [0.039 J]	NA	NA	0.10 J	0.036 J	ND(0.16 J)	0.049 J
o-Xylene	0.054	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	0.17
Styrene	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
Tetrachloroethene	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039 J)
Toluene	0.084	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079)	ND(0.077)	0.038 J
trans-1,2-Dichloroethene	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
trans-1,3-Dichloropropene	ND(0.039)	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
Trichloroethene	0.068	ND(0.039) [ND(0.038)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.038)	ND(0.039)
Trichlorofluoromethane (CFC-11)	ND(0.077)	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079)	ND(0.077)	ND(0.078)
Trifluorotrchloroethane (Freon 113)	ND(0.17)	ND(0.17) [ND(0.16)]	NA	NA	ND(0.18)	ND(0.17)	ND(0.16)	ND(0.17)
Vinyl chloride	ND(0.077)	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079)	ND(0.077)	ND(0.078)
Xylenes (total)	0.14	ND(0.078) [ND(0.076)]	NA	NA	ND(0.082)	ND(0.079)	ND(0.077)	0.34
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
2,4,5-Trichlorophenol	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
2,4,6-Trichlorophenol	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
2,4-Dichlorophenol	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
2,4-Dimethylpheno	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
2,4-Dinitrophenol	ND(3.8)	ND(3.8) [ND(3.7)]	NA	NA	ND(0.79)	ND(0.77)	ND(0.75)	ND(0.76)
2,4-Dinitrotoluene	ND(3.8)	ND(3.8) [ND(3.7)]	NA	NA	ND(0.79)	ND(0.77)	ND(0.75)	ND(0.76)
2,6-Dinitrotoluene	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
2-Chloronaphthalene	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
2-Chlorophenol	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
2-Methylnaphthalene	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	0.25	ND(0.20)	ND(0.19)	ND(0.19)
2-Methylphenol	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
2-Nitroaniline	ND(3.8)	ND(3.8) [ND(3.7)]	NA	NA	ND(0.79)	ND(0.77)	ND(0.75)	ND(0.76)
2-Nitrophenol	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
3&4-Methylphenol	ND(1.9 J)	ND(1.9 J) [ND(1.9 J)]	NA	NA	ND(0.40 J)	ND(0.39 J)	ND(0.38 J)	ND(0.39 J)
3,3'-Dichlorobenzidine	ND(3.8)	ND(3.8) [ND(3.7)]	NA	NA	ND(0.79)	ND(0.77)	ND(0.75)	ND(0.76)
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	ND(3.8)	ND(3.8) [ND(3.7)]	NA	NA	ND(0.79)	ND(0.77)	ND(0.75)	ND(0.76)
4,6-Dinitro-2-methylpheno	ND(3.8)	ND(3.8) [ND(3.7)]	NA	NA	ND(0.79)	ND(0.77)	ND(0.75)	ND(0.76)
4-Bromophenyl phenyl ether	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
4-Chloro-3-methylpheno	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
4-Chloroaniline	ND(3.8 J)	ND(3.8 J) [ND(3.7 J)]	NA	NA	ND(0.79)	ND(0.77)	ND(0.75)	ND(0.76)
4-Chlorophenyl phenyl ether	ND(3.8)	ND(3.8) [ND(3.7)]	NA	NA	ND(0.79 J)	ND(0.77)	ND(0.75)	ND(0.76)
4-Nitroaniline	ND(3.8)	ND(3.8) [ND(3.7)]	NA	NA	ND(0.79)	ND(0.77)	ND(0.75)	ND(0.76)
4-Nitrophenol	ND(3.8)	ND(3.8) [ND(3.7)]	NA	NA	ND(0.79)	ND(0.77)	ND(0.75)	ND(0.76)
Acenaphthene	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	1.2	ND(0.20)	ND(0.19)	ND(0.19)
Acenaphthylene	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
Acetophenone	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
Anthracene	0.38 J	0.71 J [0.73 J]	NA	NA	2.3	ND(0.20)	ND(0.19)	ND(0.19)
Atrazine	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20 J)	ND(0.20)	ND(0.19)	ND(0.19)
Benzaldehyde	ND(0.96 J)	ND(0.95 J) [ND(0.95 J)]	NA	NA	ND(0.20)	R	R	R

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(in mg/kg)

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**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-03-15 0.9 - 2.9 04/10/03	RFI-03-15 6.9 - 8.9 04/10/03	RFI-05-26 7 - 9 04/12/02	RFI-05-31 7 - 9 03/11/03	RFI-07-01R 4 - 6 07/25/03	RFI-07-10 0 - 2 03/19/03	RFI-07-10 6 - 8 03/19/03	RFI-07-11 0 - 2 03/18/03
Benzo(a)anthracene	5.3	8.4 [8.9]	NA	NA	4.1 J	ND(0.20)	ND(0.19)	ND(0.19)
Benzo(a)pyrene	8.2 (IDC,RDC)	13 (IDC,RDC) [15 (IDC,RDC)]	NA	NA	4.0 J (RDC)	ND(0.20)	ND(0.19)	ND(0.19)
Benzo(b)fluoranthene	11	20 D [25 D (RDC)]	NA	NA	3.9 J	ND(0.20)	ND(0.19)	ND(0.19)
Benzo(g,h,i)perylene	4.4	6.7 [7.7]	NA	NA	2.5 J	ND(0.20)	ND(0.19)	ND(0.19)
Benzo(k)fluoranthene	8.9	7.2 [10]	NA	NA	3.6 J	ND(0.20)	ND(0.19)	ND(0.19)
Biphenyl	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	0.12 J	ND(0.20)	ND(0.19)	ND(0.19)
bis(2-Chloroethoxy)methane	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
bis(2-Chloroethyl)ether	ND(0.19)	ND(0.19) [ND(0.18)]	NA	NA	ND(0.039)	ND(0.038)	ND(0.037)	ND(0.037)
bis(2-Ethylhexyl)phthalate	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	0.97 J	ND(0.20)	ND(0.19)	ND(0.19)
Butyl benzylphthalate	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	0.095 J	ND(0.20)	ND(0.19)	ND(0.19)
Caprolactam	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
Carbazole	ND(0.96)	0.62 J [0.68 J]	NA	NA	1.2 J	ND(0.20)	ND(0.19)	ND(0.19)
Chrysene	7.4	11 [12]	NA	NA	4.0 J	ND(0.20)	ND(0.19)	ND(0.19)
Dibenz(a,h)anthracene	ND(0.96 J)	0.51 J [0.62 J]	NA	NA	0.16 J	ND(0.20 J)	ND(0.19 J)	ND(0.19 J)
Dibenzofuran	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	0.72	ND(0.20)	ND(0.19)	ND(0.19)
Diethyl phthalate	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20 J)	ND(0.20)	ND(0.19)	ND(0.19)
Dimethyl phthalate	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
Di-n-butylphthalate	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
Di-n-octyl phthalate	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20 J)	ND(0.20)	ND(0.19)	ND(0.19)
Fluoranthene	6.9	11 [11]	NA	NA	6.6	ND(0.20)	ND(0.19)	0.087 J
Fluorene	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	1.0	ND(0.20)	ND(0.19)	ND(0.19)
Hexachlorobenzene	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
Hexachlorobutadiene	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
Hexachlorocyclopentadiene	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
Hexachloroethane	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
Indeno(1,2,3-cd)pyrene	4.0 J	6.2 J [6.8 J]	NA	NA	2.1 J	ND(0.20 J)	ND(0.19 J)	ND(0.19 J)
Isophorone	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
Methylphenols, Total	ND(1.9)	ND(1.9) [ND(1.9)]	NA	NA	ND(0.40)	ND(0.39)	ND(0.38)	ND(0.39)
Naphthalene	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	0.33	ND(0.20)	ND(0.19)	ND(0.19)
Nitrobenzene	ND(0.38)	ND(0.38) [ND(0.37)]	NA	NA	ND(0.079)	ND(0.077)	ND(0.075)	ND(0.076)
N-Nitrosodi-n-propylamine	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
N-Nitrosodiphenylamine	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
Pentachlorophenol	ND(3.8)	ND(3.8) [ND(3.7)]	NA	NA	ND(0.79)	ND(0.77)	ND(0.75)	ND(0.76)
Phenanthrene	2.1	3.7 [3.9]	NA	NA	6.7	ND(0.20)	ND(0.19)	ND(0.19)
Phenol	ND(0.96)	ND(0.95) [ND(0.95)]	NA	NA	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19)
Pyrene	7.3	13 [13]	NA	NA	7.9 D	ND(0.20)	ND(0.19)	ND(0.19)
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	ND(0.039)	ND(0.039) [ND(0.039)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.039)	ND(0.040)
Aroclor-1221 (PCB-1221)	ND(0.039)	ND(0.039) [ND(0.039)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.039)	ND(0.040)
Aroclor-1232 (PCB-1232)	ND(0.039)	ND(0.039) [ND(0.039)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.039)	ND(0.040)
Aroclor-1242 (PCB-1242)	ND(0.039)	ND(0.039) [ND(0.039)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.039)	ND(0.040)
Aroclor-1248 (PCB-1248)	ND(0.039)	ND(0.039) [ND(0.039)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.039)	ND(0.040)
Aroclor-1254 (PCB-1254)	ND(0.039)	ND(0.039) [ND(0.039)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.039)	ND(0.040)
Aroclor-1260 (PCB-1260)	ND(0.039)	ND(0.039) [ND(0.039)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.039)	ND(0.040)
Total PCBs	ND(0.039)	ND(0.039) [ND(0.039)]	NA	NA	ND(0.041)	ND(0.040)	ND(0.039)	ND(0.040)
<b>Inorganic</b>								
Antimony	0.72	0.38 [0.12 J]	NA	NA	0.075 J	0.011 J	0.017 J	0.11 J
Arsenic	6.8	5.9 [5.0]	NA	NA	8.4 (RDC)	4.9	18 (RDC)	6.1
Barium	87	22 [24]	NA	NA	130	48	49	52
Beryllium	0.57	0.19 [0.26]	NA	NA	0.59 J	0.33	0.23	0.35
Cadmium	2.3	2.5 [2.0]	NA	NA	ND(0.071)	ND(0.090)	ND(0.098)	0.61
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	36	8.9 [10]	NA	NA	27	17	10	12
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	4.4	4.4 [2.9]	NA	NA	11	8.1	5.3	7.6
Copper	650	2,300 [710]	NA	NA	17	7.5	9.4	15
Cyanide (total)	ND(0.20)	ND(0.20) [ND(0.20)]	NA	NA	0.23	ND(0.20)	2.9	ND(0.20)
Lead	700 (RDC)	370 [230]	540 JD (RDC)	83 J	12 J	11 J	6.5 J	42 J
Manganese	350	120 [93]	NA	NA	290	190 J	290 J	860 J
Mercury	0.23 J	0.055 J [0.055 J]	NA	NA	ND(0.078)	0.028 J	0.0090 J	0.041 J
Nickel	34	15 [11]	NA	NA	23	14	14	14
Selenium	0.57	0.22 J [0.25]	NA	NA	ND(0.063)	0.33	0.15	0.34
Silver	1.0	1.1 [0.28]	NA	NA	0.12 J	0.043 J	0.056 J	0.075 J
Thallium	0.18	0.098 J [0.11 J]	NA	NA	0.25	0.16	0.12 J	0.14 J
Vanadium	14	8.6 [11]	NA	NA	48	27	18	21
Zinc	290	460 [500]	NA	NA	49 J	46	33	72



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-07-11 8 - 10 03/24/03	RFI-07-11 12 - 14 03/24/03	RFI-07-12 0.3 - 2.3 03/17/03	RFI-07-12 8.3 - 10.3 03/17/03	RFI-07-12 14.3 - 16.3 03/17/03	RFI-07-13 0.3 - 2.3 03/17/03	RFI-07-13 8.3 - 10.3 03/17/03	RFI-07-13 14.3 - 16.3 03/17/03
Benzo(a)anthracene	ND(0.20)	ND(0.18)	0.082 J	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Benzo(a)pyrene	ND(0.20)	ND(0.18)	0.080 J	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19 J)	ND(0.18)	ND(0.19)
Benzo(b)fluoranthene	ND(0.20)	ND(0.18)	0.099 J	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19 J)	ND(0.18)	ND(0.19)
Benzo(g,h,i)perylene	ND(0.20)	ND(0.18)	ND(0.20 J)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19 J)	ND(0.18 J)	ND(0.19)
Benzo(k)fluoranthene	ND(0.20)	ND(0.18)	0.12 J	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19 J)	ND(0.18)	ND(0.19)
Biphenyl	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
bis(2-Chloroethoxy)methane	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
bis(2-Chloroethyl)ether	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036) [ND(0.036)]	ND(0.036)	ND(0.037)	ND(0.036)	ND(0.036)
bis(2-Ethylhexyl)phthalate	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Butyl benzylphthalate	ND(0.20)	ND(0.18)	0.086 J	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Caprolactam	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Carbazole	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18 J)	ND(0.19)
Chrysene	ND(0.20)	ND(0.18)	0.091 J	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Dibenz(a,h)anthracene	ND(0.20 J)	ND(0.18 J)	ND(0.20 J)	ND(0.19 J) [ND(0.19 J)]	ND(0.18 J)	ND(0.19 J)	ND(0.18 J)	ND(0.19)
Dibenzofuran	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Diethyl phthalate	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Dimethyl phthalate	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Di-n-butylphthalate	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Di-n-octyl phthalate	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19 J)	ND(0.18 J)	ND(0.19)
Fluoranthene	ND(0.20)	ND(0.18)	0.12 J	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Fluorene	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Hexachlorobenzene	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Hexachlorobutadiene	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Hexachlorocyclopentadiene	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Hexachloroethane	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(0.20 J)	ND(0.18 J)	ND(0.20)	ND(0.19 J) [ND(0.19 J)]	ND(0.18 J)	ND(0.19 J)	ND(0.18 J)	ND(0.19)
Isophorone	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Methylphenols, Total	ND(0.39)	ND(0.37)	ND(0.40)	ND(0.37) [ND(0.37)]	ND(0.37)	ND(0.38)	ND(0.37)	ND(0.37)
Naphthalene	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Nitrobenzene	ND(0.077)	ND(0.072)	ND(0.079)	ND(0.073) [ND(0.073)]	ND(0.073)	ND(0.075)	ND(0.073)	ND(0.073)
N-Nitrosodi-n-propylamine	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
N-Nitrosodiphenylamine	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Pentachlorophenol	ND(0.77)	ND(0.72)	ND(0.79)	ND(0.73) [ND(0.73)]	ND(0.73)	ND(0.75)	ND(0.73)	ND(0.73)
Phenanthrene	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Phenol	ND(0.20)	ND(0.18)	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
Pyrene	ND(0.20)	ND(0.18)	0.21	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.19)
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	ND(0.040)	ND(0.038)	ND(0.041)	ND(0.038) [ND(0.038)]	ND(0.038)	ND(0.039)	ND(0.038)	ND(0.038)
Aroclor-1221 (PCB-1221)	ND(0.040)	ND(0.038)	ND(0.041)	ND(0.038) [ND(0.038)]	ND(0.038)	ND(0.039)	ND(0.038)	ND(0.038)
Aroclor-1232 (PCB-1232)	ND(0.040)	ND(0.038)	ND(0.041)	ND(0.038) [ND(0.038)]	ND(0.038)	ND(0.039)	ND(0.038)	ND(0.038)
Aroclor-1242 (PCB-1242)	ND(0.040)	ND(0.038)	ND(0.041)	ND(0.038) [ND(0.038)]	ND(0.038)	ND(0.039)	ND(0.038)	ND(0.038)
Aroclor-1248 (PCB-1248)	ND(0.040)	ND(0.038)	ND(0.041)	ND(0.038) [ND(0.038)]	ND(0.038)	ND(0.039)	ND(0.038)	ND(0.038)
Aroclor-1254 (PCB-1254)	ND(0.040)	ND(0.038)	ND(0.041)	ND(0.038) [ND(0.038)]	ND(0.038)	ND(0.039)	ND(0.038)	ND(0.038)
Aroclor-1260 (PCB-1260)	ND(0.040)	ND(0.038)	ND(0.041)	ND(0.038) [ND(0.038)]	ND(0.038)	ND(0.039)	ND(0.038)	ND(0.038)
Total PCBs	ND(0.040)	ND(0.038)	ND(0.041)	ND(0.038) [ND(0.038)]	ND(0.038)	ND(0.039)	ND(0.038)	ND(0.038)
<b>Inorganic</b>								
Antimony	0.022 J	0.043 J	0.025 J	0.027 J [0.0090 J]	0.024 J	0.026 J	0.0087 J	0.0083 J
Arsenic	5.1	6.1	9.1 J (RDC)	5.3 [4.5]	6.7	11 J (RDC)	5.9 J	6.8 J
Barium	64	39	82 J	49 [56]	72	89 J	61 J	68 J
Beryllium	0.48	0.39	0.26	0.36 [0.32]	0.37	0.40	0.37	0.33
Cadmium	ND(0.082)	ND(0.081)	0.60	ND(0.085) [ND(0.081)]	ND(0.095)	0.20	ND(0.10)	ND(0.10)
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	17	15	15	15 [13]	17	19	17	17
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	6.5	6.6	5.0	6.8 [5.5]	7.0	7.4	7.1	7.6
Copper	12	11	19	13 [9.7]	13	12	12	13
Cyanide (total)	ND(1.0)	ND(1.0)	ND(0.20)	0.81 [1.2]	0.89	ND(0.20)	0.58	0.62
Lead	6.8	6.8	72 J	9.2 J [6.4 J]	8.0 J	16 J	7.8 J	8.4 J
Manganese	200 J	220 J	460 J	270 J [230 J]	260 J	430 J	290 J	280 J
Mercury	0.012 J	0.0077 J	0.067 J	0.0061 J [0.0080 J]	0.0080 J	0.028 J	0.0076 J	0.0095 J
Nickel	19	18	15	18 [15]	20	17	20	20
Selenium	ND(0.25)	ND(0.19)	0.31	0.14 [0.15]	0.18	0.14	0.15	0.17
Silver	0.074 J	0.067 J	0.18	0.075 J [0.063 J]	0.078 J	0.10 J	0.084 J	0.063 J
Thallium	0.20	0.14 J	0.13 J	0.15 [0.14 J]	0.18	0.15 J	0.16 J	0.15 J
Vanadium	27	26	18	25 [21]	29	36	28	28
Zinc	36 J	34 J	160 J	34 [29]	38	65 J	53 J	38 J

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-07-14 0 - 2 03/19/03	RFI-09-01R 4 - 6 02/26/03	RFI-09-01R 6 - 8 02/26/03	RFI-09-01R 8 - 10 02/26/03	RFI-09-03R 0.5 - 2.5 02/26/03	RFI-09-17 1 - 3 04/09/03	RFI-09-33 0.5 - 2 08/20/02	RFI-09-33 3 - 5 08/20/02	RFI-09-33 5 - 6.8 08/20/02	RFI-09-34 0 - 2 08/20/02
<b>Miscellaneous</b>										
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids	86	82	81	82	88	70	94	94	96	94
<b>VOC</b>										
1,1,1-Trichloroethane	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	ND(0.081 J)	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	ND(0.17)	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.17)	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.17)	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	ND(0.081)	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	ND(0.081)	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	ND(0.081)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	ND(0.35 J)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	ND(0.081 J)	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(1.7 J)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	ND(0.35 J)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	ND(0.081)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	ND(0.081)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane (Methyl Bromide)	ND(0.17)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	ND(0.17 J)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	ND(0.17)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform (Trichloromethane)	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane (Methyl Chloride)	ND(0.17)	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	ND(0.17)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	ND(0.081)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	ND(0.081)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	ND(0.17)	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylene	ND(0.081)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl acetate	0.26 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl cyclohexane	0.043 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Tert Butyl Ether	ND(0.17 J)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	ND(0.17)	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	ND(0.081)	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	ND(0.040)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (CFC-11)	ND(0.081)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluorotrchloroethane (Freon 113)	ND(0.17)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	ND(0.081)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	ND(0.081)	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>SVOC</b>										
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
2,4-Dichlorophenol	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
2,4-Dimethylphenol	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
2,4-Dinitrophenol	ND(0.78)	NA	NA	NA	ND(0.76)	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ND(0.78)	NA	NA	NA	ND(0.76)	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
2-Chloronaphthalene	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
2-Chlorophenol	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
2-Methylnaphthalene	ND(0.20)	NA	NA	NA	0.11 J	NA	NA	NA	NA	NA
2-Methylphenol	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
2-Nitroaniline	ND(0.78)	NA	NA	NA	ND(0.76)	NA	NA	NA	NA	NA
2-Nitrophenol	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
3&4-Methylphenol	ND(0.40 J)	NA	NA	NA	ND(0.39 J)	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	ND(0.78)	NA	NA	NA	ND(0.76)	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	ND(0.78)	NA	NA	NA	ND(0.76)	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylpheno	ND(0.78)	NA	NA	NA	ND(0.76)	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
4-Chloro-3-methylpheno	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
4-Chloroaniline	ND(0.78)	NA	NA	NA	ND(0.76)	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ND(0.78)	NA	NA	NA	ND(0.76)	NA	NA	NA	NA	NA
4-Nitroaniline	ND(0.78)	NA	NA	NA	ND(0.76)	NA	NA	NA	NA	NA
4-Nitrophenol	ND(0.78)	NA	NA	NA	ND(0.76)	NA	NA	NA	NA	NA
Acenaphthene	ND(0.20)	NA	NA	NA	0.12 J	NA	NA	NA	NA	NA
Acenaphthylene	ND(0.20)	NA	NA	NA	0.074 J	NA	NA	NA	NA	NA
Acetophenone	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Anthracene	ND(0.20)	NA	NA	NA	0.45	NA	NA	NA	NA	NA
Atrazine	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Benzaldehyde	R	NA	NA	NA	ND(0.19 J)	NA	NA	NA	NA	NA

**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-07-14 0 - 2 03/19/03	RFI-09-01R 4 - 6 02/26/03	RFI-09-01R 6 - 8 02/26/03	RFI-09-01R 8 - 10 02/26/03	RFI-09-03R 0.5 - 2.5 02/26/03	RFI-09-17 1 - 3 04/09/03	RFI-09-33 0.5 - 2 08/20/02	RFI-09-33 3 - 5 08/20/02	RFI-09-33 5 - 6.8 08/20/02	RFI-09-34 0 - 2 08/20/02
Benzo(a)anthracene	ND(0.20)	NA	NA	NA	1.4	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.081 J	NA	NA	NA	1.5 J	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.12 J	NA	NA	NA	1.7 J	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	ND(0.20)	NA	NA	NA	0.70 J	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.10 J	NA	NA	NA	1.4 J	NA	NA	NA	NA	NA
Biphenyl	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	ND(0.038)	NA	NA	NA	ND(0.038)	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Butyl benzylphthalate	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Caprolactam	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Carbazole	ND(0.20)	NA	NA	NA	0.15 J	NA	NA	NA	NA	NA
Chrysene	0.087 J	NA	NA	NA	1.3	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	ND(0.20 J)	NA	NA	NA	0.24 J	NA	NA	NA	NA	NA
Dibenzofuran	ND(0.20)	NA	NA	NA	0.085 J	NA	NA	NA	NA	NA
Diethyl phthalate	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Dimethyl phthalate	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Di-n-butylphthalate	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Di-n-octyl phthalate	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Fluoranthene	0.17 J	NA	NA	NA	3.0	NA	NA	NA	NA	NA
Fluorene	ND(0.20)	NA	NA	NA	0.14 J	NA	NA	NA	NA	NA
Hexachlorobenzene	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Hexachlorobutadiene	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Hexachloroethane	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ND(0.20 J)	NA	NA	NA	0.63	NA	NA	NA	NA	NA
Isophorone	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Methylphenols, Total	ND(0.40)	NA	NA	NA	ND(0.39)	NA	NA	NA	NA	NA
Naphthalene	ND(0.20)	NA	NA	NA	0.079 J	NA	NA	NA	NA	NA
Nitrobenzene	ND(0.078)	NA	NA	NA	ND(0.076)	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Pentachlorophenol	ND(0.78)	NA	NA	NA	ND(0.76)	NA	NA	NA	NA	NA
Phenanthrene	0.083 J	NA	NA	NA	1.7	NA	NA	NA	NA	NA
Phenol	ND(0.20)	NA	NA	NA	ND(0.19)	NA	NA	NA	NA	NA
Pyrene	0.15 J	NA	NA	NA	2.6	NA	NA	NA	NA	NA
<b>PCB</b>										
Aroclor-1016 (PCB-1016)	ND(0.041)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	ND(0.041)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	ND(0.041)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	ND(0.041)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	ND(0.041)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	ND(0.041)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	ND(0.041)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	ND(0.041)	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic</b>										
Antimony	0.089 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	5.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	120	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	0.64	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.73	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	46	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	3.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	87	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (total)	ND(0.20)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	120 J	9.9	9.7	11	NA	92	NA	NA	NA	NA
Manganese	1,300 J	NA	NA	NA	NA	NA	1,500 J	170 J	93 J	1,400 J
Mercury	0.091	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	15	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	0.65	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.33	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	0.12 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	17	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	170	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-09-34 2 - 4 08/20/02	RFI-09-35 0 - 2 08/20/02	RFI-09-35 2 - 4 08/20/02	RFI-09-36R 0.3 - 2.3 08/20/02	RFI-09-36R 2.3 - 4.3 08/20/02	RFI-09-37 0.5 - 2.5 10/11/02	RFI-09-37 2.5 - 4.5 10/11/02	RFI-09-38 0.7 - 2.7 08/21/02	RFI-09-38 2.7 - 4.7 08/21/02	RFI-09-39 0.5 - 2.5 08/20/02
<b>Miscellaneous</b>										
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids	94	96	93	88	86	92	94	94	94	86
<b>VOC</b>										
1,1,1-Trichloroethane	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	ND(0.081)	ND(0.082)	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	ND(0.17)	ND(0.18)	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	NA	NA	NA	ND(0.17)	ND(0.18)	NA	NA	NA	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	NA	NA	NA	ND(0.17)	ND(0.18)	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA	ND(0.081)	ND(0.082)	NA	NA	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA	ND(0.081)	ND(0.082)	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	ND(0.081)	ND(0.082)	NA	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	NA	NA	NA	ND(0.29)	ND(0.29)	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	ND(0.29)	ND(0.29)	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	NA	ND(0.29)	ND(0.29)	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	ND(0.29)	ND(0.29)	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	ND(0.081)	ND(0.082)	NA	NA	NA	NA	NA
Bromoform	NA	NA	NA	ND(0.081)	ND(0.082)	NA	NA	NA	NA	NA
Bromomethane (Methyl Bromide)	NA	NA	NA	ND(0.17)	ND(0.18)	NA	NA	NA	NA	NA
Carbon disulfide	NA	NA	NA	ND(0.17)	ND(0.18)	NA	NA	NA	NA	NA
Carbon tetrachloride	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
Chlorobenzene	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
Chloroethane	NA	NA	NA	ND(0.17)	ND(0.18)	NA	NA	NA	NA	NA
Chloroform (Trichloromethane)	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
Chloromethane (Methyl Chloride)	NA	NA	NA	ND(0.17)	ND(0.18)	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
Cyclohexane	NA	NA	NA	0.045 J	ND(0.18)	NA	NA	NA	NA	NA
Dibromochloromethane	NA	NA	NA	ND(0.081)	ND(0.082)	NA	NA	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	NA	NA	NA	ND(0.081)	ND(0.082)	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	NA	ND(0.17)	ND(0.18)	NA	NA	NA	NA	NA
m&p-Xylene	NA	NA	NA	0.060 J	ND(0.082)	NA	NA	NA	NA	NA
Methyl acetate	NA	NA	NA	ND(0.17)	ND(0.18)	NA	NA	NA	NA	NA
Methyl cyclohexane	NA	NA	NA	0.14 J	ND(0.18)	NA	NA	NA	NA	NA
Methyl Tert Butyl Ether	NA	NA	NA	ND(0.29)	ND(0.29)	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	ND(0.17)	ND(0.18)	NA	NA	NA	NA	NA
o-Xylene	NA	NA	NA	0.047	ND(0.041)	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	0.054	ND(0.041)	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
Trichlorofluoromethane (CFC-11)	NA	NA	NA	ND(0.081)	ND(0.082)	NA	NA	NA	NA	NA
Trifluorotrchloroethane (Freon 113)	NA	NA	NA	ND(0.17)	ND(0.18)	NA	NA	NA	NA	NA
Vinyl chloride	NA	NA	NA	ND(0.041)	ND(0.041)	NA	NA	NA	NA	NA
Xylenes (total)	NA	NA	NA	0.11 J	ND(0.082)	NA	NA	NA	NA	NA
<b>SVOC</b>										
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	ND(19)	ND(7.8)	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	ND(19)	ND(7.8)	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	ND(19)	ND(7.8)	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	ND(9.6 J)	ND(4.0 J)	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	ND(19)	ND(7.8)	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	ND(19)	ND(7.8)	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylpheno	NA	NA	NA	ND(19)	ND(7.8 J)	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
4-Chloro-3-methylpheno	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	ND(19)	ND(7.8)	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	ND(19)	ND(7.8)	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	ND(19)	ND(7.8)	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	ND(19)	ND(7.8)	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	ND(4.8 J)	ND(2.0)	NA	NA	NA	NA	NA

**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-09-34 2 - 4 08/20/02	RFI-09-35 0 - 2 08/20/02	RFI-09-35 2 - 4 08/20/02	RFI-09-36R 0.3 - 2.3 08/20/02	RFI-09-36R 2.3 - 4.3 08/20/02	RFI-09-37 0.5 - 2.5 10/11/02	RFI-09-37 2.5 - 4.5 10/11/02	RFI-09-38 0.7 - 2.7 08/21/02	RFI-09-38 2.7 - 4.7 08/21/02	RFI-09-39 0.5 - 2.5 08/20/02
Benzo(a)anthracene	NA	NA	NA	2.0 J	ND(2.0)	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	2.1 J (RDC)	ND(2.0 J)	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	2.0 J	ND(2.0 J)	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	1.7 J	ND(2.0 J)	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	ND(4.8 J)	ND(2.0 J)	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	ND(4.8 J)	ND(2.0 J)	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	ND(0.94)	ND(0.38)	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	2.0 J	ND(2.0)	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	ND(4.8 J)	ND(2.0 J)	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	ND(4.8 J)	ND(2.0 J)	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	4.1 J	1.3 J	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	ND(4.8 J)	ND(2.0 J)	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	ND(9.6)	ND(4.0)	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	ND(1.9)	ND(0.78)	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	ND(19)	ND(7.8)	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	3.6 J	0.88 J	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	ND(4.8)	ND(2.0)	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	4.9	1.1 J	NA	NA	NA	NA	NA
<b>PCB</b>										
Aroclor-1016 (PCB-1016)	NA	NA	NA	ND(0.20)	ND(0.041)	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	ND(0.20)	ND(0.041)	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	ND(0.20)	ND(0.041)	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	ND(0.20)	ND(0.041)	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	ND(0.20)	ND(0.041)	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	ND(0.20)	ND(0.041)	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	1.7	ND(0.041)	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	1.7	ND(0.041)	NA	NA	NA	NA	NA
<b>Inorganic</b>										
Antimony	NA	NA	NA	0.40 J	0.023 J	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	6.1 J	4.7 J	NA	NA	NA	NA	NA
Barium	NA	NA	NA	210 J	230 J	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	0.82	1.0	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	2.0 J	0.43 J	NA	NA	NA	NA	NA
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	NA	NA	NA	9.8 J	21 J	NA	NA	NA	NA	NA
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	4.4	5.0	NA	NA	NA	NA	NA
Copper	NA	NA	NA	54	20	NA	NA	NA	NA	NA
Cyanide (total)	NA	NA	NA	ND(0.20 J)	ND(0.20 J)	NA	NA	NA	NA	NA
Lead	NA	NA	NA	430 J (RDC)	140 J	9.1 J	4.7 J	68 J	3.5 J	420 J (RDC)
Manganese	180 J	1,500 J	140 J	240 J	510 J	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	0.15	0.12	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	14	14	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	0.41 J	0.45 J	NA	NA	NA	NA	NA
Silver	NA	NA	NA	0.16 J	0.11 J	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	0.10 J	0.21 J	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	17 J	22 J	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	110 J	95 J	NA	NA	NA	NA	NA



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-09-39 2.5 - 4.5 08/20/02	RFI-09-40 0.7 - 1.9 08/15/02	RFI-09-41 0.7 - 2.7 08/16/02	RFI-09-41 2.7 - 4.7 08/16/02	RFI-09-41 4.7 - 6.7 08/16/02	RFI-09-42 0.7 - 2.7 08/16/02	RFI-09-42 2.7 - 4.7 08/16/02	RFI-09-42 4.7 - 6.7 08/16/02	RFI-09-43 0.7 - 2.7 08/16/02
Benzo(a)anthracene	NA	0.075 J	0.074 J	ND(0.19)	ND(0.19)	1.3 J	ND(0.21)	ND(0.19) [ND(0.20)]	0.28
Benzo(a)pyrene	NA	0.086 J	0.073 J	ND(0.19 J)	ND(0.19 J)	1.5 J	0.073 J	ND(0.19) [ND(0.20)]	0.28 J
Benzo(b)fluoranthene	NA	0.10 J	0.081 J	ND(0.19 J)	ND(0.19 J)	1.3 J	ND(0.21)	ND(0.19) [ND(0.20)]	0.29 J
Benzo(g,h,i)perylene	NA	ND(0.19 J)	ND(0.18 J)	ND(0.19 J)	ND(0.19 J)	1.6 J	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19 J)
Benzo(k)fluoranthene	NA	0.093 J	ND(0.18)	ND(0.19 J)	ND(0.19 J)	1.4 J	ND(0.21)	ND(0.19) [ND(0.20)]	0.26 J
Biphenyl	NA	ND(0.19)	ND(0.18 J)	ND(0.19 J)	ND(0.19)	ND(0.19 J)	ND(0.21 J)	ND(0.19 J) [ND(0.20 J)]	ND(0.19)
bis(2-Chloroethoxy)methane	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
bis(2-Chloroethyl)ether	NA	ND(0.037)	ND(0.035)	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.040)	ND(0.038) [ND(0.038)]	ND(0.037)
bis(2-Ethylhexyl)phthalate	NA	ND(0.19)	ND(0.18)	ND(0.19)	0.084 J	ND(0.19 J)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Butyl benzylphthalate	NA	0.11 J	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.19 J)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Caprolactam	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Carbazole	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	0.28	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Chrysene	NA	0.086 J	0.085 J	ND(0.19)	ND(0.19)	1.4	ND(0.21)	ND(0.19) [ND(0.20)]	0.29
Dibenz(a,h)anthracene	NA	ND(0.19 J)	ND(0.18)	ND(0.19 J)	ND(0.19 J)	0.60 J	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19 J)
Dibenzofuran	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	0.15 J	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Diethyl phthalate	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Dimethyl phthalate	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Di-n-butylphthalate	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Di-n-octyl phthalate	NA	ND(0.19 J)	ND(0.18)	ND(0.19 J)	ND(0.19 J)	ND(0.19 J)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19 J)
Fluoranthene	NA	0.10 J	0.12 J	0.097 J	ND(0.19)	2.5	0.20 J	ND(0.19) [ND(0.20)]	0.55
Fluorene	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	0.19	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Hexachlorobenzene	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Hexachlorobutadiene	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Hexachlorocyclopentadiene	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Hexachloroethane	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Indeno(1,2,3-cd)pyrene	NA	ND(0.19 J)	ND(0.18)	ND(0.19 J)	ND(0.19 J)	1.3 J	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19 J)
Isophorone	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Methylphenols, Total	NA	ND(0.38)	ND(0.36)	ND(0.38)	ND(0.38)	ND(0.38)	ND(0.41)	ND(0.39) [ND(0.40)]	ND(0.38)
Naphthalene	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	0.15 J	ND(0.21)	ND(0.19) [ND(0.20)]	0.087 J
Nitrobenzene	NA	ND(0.075)	ND(0.071)	ND(0.075)	ND(0.074)	ND(0.074)	ND(0.081)	ND(0.076) [ND(0.078)]	ND(0.075)
N-Nitrosodi-n-propylamine	NA	ND(0.19)	ND(0.18 J)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
N-Nitrosodiphenylamine	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Pentachlorophenol	NA	ND(0.75)	ND(0.71)	ND(0.75)	ND(0.74)	ND(0.74)	ND(0.81)	ND(0.76) [ND(0.78)]	ND(0.75)
Phenanthrene	NA	ND(0.19)	0.075 J	0.10 J	ND(0.19)	2.4	0.13 J	ND(0.19) [ND(0.20)]	0.31
Phenol	NA	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.19) [ND(0.20)]	ND(0.19)
Pyrene	NA	0.12 J	0.12 J	0.14 J	ND(0.19)	3.6 D	0.15 J	ND(0.19) [ND(0.20)]	0.54
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	ND(0.039)	ND(0.035)	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.040)	ND(0.038) [ND(0.039)]	ND(0.037)
Aroclor-1221 (PCB-1221)	NA	ND(0.039)	ND(0.035)	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.040)	ND(0.038) [ND(0.039)]	ND(0.037)
Aroclor-1232 (PCB-1232)	NA	ND(0.039)	ND(0.035)	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.040)	ND(0.038) [ND(0.039)]	ND(0.037)
Aroclor-1242 (PCB-1242)	NA	ND(0.039)	ND(0.035)	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.040)	ND(0.038) [ND(0.039)]	ND(0.037)
Aroclor-1248 (PCB-1248)	NA	ND(0.039)	ND(0.035)	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.040)	ND(0.038) [ND(0.039)]	ND(0.037)
Aroclor-1254 (PCB-1254)	NA	ND(0.039)	ND(0.035)	ND(0.037)	ND(0.037)	0.043	ND(0.040)	ND(0.038) [ND(0.039)]	ND(0.037)
Aroclor-1260 (PCB-1260)	NA	ND(0.039)	ND(0.035)	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.040)	ND(0.038) [ND(0.039)]	ND(0.037)
Total PCBs	NA	ND(0.039)	ND(0.035)	ND(0.037)	ND(0.037)	0.043	ND(0.040)	ND(0.038) [ND(0.039)]	ND(0.037)
<b>Inorganic</b>									
Antimony	NA	0.049 J	0.054 J	0.14 J	0.023 J	0.14 J	R	0.026 J [0.010 J]	0.21 J
Arsenic	NA	6.3 J	3.8 J	4.4 J	5.0 J	4.5 J	8.1 J (RDC)	7.2 J [8.3 J (RDC)]	6.8 J
Barium	NA	96 J	26 J	69 J	36 J	100 J	85 J	54 J [53 J]	170 J
Beryllium	NA	0.67 J	0.15 J	0.37 J	0.23 J	0.41 J	0.50 J	0.28 J [0.27 J]	0.77 J
Cadmium	NA	0.39	0.10	0.56	0.098	0.93	0.11	0.083 [0.071]	0.69
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	NA	15	13	15	11	24	20	12 [11]	11
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	6.1	1.9	3.9	4.2	3.1	7.7	6.9 [4.2]	5.6
Copper	NA	24	9.6	410	17	26	14	11 [9.2]	60
Cyanide (total)	NA	0.29	ND(1.0)	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.20)	ND(0.20) [ND(0.20)]	ND(0.20)
Lead	17 J	130	19	210	16	170	13	9.4 [7.6]	260
Manganese	NA	630 J	250 J	250 J	260 J	630 J	290 J	410 J [180 J]	190 J
Mercury	NA	2.0 D	0.26	2.8	0.34	0.30	0.045	0.012 J [0.027]	0.037
Nickel	NA	18 J	10 J	14 J	12 J	13 J	21 J	16 J [12 J]	13 J
Selenium	NA	0.16	0.31 J	0.12	0.061 J	0.17	ND(0.083)	ND(0.071) [0.058 J]	0.44
Silver	NA	0.11 J	0.053 J	0.28	0.25	0.13 J	0.077 J	0.090 J [0.058 J]	0.097 J
Thallium	NA	0.19 J	0.086 J	0.11 J	0.099 J	0.098 J	0.19 J	0.13 J [0.13 J]	0.15 J
Vanadium	NA	23	7.4	15	15	14	32	20 [18]	21
Zinc	NA	150 J	25 J	110 J	32 J	78 J	44 J	29 J [28 J]	64 J



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-09-43 2.7 - 4.7 08/16/02	RFI-09-43 4.7 - 6.7 08/16/02	RFI-09-44 0.7 - 2.7 08/16/02	RFI-09-44 2.7 - 4.7 08/16/02	RFI-09-45 0.5 - 2.5 08/20/02	RFI-09-45 2.5 - 4.5 08/20/02	RFI-09-45R 0.3 - 2.3 02/26/03	RFI-09-46 0 - 0.5 08/21/02
Benzo(a)anthracene	ND(0.19)	ND(0.20)	0.60	ND(0.19)	14	ND(0.20)	10 D	ND(0.19)
Benzo(a)pyrene	ND(0.19)	ND(0.20)	0.65 J	ND(0.19)	13 J (IDC,RDC)	ND(0.20)	10 D (IDC,RDC)	0.070 J
Benzo(b)fluoranthene	ND(0.19)	ND(0.20)	0.66 J	ND(0.19)	12 J	ND(0.20)	10 D	0.078 J
Benzo(g,h,i)perylene	ND(0.19)	ND(0.20)	0.21 J	ND(0.19)	8.7 J	ND(0.20)	4.2	0.068 J
Benzo(k)fluoranthene	ND(0.19)	ND(0.20)	0.70 J	ND(0.19)	12 J	ND(0.20)	9.9 D	ND(0.19)
Biphenyl	ND(0.19 J)	ND(0.20 J)	ND(0.19)	ND(0.19 J)	ND(1.9 J)	ND(0.20 J)	0.20 J	ND(0.19 J)
bis(2-Chloroethoxy)methane	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20)	ND(0.19)
bis(2-Chloroethyl)ether	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.038)	ND(0.36)	ND(0.038)	ND(0.038)	ND(0.037)
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20 J)	0.11 J
Butyl benzylphthalate	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20 J)	1.1
Caprolactam	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20)	ND(0.19)
Carbazole	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	4.6	ND(0.20)	2.9	ND(0.19)
Chrysene	ND(0.19)	ND(0.20)	0.67	ND(0.19)	14	ND(0.20)	10 D	0.077 J
Dibenz(a,h)anthracene	ND(0.19)	ND(0.20)	ND(0.19 J)	ND(0.19)	1.9 J	ND(0.20)	1.8	ND(0.19)
Dibenzofuran	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	3.4	ND(0.20)	1.4	ND(0.19)
Diethyl phthalate	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20)	ND(0.19)
Dimethyl phthalate	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20)	ND(0.19)
Di-n-butylphthalate	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20)	ND(0.19)
Di-n-octyl phthalate	ND(0.19)	ND(0.20)	ND(0.19 J)	ND(0.19)	ND(1.9 J)	ND(0.20)	ND(0.20)	ND(0.19)
Fluoranthene	ND(0.19)	ND(0.20)	1.0	ND(0.19)	34	ND(0.20)	28 D	0.13 J
Fluorene	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	5.3	ND(0.20)	2.2	ND(0.19)
Hexachlorobenzene	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20)	ND(0.19)
Hexachlorobutadiene	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20)	ND(0.19)
Hexachlorocyclopentadiene	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20)	ND(0.19)
Hexachloroethane	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20)	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(0.19)	ND(0.20)	0.17 J	ND(0.19)	7.8 J	ND(0.20)	4.1	ND(0.19)
Isophorone	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20)	ND(0.19)
Methylphenols, Total	ND(0.39)	ND(0.40)	ND(0.38)	ND(0.39)	ND(3.8)	ND(0.39)	ND(0.39)	ND(0.38)
Naphthalene	ND(0.19)	ND(0.20)	0.070 J	ND(0.19)	4.5	ND(0.20)	1.1	ND(0.19)
Nitrobenzene	ND(0.076)	ND(0.078)	ND(0.074)	ND(0.077)	ND(0.74)	ND(0.077)	ND(0.077)	ND(0.075)
N-Nitrosodi-n-propylamine	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20)	ND(0.19)
N-Nitrosodiphenylamine	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20)	ND(0.19)
Pentachlorophenol	ND(0.76)	ND(0.78)	ND(0.74)	ND(0.77)	ND(7.4)	ND(0.77)	ND(0.77)	ND(0.75)
Phenanthrene	ND(0.19)	ND(0.20)	0.48	ND(0.19)	35	ND(0.20)	24 D	ND(0.19)
Phenol	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.19)	ND(1.9)	ND(0.20)	ND(0.20)	ND(0.19)
Pyrene	ND(0.19)	ND(0.20)	1.0	ND(0.19)	28	ND(0.20)	23 D	0.10 J
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.038)	ND(0.039)	ND(0.040)	NA	ND(0.039)
Aroclor-1221 (PCB-1221)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.038)	ND(0.039)	ND(0.040)	NA	ND(0.039)
Aroclor-1232 (PCB-1232)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.038)	ND(0.039)	ND(0.040)	NA	ND(0.039)
Aroclor-1242 (PCB-1242)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.038)	ND(0.039)	ND(0.040)	NA	ND(0.039)
Aroclor-1248 (PCB-1248)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.038)	ND(0.039)	ND(0.040)	NA	ND(0.039)
Aroclor-1254 (PCB-1254)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.038)	ND(0.039)	ND(0.040)	NA	ND(0.039)
Aroclor-1260 (PCB-1260)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.038)	ND(0.039)	ND(0.040)	NA	ND(0.039)
Total PCBs	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.038)	ND(0.039)	ND(0.040)	NA	ND(0.039)
<b>Inorganic</b>								
Antimony	0.032 J	0.011 J	1.2 J	0.26 J	0.27 J	R	NA	0.0088 J
Arsenic	3.5 J	3.3 J	14 J (RDC)	3.6 J	2.5 J	4.6 J	NA	6.4 J
Barium	54 J	29 J	110 J	34 J	62 J	23 J	NA	77 J
Beryllium	0.35 J	0.19 J	0.53 J	0.16 J	0.32	0.29	NA	0.37
Cadmium	0.093	0.088	2.2	1.9	2.6 J	0.069 J	NA	0.39 J
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	11	8.8	19	6.0	21 J	11 J	NA	26 J
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	4.7	2.4	4.8	2.2	1.5	3.3	NA	5.1
Copper	8.6	4.8	75	13	34	6.7	NA	17 J
Cyanide (total)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20 J)	ND(0.20 J)	NA	ND(0.20 J)
Lead	13	8.9	1,200 (IDC,RDC)	180	440 J (RDC)	5.7 J	NA	50 J
Manganese	180 J	63 J	390 J	980 J	510 J	170 J	NA	240
Mercury	0.040	0.015 J	0.12	0.011 J	0.11	0.025 J	NA	0.089
Nickel	11 J	7.2 J	23 J	7.7 J	7.0	8.9	NA	16
Selenium	0.23	0.21	0.39	0.12	0.19 J	0.11	NA	0.30 J
Silver	0.055 J	0.043 J	1.3	0.040 J	0.13 J	0.021 J	NA	0.33
Thallium	0.16 J	0.068 J	0.36 J	0.092 J	0.061 J	0.090 J	NA	0.19 J
Vanadium	20	15	14	10	9.3 J	16 J	NA	23 J
Zinc	32 J	17 J	150 J	34 J	74 J	25 J	NA	94 J



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-09-46 3 - 5 08/21/02	RFI-09-46 5 - 7 08/21/02	RFI-09-47 0.7 - 2.7 08/26/02	RFI-09-47 2.7 - 4.7 08/26/02	RFI-09-47 4.7 - 6.7 08/26/02	RFI-09-48 0.5 - 2.5 04/02/03	RFI-09-48 8.5 - 10.5 04/02/03
Benzo(a)anthracene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8 J)	ND(1.8) [ND(0.96 J)]	ND(0.19)	ND(0.95)	ND(0.20)
Benzo(a)pyrene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8 J)	ND(1.8) [ND(0.96 J)]	ND(0.19)	ND(0.95 J)	ND(0.20)
Benzo(b)fluoranthene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8 J)	ND(1.8) [ND(0.96 J)]	ND(0.19)	ND(0.95 J)	ND(0.20)
Benzo(g,h,i)perylene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8 J)	ND(1.8) [ND(0.96 J)]	ND(0.19)	ND(0.95)	ND(0.20)
Benzo(k)fluoranthene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8 J)	ND(1.8) [ND(0.96 J)]	ND(0.19)	ND(0.95 J)	ND(0.20)
Biphenyl	ND(0.18 J) [ND(0.18 J)]	ND(0.19 J)	ND(1.8 J)	ND(1.8 J) [ND(0.96 J)]	ND(0.19 J)	ND(0.95)	ND(0.20)
bis(2-Chloroethoxy)methane	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
bis(2-Chloroethyl)ether	ND(0.034) [ND(0.034)]	ND(0.038)	ND(0.35)	ND(0.35) [ND(0.19)]	ND(0.036)	ND(0.18)	ND(0.039)
bis(2-Ethylhexyl)phthalate	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8 J)	ND(1.8) [ND(0.96 J)]	ND(0.19)	ND(0.95)	ND(0.20)
Butyl benzylphthalate	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8 J)	ND(1.8) [ND(0.96 J)]	ND(0.19)	ND(0.95)	ND(0.20)
Caprolactam	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Carbazole	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95 J)	ND(0.20 J)
Chrysene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8 J)	ND(1.8) [ND(0.96 J)]	ND(0.19)	ND(0.95)	ND(0.20)
Dibenz(a,h)anthracene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8 J)	ND(1.8) [ND(0.96 J)]	ND(0.19)	ND(0.95)	ND(0.20)
Dibenzofuran	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Diethyl phthalate	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Dimethyl phthalate	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Di-n-butylphthalate	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Di-n-octyl phthalate	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96 J)]	ND(0.19)	ND(0.95 J)	ND(0.20)
Fluoranthene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Fluorene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Hexachlorobenzene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Hexachlorobutadiene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Hexachlorocyclopentadiene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Hexachloroethane	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Indeno(1,2,3-cd)pyrene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8 J)	ND(1.8) [ND(0.96 J)]	ND(0.19)	ND(0.95)	ND(0.20)
Isophorone	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Methylphenols, Total	ND(0.35) [ND(0.35)]	ND(0.39)	ND(3.6)	ND(3.6) [ND(1.9)]	ND(0.37)	ND(1.9)	ND(0.41)
Naphthalene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	0.12 J	ND(0.95)	ND(0.20)
Nitrobenzene	ND(0.069) [ND(0.069)]	ND(0.077)	ND(0.71)	ND(0.72) [ND(0.38)]	ND(0.073)	ND(0.38)	ND(0.080)
N-Nitrosodi-n-propylamine	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8 J)	ND(1.8 J) [ND(0.96)]	ND(0.19 J)	ND(0.95)	ND(0.20)
N-Nitrosodiphenylamine	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Pentachlorophenol	ND(0.69) [ND(0.69)]	ND(0.77)	ND(7.1)	ND(7.2) [ND(3.8)]	ND(0.73)	ND(3.8)	ND(0.80)
Phenanthrene	ND(0.18) [ND(0.18)]	ND(0.19)	1.1 J	ND(1.8) [ND(0.96)]	ND(0.19)	0.36 J	0.16 J
Phenol	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8)	ND(1.8) [ND(0.96)]	ND(0.19)	ND(0.95)	ND(0.20)
Pyrene	ND(0.18) [ND(0.18)]	ND(0.19)	ND(1.8 J)	ND(1.8) [ND(0.96 J)]	ND(0.19)	0.53 J	ND(0.20)
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	ND(0.036) [ND(0.036)]	ND(0.040)	ND(0.037)	ND(0.038) [ND(0.040)]	ND(0.038)	ND(0.039)	ND(0.042)
Aroclor-1221 (PCB-1221)	ND(0.036) [ND(0.036)]	ND(0.040)	ND(0.037)	ND(0.038) [ND(0.040)]	ND(0.038)	ND(0.039)	ND(0.042)
Aroclor-1232 (PCB-1232)	ND(0.036) [ND(0.036)]	ND(0.040)	ND(0.037)	ND(0.038) [ND(0.040)]	ND(0.038)	ND(0.039)	ND(0.042)
Aroclor-1242 (PCB-1242)	ND(0.036) [ND(0.036)]	ND(0.040)	ND(0.037)	ND(0.038) [ND(0.040)]	ND(0.038)	ND(0.039)	ND(0.042)
Aroclor-1248 (PCB-1248)	ND(0.036) [ND(0.036)]	ND(0.040)	ND(0.037)	ND(0.038) [ND(0.040)]	ND(0.038)	ND(0.039)	ND(0.042)
Aroclor-1254 (PCB-1254)	ND(0.036) [ND(0.036)]	ND(0.040)	ND(0.037)	ND(0.038) [ND(0.040)]	ND(0.038)	ND(0.039)	ND(0.042)
Aroclor-1260 (PCB-1260)	ND(0.036) [ND(0.036)]	ND(0.040)	ND(0.037)	ND(0.038) [ND(0.040)]	ND(0.038)	ND(0.039)	ND(0.042)
Total PCBs	ND(0.036) [ND(0.036)]	ND(0.040)	ND(0.037)	ND(0.038) [ND(0.040)]	ND(0.038)	ND(0.039)	ND(0.042)
<b>Inorganic</b>							
Antimony	R [0.034 J]	R	0.012 J	R [R]	R	0.15 J	0.21 J
Arsenic	1.7 J [1.7 J]	6.6 J	2.2 J	7.3 J [6.9 J]	5.1 J	10 J (RDC)	9.0 J (RDC)
Barium	8.1 J [7.3 J]	71 J	10 J	52 J [110 J]	47 J	110	54
Beryllium	0.083 [0.088]	0.64	0.10	0.41 [0.57]	0.46	0.59 J	2.4 J
Cadmium	0.042 J [0.030 J]	0.15 J	0.11 J	0.12 J [0.29 J]	0.084 J	0.48	ND(0.15)
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA
Chromium Total	4.1 J [3.5 J]	23 J	3.9 J	13 J [17 J]	14 J	150	11
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA
Cobalt	1.4 [1.2]	9.1	1.5 J	6.3 J [7.4 J]	6.3 J	8.1 J	7.3 J
Copper	2.6 [2.5]	15 J	3.7 J	12 J [48 J]	10 J	57 J	22 J
Cyanide (total)	ND(0.20 J) [ND(0.20 J)]	ND(0.20 J)	0.84	ND(0.20) [ND(0.20)]	ND(0.20)	0.24	ND(0.20)
Lead	2.5 J [2.3 J]	11 J	8.5 J	20 J [49 J]	17 J	61 J	19 J
Manganese	81 J [56 J]	250	140 J	150 J [240 J]	260 J	1,800 (IPASIC)	340
Mercury	ND(0.061) [0.0058 J]	0.010 J	0.067 J	0.067 J [0.058 J]	0.011 J	0.10	0.043 J
Nickel	4.3 [3.7]	24	8.1 J	16 J [19 J]	16 J	87 J	32 J
Selenium	ND(0.054) [0.046 J]	ND(0.068)	0.18 J	ND(0.065 J) [ND(0.060 J)]	ND(0.064 J)	0.35 J	0.82 J
Silver	0.0048 J [0.11 J]	0.076 J	0.066 J	0.076 J [0.15 J]	0.23 J	0.15 J	0.12 J
Thallium	0.023 J [0.015 J]	0.23 J	0.054 J	0.15 J [0.26]	0.14 J	0.093 J	0.79
Vanadium	7.0 J [6.2 J]	37 J	7.5 J	22 J [26 J]	24 J	15 J	27 J
Zinc	11 J [12 J]	50 J	27 J	47 J [92 J]	32 J	54 J	38 J



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-09-49 0 - 2 02/25/03	RFI-09-49 4 - 6 02/25/03	RFI-09-50 0.5 - 2.5 02/26/03	RFI-09-50 2.5 - 4.5 02/26/03	RFI-09-51 1 - 3 04/09/03	RFI-09-52 0.5 - 2.5 07/28/03	RFI-09-52 2.5 - 4.5 07/28/03	RFI-09-52 4.5 - 6.5 07/28/03	RFI-09-53 0 - 2 03/04/05
Benzo(a)anthracene	ND(0.19)	ND(0.18)	NA	NA	NA	0.084 J	0.25	0.17 J	0.50 J
Benzo(a)pyrene	0.068 J	ND(0.18)	NA	NA	NA	0.13 J	0.21	0.17 J	0.50 J
Benzo(b)fluoranthene	0.17 J	ND(0.18)	NA	NA	NA	0.14 J	0.18	0.13 J	0.40
Benzo(g,h,i)perylene	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18 J)	ND(0.18)	ND(0.22)	0.20 J
Benzo(k)fluoranthene	ND(0.19)	ND(0.18)	NA	NA	NA	0.11 J	0.22	0.18 J	0.30
Biphenyl	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30 J)
bis(2-Chloroethoxy)methane	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30 J)
bis(2-Chloroethyl)ether	ND(0.036)	ND(0.036)	NA	NA	NA	ND(0.035)	ND(0.035)	ND(0.043)	ND(0.30 J)
bis(2-Ethylhexyl)phthalate	ND(0.19 J)	ND(0.18)	NA	NA	NA	0.094 J	ND(0.18)	ND(0.22)	0.080 J
Butyl benzylphthalate	ND(0.19 J)	ND(0.18)	NA	NA	NA	0.097 J	ND(0.18)	ND(0.22)	0.70 J
Caprolactam	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30)
Carbazole	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	0.066 J	ND(0.22)	0.040 J
Chrysene	ND(0.19)	ND(0.18)	NA	NA	NA	0.13 J	0.25	0.18 J	0.50 J
Dibenz(a,h)anthracene	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18 J)	ND(0.18)	ND(0.22)	0.090 J
Dibenzofuran	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	0.030 J
Diethyl phthalate	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30 J)
Dimethyl phthalate	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30 J)
Di-n-butylphthalate	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30 J)
Di-n-octyl phthalate	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18 J)	ND(0.18)	ND(0.22)	ND(0.30 J)
Fluoranthene	0.090 J	ND(0.18)	NA	NA	NA	0.14 J	0.59	0.39	0.80 J
Fluorene	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	0.030 J
Hexachlorobenzene	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30 J)
Hexachlorobutadiene	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30 J)
Hexachlorocyclopentadiene	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30 J)
Hexachloroethane	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30 J)
Indeno(1,2,3-cd)pyrene	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18 J)	ND(0.18)	ND(0.22)	0.20 J
Isophorone	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30 J)
Methylphenols, Total	ND(0.37)	ND(0.37)	NA	NA	NA	ND(0.36)	ND(0.36)	ND(0.44)	ND(0.30)
Naphthalene	0.068 J	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	0.040 J
Nitrobenzene	ND(0.073)	ND(0.072)	NA	NA	NA	ND(0.072)	ND(0.072)	ND(0.087)	ND(0.20 J)
N-Nitrosodi-n-propylamine	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30 J)
N-Nitrosodiphenylamine	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30 J)
Pentachlorophenol	ND(0.73)	ND(0.72)	NA	NA	NA	ND(0.72)	ND(0.72)	ND(0.87)	R
Phenanthrene	0.071 J	ND(0.18)	NA	NA	NA	0.14 J	0.48	0.39	0.40 J
Phenol	ND(0.19)	ND(0.18)	NA	NA	NA	ND(0.18)	ND(0.18)	ND(0.22)	ND(0.30 J)
Pyrene	0.10 J	ND(0.18)	NA	NA	NA	0.34 J	0.48	0.32	0.90 J
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	ND(0.038)	ND(0.038)	NA	NA	NA	ND(0.037)	ND(0.037)	ND(0.046)	ND(0.33)
Aroclor-1221 (PCB-1221)	ND(0.038)	ND(0.038)	NA	NA	NA	ND(0.037)	ND(0.037)	ND(0.046)	ND(0.33)
Aroclor-1232 (PCB-1232)	ND(0.038)	ND(0.038)	NA	NA	NA	ND(0.037)	ND(0.037)	ND(0.046)	ND(0.33)
Aroclor-1242 (PCB-1242)	ND(0.038)	ND(0.038)	NA	NA	NA	ND(0.037)	ND(0.037)	ND(0.046)	ND(0.33)
Aroclor-1248 (PCB-1248)	ND(0.038)	ND(0.038)	NA	NA	NA	ND(0.037)	ND(0.037)	ND(0.046)	ND(0.33)
Aroclor-1254 (PCB-1254)	ND(0.038)	ND(0.038)	NA	NA	NA	0.045	0.094	0.26	ND(0.33)
Aroclor-1260 (PCB-1260)	ND(0.038)	ND(0.038)	NA	NA	NA	0.014 J	ND(0.037)	ND(0.046)	0.20 J
Total PCBs	ND(0.038)	ND(0.038)	NA	NA	NA	0.059 J	0.094	0.26	0.20 J
<b>Inorganic</b>									
Antimony	0.087 J	0.016 J	NA	NA	NA	0.10 J	0.19 J	0.25 J	NA
Arsenic	3.4	3.0	NA	NA	NA	3.6	3.6	6.7	6.7
Barium	120	11	NA	NA	NA	36	10	12	130
Beryllium	1.2 J	0.12 J	NA	NA	NA	0.26 J	0.095 J	0.13 J	NA
Cadmium	0.63	0.097	NA	NA	NA	0.20	ND(0.12)	ND(0.16)	1.7
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	99	12	NA	NA	NA	18	110 M	180	69
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	2.9	3.2	NA	NA	NA	3.7 J	4.5 J	5.4 J	NA
Copper	44	5.3	NA	NA	NA	14 J	38 J	57 J	NA
Cyanide (total)	2.6	ND(0.20)	NA	NA	NA	ND(4.0 DM)	0.26	ND(0.20)	NA
Lead	110	3.5	41	24	130	42	9.8	12	270
Manganese	2,500 (IPSC)	180	NA	NA	NA	350	870 M	1,200	NA
Mercury	0.018 J	ND(0.074)	NA	NA	NA	0.12	ND(0.074)	ND(0.086)	0.49
Nickel	28	9.1	NA	NA	NA	15 J	41 J	46 J	NA
Selenium	0.99	ND(0.061)	NA	NA	NA	0.17 J	0.052 J	0.086 J	0.31
Silver	0.30	0.022 J	NA	NA	NA	0.066 J	0.067 J	0.13 J	0.35
Thallium	0.042 J	0.056 J	NA	NA	NA	0.093 J	0.016 J	0.027 J	NA
Vanadium	2.9	11	NA	NA	NA	13	7.9	11	NA
Zinc	120	14	NA	NA	NA	41 J	9.0 J	9.2 J	NA



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-09-53 8 - 10 03/04/05	RFI-09-56 0 - 2 06/30/05	RFI-09-56 2 - 4 06/30/05	RFI-09-57 0 - 2 07/01/05	RFI-09-57 4 - 6 07/01/05	RFI-09-58 0 - 2 07/13/05	RFI-09-58 8 - 10 07/13/05	RFI-10-28 0 - 2 10/14/02
Benzo(a)anthracene	ND(0.30)	ND(0.33)	0.20 J	ND(0.33)	ND(0.33) [ND(0.33)]	0.20 J	ND(0.33)	NA
Benzo(a)pyrene	ND(0.30)	ND(0.33)	ND(0.33)	0.060 J	ND(0.33) [ND(0.33)]	0.30 J	ND(0.33)	NA
Benzo(b)fluoranthene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	0.34	ND(0.33)	NA
Benzo(g,h,i)perylene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	0.56	ND(0.33)	NA
Benzo(k)fluoranthene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	0.30 J	ND(0.33)	NA
Biphenyl	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
bis(2-Chloroethoxy)methane	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
bis(2-Chloroethyl)ether	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
bis(2-Ethylhexyl)phthalate	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [0.060 J]	0.10 J	ND(0.33)	NA
Butyl benzylphthalate	ND(0.30)	0.040 J	0.060 J	0.10 J	ND(0.33) [ND(0.33)]	0.49	ND(0.33)	NA
Caprolactam	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Carbazole	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	0.040 J	ND(0.33)	NA
Chrysene	ND(0.30)	ND(0.33)	0.20 J	ND(0.33)	ND(0.33) [ND(0.33)]	0.35	ND(0.33)	NA
Dibenz(a,h)anthracene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	0.20 J	ND(0.33)	NA
Dibenzofuran	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	0.090 J	ND(0.33)	NA
Diethyl phthalate	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Dimethyl phthalate	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Di-n-butylphthalate	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Di-n-octyl phthalate	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Fluoranthene	ND(0.30)	ND(0.33)	0.30 J	0.10 J	ND(0.33) [ND(0.33)]	0.37	ND(0.33)	NA
Fluorene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Hexachlorobenzene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Hexachlorobutadiene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Hexachlorocyclopentadiene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Hexachloroethane	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Indeno(1,2,3-cd)pyrene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	0.48	ND(0.33)	NA
Isophorone	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Methylphenols, Total	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Naphthalene	ND(0.30)	ND(0.33)	0.10 J	ND(0.33)	ND(0.33) [ND(0.33)]	0.20 J	ND(0.33)	NA
Nitrobenzene	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20) [ND(0.20)]	ND(0.20)	ND(0.20)	NA
N-Nitrosodi-n-propylamine	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
N-Nitrosodiphenylamine	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Pentachlorophenol	ND(0.70)	ND(0.67)	ND(0.67)	ND(0.67)	ND(0.67) [ND(0.67)]	ND(0.67)	ND(0.67)	NA
Phenanthrene	ND(0.30)	ND(0.33)	0.30 J	0.090 J	ND(0.33) [ND(0.33)]	0.20 J	ND(0.33)	NA
Phenol	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Pyrene	ND(0.30)	ND(0.33)	0.30 J	ND(0.33)	ND(0.33) [ND(0.33)]	0.37	ND(0.33)	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	ND(0.33)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J) [ND(0.33 J)]	ND(0.33)	ND(0.33)	NA
Aroclor-1221 (PCB-1221)	ND(0.33)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J) [ND(0.33 J)]	ND(0.33)	ND(0.33)	NA
Aroclor-1232 (PCB-1232)	ND(0.33)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J) [ND(0.33 J)]	ND(0.33)	ND(0.33)	NA
Aroclor-1242 (PCB-1242)	ND(0.33)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J) [ND(0.33 J)]	ND(0.33)	ND(0.33)	NA
Aroclor-1248 (PCB-1248)	ND(0.33)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J) [ND(0.33 J)]	ND(0.33)	ND(0.33)	NA
Aroclor-1254 (PCB-1254)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33 J)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Aroclor-1260 (PCB-1260)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33 J)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
Total PCBs	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	NA
<b>Inorganic</b>								
Antimony	NA	ND(0.30)	8.5	ND(0.58)	ND(0.30) [ND(0.30)]	ND(0.76)	ND(0.30)	NA
Arsenic	2.5	0.94	3.1	2.5	ND(0.58) [ND(0.46)]	10 (RDC)	1.6	NA
Barium	18	7.2	130	41	15 [13]	40	28	NA
Beryllium	NA	0.040 J	0.21 J	0.18 J	0.10 J [0.10 J]	0.45 J	0.13 J	NA
Cadmium	0.080	0.050 J	0.90	0.46	0.050 J [0.060 J]	0.84	0.070 J	NA
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	3.8	13	19	6.7	1.4 J [1.4 J]	5.2	3.7	NA
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	0.74	5.8	1.7	0.91 [0.85]	2.8	2.6	NA
Copper	NA	27	2,400	87	2.6 [2.6]	55	5.2	NA
Cyanide (total)	NA	ND(0.10)	ND(0.10)	0.90	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	NA
Lead	4.4	8.2	2,700 (IDC,RDC)	50	2.8 [2.9]	110	5.5	NA
Manganese	NA	120	440	190	84 [84]	210	200	NA
Mercury	ND(0.050)	ND(0.050)	0.40	0.040 J	0.030 J [0.020 J]	0.070	0.010 J	NA
Nickel	NA	5.6	24	5.0	1.7 [1.5]	8.1	5.9	NA
Selenium	0.94	ND(0.20)	ND(0.40)	ND(0.40)	ND(0.20) [ND(0.20)]	ND(0.35)	ND(0.37)	NA
Silver	ND(0.20)	ND(0.10)	0.40	ND(0.10)	ND(0.10) [ND(0.10)]	0.090 J	ND(0.10)	NA
Thallium	NA	ND(0.50)	3.1	ND(0.50)	ND(0.50) [ND(0.50)]	0.29 J	ND(0.50)	NA
Vanadium	NA	1.1	2.9	5.0	2.2 [2.1]	6.7	5.2	NA
Zinc	NA	5.8	510	93	3.4 [2.5]	200	15	NA



**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-10-28 8 - 10 10/14/02	RFI-10-29 0 - 2 10/14/02	RFI-10-29 6 - 8 10/14/02	RFI-10-30 0 - 2 03/27/03	RFI-10-30 2 - 4 03/27/03	RFI-10-31 1 - 3 03/27/03	RFI-10-32 0 - 2 03/08/05	RFI-10-32 8 - 10 03/08/05
Benzo(a)anthracene	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	0.050 J	ND(0.30)
Benzo(a)pyrene	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	0.050 J	ND(0.30)
Benzo(b)fluoranthene	NA	NA	NA	0.73 J [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Benzo(g,h,i)perylene	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Benzo(k)fluoranthene	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Biphenyl	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
bis(2-Chloroethoxy)methane	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
bis(2-Chloroethyl)ether	NA	NA	NA	ND(0.38) [ND(0.38)]	ND(0.36)	ND(0.36)	ND(0.30)	ND(0.30)
bis(2-Ethylhexyl)phthalate	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Butyl benzylphthalate	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Caprolactam	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Carbazole	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Chrysene	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	0.10 J	ND(0.30)
Dibenz(a,h)anthracene	NA	NA	NA	ND(2.0 J) [ND(2.0 J)]	ND(1.9 J)	ND(1.9 J)	ND(0.30)	ND(0.30)
Dibenzofuran	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Diethyl phthalate	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Dimethyl phthalate	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Di-n-butylphthalate	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	0.30
Di-n-octyl phthalate	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Fluoranthene	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	0.030 J	ND(0.30)
Fluorene	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Hexachlorobenzene	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Hexachlorobutadiene	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Hexachlorocyclopentadiene	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Hexachloroethane	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Indeno(1,2,3-cd)pyrene	NA	NA	NA	ND(2.0 J) [ND(2.0 J)]	ND(1.9 J)	ND(1.9 J)	ND(0.30)	ND(0.30)
Isophorone	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Methylphenols, Total	NA	NA	NA	ND(3.9) [ND(3.9)]	ND(3.7)	ND(3.7)	ND(0.30)	ND(0.30)
Naphthalene	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Nitrobenzene	NA	NA	NA	ND(0.78) [ND(0.77)]	ND(0.73)	ND(0.73)	ND(0.20)	ND(0.20)
N-Nitrosodi-n-propylamine	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
N-Nitrosodiphenylamine	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Pentachlorophenol	NA	NA	NA	ND(7.8) [ND(7.7)]	ND(7.3)	ND(7.3 J)	ND(0.60)	ND(0.60)
Phenanthrene	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	0.050 J	ND(0.30)
Phenol	NA	NA	NA	ND(2.0) [ND(2.0)]	ND(1.9)	ND(1.9)	ND(0.30)	ND(0.30)
Pyrene	NA	NA	NA	0.83 J [ND(2.0)]	ND(1.9)	ND(1.9)	0.10 J	ND(0.30)
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	ND(0.041) [ND(0.040)]	ND(0.038)	ND(0.038)	ND(0.33)	ND(0.33)
Aroclor-1221 (PCB-1221)	NA	NA	NA	ND(0.041) [ND(0.040)]	ND(0.038)	ND(0.038)	ND(0.33)	ND(0.33)
Aroclor-1232 (PCB-1232)	NA	NA	NA	ND(0.041) [ND(0.040)]	ND(0.038)	ND(0.038)	ND(0.33)	ND(0.33)
Aroclor-1242 (PCB-1242)	NA	NA	NA	0.49 [0.42]	ND(0.038)	ND(0.038)	ND(0.33)	ND(0.33)
Aroclor-1248 (PCB-1248)	NA	NA	NA	ND(0.041) [ND(0.040)]	0.19	0.11	ND(0.33)	ND(0.33)
Aroclor-1254 (PCB-1254)	NA	NA	NA	ND(0.041) [ND(0.040)]	ND(0.038)	ND(0.038)	ND(0.33)	ND(0.33)
Aroclor-1260 (PCB-1260)	NA	NA	NA	0.43 [0.72]	0.34	0.30 J	ND(0.33)	ND(0.33)
Total PCBs	NA	NA	NA	0.92 [1.1]	0.53	0.41 J	ND(0.33)	ND(0.33)
<b>Inorganic</b>								
Antimony	NA	NA	NA	0.42 [0.91]	0.35	0.14 J	ND(0.50)	ND(0.50)
Arsenic	NA	NA	NA	20 (RDC) [9.3 (RDC)]	4.7	3.4	0.88 J	0.95 J
Barium	NA	NA	NA	61 [83]	28	18	45 J	6.6 J
Beryllium	NA	NA	NA	0.52 J [0.61 J]	0.23 J	0.17 J	0.31	ND(0.10)
Cadmium	NA	NA	NA	0.69 [0.82]	0.40	0.14	ND(0.13)	ND(0.10)
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	NA	NA	NA	23 [48]	11	7.0	4.3	2.0
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	4.3 [5.3]	2.8	2.4	5.2 J	1.5 J
Copper	NA	NA	NA	76 J [81 J]	27 J	12 J	3.4	1.8
Cyanide (total)	NA	NA	NA	ND(0.20) [ND(0.20)]	ND(0.20)	ND(0.20)	ND(0.10)	ND(0.10)
Lead	NA	NA	NA	66 [70]	28	12	6.2	3.1
Manganese	NA	NA	NA	230 [410]	160	110	330 J	130 J
Mercury	NA	NA	NA	0.17 J [0.15 J]	0.085 J	0.14 J	ND(0.050)	ND(0.050)
Nickel	NA	NA	NA	23 [38]	12	7.2	9.3 J	2.7
Selenium	NA	NA	NA	0.63 [0.56]	0.38 J	0.20 J	0.31	ND(0.20)
Silver	NA	NA	NA	0.15 J [0.45]	0.077 J	0.054 J	ND(0.20)	ND(0.20 J)
Thallium	NA	NA	NA	0.21 [0.20]	0.12 J	0.083 J	ND(0.10)	ND(0.10)
Vanadium	NA	NA	NA	19 [15]	11	10	6.3	2.3
Zinc	NA	NA	NA	160 J [250 J]	130 J	51 J	13 J	5.2 J



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-10-32 10 - 12 03/08/05	RFI-10-33 0 - 2 06/28/05	RFI-10-33 8 - 10 06/28/05	RFI-10-34 0 - 2 06/28/05	RFI-10-34 8 - 10 06/28/05	RFI-10-35 0 - 2 06/28/05	RFI-10-35 8 - 10 06/28/05	RFI-10-36 0 - 2 06/28/05	RFI-10-36 8 - 10 06/28/05
Benzo(a)anthracene	ND(0.30)	0.060 J	ND(0.33)	0.10 J	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Benzo(a)pyrene	ND(0.30)	0.060 J	ND(0.33)	0.090 J	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Benzo(b)fluoranthene	ND(0.30)	0.060 J	ND(0.33)	0.090 J	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Benzo(g,h,i)perylene	ND(0.30)	0.10 J	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Benzo(k)fluoranthene	ND(0.30)	0.050 J	ND(0.33)	0.070 J	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Biphenyl	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
bis(2-Chloroethoxy)methane	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
bis(2-Chloroethyl)ether	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
bis(2-Ethylhexyl)phthalate	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Butyl benzylphthalate	ND(0.30)	0.50	ND(0.33)	0.040 J	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Caprolactam	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Carbazole	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Chrysene	0.010 J	0.060 J	ND(0.33)	0.10 J	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Dibenz(a,h)anthracene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Dibenzofuran	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Diethyl phthalate	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Dimethyl phthalate	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Di-n-butylphthalate	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Di-n-octyl phthalate	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Fluoranthene	ND(0.30)	0.080 J	0.050 J	0.10 J	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Fluorene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Hexachlorobenzene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Hexachlorobutadiene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Hexachlorocyclopentadiene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Hexachloroethane	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Indeno(1,2,3-cd)pyrene	ND(0.30)	ND(0.33)	ND(0.33)	0.20 J	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Isophorone	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Methylphenols, Total	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Naphthalene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Nitrobenzene	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
N-Nitrosodi-n-propylamine	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
N-Nitrosodiphenylamine	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Pentachlorophenol	ND(0.60)	ND(0.67)	ND(0.67)	ND(0.67)	ND(0.67)	ND(0.67)	ND(0.67)	ND(0.67)	ND(0.67)
Phenanthrene	ND(0.30)	0.050 J	ND(0.33)	0.090 J	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Phenol	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Pyrene	0.030 J	0.070 J	ND(0.33)	0.10 J	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1221 (PCB-1221)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1232 (PCB-1232)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1242 (PCB-1242)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1248 (PCB-1248)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1254 (PCB-1254)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1260 (PCB-1260)	ND(0.33)	0.040 J	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Total PCBs	ND(0.33)	0.040 J	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
<b>Inorganic</b>									
Antimony	ND(0.50)	0.070 J	ND(0.30)	0.090 J	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)
Arsenic	0.90 J	2.5	1.3	2.7	ND(0.64)	1.1	0.92	1.3	1.0
Barium	7.3 J	33	6.8	71	6.1	41	3.8	38	6.9
Beryllium	ND(0.10)	0.19 J	0.060 J	0.28 J	0.040 J	0.26 J	ND(0.50)	0.20 J	0.060 J
Cadmium	ND(0.090)	0.47	0.10 J	0.72	0.070 J	0.090 J	0.050 J	0.22	ND(0.20)
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	2.2	19	1.1 J	7.5	1.0 J	3.4	0.90 J	3.4	1.3 J
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	1.4 J	2.7	1.1	3.9	1.3	5.9	0.84	2.9	1.3
Copper	1.8	18	3.4	26	1.2	3.2	0.90 J	6.4	1.4
Cyanide (total)	ND(0.10)	0.30	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)
Lead	3.1	160	3.4	78	2.7	9.4	3.7	33	3.4
Manganese	120 J	310	140	380	120	390	73	240	79
Mercury	ND(0.050)	0.030 J	0.010 J	0.15	ND(0.050)	0.030 J	ND(0.050)	0.030 J	ND(0.050)
Nickel	2.6	7.5	2.3	5.6	2.0	2.1	1.1	2.0	1.2
Selenium	ND(0.20)	ND(0.29)	ND(0.20)	ND(0.30)	ND(0.20)	ND(0.21)	ND(0.20)	ND(0.23)	ND(0.20)
Silver	ND(0.20 J)	ND(0.10)	ND(0.10)	0.19	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)
Thallium	ND(0.10)	0.21 J	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Vanadium	2.3	5.4	2.3	5.5	1.4	5.3	0.80 J	3.8	2.0
Zinc	5.3 J	66	8.7	110	3.3	9.8	3.1	31	3.1



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-12-23 0.9 - 1.4 02/19/03	RFI-12-23 2.5 - 4.5 02/19/03	RFI-12-23 8.5 - 10.5 02/19/03	RFI-12-23 10.5 - 12.5 02/19/03	RFI-12-23 12.5 - 14.5 02/19/03	RFI-12-24 1 - 3 03/28/03	RFI-12-24 5 - 7 03/28/03	RFI-12-25 1 - 3 03/28/03	RFI-12-25 7 - 9 04/03/03
Benzo(a)anthracene	ND(0.19)	0.12 J	ND(0.21)	0.085 J	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Benzo(a)pyrene	ND(0.19)	0.13 J	ND(0.21)	ND(0.20 J)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99 J)
Benzo(b)fluoranthene	ND(0.19)	0.22 J	ND(0.21)	ND(0.20 J)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99 J)
Benzo(g,h,i)perylene	ND(0.19)	0.069 J	ND(0.21)	ND(0.20 J)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Benzo(k)fluoranthene	ND(0.19)	0.13 J	ND(0.21)	ND(0.20 J)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99 J)
Biphenyl	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
bis(2-Chloroethoxy)methane	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
bis(2-Chloroethyl)ether	ND(0.038)	ND(0.038)	ND(0.042)	ND(0.038)	ND(0.042)	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.19)
bis(2-Ethylhexyl)phthalate	0.072 J	ND(0.19 J)	ND(0.21 J)	0.085 J	ND(0.22)	0.11 J	ND(0.18)	ND(0.17)	ND(0.99)
Butyl benzylphthalate	ND(0.19)	ND(0.19 J)	ND(0.21 J)	ND(0.20 J)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Caprolactam	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Carbazole	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Chrysene	ND(0.19)	0.13 J	ND(0.21)	0.17 J	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Dibenz(a,h)anthracene	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20 J)	ND(0.22)	ND(0.17 J)	ND(0.18 J)	ND(0.17 J)	ND(0.99)
Dibenzofuran	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Diethyl phthalate	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Dimethyl phthalate	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Di-n-butylphthalate	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Di-n-octyl phthalate	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20 J)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99 J)
Fluoranthene	ND(0.19)	0.25	ND(0.21)	0.15 J	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Fluorene	ND(0.19)	ND(0.19)	0.25	0.81	0.092 J	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Hexachlorobenzene	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Hexachlorobutadiene	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Hexachlorocyclopentadiene	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Hexachloroethane	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Indeno(1,2,3-cd)pyrene	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20 J)	ND(0.22)	ND(0.17 J)	ND(0.18 J)	ND(0.17 J)	ND(0.99)
Isophorone	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Methylphenols, Total	ND(0.39)	ND(0.39)	ND(0.43)	ND(0.39)	ND(0.43)	ND(0.35)	ND(0.35)	ND(0.35)	ND(2.0)
Naphthalene	0.44	0.10 J	ND(0.21)	0.43	0.085 J	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Nitrobenzene	ND(0.077)	ND(0.076)	ND(0.084)	ND(0.078)	ND(0.085)	ND(0.069)	ND(0.070)	ND(0.069)	ND(0.39)
N-Nitrosodi-n-propylamine	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
N-Nitrosodiphenylamine	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Pentachlorophenol	ND(0.77)	ND(0.76)	ND(0.84)	ND(0.78)	ND(0.85)	ND(0.69)	ND(0.70)	ND(0.69)	ND(3.9)
Phenanthrene	ND(0.19)	0.17 J	ND(0.21)	2.0	0.16 J	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Phenol	ND(0.19)	ND(0.19)	ND(0.21)	ND(0.20)	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
Pyrene	ND(0.19)	0.25	0.14 J	0.59	ND(0.22)	ND(0.17)	ND(0.18)	ND(0.17)	ND(0.99)
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	ND(0.040)	ND(0.040)	ND(0.044)	ND(0.041)	ND(0.044)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.041)
Aroclor-1221 (PCB-1221)	ND(0.040)	ND(0.040)	ND(0.044)	ND(0.041)	ND(0.044)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.041)
Aroclor-1232 (PCB-1232)	ND(0.040)	ND(0.040)	ND(0.044)	ND(0.041)	ND(0.044)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.041)
Aroclor-1242 (PCB-1242)	ND(0.040)	ND(0.040)	ND(0.044)	ND(0.041)	ND(0.044)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.041)
Aroclor-1248 (PCB-1248)	ND(0.040)	ND(0.040)	ND(0.044)	ND(0.041)	ND(0.044)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.041)
Aroclor-1254 (PCB-1254)	ND(0.040)	ND(0.040)	ND(0.044)	ND(0.041)	ND(0.044)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.041)
Aroclor-1260 (PCB-1260)	ND(0.040)	ND(0.040)	ND(0.044)	ND(0.041)	ND(0.044)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.041)
Total PCBs	ND(0.040)	ND(0.040)	ND(0.044)	ND(0.041)	ND(0.044)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.041)
<b>Inorganic</b>									
Antimony	0.093 J	0.15 J	ND(0.19 J)	ND(0.17 J)	ND(0.19 J)	0.031 J	0.030 J	0.041 J	0.019 J
Arsenic	4.0 J	3.8 J	9.9 J (RDC)	4.7 J	3.8 J	3.0	2.6	3.8	4.2 J
Barium	50 J	44 J	100 J	100 J	97 J	12	6.7	13	44
Beryllium	0.25 J	0.21 J	0.49 J	0.58 J	0.62 J	0.085 J	0.075 J	0.091 J	0.25 J
Cadmium	0.43	1.6	0.11	0.11	0.11	0.087	0.086	0.099	0.24
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	13 J	13 J	25 J	26 J	29 J	5.9	4.9	7.3	11
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	3.9 J	3.6 J	10 J	7.9 J	9.0 J	1.9	1.7	2.8	4.1 J
Copper	28 J	150 J	14 J	18 J	15 J	4.6 J	4.0 J	6.3 J	9.9 J
Cyanide (total)	ND(0.000020 J)	ND(1.0 J)	ND(1.0 J)	ND(0.20 J)	ND(0.20 J)	ND(0.20)	0.24	0.34	ND(0.20)
Lead	28 J	620 J (RDC)	13 J	39 J	13 J	3.5	3.0	3.9	15 J
Manganese	170	180	300	290	280	110	110	170	150
Mercury	0.069 J	0.065 J	0.011 J	0.012 J	0.013 J	ND(0.072 J)	ND(0.073 J)	ND(0.066 J)	0.056 J
Nickel	12 J	21 J	26 J	22 J	26 J	7.4	7.2	11	12 J
Selenium	0.93	0.19	ND(0.077)	ND(0.068)	0.65 J	0.035 J	0.066	0.15	0.12 J
Silver	0.083 J	0.10 J	0.087 J	0.10 J	0.098 J	0.039 J	0.021 J	0.027 J	0.042 J
Thallium	0.11 J	0.074 J	0.24	0.24	0.36	0.049 J	0.040 J	0.093 J	0.11 J
Vanadium	16 J	15 J	40 J	44 J	46 J	7.4	7.5	9.9	20 J
Zinc	43 J	320 J	44 J	47 J	53 J	19 J	17 J	24 J	66 J



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-12-25 11 - 13 04/03/03	RFI-12-26 1 - 3 03/31/03	RFI-12-26 6 - 8 03/31/03	RFI-12-26 9 - 11 03/31/03	RFI-12-26 11 - 13 03/31/03	RFI-12-27 1 - 3 07/24/03	RFI-12-27 3 - 5 07/24/03	RFI-12-28 1 - 3 07/23/03	RFI-12-28 8 - 10 07/23/03
Benzo(a)anthracene	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21 J)	ND(0.20 J)	ND(0.18)	0.18 J	3.0 J [0.82 J]	ND(0.18)
Benzo(a)pyrene	ND(0.21 J)	ND(0.18)	ND(4.1 J)	ND(0.21 J)	ND(0.20 J)	ND(0.18 J)	0.16 J	3.0 J (RDC) [0.94 J]	ND(0.18 J)
Benzo(b)fluoranthene	ND(0.21 J)	ND(0.18)	ND(4.1 J)	ND(0.21 J)	ND(0.20 J)	ND(0.18 J)	0.19 J	3.8 J [1.2 J]	ND(0.18 J)
Benzo(g,h,i)perylene	ND(0.21)	ND(0.18)	ND(4.1 J)	ND(0.21 J)	ND(0.20 J)	ND(0.18 J)	0.087 J	0.89 J [0.37 J]	ND(0.18 J)
Benzo(k)fluoranthene	ND(0.21 J)	ND(0.18)	ND(4.1 J)	ND(0.21 J)	ND(0.20 J)	ND(0.18 J)	0.15 J	2.5 J [0.83 J]	ND(0.18 J)
Biphenyl	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19 J)	ND(0.21) [ND(0.18 J)]	ND(0.18)
bis(2-Chloroethoxy)methane	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	ND(0.21) [ND(0.18)]	ND(0.18)
bis(2-Chloroethyl)ether	ND(0.041)	ND(0.034)	ND(0.79)	ND(0.042)	ND(0.038)	ND(0.036)	ND(0.037)	ND(0.040) [ND(0.035)]	ND(0.035)
bis(2-Ethylhexyl)phthalate	ND(0.21)	ND(0.18)	ND(4.1 J)	ND(0.21 J)	ND(0.20 J)	0.19	0.072 J	ND(0.21) [ND(0.18)]	ND(0.18)
Butyl benzylphthalate	ND(0.21)	ND(0.18)	ND(4.1 J)	ND(0.21 J)	ND(0.20 J)	0.18 J	0.31	ND(0.21) [ND(0.18)]	ND(0.18)
Caprolactam	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	ND(0.21) [ND(0.18)]	ND(0.18)
Carbazole	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19 J)	1.1 J [0.24 J]	ND(0.18)
Chrysene	ND(0.21)	ND(0.18)	3.8 J	ND(0.21 J)	0.17 J	ND(0.18)	0.22	2.9 J [0.89 J]	ND(0.18)
Dibenz(a,h)anthracene	ND(0.21)	ND(0.18 J)	ND(4.1 J)	ND(0.21 J)	ND(0.20 J)	ND(0.18 J)	ND(0.19 J)	0.55 J [0.13 J]	ND(0.18 J)
Dibenzofuran	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	0.44 J [0.12 J]	ND(0.18)
Diethyl phthalate	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19 J)	ND(0.21) [ND(0.18)]	ND(0.18)
Dimethyl phthalate	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	ND(0.21) [ND(0.18)]	ND(0.18)
Di-n-butylphthalate	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	ND(0.21) [ND(0.18)]	ND(0.18)
Di-n-octyl phthalate	ND(0.21 J)	ND(0.18)	ND(4.1 J)	ND(0.21 J)	ND(0.20 J)	ND(0.18 J)	ND(0.19 J)	ND(0.21) [ND(0.18)]	ND(0.18 J)
Fluoranthene	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	0.46	8.2 D [2.1]	ND(0.18)
Fluorene	ND(0.21)	ND(0.18)	1.7 J	ND(0.21)	0.071 J	ND(0.18)	ND(0.19)	0.67 J [0.17 J]	ND(0.18)
Hexachlorobenzene	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	ND(0.21) [ND(0.18)]	ND(0.18)
Hexachlorobutadiene	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	ND(0.21) [ND(0.18)]	ND(0.18)
Hexachlorocyclopentadiene	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	ND(0.21) [ND(0.18)]	ND(0.18)
Hexachloroethane	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	ND(0.21) [ND(0.18)]	ND(0.18)
Indeno(1,2,3-cd)pyrene	ND(0.21)	ND(0.18 J)	ND(4.1 J)	ND(0.21 J)	ND(0.20 J)	ND(0.18 J)	0.079 J	0.99 J [0.39 J]	ND(0.18 J)
Isophorone	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	ND(0.21) [ND(0.18)]	ND(0.18)
Methylphenols, Total	ND(0.42)	ND(0.35)	ND(8.2)	ND(0.43)	ND(0.40)	ND(0.37)	ND(0.38)	ND(0.41) [ND(0.36)]	ND(0.36)
Naphthalene	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	0.45 J [0.15 J]	ND(0.18)
Nitrobenzene	ND(0.083)	ND(0.069)	ND(1.6)	ND(0.085)	ND(0.078)	ND(0.072)	ND(0.074)	ND(0.081) [ND(0.071)]	ND(0.072)
N-Nitrosodi-n-propylamine	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	ND(0.21) [ND(0.18)]	ND(0.18)
N-Nitrosodiphenylamine	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	ND(0.21) [ND(0.18)]	ND(0.18)
Pentachlorophenol	ND(0.83)	ND(0.69)	ND(16)	ND(0.85)	ND(0.78)	ND(0.72)	ND(0.74)	ND(0.81) [ND(0.71)]	ND(0.72)
Phenanthrene	ND(0.21)	ND(0.18)	12	0.17 J	0.30	ND(0.18)	0.39	4.8 J [1.4 J]	ND(0.18)
Phenol	ND(0.21)	ND(0.18)	ND(4.1)	ND(0.21)	ND(0.20)	ND(0.18)	ND(0.19)	ND(0.21) [ND(0.18)]	ND(0.18)
Pyrene	ND(0.21)	ND(0.18)	6.1 J	0.21 J	0.23 J	0.084 J	0.67	7.2 D [1.6]	ND(0.18)
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	ND(0.043)	ND(0.036)	ND(0.13)	ND(0.044)	ND(0.041)	ND(0.038)	ND(0.039)	ND(0.043) [ND(0.038)]	ND(0.038)
Aroclor-1221 (PCB-1221)	ND(0.043)	ND(0.036)	ND(0.13)	ND(0.044)	ND(0.041)	ND(0.038)	ND(0.039)	ND(0.043) [ND(0.038)]	ND(0.038)
Aroclor-1232 (PCB-1232)	ND(0.043)	ND(0.036)	ND(0.13)	ND(0.044)	ND(0.041)	ND(0.038)	ND(0.039)	ND(0.043) [ND(0.038)]	ND(0.038)
Aroclor-1242 (PCB-1242)	ND(0.043)	ND(0.036)	ND(0.13)	ND(0.044)	ND(0.041)	ND(0.038)	ND(0.039)	ND(0.043) [ND(0.038)]	ND(0.038)
Aroclor-1248 (PCB-1248)	ND(0.043)	ND(0.036)	ND(0.13)	ND(0.044)	ND(0.041)	ND(0.038)	ND(0.039)	ND(0.043) [ND(0.038)]	ND(0.038)
Aroclor-1254 (PCB-1254)	ND(0.043)	ND(0.036)	ND(0.13)	ND(0.044)	ND(0.041)	0.024 J	0.033 J	ND(0.043) [ND(0.038)]	ND(0.038)
Aroclor-1260 (PCB-1260)	ND(0.043)	ND(0.036)	ND(0.13)	ND(0.044)	ND(0.041)	0.013 J	0.016 J	ND(0.043) [ND(0.038)]	ND(0.038)
Total PCBs	ND(0.043)	ND(0.036)	ND(0.13)	ND(0.044)	ND(0.041)	0.037 J	0.049 J	ND(0.043) [ND(0.038)]	ND(0.038)
<b>Inorganic</b>									
Antimony	ND(0.17 J)	0.046 J	0.061 J	0.013 J	0.11 J	0.023 J	0.063 J	0.033 J [0.028 J]	0.017 J
Arsenic	5.3 J	3.8	7.5	3.8	11 (RDC)	3.1	2.9	6.6 [7.2]	11 (RDC)
Barium	110	11	110	140	81	22	18	32 [35]	94
Beryllium	0.43 J	0.092 J	0.73 J	0.81 J	0.68 J	0.18 J	0.19 J	0.29 J [0.27 J]	0.60 J
Cadmium	0.19	0.090	0.26	0.069	0.12	ND(0.11)	ND(0.14)	ND(0.15) [0.16]	ND(0.014)
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	22	6.0	24	30	20	14	16	12 [14]	22
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	14 J	2.2	7.7	9.1	10	2.5	2.3	4.3 [4.1]	9.3
Copper	10 J	5.2 J	30 J	14 J	17 J	11	17	42 [41]	15
Cyanide (total)	1.3	0.57	ND(0.20)	ND(0.30)	ND(0.20)	ND(0.20)	0.27	ND(0.30) [0.25]	0.30
Lead	8.8 J	3.4	59	12	15	8.3 J	20 J	26 J [47 J]	13 J
Manganese	290	140	350	310	540	190	180	250 [290]	300
Mercury	0.040 J	ND(0.070 J)	0.016 J	0.025 J	0.017 J	ND(0.074)	ND(0.077)	7.8 D [5.3 D]	ND(0.071 J)
Nickel	29 J	9.2	39	24	29	8.6	12	13 [15]	24
Selenium	0.17 J	0.11	0.18	ND(0.080)	0.071	0.040 J	0.048 J	0.072 [0.087]	ND(0.057)
Silver	0.10 J	0.029 J	0.27	0.12 J	0.13 J	0.050 J	0.15	0.28 [0.20]	0.14
Thallium	0.21	0.074 J	0.20	0.22	0.18	0.069 J	0.054 J	0.11 J [0.11 J]	0.25
Vanadium	30 J	9.3	34	46	41	12	9.5	15 [15]	40
Zinc	36 J	21 J	120 J	45 J	32 J	32 J	31 J	44 J [42 J]	44 J



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-12-28 11 - 13 07/23/03	RFI-12-29 0.7 - 2.7 07/24/03	RFI-12-29 4.7 - 6.7 07/24/03	RFI-12-30 0.7 - 2.7 07/24/03	RFI-12-31 0.7 - 2.7 07/25/03	RFI-12-32 0 - 2 07/28/03	RFI-12-33 1 - 2 08/28/03
Benzo(a)anthracene	ND(0.19)	ND(0.20)	ND(0.20)	0.091 J	0.15 J	0.33 J [0.68 J]	0.36
Benzo(a)pyrene	ND(0.19 J)	ND(0.20)	ND(0.20)	0.13 J	0.18 J	0.35 J [0.72 J]	0.33 J
Benzo(b)fluoranthene	ND(0.19 J)	ND(0.20)	ND(0.20)	0.10 J	0.19 J	0.39 J [0.84 J]	0.46 J
Benzo(g,h,i)perylene	ND(0.19 J)	ND(0.20)	ND(0.20)	ND(0.20 J)	0.32 J	ND(0.19) [0.34]	0.17 J
Benzo(k)fluoranthene	ND(0.19 J)	ND(0.20)	ND(0.20)	0.094 J	0.16 J	0.39 [0.65]	0.41 J
Biphenyl	0.12 J	ND(0.20 J)	ND(0.20 J)	ND(0.20 J)	ND(0.19 J)	ND(0.19) [ND(0.18)]	ND(0.19)
bis(2-Chloroethoxy)methane	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	ND(0.19)
bis(2-Chloroethyl)ether	ND(0.036)	ND(0.036)	ND(0.039)	ND(0.039)	ND(0.038)	ND(0.036) [ND(0.035)]	ND(0.036)
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(0.20)	0.080 J	ND(0.20)	0.092 J	ND(0.19) [0.15 J]	0.51
Butyl benzylphthalate	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19 J)	ND(0.19) [0.087 J]	ND(0.19)
Caprolactam	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	ND(0.19)
Carbazole	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19 J)	0.073 J [0.15 J]	ND(0.19)
Chrysene	ND(0.19)	ND(0.20)	ND(0.20)	0.17 J	0.47 J	0.38 J [0.74 J]	0.44
Dibenz(a,h)anthracene	ND(0.19 J)	ND(0.20)	ND(0.20)	ND(0.20 J)	ND(0.19 J)	ND(0.19) [ND(0.18)]	ND(0.19 J)
Dibenzofuran	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	0.096 J
Diethyl phthalate	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19 J)	ND(0.19) [ND(0.18)]	ND(0.19)
Dimethyl phthalate	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	ND(0.19)
Di-n-butylphthalate	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	ND(0.19)
Di-n-octyl phthalate	ND(0.19 J)	ND(0.20)	ND(0.20)	ND(0.20 J)	ND(0.19 J)	ND(0.19) [ND(0.18)]	ND(0.19 J)
Fluoranthene	0.15 J	0.11 J	ND(0.20)	0.16 J	0.18 J	0.79 J [1.6 J]	0.84
Fluorene	0.095 J	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [0.11 J]	ND(0.19)
Hexachlorobenzene	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	ND(0.19)
Hexachlorobutadiene	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	ND(0.19)
Hexachlorocyclopentadiene	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	ND(0.19)
Hexachloroethane	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(0.19 J)	ND(0.20)	ND(0.20)	ND(0.20 J)	0.14 J	ND(0.19) [0.32]	0.15 J
Isophorone	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	ND(0.19)
Methylphenols, Total	ND(0.38)	ND(0.39)	ND(0.40)	ND(0.40)	ND(0.39)	ND(0.37) [ND(0.37)]	ND(0.38)
Naphthalene	0.16 J	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	0.060 J
Nitrobenzene	ND(0.074)	ND(0.078)	ND(0.080)	ND(0.079)	ND(0.077)	ND(0.073) [ND(0.072)]	ND(0.074)
N-Nitrosodi-n-propylamine	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	ND(0.19)
N-Nitrosodiphenylamine	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	ND(0.19)
Pentachlorophenol	ND(0.74)	ND(0.78)	ND(0.80)	ND(0.79)	ND(0.77)	ND(0.73) [ND(0.72)]	ND(0.74)
Phenanthrene	0.25	0.082 J	ND(0.20)	0.24	0.32	0.50 J [1.1 J]	0.82
Phenol	ND(0.19)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.19)	ND(0.19) [ND(0.18)]	ND(0.19)
Pyrene	0.19	0.086 J	ND(0.20)	0.23	0.66 J	0.79 J [1.8 J]	1.0
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	ND(0.039)	ND(0.040)	ND(0.042)	ND(0.041)	ND(0.040)	ND(0.038) [ND(0.038)]	ND(0.039)
Aroclor-1221 (PCB-1221)	ND(0.039)	ND(0.040)	ND(0.042)	ND(0.041)	ND(0.040)	ND(0.038) [ND(0.038)]	ND(0.039)
Aroclor-1232 (PCB-1232)	ND(0.039)	ND(0.040)	ND(0.042)	ND(0.041)	ND(0.040)	ND(0.038) [ND(0.038)]	ND(0.039)
Aroclor-1242 (PCB-1242)	ND(0.039)	ND(0.040)	ND(0.042)	ND(0.041)	ND(0.040)	ND(0.038) [ND(0.038)]	ND(0.039)
Aroclor-1248 (PCB-1248)	ND(0.039)	ND(0.040)	ND(0.042)	ND(0.041)	ND(0.040)	ND(0.038) [ND(0.038)]	ND(0.039)
Aroclor-1254 (PCB-1254)	ND(0.039)	ND(0.040)	ND(0.042)	ND(0.041)	ND(0.040)	0.027 J [0.060 J]	ND(0.039)
Aroclor-1260 (PCB-1260)	ND(0.039)	ND(0.040)	ND(0.042)	ND(0.041)	ND(0.040)	0.057 [0.061]	ND(0.039)
Total PCBs	ND(0.039)	ND(0.040)	ND(0.042)	ND(0.041)	ND(0.040)	0.084 J [0.12 J]	ND(0.039)
<b>Inorganic</b>							
Antimony	0.011 J	0.044 J	0.18 J	0.40 J	190 J (RDC)	0.053 J [0.062 J]	0.19 J
Arsenic	5.4	4.2	5.4	8.1 (RDC)	13 (RDC)	3.8 [3.0]	6.9 J
Barium	63	25	65	550	1,000	26 [21]	480
Beryllium	0.51 J	0.29 J	0.26 J	0.67 J	0.33 J	0.15 J [0.13 J]	0.66 J
Cadmium	ND(0.016)	0.26	1.0	0.95	7.5	0.23 [ND(0.16)]	0.74
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA
Chromium Total	18	8.7	11	360 (IPASIC,RPSIC)	120	9.5 [6.9]	99 J
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA
Cobalt	7.8	3.3	4.9	8.6	6.5	2.9 J [2.5 J]	5.6 J
Copper	11	94	320	720	720	13 J [9.7 J]	190 J
Cyanide (total)	0.36	ND(0.20)	ND(0.20)	0.33	0.25	2.0 [ND(0.9)]	0.38 J
Lead	8.4 J	43 J	290 J	730 J (RDC)	10,000 J (IDC,RDC)	15 [8.8]	850 (RDC)
Manganese	370	150	130	550	520	240 [180]	430
Mercury	ND(0.070 J)	ND(0.079)	0.085	0.18	0.54 D	0.0075 J [0.0073 J]	0.12
Nickel	19	9.8	12	70	88	12 J [7.2 J]	37 J
Selenium	0.046 J	0.077	0.078	0.18	0.25	0.11 J [0.055 J]	0.11
Silver	0.099 J	0.081 J	0.12 J	0.26	0.91	0.044 J [0.036 J]	0.49
Thallium	0.19	0.087 J	0.098 J	0.11 J	0.088 J	0.066 J [0.064 J]	0.14 J
Vanadium	30	14	17	100	17	12 [11]	40 J
Zinc	36 J	63 J	240 J	250 J	320 J	45 J [38 J]	200 J



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-12-33	RFI-12-34	RFI-12-34	RFI-12-34	RFI-12-35	RFI-16-24	RFI-16-24	RFI-16-25
	2.5 - 4.5 08/28/03	0.8 - 2.8 08/28/03	2.8 - 4.8 08/28/03	4.8 - 6.8 08/28/03	3 - 4 08/29/03	1 - 3 02/18/03	5 - 7 02/18/03	1 - 3 02/18/03
Benzo(a)anthracene	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Benzo(a)pyrene	0.41 J	ND(0.18)	ND(0.19)	ND(0.18)	0.094 J [ND(0.99)]	NA	NA	NA
Benzo(b)fluoranthene	0.44 J	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20 J) [ND(0.99)]	NA	NA	NA
Benzo(g,h,i)perylene	0.36 J	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20 J) [ND(0.99)]	NA	NA	NA
Benzo(k)fluoranthene	ND(0.96 J)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20 J) [ND(0.99)]	NA	NA	NA
Biphenyl	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
bis(2-Chloroethoxy)methane	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
bis(2-Chloroethyl)ether	ND(0.19)	ND(0.034)	ND(0.037)	ND(0.035)	ND(0.039) [ND(0.19)]	NA	NA	NA
bis(2-Ethylhexyl)phthalate	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	0.14 J [ND(0.99)]	NA	NA	NA
Butyl benzylphthalate	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Caprolactam	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Carbazole	ND(0.96)	ND(0.18 J)	ND(0.19 J)	ND(0.18 J)	ND(0.20 J) [ND(0.99 J)]	NA	NA	NA
Chrysene	0.41 J	ND(0.18)	0.074 J	ND(0.18)	0.15 J [ND(0.99)]	NA	NA	NA
Dibenz(a,h)anthracene	ND(0.96 J)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20 J) [ND(0.99)]	NA	NA	NA
Dibenzofuran	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	0.088 J [ND(0.99)]	NA	NA	NA
Diethyl phthalate	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Dimethyl phthalate	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Di-n-butylphthalate	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Di-n-octyl phthalate	ND(0.96 J)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20 J) [ND(0.99)]	NA	NA	NA
Fluoranthene	0.44 J	0.079 J	0.14 J	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Fluorene	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	0.18 J [ND(0.99)]	NA	NA	NA
Hexachlorobenzene	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Hexachlorobutadiene	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Hexachlorocyclopentadiene	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Hexachloroethane	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ND(0.96 J)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20 J) [ND(0.99)]	NA	NA	NA
Isophorone	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Methylphenols, Total	ND(1.9)	R	ND(0.38)	ND(0.37)	ND(0.40) [ND(2.0)]	NA	NA	NA
Naphthalene	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	0.19 J [ND(0.99)]	NA	NA	NA
Nitrobenzene	ND(0.38)	ND(0.070)	ND(0.074)	ND(0.072)	ND(0.079) [ND(0.39)]	NA	NA	NA
N-Nitrosodi-n-propylamine	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
N-Nitrosodiphenylamine	ND(0.96)	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Pentachlorophenol	ND(3.8)	R	ND(0.74)	ND(0.72)	ND(0.79) [ND(3.9)]	NA	NA	NA
Phenanthrene	ND(0.96)	ND(0.18)	0.10 J	ND(0.18)	1.1 [1.5]	NA	NA	NA
Phenol	ND(0.96)	R	ND(0.19)	ND(0.18)	ND(0.20) [ND(0.99)]	NA	NA	NA
Pyrene	0.79 J	ND(0.18)	0.11 J	ND(0.18)	0.18 J [ND(0.99)]	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	ND(0.040)	ND(0.036)	ND(0.039)	ND(0.038)	ND(0.042) [ND(0.041)]	NA	NA	NA
Aroclor-1221 (PCB-1221)	ND(0.040)	ND(0.036)	ND(0.039)	ND(0.038)	ND(0.042) [ND(0.041)]	NA	NA	NA
Aroclor-1232 (PCB-1232)	ND(0.040)	ND(0.036)	ND(0.039)	ND(0.038)	ND(0.042) [ND(0.041)]	NA	NA	NA
Aroclor-1242 (PCB-1242)	ND(0.040)	ND(0.036)	ND(0.039)	ND(0.038)	ND(0.042) [ND(0.041)]	NA	NA	NA
Aroclor-1248 (PCB-1248)	ND(0.040)	ND(0.036)	ND(0.039)	ND(0.038)	ND(0.042) [ND(0.041)]	NA	NA	NA
Aroclor-1254 (PCB-1254)	ND(0.040)	0.032 J	0.028 J	0.021 J	ND(0.042) [ND(0.041)]	NA	NA	NA
Aroclor-1260 (PCB-1260)	ND(0.040)	ND(0.036)	ND(0.039)	ND(0.038)	ND(0.042) [ND(0.041)]	NA	NA	NA
Total PCBs	ND(0.040)	0.032 J	0.028 J	0.021 J	ND(0.042) [ND(0.041)]	NA	NA	NA
<b>Inorganic</b>								
Antimony	0.19 J	0.067 J	R	0.018 J	R [R]	NA	NA	NA
Arsenic	6.6 J	5.0 J	4.5 J	7.7 J (RDC)	11 J (RDC) [7.2 J]	NA	NA	NA
Barium	58	38	88	160	100 [72]	NA	NA	NA
Beryllium	0.54 J	0.17 J	0.51 J	0.56 J	0.74 J [0.51 J]	NA	NA	NA
Cadmium	1.0	0.54	0.19	0.45	ND(0.13) [0.36]	NA	NA	NA
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	210 J	44 J	25 J	64 J	29 J [21 J]	NA	NA	NA
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	5.2 J	2.7 J	7.3 J	8.7 J	11 J [9.4 J]	NA	NA	NA
Copper	510 J	25 J	25 J	68 J	18 J [16 J]	NA	NA	NA
Cyanide (total)	0.32 J	0.28 J	0.37 J	0.23 J	0.49 J [0.34 J]	NA	NA	NA
Lead	260	14	47	53	15 [13]	NA	NA	NA
Manganese	340	220	520	2,200 (IPSI)	420 [260]	NA	NA	NA
Mercury	0.060 J	0.043 J	0.48	0.061 J	0.022 J [0.012 J]	NA	NA	NA
Nickel	19 J	13 J	21 J	28 J	25 J [21 J]	NA	NA	NA
Selenium	0.27	0.10	0.12	0.20 J	0.097 J [0.36 J]	NA	NA	NA
Silver	0.24	0.54	0.14	0.26	0.12 J [0.12 J]	NA	NA	NA
Thallium	0.12 J	0.056 J	0.16	0.22	0.31 [0.23]	NA	NA	NA
Vanadium	51 J	17 J	27 J	31 J	46 J [33 J]	NA	NA	NA
Zinc	190 J	48 J	45 J	72 J	49 J [85 J]	NA	NA	NA

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-16-25 8 - 10 02/18/03	RFI-36-47 0 - 2 10/15/02	RFI-36-47 8 - 10 10/15/02	RFI-36-47 10 - 12 10/15/02	RFI-36-48 0 - 2 10/15/02	RFI-36-48 6 - 8 10/15/02	RFI-36-48 8 - 10 10/15/02	RFI-36-48 14 - 16 10/15/02	RFI-36-49 1 - 3 04/05/03
<b>Miscellaneous</b>									
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids	NA	88	97	88	96	78	91	86	96
<b>VOC</b>									
1,1,1-Trichloroethane	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
1,1,2,2-Tetrachloroethane	ND(0.068)	ND(0.077)	ND(0.071)	ND(0.078)	ND(0.071)	ND(0.086)	ND(0.075)	ND(0.081)	ND(0.073)
1,1,2-Trichloroethane	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
1,1-Dichloroethane	ND(0.034 J)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	0.036 J
1,1-Dichloroethene	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
1,2,4-Trichlorobenzene	ND(0.15)	ND(0.16)	ND(0.15)	ND(0.17)	ND(0.15)	ND(0.18)	ND(0.16)	ND(0.17)	ND(0.16)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.15)	ND(0.16)	ND(0.15)	ND(0.17)	ND(0.15)	ND(0.18)	ND(0.16)	ND(0.17)	ND(0.16)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.15)	ND(0.16)	ND(0.15)	ND(0.17)	ND(0.15)	ND(0.18)	ND(0.16)	ND(0.17)	ND(0.16)
1,2-Dichlorobenzene	ND(0.068)	ND(0.077)	ND(0.071)	ND(0.078)	ND(0.071)	ND(0.086)	ND(0.075)	ND(0.081)	ND(0.073)
1,2-Dichloroethane	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
1,2-Dichloropropane	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
1,3-Dichlorobenzene	ND(0.068)	ND(0.077)	ND(0.071)	ND(0.078)	ND(0.071)	ND(0.086)	ND(0.075)	ND(0.081)	ND(0.073)
1,4-Dichlorobenzene	ND(0.068)	ND(0.077)	ND(0.071)	ND(0.078)	ND(0.071)	ND(0.086)	ND(0.075)	ND(0.081)	ND(0.073)
2-Butanone (Methyl Ethyl Ketone)	ND(0.29 J)	ND(0.27)	ND(0.25)	ND(0.28)	ND(0.25)	ND(0.31)	ND(0.27)	ND(0.29)	ND(0.31 J)
2-Hexanone	ND(0.068)	ND(0.27)	ND(0.25)	ND(0.28)	ND(0.25)	ND(0.31)	ND(0.27)	ND(0.29)	ND(0.073)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(1.5)	ND(0.27)	ND(0.25)	ND(0.28)	ND(0.25)	ND(0.31)	ND(0.27)	ND(0.29)	ND(1.6)
Acetone	0.055 J	ND(0.27)	ND(0.25)	ND(0.28)	ND(0.25)	ND(0.31)	ND(0.27)	ND(0.29)	ND(0.31)
Benzene	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
Bromodichloromethane	ND(0.068)	ND(0.077)	ND(0.071)	ND(0.078)	ND(0.071)	ND(0.086)	ND(0.075)	ND(0.081)	ND(0.073)
Bromoform	ND(0.068)	ND(0.077)	ND(0.071)	ND(0.078)	ND(0.071)	ND(0.086)	ND(0.075)	ND(0.081)	ND(0.073)
Bromomethane (Methyl Bromide)	ND(0.15 J)	ND(0.16)	ND(0.15)	ND(0.17)	ND(0.15)	ND(0.18)	ND(0.16)	ND(0.17)	ND(0.16)
Carbon disulfide	ND(0.15)	ND(0.16 J)	ND(0.15)	ND(0.17)	ND(0.15)	ND(0.18)	ND(0.16 J)	ND(0.17 J)	ND(0.16)
Carbon tetrachloride	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
Chlorobenzene	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
Chloroethane	ND(0.15)	ND(0.16)	ND(0.15)	ND(0.17)	ND(0.15)	ND(0.18)	ND(0.16)	ND(0.17)	ND(0.16)
Chloroform (Trichloromethane)	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
Chloromethane (Methyl Chloride)	ND(0.15)	ND(0.16)	ND(0.15)	ND(0.17)	ND(0.15)	ND(0.18)	ND(0.16)	ND(0.17)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
cis-1,3-Dichloropropene	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
Cyclohexane	ND(0.15)	0.10 J	0.035 J	ND(0.17)	ND(0.15)	ND(0.18)	ND(0.16)	ND(0.17)	ND(0.16)
Dibromochloromethane	ND(0.068)	ND(0.077)	ND(0.071)	ND(0.078)	ND(0.071)	ND(0.086)	ND(0.075)	ND(0.081)	ND(0.073)
Dichlorodifluoromethane (CFC-12)	ND(0.068)	ND(0.077)	ND(0.071)	ND(0.078)	ND(0.071)	ND(0.086)	ND(0.075)	ND(0.081)	ND(0.073)
Ethylbenzene	ND(0.034)	0.035 J	0.026 J	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
Isopropylbenzene	ND(0.15)	0.045 J	ND(0.15)	ND(0.17)	ND(0.15)	ND(0.18)	ND(0.16)	ND(0.17)	ND(0.16)
m&p-Xylene	ND(0.068)	0.14	0.19	ND(0.078)	ND(0.071)	ND(0.086)	ND(0.075)	ND(0.081)	ND(0.073)
Methyl acetate	0.055 J	ND(0.16)	0.094 J	ND(0.17)	0.34	ND(0.18)	ND(0.16)	ND(0.17)	0.060 J
Methyl cyclohexane	ND(0.15)	0.36	0.21	ND(0.17)	ND(0.15)	ND(0.18)	ND(0.16)	ND(0.17)	ND(0.16)
Methyl Tert Butyl Ether	ND(0.15)	ND(0.27)	ND(0.25)	ND(0.28)	ND(0.25)	ND(0.31)	ND(0.27)	ND(0.29)	ND(1.6)
Methylene chloride	0.041 J	ND(0.16)	ND(0.15)	ND(0.17)	ND(0.15 J)	ND(0.18 J)	ND(0.16)	ND(0.17)	0.15 J
o-Xylene	ND(0.034)	0.16	0.15	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
Styrene	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
Tetrachloroethene	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
Toluene	ND(0.068)	0.092	0.054	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
trans-1,2-Dichloroethene	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
trans-1,3-Dichloropropene	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
Trichloroethene	ND(0.034)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
Trichlorofluoromethane (CFC-11)	ND(0.068)	ND(0.077)	ND(0.071)	ND(0.078)	ND(0.071)	ND(0.086)	ND(0.075)	ND(0.081)	ND(0.073)
Trifluorotrchloroethane (Freon 113)	ND(0.15)	ND(0.16)	ND(0.15)	ND(0.17)	ND(0.15)	ND(0.18)	ND(0.16)	ND(0.17)	ND(0.16)
Vinyl chloride	ND(0.068)	ND(0.038)	ND(0.036)	ND(0.039)	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.040)	ND(0.037)
Xylenes (total)	ND(0.068)	0.30	0.34	ND(0.078)	ND(0.071)	ND(0.086)	ND(0.075)	ND(0.081)	ND(0.073)
<b>SVOC</b>									
2,2-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	ND(18)
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	ND(18)
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	ND(18)
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	ND(8.9 J)
3,3-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	ND(18)
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	ND(18)
4,6-Dinitro-2-methylpheno	NA	NA	NA	NA	NA	NA	NA	NA	ND(18)
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
4-Chloro-3-methylpheno	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	ND(18)
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	ND(18)
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	ND(18)
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	ND(18)
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4 J)

**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-16-25 8 - 10 02/18/03	RFI-36-47 0 - 2 10/15/02	RFI-36-47 8 - 10 10/15/02	RFI-36-47 10 - 12 10/15/02	RFI-36-48 0 - 2 10/15/02	RFI-36-48 6 - 8 10/15/02	RFI-36-48 8 - 10 10/15/02	RFI-36-48 14 - 16 10/15/02	RFI-36-49 1 - 3 04/05/03
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4 J)
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4 J)
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4 J)
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.86)
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4 J)
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	ND(8.9)
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	ND(1.8)
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
N-Nitrosodiphenylamine	NA	NA	27 J	NA	83 J	NA	NA	NA	ND(4.4)
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	ND(18)
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	2.3 J
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	ND(4.4)
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.037)
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.037)
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.037)
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.037)
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.037)
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.037)
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.037)
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.037)
<b>Inorganic</b>									
Antimony	NA	0.12 J	0.076 J	0.039 J	0.15 J	0.96 J	0.46 J	0.020 J	0.042 J
Arsenic	NA	8.2 J (RDC)	3.3 J	3.4 J	7.3 J	19 J (RDC)	8.2 J (RDC)	5.4 J	2.3 J
Barium	NA	79 J	33 J	9.6 J	69 J	100 J	120 J	18 J	15
Beryllium	NA	0.33 J	0.15 J	0.079 J	0.27 J	0.31 J	0.25 J	0.14 J	0.10 J
Cadmium	NA	0.55	0.20	0.11	0.80	1.4	0.62	0.17	ND(0.071)
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	NA	24 J	13 J	7.7 J	64 J	410 J (IPSI, RPSIC)	61 J	9.0 J	8.8
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	6.7	3.7	2.6	5.2	12	5.5	4.3	1.7 J
Copper	NA	46 J	15 J	9.1 J	140 J	210 J	76 J	7.7 J	8.9 J
Cyanide (total)	NA	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.30)	ND(0.20)	ND(0.20)	ND(0.20)
Lead	NA	91 J	27 J	7.8 J	83 J	110 J	100 J	7.0 J	5.8 J
Manganese	NA	390 J	100 J	51 J	710 J	4,800 J (IPSI, RPSIC)	1,200 J	220 J	120
Mercury	NA	0.16	0.022 J	0.0079 J	0.16	0.088	0.063 J	0.0074 J	0.044 J
Nickel	NA	20 J	11 J	6.8 J	28 J	130 J	31 J	8.8 J	5.9 J
Selenium	NA	0.47 J	0.13	ND(0.068)	0.38 J	0.35 J	0.31 J	0.10	0.070 J
Silver	NA	0.39 J	0.077 J	0.029 J	0.27 J	1.2 J	0.17 J	0.031 J	0.13 J
Thallium	NA	0.27	0.12 J	0.089 J	0.17	0.11 J	0.090 J	0.10 J	0.039 J
Vanadium	NA	26 J	17 J	15 J	17 J	9.0 J	18 J	16 J	8.3 J
Zinc	NA	130 J	58 J	34 J	180 J	61 J	72 J	30 J	18 J



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-36-49 7 - 9 04/05/03	RFI-36-49 17 - 19 04/05/03	RFI-36-50 0 - 2 03/26/03	RFI-36-50 8 - 10 03/26/03	RFI-36-50 10 - 12 03/26/03	RFI-36-51 0 - 2 03/26/03	RFI-36-51 8 - 10 03/26/03	RFI-36-51 10 - 12 03/26/03	RFI-36-53 0 - 2 03/09/05	RFI-36-53 8 - 10 03/09/05
Benzo(a)anthracene	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Benzo(a)pyrene	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Benzo(b)fluoranthene	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Benzo(g,h,i)perylene	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Benzo(k)fluoranthene	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Biphenyl	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
bis(2-Chloroethoxy)methane	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
bis(2-Chloroethyl)ether	ND(0.038)	ND(0.88)	ND(0.038)	ND(0.036)	ND(0.037)	ND(0.039)	ND(0.038)	ND(0.036)	ND(0.30)	ND(0.30)
bis(2-Ethylhexyl)phthalate	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Butyl benzylphthalate	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Caprolactam	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Carbazole	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Chrysene	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Dibenz(a,h)anthracene	ND(0.20)	ND(4.5 J)	ND(0.19 J)	ND(0.18 J)	ND(0.19 J)	ND(0.20 J)	ND(0.19 J)	ND(0.18 J)	ND(0.30)	ND(0.30)
Dibenzofuran	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Diethyl phthalate	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Dimethyl phthalate	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Di-n-butylphthalate	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Di-n-octyl phthalate	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Fluoranthene	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Fluorene	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Hexachlorobenzene	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Hexachlorobutadiene	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Hexachlorocyclopentadiene	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Hexachloroethane	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Indeno(1,2,3-cd)pyrene	ND(0.20)	ND(4.5 J)	ND(0.19 J)	ND(0.18 J)	ND(0.19 J)	ND(0.20 J)	ND(0.19 J)	ND(0.18 J)	ND(0.30)	ND(0.30)
Isophorone	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Methylphenols, Total	ND(0.39)	ND(9.0)	ND(0.39)	ND(0.37)	ND(0.38)	ND(0.41)	ND(0.39)	ND(0.37)	ND(0.30)	ND(0.30)
Naphthalene	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Nitrobenzene	ND(0.078)	ND(1.8)	ND(0.077)	ND(0.073)	ND(0.075)	ND(0.080)	ND(0.076)	ND(0.072)	ND(0.20)	ND(0.20)
N-Nitrosodi-n-propylamine	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
N-Nitrosodiphenylamine	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Pentachlorophenol	ND(0.78)	ND(18)	ND(0.77)	ND(0.73)	ND(0.75)	ND(0.80)	ND(0.76)	ND(0.72)	ND(0.60)	ND(0.60)
Phenanthrene	ND(0.20)	6.0	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Phenol	ND(0.20)	ND(4.5 J)	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
Pyrene	ND(0.20)	2.3 J	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.19)	ND(0.18)	ND(0.30)	ND(0.30)
<b>PCB</b>										
Aroclor-1016 (PCB-1016)	ND(0.041)	ND(0.037)	ND(0.040)	ND(0.038)	ND(0.39)	ND(0.042)	ND(0.040)	ND(0.038)	ND(0.33)	ND(0.33)
Aroclor-1221 (PCB-1221)	ND(0.041)	ND(0.037)	ND(0.040)	ND(0.038)	ND(0.39)	ND(0.042)	ND(0.040)	ND(0.038)	ND(0.33)	ND(0.33)
Aroclor-1232 (PCB-1232)	ND(0.041)	ND(0.037)	ND(0.040)	ND(0.038)	ND(0.39)	ND(0.042)	ND(0.040)	ND(0.038)	ND(0.33)	ND(0.33)
Aroclor-1242 (PCB-1242)	ND(0.041)	ND(0.037)	ND(0.040)	ND(0.038)	ND(0.39)	ND(0.042)	ND(0.040)	ND(0.038)	ND(0.33)	ND(0.33)
Aroclor-1248 (PCB-1248)	ND(0.041)	ND(0.037)	ND(0.040)	ND(0.038)	7.4	ND(0.042)	ND(0.040)	ND(0.038)	ND(0.33)	ND(0.33)
Aroclor-1254 (PCB-1254)	ND(0.041)	0.039	ND(0.040)	ND(0.038)	ND(0.39)	ND(0.042)	ND(0.040)	ND(0.038)	ND(0.33)	ND(0.33)
Aroclor-1260 (PCB-1260)	ND(0.041)	ND(0.037)	ND(0.040)	ND(0.038)	0.97	ND(0.042)	ND(0.040)	ND(0.038)	ND(0.33)	ND(0.33)
Total PCBs	ND(0.041)	0.039	ND(0.040)	ND(0.038)	8.4 (RDC)	ND(0.042)	ND(0.040)	ND(0.038)	ND(0.33)	ND(0.33)
<b>Inorganic</b>										
Antimony	ND(0.16 J)	0.037 J	0.043 J	0.022 J	0.026 J	0.035 J	0.027 J	0.20 J	ND(0.50)	ND(0.50)
Arsenic	4.5 J	2.7 J	6.2	4.4	3.8	8.9 (RDC)	4.9	5.0	0.81 J	1.2 J
Barium	65	8.3	47	10	9.3	88	13	8.9	42 J	6.3 J
Beryllium	0.34 J	0.11 J	0.42	0.11	0.11	0.61	0.18	0.14	0.35	ND(0.10)
Cadmium	0.17	ND(0.048)	ND(0.051)	ND(0.14)	ND(0.12)	0.19	ND(0.086)	ND(0.088)	ND(0.13)	ND(0.12)
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	15	4.0	14	5.3	4.9	20	6.8	5.7	5.2	2.1
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	7.5 J	1.3 J	6.9	2.7	2.2	8.5	2.3	2.2	6.1 J	1.5 J
Copper	8.9 J	3.4 J	12	6.8	5.5	17	6.7	6.4	2.9	2.5
Cyanide (total)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.10)	ND(0.10)
Lead	11 J	3.4 J	8.1	5.0	4.2	13	6.3	6.3	7.0	3.2
Manganese	470	59	210 J	130 J	100 J	350 J	78 J	67 J	320 J	93 J
Mercury	0.054 J	0.045 J	0.022 J	ND(0.076)	ND(0.078)	0.16	ND(0.079)	ND(0.072)	ND(0.050)	ND(0.050)
Nickel	13 J	4.1 J	14	7.4	6.2	24	6.1	5.5	7.3	2.9
Selenium	0.23 J	0.082 J	ND(0.21)	ND(0.079)	ND(0.11)	ND(0.32)	ND(0.19)	ND(0.13)	0.27	ND(0.20)
Silver	0.049 J	0.019 J	0.033 J	0.022 J	0.020 J	0.075 J	0.020 J	0.021 J	ND(0.20 J)	ND(0.20 J)
Thallium	0.15 J	0.031 J	0.17	0.055 J	0.058 J	0.24	0.059 J	0.050 J	ND(0.10)	ND(0.10)
Vanadium	24 J	8.3 J	25	11	11	34	14	12	6.1	3.1
Zinc	47 J	17 J	42 J	28 J	22 J	69 J	30 J	26 J	13 J	6.8 J

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-36-53 12 - 14 03/09/05	RFI-36-54 0 - 2 07/14/05	RFI-36-54 8 - 10 07/14/05	RFI-36-54 14 - 16 07/14/05	RFI-36-55 0 - 2 07/01/05	RFI-36-55 8 - 10 07/01/05	RFI-36-56 0 - 2 07/13/05
<b>Miscellaneous</b>							
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA
Total Solids	88	93	87	86 [86]	92	84	92
<b>VOC</b>							
1,1,1-Trichloroethane	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
1,1,2,2-Tetrachloroethane	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
1,1,2-Trichloroethane	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
1,1-Dichloroethane	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
1,1-Dichloroethene	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
1,2,4-Trichlorobenzene	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	ND(0.10)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.060 J)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.060)	ND(0.020)	ND(0.020)	ND(0.020) [ND(0.020)]	ND(0.020)	ND(0.020)	ND(0.020)
1,2-Dichlorobenzene	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
1,2-Dichloroethane	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
1,2-Dichloropropane	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
1,3-Dichlorobenzene	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
1,4-Dichlorobenzene	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	0.040 J	ND(0.060)	ND(0.060)
2-Butanone (Methyl Ethyl Ketone)	ND(0.80)	ND(0.80)	ND(0.90)	ND(0.80) [ND(0.80)]	ND(0.80)	ND(0.90)	ND(0.90)
2-Hexanone	ND(3.0 J)	ND(3.0)	ND(3.0)	ND(3.0) [ND(3.0)]	ND(3.0)	ND(3.0)	ND(3.0)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0) [ND(3.0)]	ND(3.0)	ND(3.0)	ND(3.0)
Acetone	ND(0.80 J)	ND(0.80)	ND(0.90)	ND(0.80) [ND(0.80)]	ND(0.80)	ND(0.90)	ND(0.90)
Benzene	ND(0.060)	ND(0.050)	0.030 J	0.010 J [0.010 J]	0.0090 J	ND(0.060)	ND(0.060)
Bromodichloromethane	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
Bromoform	ND(0.060 J)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
Bromomethane (Methyl Bromide)	R	ND(0.30 J)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)
Carbon disulfide	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)
Carbon tetrachloride	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
Chlorobenzene	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
Chloroethane	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)
Chloroform (Trichloromethane)	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
Chloromethane (Methyl Chloride)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)
cis-1,2-Dichloroethene	ND(0.060)	ND(0.050)	0.010 J	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
cis-1,3-Dichloropropene	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
Cyclohexane	ND(0.060 J)	ND(0.050 J)	ND(0.060 J)	ND(0.050 J) [ND(0.050 J)]	0.10	ND(0.060)	ND(0.060 J)
Dibromochloromethane	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
Dichlorodifluoromethane (CFC-12)	ND(0.060)	ND(0.050 J)	ND(0.060 J)	ND(0.050 J) [ND(0.050 J)]	ND(0.050 J)	ND(0.060 J)	ND(0.060 J)
Ethylbenzene	0.13	0.020 J	0.030 J	0.020 J [0.020 J]	0.010 J	ND(0.060)	0.0090 J
Isopropylbenzene	0.32	ND(0.050)	0.020 J	0.020 J [0.030 J]	ND(0.050)	ND(0.060)	ND(0.060)
m&p-Xylene	0.33 J	0.10	0.090	0.030 J [0.030 J]	0.10	ND(0.060)	0.040 J
Methyl acetate	ND(3.0)	0.20 J	ND(3.0)	ND(3.0) [ND(3.0)]	ND(3.0)	ND(3.0)	ND(3.0)
Methyl cyclohexane	0.22	0.030 J	0.020 J	0.040 J [0.030 J]	0.15	ND(0.060)	0.050 J
Methyl Tert Butyl Ether	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)
Methylene chloride	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)
o-Xylene	0.060	0.11	0.020 J	0.010 J [0.010 J]	0.050 J	ND(0.060)	0.020 J
Styrene	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
Tetrachloroethene	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	1.5	0.040 J	ND(0.060)
Toluene	ND(0.060)	0.030 J	0.040 J	0.020 J [0.020 J]	0.080	ND(0.060)	0.030 J
trans-1,2-Dichloroethene	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
trans-1,3-Dichloropropene	ND(0.060)	ND(0.050)	ND(0.060)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
Trichloroethene	ND(0.060)	ND(0.050)	0.010 J	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.060)	ND(0.060)
Trichlorofluoromethane (CFC-11)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	ND(0.10)
Trifluorotrchloroethane (Freon 113)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	ND(0.10)
Vinyl chloride	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	ND(0.10)
Xylenes (total)	0.39 J	0.21	0.11 J	0.040 J [0.040 J]	0.15 J	ND(0.060)	0.060 J
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
2,4,5-Trichlorophenol	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
2,4,6-Trichlorophenol	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
2,4-Dichlorophenol	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
2,4-Dimethylphenol	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
2,4-Dinitrophenol	ND(0.60 J)	ND(0.67)	ND(0.67)	ND(0.67) [ND(0.67)]	ND(0.67)	ND(0.67)	ND(0.67)
2,4-Dinitrotoluene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
2,6-Dinitrotoluene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
2-Chloronaphthalene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
2-Chlorophenol	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
2-Methylnaphthalene	96 Y	0.090 J	0.20 J	0.070 J [0.20 J]	0.030 J	ND(0.33)	0.050 J
2-Methylphenol	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
2-Nitroaniline	ND(0.60)	ND(0.67)	ND(0.67)	ND(0.67) [ND(0.67)]	ND(0.67)	ND(0.67)	ND(0.67)
2-Nitrophenol	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	ND(0.60)	ND(0.67)	ND(0.67)	ND(0.67) [ND(0.67)]	ND(0.67)	ND(0.67)	ND(0.67)
3-Methylphenol	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
3-Nitroaniline	ND(0.60)	ND(0.67)	ND(0.67)	ND(0.67) [ND(0.67)]	ND(0.67)	ND(0.67)	ND(0.67)
4,6-Dinitro-2-methylpheno	ND(0.60 J)	ND(0.67)	ND(0.67)	ND(0.67) [ND(0.67)]	ND(0.67)	ND(0.67)	ND(0.67)
4-Bromophenyl phenyl ether	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
4-Chloro-3-methylpheno	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
4-Chloroaniline	ND(0.60)	ND(0.67)	ND(0.67)	ND(0.67) [ND(0.67)]	ND(0.67 J)	ND(0.67 J)	ND(0.67)
4-Chlorophenyl phenyl ether	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
4-Nitroaniline	ND(0.60)	ND(0.67)	ND(0.67)	ND(0.67) [ND(0.67)]	ND(0.67)	ND(0.67)	ND(0.67)
4-Nitrophenol	ND(0.60)	ND(0.67)	ND(0.67)	ND(0.67) [ND(0.67)]	ND(0.67)	ND(0.67)	ND(0.67)
Acenaphthene	4.6	0.080 J	0.10 J	0.10 J [0.46]	ND(0.33)	ND(0.33)	ND(0.33)
Acenaphthylene	0.70	ND(0.33)	0.040 J	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Acetophenone	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Anthracene	1.3 J	0.20 J	0.33	ND(0.33) [ND(0.33)]	0.030 J	ND(0.33)	ND(0.33)
Atrazine	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Benzaldehyde	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-36-53 12 - 14 03/09/05	RFI-36-54 0 - 2 07/14/05	RFI-36-54 8 - 10 07/14/05	RFI-36-54 14 - 16 07/14/05	RFI-36-55 0 - 2 07/01/05	RFI-36-55 8 - 10 07/01/05	RFI-36-56 0 - 2 07/13/05
Benzo(a)anthracene	ND(0.30)	0.70	0.85	0.10 J [0.45]	0.20 J	ND(0.33)	0.060 J
Benzo(a)pyrene	ND(0.30)	0.73	0.78	0.050 J [0.20 J]	0.10 J	ND(0.33)	0.070 J
Benzo(b)fluoranthene	ND(0.30)	0.71	0.68	0.070 J [0.30 J]	ND(0.33)	ND(0.33)	0.040 J
Benzo(g,h,i)perylene	ND(0.30)	1.7	1.2	ND(0.33) [0.36]	ND(0.33)	ND(0.33)	0.20 J
Benzo(k)fluoranthene	ND(0.30)	0.54	0.55	0.050 J [0.20 J]	ND(0.33)	ND(0.33)	ND(0.33)
Biphenyl	3.5 J	ND(0.33)	0.040 J	0.050 J [0.20 J]	ND(0.33)	ND(0.33)	ND(0.33)
bis(2-Chloroethoxy)methane	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
bis(2-Chloroethyl)ether	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
bis(2-Ethylhexyl)phthalate	ND(0.30)	2.3	0.080 J	0.10 J [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Butyl benzylphthalate	ND(0.30)	0.61	ND(0.33)	ND(0.33) [ND(0.33)]	0.10 J	ND(0.33)	ND(0.33)
Caprolactam	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Carbazole	1.5	0.10 J	0.20 J	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Chrysene	ND(0.30)	0.83	1.0	0.20 J [0.73]	0.20 J	ND(0.33)	0.10 J
Dibenz(a,h)anthracene	ND(0.30)	0.39	0.30 J	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Dibenzofuran	1.5	0.060 J	0.10 J	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Diethyl phthalate	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Dimethyl phthalate	0.30	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Di-n-butylphthalate	ND(0.30)	ND(0.33)	0.51	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Di-n-octyl phthalate	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Fluoranthene	0.20 J	1.4	1.8	0.30 J [1.0 J]	0.20 J	ND(0.33)	0.080 J
Fluorene	6.7 J	0.070 J	0.10 J	0.20 J [0.73]	ND(0.33)	ND(0.33)	ND(0.33)
Hexachlorobenzene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Hexachlorobutadiene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Hexachlorocyclopentadiene	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Hexachloroethane	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Indeno(1,2,3-cd)pyrene	ND(0.30)	1.2	0.93	ND(0.33) [0.30 J]	ND(0.33)	ND(0.33)	ND(0.33)
Isophorone	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Methylphenols, Total	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Naphthalene	9.5	0.080 J	0.20 J	0.10 J [0.30 J]	0.030 J	ND(0.33)	ND(0.33)
Nitrobenzene	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20) [ND(0.20)]	ND(0.20)	ND(0.20)	ND(0.20)
N-Nitrosodi-n-propylamine	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
N-Nitrosodiphenylamine	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Pentachlorophenol	ND(0.60)	ND(0.67)	ND(0.67)	ND(0.67) [ND(0.67)]	ND(0.67)	ND(0.67)	ND(0.67)
Phenanthrene	18 J	0.84	1.2	0.62 J [2.1 J]	0.20 J	ND(0.33)	0.060 J
Phenol	ND(0.30)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)
Pyrene	0.40	1.3	1.7	0.30 J [0.97 J]	0.20 J	ND(0.33)	ND(0.33)
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)
Aroclor-1221 (PCB-1221)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)
Aroclor-1232 (PCB-1232)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)
Aroclor-1242 (PCB-1242)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)
Aroclor-1248 (PCB-1248)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)
Aroclor-1254 (PCB-1254)	ND(0.33)	1.2	0.050 J	0.11 J [0.080 J]	ND(0.33 J)	ND(0.33)	ND(0.33 J)
Aroclor-1260 (PCB-1260)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33) [ND(0.33)]	0.070 J	ND(0.33)	ND(0.33 J)
Total PCBs	ND(0.33)	1.2	0.050 J	0.11 J [0.080 J]	0.070 J	ND(0.33)	ND(0.33)
<b>Inorganic</b>							
Antimony	ND(0.50)	ND(1.1)	ND(0.63)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)
Arsenic	1.6 J	0.77	3.0	1.6 [1.5]	2.0	0.97	1.9
Barium	5.2 J	240	480	190 [190]	47	3.9	84
Beryllium	ND(0.10)	0.17 J	0.72	0.45 J [0.44 J]	0.20 J	0.030 J	0.42 J
Cadmium	ND(0.17)	2.1	2.0	0.55 [0.54]	0.36	0.050 J	0.42
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA
Chromium Total	2.0	74	280 (IPSI, RPSIC)	60 [60]	18	1.0 J	7.2
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA
Cobalt	1.9 J	7.6	9.4	2.6 [2.6]	2.8	0.85	4.5
Copper	3.1	350	260	65 [65]	48	1.2	23
Cyanide (total)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	ND(0.10)
Lead	3.2	550 (RDC)	340	68 [69]	44	2.1	80
Manganese	140 J	6,700 (IPSI, RPSIC)	1,600 (IPSI)	1,400 [1,400]	540	100	560
Mercury	ND(0.050)	1.2	0.23	0.11 [0.11]	0.050	ND(0.050)	0.053
Nickel	3.5	45	120	23 [22]	16	1.8	5.8
Selenium	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.28) [ND(0.23)]	ND(0.22)	ND(0.36)	ND(0.20)
Silver	ND(0.20 J)	0.62	0.10	0.090 J [0.090 J]	ND(0.10)	ND(0.10)	0.050 J
Thallium	ND(0.10)	0.54	0.35 J	ND(0.50) [ND(0.50)]	ND(0.50)	ND(0.50)	ND(0.50)
Vanadium	3.5	2.0	18	5.1 [5.2]	3.3	1.4	7.2
Zinc	8.7 J	370	140	67 [67]	45	3.4	78



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-36-56 6 - 8 07/13/05	RFI-40-11 0.9 - 2.9 02/17/03	RFI-40-11 4.9 - 6.9 02/17/03	RFI-40-12 0 - 2 03/24/03	RFI-40-12 8 - 10 03/24/03	RFI-40-12 12 - 14 03/24/03	RFI-40-13 0.5 - 2.5 03/25/03	RFI-40-13 8.5 - 10.5 03/25/03
Benzo(a)anthracene	ND(0.33)	NA	NA	37 (RDC)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Benzo(a)pyrene	ND(0.33)	NA	NA	36 J (IDC,RDC)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Benzo(b)fluoranthene	ND(0.33)	NA	NA	36 J (RDC)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Benzo(g,h,i)perylene	ND(0.33)	NA	NA	23 J	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Benzo(k)fluoranthene	ND(0.33)	NA	NA	37 J	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Biphenyl	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
bis(2-Chloroethoxy)methane	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
bis(2-Chloroethyl)ether	ND(0.33)	NA	NA	ND(0.39)	ND(0.035)	ND(0.038)	ND(0.37)	ND(0.039) [ND(0.039)]
bis(2-Ethylhexyl)phthalate	ND(0.33)	NA	NA	2.2	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Butyl benzylphthalate	ND(0.33)	NA	NA	4.2	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Caprolactam	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Carbazole	ND(0.33)	NA	NA	11	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Chrysene	ND(0.33)	NA	NA	38	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Dibenz(a,h)anthracene	ND(0.33)	NA	NA	ND(2.0 J)	ND(0.18 J)	ND(0.20 J)	ND(1.9 J)	ND(0.20 J) [ND(0.20 J)]
Dibenzofuran	ND(0.33)	NA	NA	4.9	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Diethyl phthalate	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Dimethyl phthalate	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Di-n-butylphthalate	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Di-n-octyl phthalate	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Fluoranthene	ND(0.33)	NA	NA	110 JD	ND(0.18)	ND(0.20)	1.2 J	ND(0.20) [ND(0.20)]
Fluorene	ND(0.33)	NA	NA	7.1	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Hexachlorobenzene	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Hexachlorobutadiene	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Hexachlorocyclopentadiene	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Hexachloroethane	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Indeno(1,2,3-cd)pyrene	ND(0.33)	NA	NA	21 J (RDC)	ND(0.18 J)	ND(0.20 J)	ND(1.9 J)	ND(0.20 J) [ND(0.20 J)]
Isophorone	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Methylphenols, Total	ND(0.33)	NA	NA	ND(4.0)	ND(0.36)	ND(0.39)	ND(3.9)	ND(0.40) [ND(0.40)]
Naphthalene	ND(0.33)	NA	NA	3.5	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Nitrobenzene	ND(0.20)	NA	NA	ND(0.80)	ND(0.071)	ND(0.077)	ND(0.76)	ND(0.080) [ND(0.079)]
N-Nitrosodi-n-propylamine	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
N-Nitrosodiphenylamine	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Pentachlorophenol	ND(0.67)	NA	NA	ND(8.0)	ND(0.71)	ND(0.77)	ND(7.6)	ND(0.80) [ND(0.79)]
Phenanthrene	ND(0.33)	NA	NA	77 D	ND(0.18)	ND(0.20)	0.72 J	ND(0.20) [ND(0.20)]
Phenol	ND(0.33)	NA	NA	ND(2.0)	ND(0.18)	ND(0.20)	ND(1.9)	ND(0.20) [ND(0.20)]
Pyrene	ND(0.33)	NA	NA	89 D	ND(0.18)	ND(0.20)	1.2 J	ND(0.20) [ND(0.20)]
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	ND(0.33)	NA	NA	ND(0.042)	ND(0.037)	ND(0.040)	ND(0.040)	ND(0.042) [ND(0.041)]
Aroclor-1221 (PCB-1221)	ND(0.33)	NA	NA	ND(0.042)	ND(0.037)	ND(0.040)	ND(0.040)	ND(0.042) [ND(0.041)]
Aroclor-1232 (PCB-1232)	ND(0.33)	NA	NA	ND(0.042)	ND(0.037)	ND(0.040)	ND(0.040)	ND(0.042) [ND(0.041)]
Aroclor-1242 (PCB-1242)	ND(0.33)	NA	NA	ND(0.042)	ND(0.037)	ND(0.040)	ND(0.040)	ND(0.042) [ND(0.041)]
Aroclor-1248 (PCB-1248)	ND(0.33)	NA	NA	0.16	ND(0.037)	ND(0.040)	ND(0.040)	ND(0.042) [ND(0.041)]
Aroclor-1254 (PCB-1254)	ND(0.33)	NA	NA	0.96	ND(0.037)	ND(0.040)	ND(0.040)	ND(0.042) [ND(0.041)]
Aroclor-1260 (PCB-1260)	ND(0.33)	NA	NA	ND(0.042)	ND(0.037)	ND(0.040)	ND(0.040)	ND(0.042) [ND(0.041)]
Total PCBs	ND(0.33)	NA	NA	1.1	ND(0.037)	ND(0.040)	ND(0.040)	ND(0.042) [ND(0.041)]
<b>Inorganic</b>								
Antimony	ND(0.30)	NA	NA	0.21 J	0.017 J	R	0.32 J	0.016 J [0.012 J]
Arsenic	ND(0.45)	NA	NA	6.4	5.1	4.4	6.0	5.9 [6.4]
Barium	4.5	NA	NA	290	45	29	61	47 [50]
Beryllium	0.050 J	NA	NA	0.34	0.34	0.27	0.31	0.34 [0.32]
Cadmium	0.060 J	NA	NA	1.4	ND(0.091)	ND(0.11)	0.48	ND(0.10) [ND(0.095)]
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	0.80 J	NA	NA	30	15	11	11	13 [14]
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.55	NA	NA	5.1	5.6	5.4	3.6	6.4 [6.0]
Copper	0.70 J	NA	NA	56	10	13	37	13 [13]
Cyanide (total)	ND(0.10)	NA	NA	2.6	ND(1.0)	ND(1.0)	0.24	ND(1.0) [ND(1.0)]
Lead	2.3	NA	NA	120	7.2	6.0	54	7.3 [7.3]
Manganese	81	NA	NA	210 J	220 J	250 J	180 J	250 J [220 J]
Mercury	0.010 J	NA	NA	0.14	0.0098 J	0.013 J	0.051 J	0.013 J [0.016 J]
Nickel	0.40 J	NA	NA	27	15	15	12	16 [16]
Selenium	ND(0.20)	NA	NA	ND(0.54)	ND(0.25)	ND(0.35)	ND(0.42)	ND(0.23) [ND(0.18)]
Silver	ND(0.10)	NA	NA	0.14 J	0.11 J	0.057 J	0.060 J	0.063 J [0.064 J]
Thallium	ND(0.50)	NA	NA	0.18	0.13 J	0.13 J	0.18	0.17 [0.14 J]
Vanadium	1.1	NA	NA	19	22	17	13	22 [23]
Zinc	2.1	NA	NA	760 J	33 J	31 J	210 J	36 J [36 J]

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-40-13 12.5 - 14.5 03/25/03	RFI-40-14 0.5 - 2.5 03/25/03	RFI-40-14 4.5 - 6.5 03/25/03	RFI-40-15 2 - 4 04/03/03	RFI-40-15 8 - 10 04/03/03	RFI-40-15 14 - 16 04/03/03	RFI-40-16 0 - 2 08/23/04	RFI-40-17 0 - 2 08/23/04
<b>Miscellaneous</b>								
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids	91	84	88	85	80	86	86	84
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
1,1,2,2-Tetrachloroethane	ND(0.075 J)	ND(0.081 J)	ND(0.079 J)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
1,1,2-Trichloroethane	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
1,1-Dichloroethane	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
1,1-Dichloroethene	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
1,2,4-Trichlorobenzene	ND(0.16)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.19)	ND(0.17)	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.16)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.19)	ND(0.17)	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.16)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.19)	ND(0.17)	NA	NA
1,2-Dichlorobenzene	ND(0.075)	ND(0.081)	ND(0.079)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
1,2-Dichloroethane	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
1,2-Dichloropropane	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
1,3-Dichlorobenzene	ND(0.075)	ND(0.081)	ND(0.079)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
1,4-Dichlorobenzene	ND(0.075)	ND(0.081)	ND(0.079)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
2-Butanone (Methyl Ethyl Ketone)	ND(0.32 J)	ND(0.33 J)	ND(0.34 J)	ND(0.34 J)	ND(0.37 J)	ND(0.34 J)	NA	NA
2-Hexanone	ND(0.075 J)	ND(0.081 J)	ND(0.079 J)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(1.6 J)	ND(1.7 J)	ND(1.7 J)	ND(1.7 J)	ND(1.9)	ND(1.7)	NA	NA
Acetone	ND(0.32 J)	ND(0.35 J)	ND(0.34 J)	0.080 J	ND(0.37)	ND(0.34)	NA	NA
Benzene	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
Bromodichloromethane	ND(0.075)	ND(0.081)	ND(0.079)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
Bromoform	ND(0.075)	ND(0.081)	ND(0.079)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
Bromomethane (Methyl Bromide)	ND(0.16)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.19)	ND(0.17 J)	NA	NA
Carbon disulfide	ND(0.16 J)	ND(0.17 J)	ND(0.17 J)	ND(0.17)	ND(0.19)	ND(0.17 J)	NA	NA
Carbon tetrachloride	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
Chlorobenzene	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
Chloroethane	ND(0.16)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.19)	ND(0.17)	NA	NA
Chloroform (Trichloromethane)	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
Chloromethane (Methyl Chloride)	ND(0.16)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.19)	ND(0.17)	NA	NA
cis-1,2-Dichloroethene	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
cis-1,3-Dichloropropene	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
Cyclohexane	ND(0.16)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.19)	ND(0.17)	NA	NA
Dibromochloromethane	ND(0.075)	ND(0.081)	ND(0.079)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
Dichlorodifluoromethane (CFC-12)	ND(0.075)	ND(0.081)	ND(0.079)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
Ethylbenzene	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
Isopropylbenzene	ND(0.16)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.19)	ND(0.17)	NA	NA
m&p-Xylene	ND(0.075)	0.033 J	ND(0.079)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
Methyl acetate	ND(0.16 J)	ND(0.17 J)	ND(0.17 J)	0.12 J	ND(0.19 J)	ND(0.17 J)	NA	NA
Methyl cyclohexane	ND(0.16 J)	0.12 J	ND(0.17 J)	ND(0.17)	ND(0.19)	ND(0.17)	NA	NA
Methyl Tert Butyl Ether	ND(0.16 J)	ND(0.17 J)	ND(0.17 J)	ND(0.17)	ND(0.19)	ND(0.17)	NA	NA
Methylene chloride	0.087 J	0.11 J	0.13 J	0.14 J	0.17 J	0.12 J	NA	NA
o-Xylene	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
Styrene	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
Tetrachloroethene	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
Toluene	ND(0.075)	0.042 J	ND(0.079)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
trans-1,2-Dichloroethene	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
trans-1,3-Dichloropropene	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
Trichloroethene	ND(0.038)	ND(0.041)	ND(0.040)	ND(0.040)	ND(0.043)	ND(0.039)	NA	NA
Trichlorofluoromethane (CFC-11)	ND(0.075)	ND(0.081)	ND(0.079)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
Trifluorotrchloroethane (Freon 113)	ND(0.16)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.19)	ND(0.17)	NA	NA
Vinyl chloride	ND(0.075)	ND(0.081)	ND(0.079)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
Xylenes (total)	ND(0.075)	0.033 J	ND(0.079)	ND(0.080)	ND(0.087)	ND(0.078)	NA	NA
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
2,4,5-Trichlorophenol	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
2,4,6-Trichlorophenol	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
2,4-Dichlorophenol	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
2,4-Dimethylpheno	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
2,4-Dinitrophenol	ND(0.74)	ND(7.9)	ND(0.76)	ND(0.79)	ND(0.84)	ND(0.78)	NA	NA
2,4-Dinitrotoluene	ND(0.74)	ND(7.9)	ND(0.76)	ND(0.79)	ND(0.84)	ND(0.78)	NA	NA
2,6-Dinitrotoluene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
2-Chloronaphthalene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
2-Chlorophenol	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
2-Methylnaphthalene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
2-Methylphenol	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
2-Nitroaniline	ND(0.74)	ND(7.9)	ND(0.76)	ND(0.79)	ND(0.84)	ND(0.78)	NA	NA
2-Nitrophenol	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
3&4-Methylphenol	ND(0.38 J)	ND(4.0 J)	ND(0.39 J)	ND(0.40 J)	ND(0.43 J)	ND(0.39 J)	NA	NA
3,3'-Dichlorobenzidine	ND(0.74)	ND(7.9)	ND(0.76)	ND(0.79)	ND(0.84)	ND(0.78)	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	ND(0.74)	ND(7.9)	ND(0.76)	ND(0.79)	ND(0.84)	ND(0.78)	NA	NA
4,6-Dinitro-2-methylpheno	ND(0.74)	ND(7.9)	ND(0.76)	ND(0.79)	ND(0.84)	ND(0.78)	NA	NA
4-Bromophenyl phenyl ether	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
4-Chloro-3-methylpheno	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
4-Chloroaniline	ND(0.74)	ND(7.9)	ND(0.76)	ND(0.79)	ND(0.84)	ND(0.78)	NA	NA
4-Chlorophenyl phenyl ether	ND(0.74)	ND(7.9)	ND(0.76)	ND(0.79)	ND(0.84)	ND(0.78)	NA	NA
4-Nitroaniline	ND(0.74)	ND(7.9)	ND(0.76)	ND(0.79 J)	ND(0.84 J)	ND(0.78 J)	NA	NA
4-Nitrophenol	ND(0.74)	ND(7.9)	ND(0.76)	ND(0.79)	ND(0.84)	ND(0.78)	NA	NA
Acenaphthene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Acenaphthylene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Acetophenone	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Anthracene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Atrazine	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Benzaldehyde	ND(0.19 J)	ND(2.0 J)	ND(0.19 J)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA

**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-40-13 12.5 - 14.5 03/25/03	RFI-40-14 0.5 - 2.5 03/25/03	RFI-40-14 4.5 - 6.5 03/25/03	RFI-40-15 2 - 4 04/03/03	RFI-40-15 8 - 10 04/03/03	RFI-40-15 14 - 16 04/03/03	RFI-40-16 0 - 2 08/23/04	RFI-40-17 0 - 2 08/23/04
Benzo(a)anthracene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Benzo(a)pyrene	ND(0.19)	ND(2.0)	ND(0.19)	0.073 J	ND(0.21)	ND(0.20)	3.5 (RDC)	ND(0.33)
Benzo(b)fluoranthene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Benzo(g,h,i)perylene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Benzo(k)fluoranthene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Biphenyl	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
bis(2-Chloroethoxy)methane	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
bis(2-Chloroethyl)ether	ND(0.036)	ND(0.39)	ND(0.038)	ND(0.039)	ND(0.041)	ND(0.038)	NA	NA
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Butyl benzylphthalate	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Caprolactam	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Carbazole	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Chrysene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Dibenz(a,h)anthracene	ND(0.19 J)	ND(2.0 J)	ND(0.19 J)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Dibenzofuran	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Diethyl phthalate	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Dimethyl phthalate	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Di-n-butylphthalate	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Di-n-octyl phthalate	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Fluoranthene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Fluorene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Hexachlorobenzene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Hexachlorobutadiene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Hexachlorocyclopentadiene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Hexachloroethane	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Indeno(1,2,3-cd)pyrene	ND(0.19 J)	ND(2.0 J)	ND(0.19 J)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Isophorone	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Methylphenols, Total	ND(0.38)	ND(4.0)	ND(0.39)	ND(0.40)	ND(0.43)	ND(0.39)	NA	NA
Naphthalene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Nitrobenzene	ND(0.074)	ND(0.79)	ND(0.076)	ND(0.079)	ND(0.084)	ND(0.078)	NA	NA
N-Nitrosodi-n-propylamine	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
N-Nitrosodiphenylamine	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Pentachlorophenol	ND(0.74)	ND(7.9)	ND(0.76)	ND(0.79)	ND(0.84)	ND(0.78)	NA	NA
Phenanthrene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Phenol	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
Pyrene	ND(0.19)	ND(2.0)	ND(0.19)	ND(0.20)	ND(0.21)	ND(0.20)	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	ND(0.039)	ND(0.041)	ND(0.040)	ND(0.041)	ND(0.044)	ND(0.041)	NA	NA
Aroclor-1221 (PCB-1221)	ND(0.039)	ND(0.041)	ND(0.040)	ND(0.041)	ND(0.044)	ND(0.041)	NA	NA
Aroclor-1232 (PCB-1232)	ND(0.039)	ND(0.041)	ND(0.040)	ND(0.041)	ND(0.044)	ND(0.041)	NA	NA
Aroclor-1242 (PCB-1242)	ND(0.039)	ND(0.041)	ND(0.040)	ND(0.041)	ND(0.044)	ND(0.041)	NA	NA
Aroclor-1248 (PCB-1248)	ND(0.039)	ND(0.041)	ND(0.040)	ND(0.041)	ND(0.044)	ND(0.041)	NA	NA
Aroclor-1254 (PCB-1254)	ND(0.039)	ND(0.041)	ND(0.040)	ND(0.041)	ND(0.044)	ND(0.041)	NA	NA
Aroclor-1260 (PCB-1260)	ND(0.039)	ND(0.041)	ND(0.040)	ND(0.041)	ND(0.044)	ND(0.041)	NA	NA
Total PCBs	ND(0.039)	ND(0.041)	ND(0.040)	ND(0.041)	ND(0.044)	ND(0.041)	NA	NA
<b>Inorganic</b>								
Antimony	0.018 J	0.11 J	0.015 J	ND(0.16 J)	ND(0.18 J)	0.010 J	NA	NA
Arsenic	3.9	3.8	4.6	4.0 J	4.9 J	4.8 J	NA	NA
Barium	20	35	41	65	80	29	NA	NA
Beryllium	0.17	0.25	0.30	0.30 J	0.61 J	0.20 J	NA	NA
Cadmium	ND(0.070)	ND(0.13)	ND(0.096)	ND(0.13)	ND(0.11)	ND(0.10)	NA	NA
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	8.1	8.0	12	13	26	9.8	NA	NA
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	4.0	3.2	5.0	3.9 J	9.5 J	4.7 J	NA	NA
Copper	9.4	17	9.6	9.7 J	16 J	10 J	NA	NA
Cyanide (total)	ND(1.0)	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.30)	1.0	NA	NA
Lead	5.0	24	6.0	11 J	11 J	5.6 J	NA	NA
Manganese	230 J	220 J	190 J	270	220	260	NA	NA
Mercury	0.0089 J	0.027 J	0.0075 J	0.083	0.034 J	0.046 J	NA	NA
Nickel	12	7.5	13	9.6 J	27 J	13 J	NA	NA
Selenium	ND(0.19)	ND(0.20)	ND(0.11)	0.23 J	ND(0.070 J)	0.25 J	NA	NA
Silver	0.044 J	0.028 J	0.046 J	0.049 J	0.085 J	0.055 J	NA	NA
Thallium	0.091 J	0.11 J	0.13 J	0.098 J	0.21	0.13 J	NA	NA
Vanadium	13	14	20	22 J	39 J	16 J	NA	NA
Zinc	22 J	42 J	34 J	42 J	49 J	31 J	NA	NA



**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	Units	RFI-40-18	RFI-55-11	RFI-55-11	RFI-55-11	RFI-55-12	RFI-55-12	RFI-55-12	RFI-81-13R	RFI-81-36
		0 - 2 08/23/04	1 - 3 09/12/03	3 - 5 09/12/03	5 - 7 09/12/03	1 - 3 09/12/03	3 - 5 09/12/03	5 - 7 09/12/03	0 - 2 10/16/02	8 - 10 03/12/03
Benzo(a)anthracene	mg/kg	NA	0.88 J	0.15 J	0.11 J	0.46 J	1.4 J	ND(0.19)	NA	NA
Benzo(a)pyrene	mg/kg	ND(0.33)	0.73 J	0.13 J	0.098 J	0.43 J	1.4 J	ND(0.19)	NA	NA
Benzo(b)fluoranthene	mg/kg	NA	0.80 J	0.15 J	0.12 J	0.46 J	1.4 J	ND(0.19)	NA	NA
Benzo(g,h,i)perylene	mg/kg	NA	0.75 J	ND(0.19)	ND(0.20)	0.46 J	ND(1.8)	ND(0.19)	NA	NA
Benzo(k)fluoranthene	mg/kg	NA	0.86 J	0.17 J	0.13 J	0.42 J	1.3 J	ND(0.19)	NA	NA
Biphenyl	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
bis(2-Chloroethoxy)methane	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
bis(2-Chloroethyl)ether	mg/kg	NA	ND(0.035)	ND(0.036)	ND(0.040)	ND(0.035)	ND(0.35)	ND(0.037)	NA	NA
bis(2-Ethylhexyl)phthalate	mg/kg	NA	0.62 J	ND(0.19)	0.089 J	0.083 J	0.99 J	ND(0.19)	NA	NA
Butyl benzylphthalate	mg/kg	NA	ND(0.18 J)	ND(0.19)	ND(0.20)	ND(0.18 J)	ND(1.8 J)	ND(0.19)	NA	NA
Caprolactam	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Carbazole	mg/kg	NA	0.066 J	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Chrysene	mg/kg	NA	1.0 J	0.16 J	0.13 J	0.53 J	1.6 J	ND(0.19)	NA	NA
Dibenz(a,h)anthracene	mg/kg	NA	ND(0.18 J)	ND(0.19 J)	ND(0.20 J)	R	ND(1.8 J)	ND(0.19)	NA	NA
Dibenzofuran	mg/kg	NA	0.13 J	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Diethyl phthalate	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Dimethyl phthalate	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Di-n-butylphthalate	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Di-n-octyl phthalate	mg/kg	NA	ND(0.18 J)	ND(0.19 J)	ND(0.20 J)	R	ND(1.8)	ND(0.19)	NA	NA
Fluoranthene	mg/kg	NA	1.3	0.32	0.24	0.56	1.8 J	ND(0.19)	NA	NA
Fluorene	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Hexachlorobenzene	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Hexachlorobutadiene	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Hexachlorocyclopentadiene	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Hexachloroethane	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Indeno(1,2,3-cd)pyrene	mg/kg	NA	ND(0.18 J)	ND(0.19)	ND(0.20)	0.37 J	ND(1.8)	ND(0.19)	NA	NA
Isophorone	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Methylphenols, Total	mg/kg	NA	ND(0.36)	ND(0.37)	ND(0.41)	ND(0.36)	ND(3.6)	ND(0.38)	NA	NA
Naphthalene	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Nitrobenzene	mg/kg	NA	ND(0.072)	ND(0.074)	ND(0.080)	ND(0.072)	ND(0.71)	ND(0.075)	NA	NA
N-Nitrosodi-n-propylamine	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
N-Nitrosodiphenylamine	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Pentachlorophenol	mg/kg	NA	ND(0.72)	ND(0.74)	ND(0.80)	ND(0.72)	ND(7.1)	ND(0.75)	NA	NA
Phenanthrene	mg/kg	NA	1.6	0.25	0.17 J	0.65	2.3	ND(0.19)	NA	NA
Phenol	mg/kg	NA	ND(0.18)	ND(0.19)	ND(0.20)	ND(0.18)	ND(1.8)	ND(0.19)	NA	NA
Pyrene	mg/kg	NA	4.0 J	0.40	0.33	2.4 J	7.1 J	ND(0.19)	NA	NA
<b>PCB</b>										
Aroclor-1016 (PCB-1016)	mg/kg	NA	ND(0.038)	ND(0.039)	ND(0.042)	ND(0.037)	ND(0.037)	ND(0.039)	NA	NA
Aroclor-1221 (PCB-1221)	mg/kg	NA	ND(0.038)	ND(0.039)	ND(0.042)	ND(0.037)	ND(0.037)	ND(0.039)	NA	NA
Aroclor-1232 (PCB-1232)	mg/kg	NA	ND(0.038)	ND(0.039)	ND(0.042)	ND(0.037)	ND(0.037)	ND(0.039)	NA	NA
Aroclor-1242 (PCB-1242)	mg/kg	NA	ND(0.038)	ND(0.039)	ND(0.042)	ND(0.037)	ND(0.037)	ND(0.039)	NA	NA
Aroclor-1248 (PCB-1248)	mg/kg	NA	ND(0.038)	ND(0.039)	ND(0.042)	ND(0.037)	ND(0.037)	ND(0.039)	NA	NA
Aroclor-1254 (PCB-1254)	mg/kg	NA	ND(0.038)	ND(0.039)	ND(0.042)	ND(0.037)	ND(0.037)	ND(0.039)	NA	NA
Aroclor-1260 (PCB-1260)	mg/kg	NA	ND(0.038)	ND(0.039)	ND(0.042)	ND(0.037)	ND(0.037)	ND(0.039)	NA	NA
Total PCBs	mg/kg	NA	ND(0.038)	ND(0.039)	ND(0.042)	ND(0.037)	ND(0.037)	ND(0.039)	NA	NA
<b>Inorganic</b>										
Antimony	mg/kg	NA	0.23 J	0.27 J	0.25 J	0.24 J	0.51 J	0.23 J	NA	NA
Arsenic	mg/kg	NA	6.2	7.6	7.7 (RDC)	6.0	6.5	6.6	NA	NA
Barium	mg/kg	NA	36 J	57 J	60 J	23 J	23 J	57 J	NA	NA
Beryllium	mg/kg	NA	27 J	29 J	23 J	25 J	32 J	21 J	NA	NA
Cadmium	mg/kg	NA	0.44 J	0.49 J	0.48 J	0.47 J	0.83 J	0.44 J	NA	NA
Chromium III (Trivalent)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	mg/kg	NA	12	15	15	9.8	18	12	16 J	NA
Chromium VI (Hexavalent)	mg/kg	NA	NA	NA	NA	NA	NA	NA	ND(0.030)	NA
Cobalt	mg/kg	NA	4.9	7.1	7.1	4.6	4.3	6.7	NA	NA
Copper	mg/kg	NA	10	13	12	11	13	11	NA	NA
Cyanide (total)	mg/kg	NA	ND(0.20)	ND(0.20)	1.6 J	2.9 J	6.3 J	1.1 J	NA	NA
Lead	mg/kg	NA	6.5 J	8.2 J	7.9 J	6.6 J	7.8 J	7.0 J	NA	12,000 (IDC,RDC)
Manganese	mg/kg	NA	NA	240 J	240 J	180 J	230 J	250 J	NA	NA
Mercury	mg/kg	NA	ND(0.071)	ND(0.069)	ND(0.083)	ND(0.074)	ND(0.066)	ND(0.076)	NA	NA
Nickel	mg/kg	NA	14	19	19	14	16	19	NA	NA
Selenium	mg/kg	NA	0.24 J	ND(0.067 J)	0.42 J	0.41 J	1.6 J	ND(0.059 J)	NA	NA
Silver	mg/kg	NA	ND(0.32 J)	ND(0.31 J)	ND(0.31 J)	ND(0.27 J)	ND(0.57 J)	ND(0.26 J)	NA	NA
Thallium	mg/kg	NA	0.28	0.36	0.32	0.26	0.39	0.32	NA	NA
Vanadium	mg/kg	NA	19	25	24	15	18	21	NA	NA
Zinc	mg/kg	NA	34	43	43	32	26	41	NA	NA

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-81-37 8 - 10 03/12/03	RFI-81-38 1 - 3 03/12/03	RFI-81-39R 1.7 - 3.7 04/05/03	RFI-81-39R 7.7 - 9.7 04/05/03	RFI-81-40 0 - 2 03/12/03	RFI-81-41 0 - 2 03/12/03
<b>Miscellaneous</b>						
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA
Total Solids	90	82	94	97	90	89
<b>VOC</b>						
1,1,1-Trichloroethane	NA	47,000 D (IDC,ISVIA,IVSICI,RDC,RSVIA,RVSICI)	ND(0.037)	ND(0.035)	NA	NA
1,1,2,2-Tetrachloroethane	NA	ND(0.083)	ND(0.074)	ND(0.070)	NA	NA
1,1,2-Trichloroethane	NA	0.13	ND(0.037)	ND(0.035)	NA	NA
1,1-Dichloroethane	NA	7,000 D (IDC,ISVIA,IVSICI,RDC,RSVIA,RVSICI)	ND(0.037)	ND(0.035)	NA	NA
1,1-Dichloroethene	NA	10 EJ (ISVIA,IVSICI,RSVIA,RVSICI)	ND(0.037)	ND(0.035)	NA	NA
1,2,4-Trichlorobenzene	NA	ND(0.18)	ND(0.16)	ND(0.15)	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	NA	ND(0.18)	ND(0.16)	ND(0.15 J)	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	NA	ND(0.18)	ND(0.16)	ND(0.15)	NA	NA
1,2-Dichlorobenzene	NA	ND(0.083)	ND(0.074)	ND(0.070)	NA	NA
1,2-Dichloroethane	NA	ND(0.041)	ND(0.037)	ND(0.035)	NA	NA
1,2-Dichloropropane	NA	ND(0.041)	ND(0.037)	ND(0.035)	NA	NA
1,3-Dichlorobenzene	NA	ND(0.083)	ND(0.074)	ND(0.070)	NA	NA
1,4-Dichlorobenzene	NA	ND(0.083)	ND(0.074)	ND(0.070)	NA	NA
2-Butanone (Methyl Ethyl Ketone)	NA	1.1 J	ND(0.32 J)	ND(0.30 J)	NA	NA
2-Hexanone	NA	0.070 J	ND(0.074)	ND(0.070)	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	ND(1.8)	ND(1.6)	ND(1.5)	NA	NA
Acetone	NA	ND(0.36 J)	ND(0.32)	ND(0.30)	NA	NA
Benzene	NA	ND(0.041)	ND(0.037)	ND(0.035)	NA	NA
Bromodichloromethane	NA	ND(0.083)	ND(0.074)	ND(0.070)	NA	NA
Bromoform	NA	ND(0.083)	ND(0.074)	ND(0.070)	NA	NA
Bromomethane (Methyl Bromide)	NA	ND(0.18)	ND(0.16 J)	ND(0.15)	NA	NA
Carbon disulfide	NA	ND(0.18)	ND(0.16)	ND(0.15)	NA	NA
Carbon tetrachloride	NA	ND(0.041)	ND(0.037)	ND(0.035)	NA	NA
Chlorobenzene	NA	0.054	ND(0.037)	ND(0.035)	NA	NA
Chloroethane	NA	ND(0.18)	ND(0.16)	ND(0.15)	NA	NA
Chloroform (Trichloromethane)	NA	0.073	ND(0.037)	ND(0.035)	NA	NA
Chloromethane (Methyl Chloride)	NA	0.22	ND(0.16)	ND(0.15)	NA	NA
cis-1,2-Dichloroethene	NA	0.12	0.041	0.026 J	NA	NA
cis-1,3-Dichloropropene	NA	ND(0.041)	ND(0.037)	ND(0.035)	NA	NA
Cyclohexane	NA	ND(0.18)	ND(0.16)	ND(0.15)	NA	NA
Dibromochloromethane	NA	ND(0.083)	ND(0.074)	ND(0.070)	NA	NA
Dichlorodifluoromethane (CFC-12)	NA	0.44	ND(0.074)	ND(0.070)	NA	NA
Ethylbenzene	NA	0.056	0.83	0.73	NA	NA
Isopropylbenzene	NA	0.050 J	3.0	6.6 D	NA	NA
m&p-Xylene	NA	0.15	3.1	1.9 J	NA	NA
Methyl acetate	NA	0.26 J	0.33 J	0.077 J	NA	NA
Methyl cyclohexane	NA	ND(0.18)	0.16	0.24 J	NA	NA
Methyl Tert Butyl Ether	NA	ND(0.18)	ND(0.16)	ND(0.15)	NA	NA
Methylene chloride	NA	1.2	0.11 J	0.050 J	NA	NA
o-Xylene	NA	0.097	0.60	0.38 J	NA	NA
Styrene	NA	ND(0.041)	ND(0.037)	ND(0.035)	NA	NA
Tetrachloroethene	NA	0.10	ND(0.037)	ND(0.035)	NA	NA
Toluene	NA	1.4	0.049 J	0.031 J	NA	NA
trans-1,2-Dichloroethene	NA	0.093	ND(0.037)	ND(0.035)	NA	NA
trans-1,3-Dichloropropene	NA	ND(0.041)	ND(0.037)	ND(0.035)	NA	NA
Trichloroethene	NA	4.0	ND(0.037)	ND(0.035)	NA	NA
Trichlorofluoromethane (CFC-11)	NA	0.30	ND(0.074)	ND(0.070)	NA	NA
Trifluorotrchloroethane (Freon 113)	NA	64,000 D (IDC,ISVIA,RDC,RSVIA)	ND(0.16)	ND(0.15)	NA	NA
Vinyl chloride	NA	0.50 (RSVIA)	ND(0.074)	ND(0.070)	NA	NA
Xylenes (total)	NA	0.25	3.7	2.3 J	NA	NA
<b>SVOC</b>						
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
2,4,5-Trichlorophenol	NA	R	ND(0.91)	ND(0.88)	NA	NA
2,4,6-Trichlorophenol	NA	R	ND(0.91)	ND(0.88)	NA	NA
2,4-Dichlorophenol	NA	R	ND(0.91)	ND(0.88)	NA	NA
2,4-Dimethylphenol	NA	R	ND(0.91)	ND(0.88)	NA	NA
2,4-Dinitrophenol	NA	R	ND(3.6)	ND(3.5)	NA	NA
2,4-Dinitrotoluene	NA	ND(20)	ND(3.6)	ND(3.5)	NA	NA
2,6-Dinitrotoluene	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
2-Chloronaphthalene	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
2-Chlorophenol	NA	R	ND(0.91)	ND(0.88)	NA	NA
2-Methylnaphthalene	NA	12	1.8	1.7	NA	NA
2-Methylphenol	NA	R	ND(0.91)	ND(0.88)	NA	NA
2-Nitroaniline	NA	ND(20)	ND(3.6)	ND(3.5)	NA	NA
2-Nitrophenol	NA	R	ND(0.91)	ND(0.88)	NA	NA
3&4-Methylphenol	NA	R	ND(1.8 J)	ND(1.8 J)	NA	NA
3,3'-Dichlorobenzidine	NA	ND(20)	ND(3.6)	ND(3.5)	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	ND(20)	ND(3.6)	ND(3.5)	NA	NA
4,6-Dinitro-2-methylpheno	NA	R	ND(3.6)	ND(3.5)	NA	NA
4-Bromophenyl phenyl ether	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
4-Chloro-3-methylpheno	NA	R	ND(0.91)	ND(0.88)	NA	NA
4-Chloroaniline	NA	ND(20)	ND(3.6)	ND(3.5)	NA	NA
4-Chlorophenyl phenyl ether	NA	ND(20)	ND(3.6)	ND(3.5)	NA	NA
4-Nitroaniline	NA	ND(20)	ND(3.6)	ND(3.5)	NA	NA
4-Nitrophenol	NA	R	ND(3.6)	ND(3.5)	NA	NA
Acenaphthene	NA	ND(5.2)	0.40 J	ND(0.88)	NA	NA
Acenaphthylene	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Acetophenone	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Anthracene	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Atrazine	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Benzaldehyde	NA	ND(5.2)	ND(0.91 J)	ND(0.88 J)	NA	NA

**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-81-37 8 - 10 03/12/03	RFI-81-38 1 - 3 03/12/03	RFI-81-39R 1.7 - 3.7 04/05/03	RFI-81-39R 7.7 - 9.7 04/05/03	RFI-81-40 0 - 2 03/12/03	RFI-81-41 0 - 2 03/12/03
Benzo(a)anthracene	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Benzo(a)pyrene	NA	ND(5.2)	ND(0.91)	ND(0.88 J)	NA	NA
Benzo(b)fluoranthene	NA	ND(5.2)	ND(0.91)	ND(0.88 J)	NA	NA
Benzo(g,h,i)perylene	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Benzo(k)fluoranthene	NA	ND(5.2)	ND(0.91)	ND(0.88 J)	NA	NA
Biphenyl	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
bis(2-Chloroethoxy)methane	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
bis(2-Chloroethyl)ether	NA	ND(1.0 J)	ND(0.18)	ND(0.17)	NA	NA
bis(2-Ethylhexyl)phthalate	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Butyl benzylphthalate	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Caprolactam	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Carbazole	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Chrysene	NA	ND(5.2)	0.35 J	ND(0.88)	NA	NA
Dibenz(a,h)anthracene	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Dibenzofuran	NA	ND(5.2)	0.29 J	ND(0.88)	NA	NA
Diethyl phthalate	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Dimethyl phthalate	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Di-n-butylphthalate	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Di-n-octyl phthalate	NA	ND(5.2)	ND(0.91)	ND(0.88 J)	NA	NA
Fluoranthene	NA	ND(5.2)	1.1	0.39 J	NA	NA
Fluorene	NA	ND(5.2)	0.55 J	ND(0.88)	NA	NA
Hexachlorobenzene	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Hexachlorobutadiene	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Hexachlorocyclopentadiene	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Hexachloroethane	NA	ND(5.2 J)	ND(0.91)	ND(0.88)	NA	NA
Indeno(1,2,3-cd)pyrene	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Isophorone	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
Methylphenols, Total	NA	R	ND(1.8)	ND(1.8)	NA	NA
Naphthalene	NA	5.9	5.4	7.8	NA	NA
Nitrobenzene	NA	ND(2.0)	ND(0.36)	ND(0.35)	NA	NA
N-Nitrosodi-n-propylamine	NA	ND(5.2)	ND(0.91)	ND(0.88)	NA	NA
N-Nitrosodiphenylamine	NA	ND(5.2 J)	ND(0.91)	ND(0.88)	NA	NA
Pentachlorophenol	NA	ND(20)	ND(3.6)	ND(3.5)	NA	NA
Phenanthrene	NA	ND(5.2)	1.9	0.54 J	NA	NA
Phenol	NA	ND(5.2 J)	ND(0.91)	ND(0.88)	NA	NA
Pyrene	NA	ND(5.2)	1.1	0.53 J	NA	NA
<b>PCB</b>						
Aroclor-1016 (PCB-1016)	NA	ND(0.043)	ND(0.037)	ND(0.036)	NA	NA
Aroclor-1221 (PCB-1221)	NA	ND(0.043)	ND(0.037)	ND(0.036)	NA	NA
Aroclor-1232 (PCB-1232)	NA	ND(0.043)	ND(0.037)	ND(0.036)	NA	NA
Aroclor-1242 (PCB-1242)	NA	ND(0.043)	ND(0.037)	ND(0.036)	NA	NA
Aroclor-1248 (PCB-1248)	NA	ND(0.043)	ND(0.037)	ND(0.036)	NA	NA
Aroclor-1254 (PCB-1254)	NA	ND(0.043)	ND(0.037)	ND(0.036)	NA	NA
Aroclor-1260 (PCB-1260)	NA	ND(0.043)	ND(0.037)	ND(0.036)	NA	NA
Total PCBs	NA	ND(0.043)	ND(0.037)	ND(0.036)	NA	NA
<b>Inorganic</b>						
Antimony	NA	0.075 J	0.071 J	0.025 J	NA	NA
Arsenic	NA	2.1 J	6.2 J	1.7 J	8.1 J (RDC)	5.1 J
Barium	NA	15 J	57	16	NA	NA
Beryllium	NA	0.039 J	0.56 J	0.18 J	NA	NA
Cadmium	NA	0.50	0.16	ND(0.055)	NA	NA
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA
Chromium Total	NA	3.7	24	5.3	NA	NA
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA
Cobalt	NA	0.34	3.9 J	1.7 J	NA	NA
Copper	NA	6.0	25 J	4.5 J	NA	NA
Cyanide (total)	NA	ND(0.20)	ND(0.20)	ND(0.20)	NA	NA
Lead	5,000 (IDC,RDC)	5.8 J	49 J	5.8 J	NA	NA
Manganese	NA	19 J	540	100	NA	NA
Mercury	NA	0.019 J	0.092	0.081	NA	NA
Nickel	NA	1.4	11 J	4.8 J	NA	NA
Selenium	NA	0.047 J	0.17 J	0.10 J	NA	NA
Silver	NA	0.072 J	0.41	0.019 J	NA	NA
Thallium	NA	ND(0.16)	0.087 J	0.041 J	NA	NA
Vanadium	NA	2.2	19 J	7.2 J	NA	NA
Zinc	NA	110 J	33 J	16 J	NA	NA



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-81-42 0.7 - 2 04/05/03	RFI-81-50 4 - 6 03/09/05	RFI-81-51 0 - 2 03/07/05	RFI-81-51 8 - 10 03/07/05	RFI-81-51 11 - 13 03/07/05	RFI-83/84-17R 1 - 3 03/06/03	RFI-83/84-30 0.7 - 2.7 09/04/02	RFI-83/84-30 8.7 - 10.7 09/04/02
Benzo(a)anthracene	1.9	ND(0.30) [ND(0.30 J)]	0.040 J	0.020 J	0.020 J	NA	NA	NA
Benzo(a)pyrene	2.0 J	ND(0.30) [ND(0.30 J)]	0.050 J	0.020 J	0.020 J	NA	NA	NA
Benzo(b)fluoranthene	2.1 J	ND(0.30) [ND(0.30)]	0.060 J	0.020 J	0.020 J	NA	NA	NA
Benzo(g,h,i)perylene	2.0 J	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Benzo(k)fluoranthene	2.1 J	ND(0.30) [ND(0.30)]	0.040 J	ND(0.30)	0.020 J	NA	NA	NA
Biphenyl	ND(0.96)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
bis(2-Chloroethoxy)methane	ND(0.96)	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
bis(2-Chloroethyl)ether	ND(0.19)	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
bis(2-Ethylhexyl)phthalate	0.50 J	ND(0.30) [ND(0.30)]	0.050 J	ND(0.30)	ND(0.30)	NA	NA	NA
Butyl benzylphthalate	ND(0.96)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Caprolactam	ND(0.96)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Carbazole	0.44 J	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Chrysene	2.2	ND(0.30) [ND(0.30 J)]	0.050 J	0.040 J	0.020 J	NA	NA	NA
Dibenz(a,h)anthracene	0.72 J	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Dibenzofuran	ND(0.96)	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Diethyl phthalate	ND(0.96)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Dimethyl phthalate	ND(0.96)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Di-n-butylphthalate	ND(0.96)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Di-n-octyl phthalate	ND(0.96 J)	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Fluoranthene	3.7	ND(0.30) [ND(0.30)]	0.060 J	0.020 J	0.030 J	NA	NA	NA
Fluorene	0.60 J	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Hexachlorobenzene	ND(0.96)	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Hexachlorobutadiene	ND(0.96)	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Hexachlorocyclopentadiene	ND(0.96)	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Hexachloroethane	ND(0.96)	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.4 J	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Isophorone	ND(0.96)	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Methylphenols, Total	R	ND(0.30) [ND(0.30)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Naphthalene	1.2	ND(0.30) [ND(0.30 J)]	ND(0.30)	0.020 J	ND(0.30)	NA	NA	NA
Nitrobenzene	ND(0.38)	ND(0.30) [ND(0.20 J)]	ND(0.20)	ND(0.20)	ND(0.20)	NA	NA	NA
N-Nitrosodi-n-propylamine	ND(0.96)	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
N-Nitrosodiphenylamine	ND(0.96)	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Pentachlorophenol	R	ND(0.60) [ND(0.60)]	ND(0.70)	ND(0.70)	ND(0.70)	NA	NA	NA
Phenanthrene	2.8	ND(0.30) [ND(0.30)]	0.040 J	0.040 J	0.020 J	NA	NA	NA
Phenol	R	ND(0.30) [ND(0.30 J)]	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Pyrene	7.1	ND(0.30) [ND(0.30)]	0.070 J	ND(0.30)	ND(0.30)	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	ND(0.039)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Aroclor-1221 (PCB-1221)	ND(0.039)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Aroclor-1232 (PCB-1232)	ND(0.039)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Aroclor-1242 (PCB-1242)	1.1	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Aroclor-1248 (PCB-1248)	ND(0.039)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Aroclor-1254 (PCB-1254)	0.81	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Aroclor-1260 (PCB-1260)	ND(0.039)	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Total PCBs	1.9	ND(0.33) [ND(0.33)]	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
<b>Inorganic</b>								
Antimony	0.15 J	ND(0.50) [ND(0.50)]	ND(0.50)	ND(0.50)	ND(0.50)	NA	0.17 J	0.033 J
Arsenic	3.6 J	0.80 J [0.83 J]	1.5 J	1.7 J	2.6 J	NA	2.4	6.2
Barium	50	22 J [30 J]	12 J	15 J	19 J	NA	17	90
Beryllium	0.37 J	0.20 [0.18]	ND(0.10)	0.13	ND(0.10)	NA	0.17	1.1
Cadmium	0.98	ND(0.14) [ND(0.13)]	0.21	0.14	0.86	NA	0.16	0.19
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	26	4.1 [3.4]	2.6	5.6	17	NA	24 J	24 J
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	4.0 J	2.2 J [3.7 J]	1.4	3.7	2.3	NA	1.9	9.0
Copper	44 J	3.8 [2.6]	16	10	20	NA	61	34
Cyanide (total)	0.27	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	ND(0.10)	NA	NA	NA
Lead	200 J	5.5 [5.4]	17	20	9.1	1,800 (IDC,RDC)	42	73
Manganese	180	91 J [330 J]	110	300	200	NA	200 J	340 J
Mercury	0.37	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.050)	ND(0.050)	NA	0.058 J	0.030 J
Nickel	23 J	3.8 [5.9]	3.6	6.6	9.0	NA	13	30
Selenium	0.14 J	ND(0.20) [ND(0.20)]	ND(0.20)	ND(0.20)	ND(0.20)	NA	0.15 J	ND(0.067 J)
Silver	0.67	ND(0.20 J) [ND(0.20 J)]	ND(0.20)	ND(0.20)	ND(0.20)	NA	0.023 J	0.090 J
Thallium	0.039 J	ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)	ND(0.10)	NA	0.047 J	0.20
Vanadium	14 J	6.3 [5.1]	3.2	4.2	10	NA	6.8	29
Zinc	74 J	14 J [9.9 J]	19 J	17 J	280 J	NA	16 J	43 J

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-83/84-31 1 - 3 09/04/02	RFI-83/84-31 7 - 9 09/04/02	RFI-83/84-32 0.7 - 2.7 09/04/02	RFI-83/84-33 1.2 - 3.2 09/04/02	RFI-83/84-33 7.2 - 9.2 09/04/02	RFI-83/84-34 0.7 - 2.7 09/04/02	RFI-83/84-35 0.7 - 2.7 09/04/02	RFI-83/84-36 0.7 - 2.7 09/04/02
<b>Miscellaneous</b>								
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids	98	94	92	92 [91]	81	97	87	81
<b>VOC</b>								
1,1,1-Trichloroethane	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane (Methyl Bromide)	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform (Trichloromethane)	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane (Methyl Chloride)	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylene	NA	NA	NA	NA	NA	NA	NA	NA
Methyl acetate	NA	NA	NA	NA	NA	NA	NA	NA
Methyl cyclohexane	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Tert Butyl Ether	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (CFC-11)	NA	NA	NA	NA	NA	NA	NA	NA
Trifluorotrichloroethane (Freon 113)	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	NA	NA	NA	NA	NA	NA	NA	NA
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylpheno	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylpheno	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-83/84-31 1 - 3 09/04/02	RFI-83/84-31 7 - 9 09/04/02	RFI-83/84-32 0.7 - 2.7 09/04/02	RFI-83/84-33 1.2 - 3.2 09/04/02	RFI-83/84-33 7.2 - 9.2 09/04/02	RFI-83/84-34 0.7 - 2.7 09/04/02	RFI-83/84-35 0.7 - 2.7 09/04/02	RFI-83/84-36 0.7 - 2.7 09/04/02
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic</b>								
Antimony	0.033 J	0.15 J	0.18 J	0.029 J [0.032 J]	R	NA	NA	NA
Arsenic	3.0	2.2	5.0	4.7 [4.2]	6.4	NA	NA	NA
Barium	9.8	31	71	44 [46]	58	NA	NA	NA
Beryllium	0.11	0.19	0.22	0.59 [0.54]	0.66	NA	NA	NA
Cadmium	0.068	0.15	22	0.84 [1.0]	0.42	NA	NA	NA
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	5.6 J	24 J	27 J	14 J [9.5 J]	17 J	NA	NA	NA
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	2.2	2.5	2.4	5.5 [4.2]	6.8	NA	NA	NA
Copper	4.8	18	680	61 [48]	35	NA	NA	NA
Cyanide (total)	NA	NA	NA	NA	NA	NA	NA	NA
Lead	3.6	37	110	51 [70]	53	35	3,900 (IDC,RDC)	200
Manganese	140 J	200 J	240 J	180 J [360 J]	290 J	NA	NA	NA
Mercury	ND(0.066)	1.1 D	0.65 D	0.12 [0.045 J]	0.017 J	NA	NA	NA
Nickel	6.9	14	9.0	16 [14]	19	NA	NA	NA
Selenium	0.13 J	0.096 J	0.045 J	ND(0.066 J) [0.13 J]	0.26 J	NA	NA	NA
Silver	0.044 J	0.044 J	0.13 J	0.077 J [0.048 J]	0.091 J	NA	NA	NA
Thallium	0.055 J	0.17	0.048 J	0.20 [0.20]	0.26	NA	NA	NA
Vanadium	9.4	10	9.2	21 [17]	27	NA	NA	NA
Zinc	19 J	23 J	77 J	170 J [170 J]	110 J	NA	NA	NA

**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-83/84-37 0.7 - 2.7 09/04/02	RFI-83/84-38 5 - 7 03/12/03	RFI-83/84-39 0.9 - 2.9 03/07/03	RFI-83/84-39 1.1 - 3.1 03/19/03	RFI-83/84-39 5.1 - 7.1 03/19/03	RFI-83/84-40 1 - 2.5 03/06/03	RFI-83/84-41 1 - 2 03/05/03	RFI-83/84-42 1 - 3 03/05/03
<b>Miscellaneous</b>								
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids	92	94	92	97	94	83	93	95
<b>VOC</b>								
1,1,1-Trichloroethane	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	ND(0.074)	ND(0.072 J)	ND(0.071 J)	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	ND(0.037 J)	ND(0.036)	ND(0.036)	NA	NA	NA
1,1-Dichloroethane	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
1,1-Dichloroethene	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	ND(0.16)	ND(0.15)	ND(0.15)	NA	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	NA	NA	ND(0.16 J)	ND(0.15)	ND(0.15)	NA	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	NA	NA	ND(0.16 J)	ND(0.15)	ND(0.15)	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	ND(0.074)	ND(0.072)	ND(0.071)	NA	NA	NA
1,2-Dichloroethane	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
1,2-Dichloropropane	NA	NA	ND(0.037 J)	ND(0.036)	ND(0.036)	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	ND(0.074)	ND(0.072)	ND(0.071)	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	ND(0.074)	ND(0.072)	ND(0.071)	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	NA	NA	0.063 J	ND(0.31 J)	ND(0.31 J)	NA	NA	NA
2-Hexanone	NA	NA	ND(0.074)	ND(0.072 J)	ND(0.071 J)	NA	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	ND(1.6)	ND(1.5 J)	ND(1.5 J)	NA	NA	NA
Acetone	NA	NA	0.33 J	0.044 J	ND(0.31 J)	NA	NA	NA
Benzene	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
Bromodichloromethane	NA	NA	ND(0.074)	ND(0.072)	ND(0.071)	NA	NA	NA
Bromoform	NA	NA	ND(0.074)	ND(0.072)	ND(0.071)	NA	NA	NA
Bromomethane (Methyl Bromide)	NA	NA	ND(0.16 J)	ND(0.15)	ND(0.15)	NA	NA	NA
Carbon disulfide	NA	NA	ND(0.16)	ND(0.15 J)	ND(0.15 J)	NA	NA	NA
Carbon tetrachloride	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
Chlorobenzene	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
Chloroethane	NA	NA	ND(0.16 J)	ND(0.15)	ND(0.15)	NA	NA	NA
Chloroform (Trichloromethane)	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
Chloromethane (Methyl Chloride)	NA	NA	ND(0.16)	ND(0.15)	ND(0.15)	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	ND(0.037 J)	ND(0.036)	ND(0.036)	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
Cyclohexane	NA	NA	ND(0.16)	ND(0.15)	ND(0.15)	NA	NA	NA
Dibromochloromethane	NA	NA	ND(0.074)	ND(0.072)	ND(0.071)	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	NA	NA	ND(0.074)	ND(0.072)	ND(0.071)	NA	NA	NA
Ethylbenzene	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
Isopropylbenzene	NA	NA	ND(0.16)	ND(0.15)	ND(0.15)	NA	NA	NA
m&p-Xylene	NA	NA	0.051 J	ND(0.072)	ND(0.071)	NA	NA	NA
Methyl acetate	NA	NA	0.53 J	ND(0.15 J)	ND(0.15 J)	NA	NA	NA
Methyl cyclohexane	NA	NA	0.087 J	ND(0.15 J)	ND(0.15 J)	NA	NA	NA
Methyl Tert Butyl Ether	NA	NA	ND(0.16 J)	ND(0.15 J)	ND(0.15 J)	NA	NA	NA
Methylene chloride	NA	NA	0.028 J	0.034 J	0.029 J	NA	NA	NA
o-Xylene	NA	NA	0.030 J	ND(0.036)	ND(0.036)	NA	NA	NA
Styrene	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
Tetrachloroethene	NA	NA	ND(0.037 J)	ND(0.036)	ND(0.036)	NA	NA	NA
Toluene	NA	NA	0.033 J	ND(0.072)	ND(0.071)	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
Trichloroethene	NA	NA	ND(0.037)	ND(0.036)	ND(0.036)	NA	NA	NA
Trichlorofluoromethane (CFC-11)	NA	NA	ND(0.074)	ND(0.072)	ND(0.071)	NA	NA	NA
Trifluorotrchloroethane (Freon 113)	NA	NA	ND(0.16)	ND(0.15)	ND(0.15)	NA	NA	NA
Vinyl chloride	NA	NA	ND(0.074)	ND(0.072)	ND(0.071)	NA	NA	NA
Xylenes (total)	NA	NA	0.081 J	ND(0.072)	ND(0.071)	NA	NA	NA
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
2,4-Dichlorophenol	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
2,4-Dimethylphenol	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
2,4-Dinitrophenol	NA	NA	ND(18)	ND(0.69)	ND(0.71)	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	ND(18)	ND(0.69)	ND(0.71)	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
2-Chloronaphthalene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
2-Chlorophenol	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
2-Methylnaphthalene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
2-Methylphenol	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
2-Nitroaniline	NA	NA	ND(18)	ND(0.69)	ND(0.71)	NA	NA	NA
2-Nitrophenol	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
3&4-Methylphenol	NA	NA	ND(9.3 J)	ND(0.35 J)	ND(0.36 J)	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	ND(18)	ND(0.69)	ND(0.71)	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	ND(18)	ND(0.69)	ND(0.71)	NA	NA	NA
4,6-Dinitro-2-methylpheno	NA	NA	ND(18)	ND(0.69)	ND(0.71)	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
4-Chloro-3-methylpheno	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
4-Chloroaniline	NA	NA	ND(18)	ND(0.69)	ND(0.71)	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	ND(18)	ND(0.69)	ND(0.71)	NA	NA	NA
4-Nitroaniline	NA	NA	ND(18)	ND(0.69)	ND(0.71)	NA	NA	NA
4-Nitrophenol	NA	NA	ND(18)	ND(0.69)	ND(0.71)	NA	NA	NA
Acenaphthene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Acenaphthylene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Acetophenone	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Anthracene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Atrazine	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Benzaldehyde	NA	NA	ND(4.6 J)	R	R	NA	NA	NA

**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-83/84-37 0.7 - 2.7 09/04/02	RFI-83/84-38 5 - 7 03/12/03	RFI-83/84-39 0.9 - 2.9 03/07/03	RFI-83/84-39 1.1 - 3.1 03/19/03	RFI-83/84-39 5.1 - 7.1 03/19/03	RFI-83/84-40 1 - 2.5 03/06/03	RFI-83/84-41 1 - 2 03/05/03	RFI-83/84-42 1 - 3 03/05/03
Benzo(a)anthracene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Benzo(a)pyrene	NA	NA	ND(4.6 J)	ND(0.18)	ND(0.18)	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	ND(4.6 J)	ND(0.18)	ND(0.18)	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	ND(4.6 J)	ND(0.18)	ND(0.18)	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	ND(4.6 J)	ND(0.18)	ND(0.18)	NA	NA	NA
Biphenyl	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	ND(0.90)	ND(0.034)	ND(0.035)	NA	NA	NA
bis(2-Ethylhexyl)phthalate	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Butyl benzylphthalate	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Caprolactam	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Carbazole	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Chrysene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	ND(4.6 J)	ND(0.18 J)	ND(0.18 J)	NA	NA	NA
Dibenzofuran	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Diethyl phthalate	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Dimethyl phthalate	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Di-n-butylphthalate	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Di-n-octyl phthalate	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Fluoranthene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Fluorene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Hexachlorobenzene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Hexachlorobutadiene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Hexachloroethane	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	ND(4.6)	ND(0.18 J)	ND(0.18 J)	NA	NA	NA
Isophorone	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Methylphenols, Total	NA	NA	ND(9.3)	ND(0.35)	ND(0.36)	NA	NA	NA
Naphthalene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Nitrobenzene	NA	NA	ND(1.8)	ND(0.069)	ND(0.071)	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Pentachlorophenol	NA	NA	ND(18)	ND(0.69)	ND(0.71)	NA	NA	NA
Phenanthrene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Phenol	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
Pyrene	NA	NA	ND(4.6)	ND(0.18)	ND(0.18)	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	ND(0.038)	ND(0.036)	ND(0.037)	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	ND(0.038)	ND(0.036)	ND(0.037)	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	ND(0.038)	ND(0.036)	ND(0.037)	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	ND(0.038)	ND(0.036)	ND(0.037)	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	ND(0.038)	ND(0.036)	ND(0.037)	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	ND(0.038)	ND(0.036)	ND(0.037)	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	ND(0.038)	ND(0.036)	ND(0.037)	NA	NA	NA
Total PCBs	NA	NA	ND(0.038)	ND(0.036)	ND(0.037)	NA	NA	NA
<b>Inorganic</b>								
Antimony	NA	NA	1.2	0.059 J	0.074 J	NA	NA	NA
Arsenic	NA	NA	13 (RDC)	0.99	0.98	NA	NA	NA
Barium	NA	NA	290	9.7	9.5	NA	NA	NA
Beryllium	NA	NA	0.12	0.12	0.12	NA	NA	NA
Cadmium	NA	NA	0.68	ND(0.050)	ND(0.048)	NA	NA	NA
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	NA	NA	2,400 (IPSI, RPSIC)	3.4	2.9	NA	NA	NA
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	210	0.67	0.62	NA	NA	NA
Copper	NA	NA	190 J	2.7	2.2	NA	NA	NA
Cyanide (total)	NA	NA	ND(0.20)	ND(0.20)	ND(0.20)	NA	NA	NA
Lead	290	12 J	96	3.0 J	2.3 J	3,000 (IDC, RDC)	10	47
Manganese	NA	NA	1,800 (IPSI, RPSIC)	53 J	44 J	NA	NA	NA
Mercury	NA	NA	0.048 J	ND(0.061)	ND(0.073)	NA	NA	NA
Nickel	NA	NA	88	2.2	2.0	NA	NA	NA
Selenium	NA	NA	ND(0.061)	ND(0.058)	0.072	NA	NA	NA
Silver	NA	NA	0.25 J	0.034 J	0.030 J	NA	NA	NA
Thallium	NA	NA	0.066 J	0.024 J	0.024 J	NA	NA	NA
Vanadium	NA	NA	390	5.0	5.0	NA	NA	NA
Zinc	NA	NA	52 J	13	11	NA	NA	NA



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-83/84-43 1.5 - 3.5 03/05/03	RFI-83/84-44 1 - 3 03/10/03	RFI-83/84-44 7 - 9 03/10/03	RFI-83/84-45 0.9 - 2.9 03/06/03	RFI-83/84-45 7.9 - 9.9 03/06/03	RFI-83/84-46 1.5 - 3.5 03/18/03	RFI-83/84-46 7.5 - 9.5 03/18/03	RFI-83/84-46 9.5 - 11.5 03/18/03
Benzo(a)anthracene	NA	7.7 D	0.35	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	0.34	ND(0.23)
Benzo(a)pyrene	NA	6.4 JD (RDC)	0.29	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	0.29 J	ND(0.23)
Benzo(b)fluoranthene	NA	7.3 JD	0.28	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	0.48 J	ND(0.23)
Benzo(g,h,i)perylene	NA	1.9 J	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	0.093 J	ND(0.23)
Benzo(k)fluoranthene	NA	5.8 JD	0.35	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	0.28 J	ND(0.23)
Biphenyl	NA	0.14 J	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	0.070 J	ND(0.23)
bis(2-Chloroethoxy)methane	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
bis(2-Chloroethyl)ether	NA	ND(0.035)	ND(0.037)	ND(0.034)	ND(0.037) [ND(0.036)]	ND(0.033)	ND(0.034)	ND(0.044)
bis(2-Ethylhexyl)phthalate	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Butyl benzylphthalate	NA	ND(0.18)	0.10 J	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Caprolactam	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Carbazole	NA	3.0	0.12 J	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Chrysene	NA	7.2 D	0.38	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	0.61	ND(0.23)
Dibenz(a,h)anthracene	NA	1.2 J	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17 J)	ND(0.18 J)	ND(0.23 J)
Dibenzofuran	NA	0.96	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	0.29	ND(0.23)
Diethyl phthalate	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Dimethyl phthalate	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Di-n-butylphthalate	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Di-n-octyl phthalate	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Fluoranthene	NA	15 D	0.76	ND(0.17)	ND(0.19) [ND(0.18)]	0.12 J	1.2	ND(0.23)
Fluorene	NA	1.8	0.067 J	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Hexachlorobenzene	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Hexachlorobutadiene	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Hexachlorocyclopentadiene	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Hexachloroethane	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Indeno(1,2,3-cd)pyrene	NA	2.1	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17 J)	0.098 J	ND(0.23 J)
Isophorone	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Methylphenols, Total	NA	ND(0.36)	ND(0.39)	ND(0.35)	ND(0.38) [ND(0.37)]	ND(0.34)	ND(0.35)	ND(0.45)
Naphthalene	NA	0.91	0.059 J	ND(0.17)	ND(0.19) [ND(0.18)]	0.082 J	0.39	ND(0.23)
Nitrobenzene	NA	ND(0.071)	ND(0.076)	ND(0.069)	ND(0.074) [ND(0.073)]	ND(0.068)	ND(0.069)	ND(0.089)
N-Nitrosodi-n-propylamine	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
N-Nitrosodiphenylamine	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Pentachlorophenol	NA	ND(0.71)	ND(0.76)	ND(0.69)	ND(0.74) [ND(0.73)]	ND(0.68)	ND(0.69)	ND(0.89)
Phenanthrene	NA	12 D	0.63	0.13 J	ND(0.19) [ND(0.18)]	0.23	2.1	ND(0.23)
Phenol	NA	ND(0.18)	ND(0.19)	ND(0.17)	ND(0.19) [ND(0.18)]	ND(0.17)	ND(0.18)	ND(0.23)
Pyrene	NA	11 D	0.60	ND(0.17)	ND(0.19) [ND(0.18)]	0.12 J	1.7	ND(0.23)
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	ND(0.037)	ND(0.040)	ND(0.11)	ND(0.039) [ND(0.038)]	ND(0.035)	ND(0.036)	ND(0.047)
Aroclor-1221 (PCB-1221)	NA	ND(0.037)	ND(0.040)	ND(0.11)	ND(0.039) [ND(0.038)]	ND(0.035)	ND(0.036)	ND(0.047)
Aroclor-1232 (PCB-1232)	NA	ND(0.037)	ND(0.040)	ND(0.11)	ND(0.039) [ND(0.038)]	ND(0.035)	ND(0.036)	ND(0.047)
Aroclor-1242 (PCB-1242)	NA	ND(0.037)	ND(0.040)	ND(0.11)	ND(0.039) [ND(0.038)]	ND(0.035)	ND(0.036)	ND(0.047)
Aroclor-1248 (PCB-1248)	NA	ND(0.037)	ND(0.040)	ND(0.11)	ND(0.039) [ND(0.038)]	ND(0.035)	ND(0.036)	ND(0.047)
Aroclor-1254 (PCB-1254)	NA	ND(0.037)	ND(0.040)	ND(0.11)	ND(0.039) [ND(0.038)]	ND(0.035)	ND(0.036)	ND(0.047)
Aroclor-1260 (PCB-1260)	NA	ND(0.037)	ND(0.040)	ND(0.11)	ND(0.039) [ND(0.038)]	ND(0.035)	ND(0.036)	ND(0.047)
Total PCBs	NA	ND(0.037)	ND(0.040)	ND(0.11)	ND(0.039) [ND(0.038)]	ND(0.035)	ND(0.036)	ND(0.047)
<b>Inorganic</b>								
Antimony	NA	0.18	ND(0.16)	0.030 J	ND(0.17) [0.030 J]	0.089 J	0.27	0.011 J
Arsenic	NA	5.1	4.6	1.4	2.2 [2.9]	5.6	13 (RDC)	8.1 (RDC)
Barium	NA	34	23	16	12 [14]	33	49	93
Beryllium	NA	0.24	0.25	0.10	0.12 [0.14]	0.18	0.26	0.41
Cadmium	NA	0.37	0.11	0.042	0.049 [0.067]	ND(0.11)	0.41	0.29
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	NA	42	12	3.3	6.7 [7.7]	20	120	23
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	2.7	4.6	0.92	2.3 [2.8]	4.1	11	5.8
Copper	NA	47 J	48 J	5.0 J	5.6 J [7.1 J]	20	160	12
Cyanide (total)	NA	ND(0.20)	21 (RDC)	ND(0.20)	ND(0.20) [ND(0.20)]	ND(0.20)	ND(0.20)	ND(0.30)
Lead	400	480 (RDC)	28	75	5.6 [9.9]	13 J	37 J	13 J
Manganese	NA	290	120	41	50 [64]	310 J	930 J	190 J
Mercury	NA	0.034 J	0.032 J	ND(0.072)	ND(0.078) [0.0063 J]	ND(0.068)	0.0063 J	0.14
Nickel	NA	32	12	3.1	6.4 [7.3]	16	69	15
Selenium	NA	0.17	0.13	0.11	0.050 J [0.11]	0.11	0.14	0.90
Silver	NA	ND(0.15 J)	ND(0.16 J)	ND(0.14 J)	ND(0.17 J) [ND(0.15 J)]	0.046 J	7.3	0.11 J
Thallium	NA	0.059 J	0.076 J	0.034 J	0.053 J [0.062 J]	0.099 J	0.083 J	0.25
Vanadium	NA	8.0	16	4.9	12 [14]	17	27	29
Zinc	NA	47 J	36 J	9.3 J	29 J [30 J]	27	44	94



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-83/84-47	RFI-83/84-47	RFI-83/84-48	RFI-83/84-48	RFI-83/84-49	RFI-83/84-49	RFI-83/84-49
	1 - 3 04/07/03	8 - 10 04/07/03	1 - 3 04/07/03	7 - 9 04/07/03	0.9 - 2.9 04/09/03	4.5 - 6.5 04/09/03	8.5 - 10.5 04/09/03
Benzo(a)anthracene	ND(0.88) [0.37]	0.85 J	0.096 J	ND(0.97)	3.3 J	ND(1.9)	0.077 J [ND(1.9)]
Benzo(a)pyrene	ND(0.88 J) [ND(0.18 J)]	ND(2.0 J)	0.089 J	ND(0.97 J)	3.6 J (RDC)	ND(1.9 J)	ND(0.21 J) [ND(1.9 J)]
Benzo(b)fluoranthene	ND(0.88 J) [ND(0.18 J)]	ND(2.0 J)	0.12 J	ND(0.97 J)	3.8 J	ND(1.9 J)	ND(0.21 J) [ND(1.9 J)]
Benzo(g,h,i)perylene	ND(0.88 J) [ND(0.18 J)]	ND(2.0 J)	ND(0.18 J)	ND(0.97 J)	ND(4.7 J)	ND(1.9 J)	ND(0.21 J) [ND(1.9 J)]
Benzo(k)fluoranthene	ND(0.88 J) [ND(0.18 J)]	ND(2.0 J)	0.079 J	ND(0.97 J)	4.4 J	ND(1.9 J)	ND(0.21 J) [ND(1.9 J)]
Biphenyl	ND(0.88) [0.067 J]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
bis(2-Chloroethoxy)methane	ND(0.88) [ND(0.18)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
bis(2-Chloroethyl)ether	ND(0.17) [ND(0.034)]	ND(0.39)	ND(0.034)	ND(0.19)	ND(0.91)	ND(0.37)	ND(0.040) [ND(0.37)]
bis(2-Ethylhexyl)phthalate	ND(0.88) [ND(0.18 J)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
Butyl benzylphthalate	ND(0.88) [ND(0.18 J)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
Caprolactam	ND(0.88) [ND(0.18)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
Carbazole	ND(0.88 J) [ND(0.18 J)]	ND(2.0 J)	ND(0.18 J)	ND(0.97 J)	1.7 J	ND(1.9 J)	ND(0.21 J) [ND(1.9 J)]
Chrysene	ND(0.88) [0.38 J]	1.2 J	0.14 J	ND(0.97)	3.9 J	0.82 J	0.19 J [ND(1.9)]
Dibenz(a,h)anthracene	ND(0.88 J) [ND(0.18 J)]	ND(2.0 J)	ND(0.18 J)	ND(0.97 J)	ND(4.7 J)	ND(1.9 J)	ND(0.21 J) [ND(1.9 J)]
Dibenzofuran	ND(0.88) [0.15 J]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
Diethyl phthalate	ND(0.88) [ND(0.18)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
Dimethyl phthalate	ND(0.88) [ND(0.18)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
Di-n-butylphthalate	ND(0.88 J) [ND(0.18)]	ND(2.0 J)	ND(0.18)	ND(0.97 J)	ND(4.7 J)	ND(1.9)	ND(0.21) [ND(1.9)]
Di-n-octyl phthalate	ND(0.88) [ND(0.18 J)]	ND(2.0)	ND(0.18 J)	ND(0.97)	ND(4.7)	ND(1.9 J)	ND(0.21 J) [ND(1.9 J)]
Fluoranthene	0.53 J [0.54]	1.6 J	0.17 J	ND(0.97)	8.3	ND(1.9)	0.089 J [ND(1.9)]
Fluorene	ND(0.88) [0.099 J]	ND(2.0)	ND(0.18)	ND(0.97)	2.3 J	ND(1.9)	ND(0.21) [ND(1.9)]
Hexachlorobenzene	ND(0.88) [ND(0.18)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
Hexachlorobutadiene	ND(0.88) [ND(0.18)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
Hexachlorocyclopentadiene	ND(0.88) [ND(0.18)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
Hexachloroethane	ND(0.88) [ND(0.18)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
Indeno(1,2,3-cd)pyrene	ND(0.88 J) [ND(0.18 J)]	ND(2.0 J)	ND(0.18 J)	ND(0.97 J)	ND(4.7 J)	ND(1.9 J)	ND(0.21 J) [ND(1.9 J)]
Isophorone	ND(0.88) [ND(0.18)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
Methylphenols, Total	ND(1.8) [ND(0.35)]	ND(4.0)	ND(0.36)	ND(1.9)	ND(9.4)	ND(3.9)	ND(0.41) [ND(3.9)]
Naphthalene	ND(0.88) [0.32]	1.8 J	0.13 J	ND(0.97)	4.6 J	ND(1.9)	ND(0.21) [ND(1.9)]
Nitrobenzene	ND(0.35) [ND(0.069)]	ND(0.78)	ND(0.070)	ND(0.38)	ND(1.8)	ND(0.76)	ND(0.081) [ND(0.76)]
N-Nitrosodi-n-propylamine	ND(0.88) [ND(0.18)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
N-Nitrosodiphenylamine	ND(0.88) [ND(0.18)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
Pentachlorophenol	ND(3.5) [ND(0.69)]	ND(7.8)	ND(0.70)	ND(3.8)	ND(18)	ND(7.6)	ND(0.81) [ND(7.6)]
Phenanthrene	0.67 J [0.88]	2.5	0.28	ND(0.97)	9.7	1.5 J	0.27 [ND(1.9)]
Phenol	ND(0.88) [ND(0.18)]	ND(2.0)	ND(0.18)	ND(0.97)	ND(4.7)	ND(1.9)	ND(0.21) [ND(1.9)]
Pyrene	0.66 J [1.1]	2.3	0.16 J	ND(0.97)	8.5	1.4 J	0.21 [ND(1.9)]
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	ND(0.036) [ND(0.036)]	ND(0.041)	ND(0.037)	ND(0.040)	ND(0.039)	ND(0.040)	ND(0.042) [ND(0.040)]
Aroclor-1221 (PCB-1221)	ND(0.036) [ND(0.036)]	ND(0.041)	ND(0.037)	ND(0.040)	ND(0.039)	ND(0.040)	ND(0.042) [ND(0.040)]
Aroclor-1232 (PCB-1232)	ND(0.036) [ND(0.036)]	ND(0.041)	ND(0.037)	ND(0.040)	ND(0.039)	ND(0.040)	ND(0.042) [ND(0.040)]
Aroclor-1242 (PCB-1242)	ND(0.036) [ND(0.036)]	ND(0.041)	ND(0.037)	ND(0.040)	ND(0.039)	ND(0.040)	0.10 [0.19]
Aroclor-1248 (PCB-1248)	ND(0.036) [ND(0.036)]	ND(0.041)	ND(0.037)	ND(0.040)	0.12	ND(0.040)	ND(0.042) [ND(0.040)]
Aroclor-1254 (PCB-1254)	ND(0.036) [ND(0.036)]	ND(0.041)	ND(0.037)	ND(0.040)	0.22	ND(0.040)	ND(0.042) [0.060]
Aroclor-1260 (PCB-1260)	ND(0.036) [ND(0.036)]	ND(0.041)	ND(0.037)	ND(0.040)	ND(0.039)	ND(0.040)	ND(0.042) [ND(0.040)]
Total PCBs	ND(0.036) [ND(0.036)]	ND(0.041)	ND(0.037)	ND(0.040)	0.34	ND(0.040)	0.10 [0.25]
<b>Inorganic</b>							
Antimony	0.090 J [0.15 J]	3.7	0.040 J	0.074 J	0.27	1.9	0.0095 J [1.4]
Arsenic	3.4 [5.4]	11 (RDC)	3.7	16 (RDC)	3.3	35 (RDC)	2.9 [15 (RDC)]
Barium	33 J [43 J]	130 J	38 J	63 J	47 J	68 J	63 J [52 J]
Beryllium	0.27 [0.51]	0.51	0.28	0.55	0.22	0.23	0.42 [0.19]
Cadmium	ND(0.092) [ND(0.13)]	6.3	ND(0.077)	0.20	0.38	24	ND(0.16) [8.1]
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA
Chromium Total	8.5 [20]	53	15	12	26	20	22 [21]
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA
Cobalt	3.5 [4.5]	6.5	2.8	5.3	2.7	7.4	4.5 [7.2]
Copper	9.7 [16]	110	9.4	23	160	13,000	36 [3,900]
Cyanide (total)	ND(0.20) [ND(0.20)]	0.29 J	ND(0.20)	ND(0.20)	ND(0.20)	0.30 J	ND(0.20) [ND(0.20)]
Lead	14 [16]	840 (RDC)	6.3	13	65	1,200 (IDC, RDC)	13 [590 (RDC)]
Manganese	150 [110]	1,100	490	690	290	460	82 [370]
Mercury	0.0095 J [0.0080 J]	0.13	ND(0.070)	0.046 J	0.041 J	0.025 J	0.046 J [0.017 J]
Nickel	7.4 [14]	36	9.2	16	18	69	15 [130]
Selenium	0.14 [0.11]	0.13	0.23 J	0.33 J	0.14	0.25 J	0.19 [0.42 J]
Silver	0.039 J [0.075 J]	0.19	0.054 J	0.074 J	0.12 J	7.7	0.091 J [2.8]
Thallium	0.094 J [0.12 J]	0.13 J	0.085 J	0.10 J	0.050 J	0.082 J	0.18 [0.10 J]
Vanadium	13 [17]	16	14	24	10	18	22 [23]
Zinc	31 [34]	28	19	34	71	620	52 [740]



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-83/84-50 3 - 5 04/10/03	RFI-83/84-50 5 - 7 04/10/03	RFI-83/84-51 3 - 5 04/10/03	RFI-83/84-51 5 - 7 04/10/03	RFI-83/84-52 0.9 - 2.9 04/11/03	RFI-83/84-52 2.9 - 4.9 04/11/03
Benzo(a)anthracene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	0.18 J [1.5]	ND(1.9 J)	ND(2.9) [0.45 J]
Benzo(a)pyrene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	0.099 J [0.90]	ND(1.9 J)	ND(2.9) [ND(0.56)]
Benzo(b)fluoranthene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	0.088 J [0.96]	ND(1.9 J)	ND(2.9) [ND(0.56)]
Benzo(g,h,i)perylene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [0.29]	ND(1.9 J)	ND(2.9) [ND(0.56 J)]
Benzo(k)fluoranthene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	0.10 J [0.78]	ND(1.9 J)	ND(2.9) [ND(0.56)]
Biphenyl	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	0.090 J [0.65]	ND(1.9)	ND(2.9) [ND(0.56)]
bis(2-Chloroethoxy)methane	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9)	ND(2.9) [ND(0.56)]
bis(2-Chloroethyl)ether	ND(0.037)	ND(0.037) [ND(0.037)]	ND(0.035)	ND(0.037) [ND(0.037)]	ND(0.36)	ND(0.56) [ND(0.11)]
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9 J)	ND(2.9) [0.60]
Butyl phthalate	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9 J)	ND(2.9) [ND(0.56)]
Caprolactam	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9)	ND(2.9) [ND(0.56)]
Carbazole	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	0.17 J [4.1]	ND(1.9)	ND(2.9) [ND(0.56)]
Chrysene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	0.19 J [1.4]	ND(1.9)	ND(2.9) [0.99]
Dibenz(a,h)anthracene	ND(0.19 J)	ND(0.19 J) [ND(0.19 J)]	ND(0.18 J)	ND(0.19 J) [ND(0.19 J)]	ND(1.9 J)	ND(2.9 J) [ND(0.56 J)]
Dibenzofuran	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	0.31 [2.7]	ND(1.9)	ND(2.9) [ND(0.56)]
Diethyl phthalate	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9)	ND(2.9) [ND(0.56)]
Dimethyl phthalate	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9)	ND(2.9) [ND(0.56)]
Di-n-butylphthalate	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9)	ND(2.9) [ND(0.56)]
Di-n-octyl phthalate	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9 J)	ND(2.9) [ND(0.56 J)]
Fluoranthene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	0.91 [8.2 D]	ND(1.9)	ND(2.9) [0.65]
Fluorene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	0.44 [4.1]	ND(1.9)	ND(2.9) [0.85]
Hexachlorobenzene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9)	ND(2.9) [ND(0.56)]
Hexachlorobutadiene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9)	ND(2.9) [ND(0.56)]
Hexachlorocyclopentadiene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9)	ND(2.9) [ND(0.56)]
Hexachloroethane	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9)	ND(2.9) [ND(0.56)]
Indeno(1,2,3-cd)pyrene	ND(0.19 J)	ND(0.19 J) [ND(0.19 J)]	ND(0.18 J)	ND(0.19 J) [0.33 J]	ND(1.9 J)	ND(2.9 J) [ND(0.56 J)]
Isophorone	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9)	ND(2.9) [ND(0.56)]
Methylphenols, Total	ND(0.38)	ND(0.38) [ND(0.38)]	ND(0.36)	ND(0.38) [ND(0.38)]	ND(3.7)	ND(5.7) [ND(1.1)]
Naphthalene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	1.1 [2.7]	ND(1.9)	ND(2.9) [0.63]
Nitrobenzene	ND(0.075)	ND(0.075) [ND(0.074)]	ND(0.071)	ND(0.075) [ND(0.075)]	ND(0.73)	ND(1.1) [ND(0.22)]
N-Nitrosodi-n-propylamine	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9)	ND(2.9) [ND(0.56)]
N-Nitrosodiphenylamine	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9)	ND(2.9) [ND(0.56)]
Pentachlorophenol	ND(0.75)	ND(0.75) [ND(0.74)]	ND(0.71)	ND(0.75) [ND(0.75)]	ND(7.3)	ND(11) [ND(2.2)]
Phenanthrene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	1.5 [15 D]	1.4 J	2.7 J [2.6]
Phenol	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	ND(0.19) [ND(0.19)]	ND(1.9)	ND(2.9) [ND(0.56)]
Pyrene	ND(0.19)	ND(0.19) [ND(0.19)]	ND(0.18)	0.56 [4.3]	1.1 J	1.8 J [2.5]
<b>PCB</b>						
Aroclor-1016 (PCB-1016)	ND(0.039)	ND(0.039) [ND(0.039)]	ND(0.037)	ND(0.039) [ND(0.039)]	ND(0.038)	ND(0.039) [ND(0.039)]
Aroclor-1221 (PCB-1221)	ND(0.039)	ND(0.039) [ND(0.039)]	ND(0.037)	ND(0.039) [ND(0.039)]	ND(0.038)	ND(0.039) [ND(0.039)]
Aroclor-1232 (PCB-1232)	ND(0.039)	ND(0.039) [ND(0.039)]	ND(0.037)	ND(0.039) [ND(0.039)]	ND(0.038)	ND(0.039) [ND(0.039)]
Aroclor-1242 (PCB-1242)	ND(0.039)	ND(0.039) [ND(0.039)]	ND(0.037)	ND(0.039) [ND(0.039)]	0.054	0.096 [0.13]
Aroclor-1248 (PCB-1248)	ND(0.039)	ND(0.039) [ND(0.039)]	ND(0.037)	ND(0.039) [ND(0.039)]	ND(0.038)	ND(0.039) [ND(0.039)]
Aroclor-1254 (PCB-1254)	ND(0.039)	ND(0.039) [ND(0.039)]	ND(0.037)	ND(0.039) [ND(0.039)]	ND(0.038)	ND(0.039) [ND(0.039)]
Aroclor-1260 (PCB-1260)	ND(0.039)	ND(0.039) [ND(0.039)]	ND(0.037)	ND(0.039) [ND(0.039)]	ND(0.038)	ND(0.039) [ND(0.039)]
Total PCBs	ND(0.039)	ND(0.039) [ND(0.039)]	ND(0.037)	ND(0.039) [ND(0.039)]	0.054	0.096 [0.13]
<b>Inorganic</b>						
Antimony	0.018 J	ND(0.16) [ND(0.16)]	ND(0.14)	0.011 J [ND(0.16)]	ND(0.16)	ND(0.15) [ND(0.15)]
Arsenic	2.7	1.3 [2.1]	4.1	9.1 (RDC) [4.9]	4.5	4.1 [3.5]
Barium	20	8.9 [20]	12	31 [21]	37	38 [33]
Beryllium	0.21	0.14 [0.20]	0.19	0.30 [0.20]	0.36	0.26 [0.23]
Cadmium	ND(0.11)	ND(0.011) [ND(0.094)]	ND(0.094)	ND(0.12) [ND(0.11)]	ND(0.11)	ND(0.13) [ND(0.14)]
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA
Chromium Total	8.6	4.7 [6.5]	5.6	8.7 [6.0]	12	9.6 [8.6]
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA
Cobalt	2.7	1.7 [2.5]	2.5	3.8 [2.9]	5.1	4.0 [3.7]
Copper	8.9	8.6 [6.9]	5.8	13 [8.4]	9.0	90 [63]
Cyanide (total)	ND(0.20)	ND(0.20) [ND(0.20)]	ND(0.20)	ND(0.20) [ND(0.20)]	ND(0.20)	ND(0.20) [ND(0.20)]
Lead	7.7	4.3 [6.1]	5.7	14 [6.0]	8.4	7.1 [7.0]
Manganese	89	76 [78]	110	140 [120]	200	180 [130]
Mercury	0.044 J	0.023 J [0.019 J]	0.029 J	0.031 J [0.026 J]	0.037 J	0.071 J [0.070 J]
Nickel	8.2	6.5 [6.6]	6.4	11 [7.3]	11	9.2 [8.8]
Selenium	0.25 J	0.064 J [ND(0.063)]	0.13	0.14 [0.084]	0.25 J	0.18 [0.17]
Silver	0.23	0.13 J [0.10 J]	0.11 J	0.13 J [0.065 J]	0.077 J	0.12 J [0.052 J]
Thallium	0.087 J	0.053 J [0.062 J]	0.073 J	0.14 J [0.092 J]	0.12 J	0.12 J [0.093 J]
Vanadium	15	9.7 [13]	11	18 [12]	21	18 [18]
Zinc	30	22 [22]	18	32 [30]	33	28 [22]



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-83/84-52	RFI-83/84-53	RFI-83/84-53	RFI-83/84-53	RFI-83/84-54	RFI-84-07	RFI-84-07	RFI-84-07	RFI-84-08
	6.9 - 8.9 04/11/03	0.9 - 2.9 04/11/03	6.9 - 8.9 04/11/03	8.9 - 10.9 04/11/03	0.6 - 2.6 04/11/03	2 - 4 06/30/05	8 - 10 06/30/05	14 - 16 06/30/05	2 - 3 06/28/05
Benzo(a)anthracene	0.19 J	2.2 J	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Benzo(a)pyrene	ND(0.22)	1.6 J	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Benzo(b)fluoranthene	ND(0.22)	2.4 J	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Benzo(g,h,i)perylene	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Benzo(k)fluoranthene	ND(0.22)	1.6 J	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Biphenyl	0.095 J	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
bis(2-Chloroethoxy)methane	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
bis(2-Chloroethyl)ether	ND(0.043)	ND(0.71)	ND(0.35)	ND(0.78)	ND(0.18)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
bis(2-Ethylhexyl)phthalate	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Butyl benzylphthalate	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Caprolactam	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Carbazole	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Chrysene	0.59	2.6 J	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Dibenz(a,h)anthracene	ND(0.22 J)	ND(3.7 J)	ND(1.8 J)	ND(4.0 J)	ND(0.93 J)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Dibenzofuran	0.11 J	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	0.040 J
Diethyl phthalate	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Dimethyl phthalate	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Di-n-butylphthalate	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Di-n-octyl phthalate	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Fluoranthene	0.28	7.4	0.89 J	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	0.070 J
Fluorene	0.25	1.2 J	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Hexachlorobenzene	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Hexachlorobutadiene	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Hexachlorocyclopentadiene	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Hexachloroethane	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Indeno(1,2,3-cd)pyrene	ND(0.22 J)	ND(3.7 J)	ND(1.8 J)	ND(4.0 J)	ND(0.93 J)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Isophorone	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Methylphenols, Total	ND(0.44)	ND(7.4)	ND(3.6)	ND(8.1)	ND(1.9)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Naphthalene	0.15 J	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Nitrobenzene	ND(0.086)	ND(1.5)	ND(0.70)	ND(1.6)	ND(0.37)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
N-Nitrosodi-n-propylamine	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
N-Nitrosodiphenylamine	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Pentachlorophenol	ND(0.86)	ND(15)	ND(7.0)	ND(16)	ND(3.7)	ND(0.67)	ND(0.67)	ND(0.67)	ND(0.67)
Phenanthrene	0.97	8.7	1.5 J	2.4 J	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	0.20 J
Phenol	ND(0.22)	ND(3.7)	ND(1.8)	ND(4.0)	ND(0.93)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Pyrene	1.1	8.4	1.5 J	2.3 J	0.37 J	ND(0.33)	ND(0.33)	ND(0.33)	0.050 J
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	ND(0.045)	ND(0.038)	ND(0.037)	ND(0.042)	ND(0.038)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)	ND(0.33)
Aroclor-1221 (PCB-1221)	ND(0.045)	ND(0.038)	ND(0.037)	ND(0.042)	ND(0.038)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)	ND(0.33)
Aroclor-1232 (PCB-1232)	ND(0.045)	ND(0.038)	ND(0.037)	ND(0.042)	ND(0.038)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)	ND(0.33)
Aroclor-1242 (PCB-1242)	ND(0.045)	0.041	0.057	ND(0.042)	ND(0.038)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)	ND(0.33)
Aroclor-1248 (PCB-1248)	ND(0.045)	ND(0.038)	ND(0.037)	ND(0.042)	ND(0.038)	ND(0.33 J)	ND(0.33 J)	ND(0.33 J)	ND(0.33)
Aroclor-1254 (PCB-1254)	ND(0.045)	ND(0.038)	ND(0.037)	ND(0.042)	ND(0.038)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Aroclor-1260 (PCB-1260)	ND(0.045)	ND(0.038)	ND(0.037)	ND(0.042)	ND(0.038)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
Total PCBs	ND(0.045)	0.041	0.057	ND(0.042)	ND(0.038)	ND(0.33)	ND(0.33)	ND(0.33)	ND(0.33)
<b>Inorganic</b>									
Antimony	ND(0.18)	ND(0.14)	0.021 J	ND(0.15)	3.4	ND(0.30)	ND(0.47)	ND(0.30)	ND(0.30)
Arsenic	10 (RDC)	3.2	2.2	4.5	4.4	1.8	1.8	2.8	ND(0.68)
Barium	120	28	7.7	55	110	44	31	84	7.1
Beryllium	0.81	0.20	0.11	0.49	0.29	0.19 J	0.18 J	0.51	0.090 J
Cadmium	0.18	ND(0.12)	ND(0.079)	0.16	0.43	0.17 J	0.090 J	0.090 J	ND(0.20)
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	26	15	5.3	16	25	3.7	3.6	13	29
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	10	3.8	2.3	6.7	2.8	3.6	3.0	11	0.97
Copper	19	30	7.7	12	73	19	5.6	19	18
Cyanide (total)	ND(0.30)	0.52 J	ND(0.20)	ND(0.20)	0.36 J	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)
Lead	16	8.8	3.8	9.8	140	13	4.8	11	3.9
Manganese	400	160	160	510	280	330	200	440	160
Mercury	0.052 J	0.0052 J	0.019 J	0.059 J	0.13 J	0.060	0.010 J	0.020 J	ND(0.050)
Nickel	26	13	7.2	17	13	7.8	6.1	25	8.2
Selenium	0.13	0.14	0.14	0.091	0.33	ND(0.87)	ND(0.64)	ND(0.92)	ND(0.20)
Silver	0.14 J	0.063 J	0.024 J	0.075 J	0.14 J	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)
Thallium	0.29	0.078 J	0.046 J	0.19	0.087 J	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Vanadium	42	18	9.9	28	11	6.2	6.5	16	1.7
Zinc	53	20	16	35	110	14	11	27	2.9

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-84-08 8 - 10 06/28/05	RFI-84-08 28 - 30 06/29/05	RFI-84-09 0.5 - 2.5 07/16/05	RFI-84-09 8 - 10 07/16/05	RFI-84-10 0.7 - 2.7 07/16/05	RFI-84-10 2.7 - 4.7 07/16/05	RFI-84-11 0.5 - 2.5 07/16/05	RFI-84-11 3.5 - 5.5 07/16/05
<b>Miscellaneous</b>								
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids	82	82	90	84	89	84	82 [83]	88
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
1,1,2,2-Tetrachloroethane	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
1,1,2-Trichloroethane	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
1,1-Dichloroethane	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
1,1-Dichloroethene	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
1,2,4-Trichlorobenzene	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.030)	ND(0.030)	ND(0.020)	ND(0.030)	ND(0.020)	ND(0.020)	ND(0.030) [ND(0.030)]	ND(0.020)
1,2-Dichlorobenzene	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
1,2-Dichloroethane	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
1,2-Dichloropropane	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
1,3-Dichlorobenzene	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
1,4-Dichlorobenzene	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
2-Butanone (Methyl Ethyl Ketone)	ND(1.0)	ND(1.0)	ND(0.80)	ND(1.0)	ND(0.80)	ND(0.90)	ND(1.0) [ND(0.90)]	ND(0.80)
2-Hexanone	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0) [ND(3.0)]	ND(3.0)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0) [ND(3.0)]	ND(3.0)
Acetone	ND(1.0)	ND(1.0)	ND(0.80)	ND(1.0)	ND(0.80)	ND(0.90)	ND(1.0) [ND(0.90)]	ND(0.80)
Benzene	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	0.030 J
Bromodichloromethane	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
Bromoform	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
Bromomethane (Methyl Bromide)	ND(0.30)	ND(0.30)	ND(0.30 J)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)
Carbon disulfide	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)
Carbon tetrachloride	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
Chlorobenzene	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
Chloroethane	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)
Chloroform (Trichloromethane)	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
Chloromethane (Methyl Chloride)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)
cis-1,2-Dichloroethene	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
cis-1,3-Dichloropropene	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
Cyclohexane	ND(0.070)	ND(0.070)	ND(0.050 J)	ND(0.070 J)	ND(0.050 J)	ND(0.060 J)	ND(0.060 J) [ND(0.060 J)]	ND(0.050 J)
Dibromochloromethane	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
Dichlorodifluoromethane (CFC-12)	ND(0.070)	ND(0.070)	ND(0.050 J)	ND(0.070 J)	ND(0.050 J)	ND(0.060 J)	ND(0.060 J) [ND(0.060 J)]	ND(0.050 J)
Ethylbenzene	ND(0.070)	ND(0.070)	0.010 J	ND(0.070)	0.0080 J	ND(0.060)	ND(0.060) [ND(0.060)]	0.030 J
Isopropylbenzene	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	0.020 J
m&p-Xylene	ND(0.070)	ND(0.070)	0.040 J	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	0.12
Methyl acetate	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0)	ND(3.0) [ND(3.0)]	ND(3.0)
Methyl cyclohexane	0.040 J	ND(0.070)	0.090	0.050 J	0.040 J	ND(0.060)	ND(0.060) [ND(0.060)]	0.19
Methyl Tert Butyl Ether	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)
Methylene chloride	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30) [ND(0.30)]	ND(0.30)
o-Xylene	ND(0.070)	ND(0.070)	0.020 J	0.0090 J	0.020 J	ND(0.060)	ND(0.060) [ND(0.060)]	0.090
Styrene	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
Tetrachloroethene	0.030 J	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
Toluene	ND(0.070)	ND(0.070)	0.030 J	0.020 J	0.020 J	ND(0.060)	ND(0.060) [ND(0.060)]	0.12
trans-1,2-Dichloroethene	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
trans-1,3-Dichloropropene	ND(0.070)	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	ND(0.050)
Trichloroethene	0.020 J	ND(0.070)	ND(0.050)	ND(0.070)	ND(0.050)	ND(0.060)	ND(0.060) [ND(0.060)]	0.030 J
Trichlorofluoromethane (CFC-11)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)
Trifluorotrchloroethane (Freon 113)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)
Vinyl chloride	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10) [ND(0.10)]	ND(0.10)
Xylenes (total)	ND(0.070)	ND(0.070)	0.060 J	0.0090 J	0.020 J	ND(0.060)	ND(0.060) [ND(0.060)]	0.21
<b>SVOC</b>								
2,2-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	ND(0.67)	ND(0.67)	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
2-Chlorophenol	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	0.030 J	ND(0.33)	NA	NA	NA	NA	NA	NA
2-Methylphenol	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
2-Nitroaniline	ND(0.67)	ND(0.67)	NA	NA	NA	NA	NA	NA
2-Nitrophenol	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3-Dichlorobenzidine	ND(0.67)	ND(0.67)	NA	NA	NA	NA	NA	NA
3-Methylphenol	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
3-Nitroaniline	ND(0.67)	ND(0.67)	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylpheno	ND(0.67)	ND(0.67)	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylpheno	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
4-Chloroaniline	ND(0.67 J)	ND(0.67 J)	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
4-Nitroaniline	ND(0.67)	ND(0.67)	NA	NA	NA	NA	NA	NA
4-Nitrophenol	ND(0.67)	ND(0.67)	NA	NA	NA	NA	NA	NA
Acenaphthene	0.050 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Acenaphthylene	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Acetophenone	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Anthracene	0.10 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Atrazine	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Benzaldehyde	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-84-08 8 - 10 06/28/05	RFI-84-08 28 - 30 06/29/05	RFI-84-09 0.5 - 2.5 07/16/05	RFI-84-09 8 - 10 07/16/05	RFI-84-10 0.7 - 2.7 07/16/05	RFI-84-10 2.7 - 4.7 07/16/05	RFI-84-11 0.5 - 2.5 07/16/05	RFI-84-11 3.5 - 5.5 07/16/05
Benzo(a)anthracene	0.20 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.10 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.10 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.30 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.20 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Biphenyl	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Caprolactam	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Carbazole	0.070 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Chrysene	0.20 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.20 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Dibenzofuran	0.060 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Diethyl phthalate	ND(0.33)	0.020 J	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Fluoranthene	0.46	ND(0.33)	NA	NA	NA	NA	NA	NA
Fluorene	0.070 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Hexachloroethane	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.30 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Isophorone	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Methylphenols, Total	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Naphthalene	0.050 J	ND(0.33)	NA	NA	NA	NA	NA	NA
Nitrobenzene	ND(0.20)	ND(0.20)	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Pentachlorophenol	ND(0.67)	ND(0.67)	NA	NA	NA	NA	NA	NA
Phenanthrene	0.54	ND(0.33)	NA	NA	NA	NA	NA	NA
Phenol	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Pyrene	0.36	ND(0.33)	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
Total PCBs	ND(0.33)	ND(0.33)	NA	NA	NA	NA	NA	NA
<b>Inorganic</b>								
Antimony	ND(0.30)	ND(0.30)	NA	NA	NA	NA	NA	NA
Arsenic	2.7	6.1	NA	NA	NA	NA	NA	NA
Barium	43	18	NA	NA	NA	NA	NA	NA
Beryllium	0.50	0.12 J	NA	NA	NA	NA	NA	NA
Cadmium	0.15 J	0.080 J	NA	NA	NA	NA	NA	NA
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	3.6	2.9	NA	NA	NA	NA	NA	NA
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	3.7	3.3	NA	NA	NA	NA	NA	NA
Copper	15	8.7	NA	NA	NA	NA	NA	NA
Cyanide (total)	ND(0.10)	ND(0.10)	NA	NA	NA	NA	NA	NA
Lead	170	5.3	NA	NA	NA	NA	NA	NA
Manganese	300	360	NA	NA	NA	NA	NA	NA
Mercury	0.040 J	0.010 J	NA	NA	NA	NA	NA	NA
Nickel	8.5	7.0	NA	NA	NA	NA	NA	NA
Selenium	ND(0.58)	ND(0.82)	NA	NA	NA	NA	NA	NA
Silver	ND(0.10)	ND(0.10)	NA	NA	NA	NA	NA	NA
Thallium	0.25 J	ND(0.50)	NA	NA	NA	NA	NA	NA
Vanadium	7.4	5.3	NA	NA	NA	NA	NA	NA
Zinc	23	18	NA	NA	NA	NA	NA	NA



**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-85-08 0.5 - 2.5 08/22/02	RFI-85-08 6.5 - 8.5 08/22/02	RFI-86-16 0.8 - 2.8 02/27/03	RFI-86-16 7.8 - 9.8 02/27/03	RFI-86-16 9.8 - 11.8 02/27/03	RFI-86-17 1 - 3 03/12/03	RFI-86-18 1 - 3 03/12/03	RFI-94-07 2 - 4 08/21/02	RFI-94-07 4 - 6 08/21/02
Benzo(a)anthracene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Benzo(a)pyrene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Benzo(b)fluoranthene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Benzo(g,h,i)perylene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Benzo(k)fluoranthene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Biphenyl	ND(1.8 J)	ND(0.19 J)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96 J)	ND(0.20 J)
bis(2-Chloroethoxy)methane	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
bis(2-Chloroethyl)ether	ND(0.36)	ND(0.037)	ND(0.035)	ND(0.042)	ND(0.044)	NA	NA	ND(0.19)	ND(0.039)
bis(2-Ethylhexyl)phthalate	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Butyl benzylphthalate	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Caprolactam	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Carbazole	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Chrysene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Dibenz(a,h)anthracene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Dibenzofuran	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Diethyl phthalate	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Dimethyl phthalate	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Di-n-butylphthalate	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Di-n-octyl phthalate	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Fluoranthene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Fluorene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Hexachlorobenzene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Hexachlorobutadiene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Hexachlorocyclopentadiene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Hexachloroethane	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Indeno(1,2,3-cd)pyrene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Isophorone	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Methylphenols, Total	ND(3.7)	ND(0.38)	ND(0.36)	ND(0.43)	ND(0.45)	NA	NA	ND(1.9)	ND(0.40)
Naphthalene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Nitrobenzene	ND(0.72)	ND(0.075)	ND(0.072)	ND(0.084)	ND(0.089)	NA	NA	ND(0.38)	ND(0.079)
N-Nitrosodi-n-propylamine	ND(1.8 J)	ND(0.19 J)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
N-Nitrosodiphenylamine	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Pentachlorophenol	ND(7.2)	ND(0.75)	R	ND(0.84)	ND(0.89)	NA	NA	ND(3.8)	ND(0.79)
Phenanthrene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Phenol	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
Pyrene	ND(1.8)	ND(0.19)	ND(0.18)	ND(0.21)	ND(0.23)	NA	NA	ND(0.96)	ND(0.20)
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.044)	ND(0.047)	NA	NA	ND(0.040)	ND(0.041)
Aroclor-1221 (PCB-1221)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.044)	ND(0.047)	NA	NA	ND(0.040)	ND(0.041)
Aroclor-1232 (PCB-1232)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.044)	ND(0.047)	NA	NA	ND(0.040)	ND(0.041)
Aroclor-1242 (PCB-1242)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.044)	ND(0.047)	NA	NA	ND(0.040)	ND(0.041)
Aroclor-1248 (PCB-1248)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.044)	ND(0.047)	NA	NA	ND(0.040)	ND(0.041)
Aroclor-1254 (PCB-1254)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.044)	ND(0.047)	NA	NA	ND(0.040)	ND(0.041)
Aroclor-1260 (PCB-1260)	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.044)	ND(0.047)	NA	NA	ND(0.040)	ND(0.041)
Total PCBs	ND(0.038)	ND(0.039)	ND(0.037)	ND(0.044)	ND(0.047)	NA	NA	ND(0.040)	ND(0.041)
<b>Inorganic</b>									
Antimony	0.033 J	0.056 J	ND(0.15)	0.035 J	0.13 J	NA	NA	0.052 J	0.021 J
Arsenic	4.2 J	2.3 J	3.9	6.2	7.9 (RDC)	190 J (IDC,RDC)	19 J (RDC)	16 J (RDC)	4.8 J
Barium	27 J	27 J	19	86	110	NA	NA	61 J	69 J
Beryllium	0.26	0.13	0.13 J	0.56 J	0.69 J	NA	NA	0.60	0.51
Cadmium	0.17 J	0.11 J	0.13	0.12	0.13	NA	NA	0.65 J	0.10 J
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	15 J	5.3 J	7.0	23	29	NA	NA	12 J	20 J
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	3.3 J	2.0 J	3.0	12	16	NA	NA	5.1	7.9
Copper	14 J	8.0 J	6.8	18	22	NA	NA	26	14
Cyanide (total)	ND(0.20)	ND(0.20 J)	ND(0.20)	ND(0.20)	ND(1.0)	NA	NA	ND(0.20 J)	ND(0.20 J)
Lead	27 J	37 J	9.5	12	14	NA	NA	16 J	8.3 J
Manganese	370 J	150 J	150	340	410	NA	NA	1,300 J	350 J
Mercury	0.049 J	0.0084 J	ND(0.072)	ND(0.083)	0.0088 J	NA	NA	0.033 J	0.015 J
Nickel	11 J	5.1 J	7.8	32	39	NA	NA	22	20
Selenium	ND(0.064 J)	0.040 J	0.23 J	0.26	0.23	NA	NA	0.64 J	1.1
Silver	0.10 J	0.19 J	0.030 J	0.15 J	0.17 J	NA	NA	0.15 J	0.17
Thallium	0.071 J	0.057 J	0.071 J	0.27	0.28	NA	NA	0.14 J	0.18 J
Vanadium	14 J	9.6 J	12	35	42	NA	NA	52 J	31 J
Zinc	34 J	30 J	29	55	66	NA	NA	75 J	39 J



**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-94-08 4 - 6 12/01/03	RFI-94-08 8 - 10 12/01/03	RFI-94-08 21 - 23 12/01/03	RFI-94-11 1.5 - 3.5 03/08/05	RFI-94-11 8 - 10 03/08/05	RFI-94-11 10.5 - 12.5 03/08/05	RFI-BG-01 0 - 2 08/29/02	RFI-BG-02 0 - 2 08/29/02	RFI-BG-03 0 - 2 08/29/02
Benzo(a)anthracene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Benzo(a)pyrene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Benzo(b)fluoranthene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Benzo(g,h,i)perylene	ND(0.20 J)	ND(0.19 J) [ND(0.19 J)]	ND(0.19 J)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Benzo(k)fluoranthene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Biphenyl	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
bis(2-Chloroethoxy)methane	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
bis(2-Chloroethyl)ether	ND(0.039)	ND(0.037) [ND(0.036)]	ND(0.037)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
bis(2-Ethylhexyl)phthalate	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Butyl benzylphthalate	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Caprolactam	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Carbazole	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Chrysene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Dibenz(a,h)anthracene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Dibenzofuran	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Diethyl phthalate	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Dimethyl phthalate	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Di-n-butylphthalate	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Di-n-octyl phthalate	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Fluoranthene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Fluorene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Hexachlorobenzene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Hexachlorobutadiene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Hexachlorocyclopentadiene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Hexachloroethane	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Isophorone	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Methylphenols, Total	ND(0.40)	ND(0.38) [ND(0.37)]	ND(0.38)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Naphthalene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Nitrobenzene	ND(0.080)	ND(0.075) [ND(0.074)]	ND(0.075)	ND(0.20)	ND(0.20)	ND(0.20)	NA	NA	NA
N-Nitrosodi-n-propylamine	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
N-Nitrosodiphenylamine	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Pentachlorophenol	ND(0.80)	ND(0.75) [ND(0.74)]	ND(0.75)	ND(0.70)	ND(0.70)	ND(0.70)	NA	NA	NA
Phenanthrene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	0.030 J	ND(0.30)	0.020 J	NA	NA	NA
Phenol	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
Pyrene	ND(0.20)	ND(0.19) [ND(0.19)]	ND(0.19)	ND(0.30)	ND(0.30)	ND(0.30)	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	ND(0.041)	ND(0.039) [ND(0.038)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Aroclor-1221 (PCB-1221)	ND(0.041)	ND(0.039) [ND(0.038)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Aroclor-1232 (PCB-1232)	ND(0.041)	ND(0.039) [ND(0.038)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Aroclor-1242 (PCB-1242)	ND(0.041)	ND(0.039) [ND(0.038)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Aroclor-1248 (PCB-1248)	ND(0.041)	ND(0.039) [ND(0.038)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Aroclor-1254 (PCB-1254)	ND(0.041)	ND(0.039) [ND(0.038)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Aroclor-1260 (PCB-1260)	ND(0.041)	ND(0.039) [ND(0.038)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
Total PCBs	ND(0.041)	ND(0.039) [ND(0.038)]	ND(0.039)	ND(0.33)	ND(0.33)	ND(0.33)	NA	NA	NA
<b>Inorganic</b>									
Antimony	ND(0.17)	ND(0.15) [ND(3.5)]	ND(0.17)	ND(0.50)	ND(0.50)	ND(0.50)	0.028 J	R	0.010 J
Arsenic	4.3	5.3 [6.3]	2.2	1.3 J	3.3 J	4.7 J	7.2 J	10 J (RDC)	6.3 J
Barium	63	70 [44]	22 J	39 J	47 J	16 J	78 J	110 J	49 J
Beryllium	0.54	0.42 [ND(1.4)]	0.16	0.24	0.23	0.17	0.43	0.67	0.34
Cadmium	0.20	ND(0.090) [ND(0.35)]	ND(0.088)	0.21	0.20	0.21	0.33 J	0.39 J	0.27 J
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	19	13 [13]	8.0	4.5	6.2	4.1	17 J	22 J	14 J
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	3.9	7.7 [4.9]	3.0	3.4	6.6	3.6	6.7 J	10 J	5.7 J
Copper	29	9.0 [10]	5.8	7.5	11	8.8	18 J	16 J	14 J
Cyanide (total)	NA	NA	NA	ND(0.10)	ND(0.10)	ND(0.10)	NA	NA	NA
Lead	62	6.0 [ND(7.0)]	3.1	80	7.0	5.5	48 J	30 J	32 J
Manganese	380	460 [310]	150	300	420	290	410	610	360
Mercury	ND(0.083)	ND(0.077) [ND(0.076)]	ND(0.069)	ND(0.050)	ND(0.050)	ND(0.050)	0.029 J	0.041 J	0.019 J
Nickel	13	19 [14]	8.6	4.8	14	8.0	15 J	22 J	14 J
Selenium	ND(1.0)	ND(0.93) [ND(8.4)]	ND(0.42)	0.26	0.44	0.62	ND(0.064)	0.16 J	0.038 J
Silver	ND(0.17)	ND(0.15) [ND(3.5)]	ND(0.17)	ND(0.20)	ND(0.20)	ND(0.20)	0.11 J	0.098 J	0.056 J
Thallium	ND(0.17)	ND(0.15) [ND(3.5)]	ND(0.17)	0.14	ND(0.10)	ND(0.10)	0.19 J	0.28 J	0.14 J
Vanadium	19	20 [18]	12	5.4	10	6.7	24 J	36 J	25 J
Zinc	44	33 [ND(56)]	19	13 J	18 J	16 J	84 J	75 J	66 J

**TABLE B-1**  
**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**  
(in mg/kg)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID:	RFI-BG-04	RFI-BG-05	RFI-BG-06	RFI-BG-07	RFI-BG-08	RFI-BG-09	RFI-BG-10
Sample Depth(ft BGS):	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2
Date Collected:	08/29/02	08/29/02	08/29/02	08/29/02	08/29/02	08/29/02	08/29/02
<b>Miscellaneous</b>							
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA
Total Solids	90	97	93 [91]	89	92	89	94
<b>VOC</b>							
1,1,1-Trichloroethane	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA
Bromoform	NA	NA	NA	NA	NA	NA	NA
Bromomethane (Methyl Bromide)	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	NA	NA	NA	NA	NA	NA
Chloroethane	NA	NA	NA	NA	NA	NA	NA
Chloroform (Trichloromethane)	NA	NA	NA	NA	NA	NA	NA
Chloromethane (Methyl Chloride)	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA
m&p-Xylene	NA	NA	NA	NA	NA	NA	NA
Methyl acetate	NA	NA	NA	NA	NA	NA	NA
Methyl cyclohexane	NA	NA	NA	NA	NA	NA	NA
Methyl Tert Butyl Ether	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA
o-Xylene	NA	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (CFC-11)	NA	NA	NA	NA	NA	NA	NA
Trifluorotrchloroethane (Freon 113)	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	NA	NA	NA	NA	NA	NA	NA
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylpheno	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylpheno	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylpheno	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA

**TABLE B-1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(in mg/kg)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Sample ID: Sample Depth(ft BGS): Date Collected:	RFI-BG-04 0 - 2 08/29/02	RFI-BG-05 0 - 2 08/29/02	RFI-BG-06 0 - 2 08/29/02	RFI-BG-07 0 - 2 08/29/02	RFI-BG-08 0 - 2 08/29/02	RFI-BG-09 0 - 2 08/29/02	RFI-BG-10 0 - 2 08/29/02
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic</b>							
Antimony	R	0.038 J	0.084 J [0.030 J]	0.11 J	0.027 J	0.013 J	0.042 J
Arsenic	8.7 J (RDC)	6.8 J	6.8 J [6.2 J]	9.9 J (RDC)	8.5 J (RDC)	6.5 J	5.5 J
Barium	98 J	26 J	32 J [57 J]	140 J	80 J	60 J	150 J
Beryllium	0.59	0.22	0.19 [0.34]	0.72	0.42	0.47	0.89
Cadmium	0.40 J	0.38 J	0.23 J [0.37 J]	0.97 J	0.34 J	0.33 J	1.1
Chromium III (Trivalent)	NA	NA	NA	NA	NA	NA	NA
Chromium Total	19 J	14 J	43 J [31 J]	35 J	16 J	16 J	47 J
Chromium VI (Hexavalent)	NA	NA	NA	NA	NA	NA	NA
Cobalt	9.0 J	4.7 J	3.2 J [4.3 J]	6.3 J	6.7 J	6.4 J	3.8 J
Copper	15 J	19 J	25 J [34 J]	47 J	13 J	17 J	29 J
Cyanide (total)	NA	NA	NA	NA	NA	NA	NA
Lead	38 J	84 J	50 J [65 J]	150 J	30 J	45 J	190 J
Manganese	510	360	410 [270]	610	500	380	2,100 (IPSI C)
Mercury	0.034 J	0.0058 J	0.013 J [0.033 J]	0.094	0.056 J	0.076	0.027 J
Nickel	18 J	14 J	21 J [20 J]	20 J	14 J	19 J	17 J
Selenium	0.21 J	0.13 J	0.42 J [0.18 J]	0.31 J	0.039 J	0.051 J	0.12 J
Silver	0.079 J	0.055 J	0.097 J [0.20 J]	0.23 J	0.094 J	0.086 J	0.26 J
Thallium	0.25 J	0.13 J	0.12 J [0.13 J]	0.25 J	0.15 J	0.16 J	0.10 J
Vanadium	31 J	14 J	8.6 J [13 J]	23 J	24 J	22 J	14 J
Zinc	77 J	73 J	44 J [85 J]	200 J	85 J	87 J	720 J

**TABLE B-2**  
**MDEQ PART 201 SOIL CRITERIA**  
 (for constituents in the Project Analyte List)  
 (concentrations presented in milligrams per kilogram)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Hazardous Substance	Chemical Abstract Service Number	Direct Contact		Indoor Air		Ambient Air {Y}				
		Residential Direct Contact Criteria (RDC)	Industrial and Commercial II Direct Contact (IDC)	Residential Soil Volatilization to Indoor Air Inhalation Criteria (RSVIA)	Industrial Soil Volatilization to Indoor Air Inhalation Criteria (ISVIA)	Residential Infinite Source Volatile Soil Inhalation Criteria (RISVSIC)	Industrial Infinite Source Volatile Soil Inhalation Criteria (IISVSIC)	Residential Particulate Soil Inhalation Criteria (RPSIC)	Industrial Particulate Soil Inhalation Criteria (IPSIC)	
VOC										
1,1,1-Trichloroethane	71556	460 {C}	460 {C}	250	460	3,800	4,500	67,000,000	29,000,000	
1,1,2,2-Tetrachloroethane	79345	53	240	4.3	23	10	34	54,000	68,000	
1,1,2-Trichloroethane	79005	180	840	4.6	24	17	57	190,000	250,000	
1,1-Dichloroethane	75343	890 {C}	890 {C}	230	430	2,100	2,500	33,000,000	15,000,000	
1,1-Dichloroethene	75354	200 {I}	570 {I,C}	0.062 {I}	0.33 {I}	1.1 {I}	3.7 {I}	62,000 {I}	78,000 {I}	
1,2,4-Trichlorobenzene	120821	990 {DD}	1,100 {C,DD}	1,100 {C}	1,100 {C}	28,000	34,000	25,000,000	11,000,000	
1,2-Dibromo-3-chloropropane (DBCP)	96128	1.2 {C}	1.2 {C}	1.2 {C}	1.2 {C}	13	15	13,000	5,900	
1,2-Dibromoethane (Ethylene Dibromide)	106934	0.092	0.43	0.67	3.6	1.7	5.8	14,000	18,000	
1,2-Dichlorobenzene	95501	210 {C}	210 {C}	210 {C}	210 {C}	39,000	46,000	100,000,000	44,000,000	
1,2-Dichloroethane	107062	91 {I}	420 {I}	2.1 {I}	11 {I}	6.2 {I}	21 {I}	120,000 {I}	150,000 {I}	
1,2-Dichloropropane	78875	140 {I}	550 {I,C}	4 {I}	7.4 {I}	25 {I}	30 {I}	270,000 {I}	120,000 {I}	
1,3-Dichlorobenzene	541731	170 {C}	170 {C}	{ID}	{ID}	{ID}	{ID}	{ID}	{ID}	
1,4-Dichlorobenzene	106467	400	1,900	19	100	77	260	450,000	570,000	
2-Butanone (Methyl Ethyl Ketone)	78933	27,000 {I,C,DD}	27,000 {I,C,DD}	27,000 {C}	27,000 {C}	29,000 {I}	35,000 {I}	67,000,000 {I}	29,000,000 {I}	
2-Hexanone	591786	2,500 {C}	2,500 {C}	990	1,800	1,100	1,300	2,700,000	1,200,000	
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	108101	2,700 {I,C}	2,700 {I,C}	2,700 {C}	2,700 {I,C}	45,000 {I}	53,000 {I}	140,000,000 {I}	60,000,000 {I}	
Acetone	67641	23,000 {I}	73,000 {I}	110,000 {I,C}	110,000 {I,C}	130,000 {I}	160,000 {I}	390,000,000 {I}	170,000,000 {I}	
Benzene	71432	180 {I}	400 {I,C}	1.6 {I}	8.4 {I}	13 {I}	45 {I}	380,000 {I}	470,000 {I}	
Bromodichloromethane	75274	110	490	1.2	6.4	9.1	31	84,000	110,000	
Bromoform	75252	820	870 {C}	150	770	900	3,100	2,800,000	3,600,000	
Bromomethane (Methyl Bromide)	74839	320	1,000	0.86	1.6	11	13	330,000	150,000	
Carbon disulfide	75150	280 {I,R,C,DD}	280 {I,R,C,DD}	76 {I,R}	140 {I,R}	1,300 {I,R}	1,600 {I,R}	47,000,000 {I,R}	21,000,000 {I,R}	
Carbon tetrachloride	56235	96	390 {C}	0.19	0.99	3.5	12	130,000	170,000	
Chlorobenzene	108907	260 {I,C}	260 {I,C}	120 {I}	220 {I}	770 {I}	920 {I}	4,700,000 {I}	2,100,000 {I}	
Chloroethane	75003	950 {C}	950 {C}	950 {C}	950 {C}	30,000	36,000	670,000,000	290,000,000	
Chloroform (Trichloromethane)	67663	1,200	1,500 {C}	7.2	38	45	150	1,300,000	1,600,000	
Chloromethane (Methyl Chloride)	74873	1,100 {I,C}	1,100 {I,C}	2.3 {I}	10 {I}	40 {I}	120 {I}	4,900,000 {I}	2,600,000 {I}	
cis-1,2-Dichloroethene	156592	640 {C}	640 {C}	22	41	180	210	2,300,000	1,000,000	
cis-1,3-Dichloropropene	10061015	--	--	--	--	--	--	--	--	
Cyclohexane	110827	--	--	--	--	--	--	--	--	
Dibromochloromethane	124481	110	500	3.9	21	24	80	130,000	160,000	
Dichlorodifluoromethane (CFC-12)	75718	1,000 {C}	1,000 {C}	900	1,700	53,000	63,000	3,300,000,000	1,500,000,000	
Ethylbenzene	100414	140 {I,C}	140 {I,C}	87 {I}	140 {I,C}	720 {I}	2,400 {I}	10,000,000 {I}	13,000,000 {I}	
Isopropylbenzene	98828	390 {C}	390 {C}	390 {C}	390 {C}	1,700	2,000	5,800,000	2,600,000	
Methyl acetate	79209	--	--	--	--	--	--	--	--	
Methyl cyclohexane	108872	--	--	--	--	--	--	--	--	
Methyl Tert Butyl Ether	1634044	1,500	5,900 {C}	5,900 {C}	5,900 {C}	25,000	30,000	200,000,000	88,000,000	
Methylene chloride	75092	1,300	2,300 {C}	45	240	210	700	6,600,000	8,300,000	
o-Xylene	95476	--	--	--	--	--	--	--	--	

**TABLE B-2**  
**MDEQ PART 201 SOIL CRITERIA**  
 (for constituents in the Project Analyte List)  
 (concentrations presented in milligrams per kilogram)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Hazardous Substance	Chemical Abstract Service Number	Direct Contact		Indoor Air		Ambient Air {Y}			
		Residential Direct Contact Criteria (RDC)	Industrial and Commercial II Direct Contact (IDC)	Residential Soil Volatilization to Indoor Air Inhalation Criteria (RSVIA)	Industrial Soil Volatilization to Indoor Air Inhalation Criteria (ISVIA)	Residential Infinite Source Volatile Soil Inhalation Criteria (RISVSIC)	Industrial Infinite Source Volatile Soil Inhalation Criteria (IISVSIC)	Residential Particulate Soil Inhalation Criteria (RPSIC)	Industrial Particulate Soil Inhalation Criteria (IPSIC)
Styrene	100425	400	520 {C}	250	520 {C}	970	3,300	5,500,000	6,900,000
Tetrachloroethene	127184	88 {C}	88 {C}	11	60	180	600	5,400,000	6,800,000
Toluene	108883	250 {I,C}	250 {I,C}	250 {I,C}	250 {I,C}	2,800 {I}	3,300 {I}	27,000,000 {I}	12,000,000 {I}
trans-1,2-Dichloroethene	156605	1,400 {C}	1,400 {C}	23	43	280	330	4,700,000	2,100,000
trans-1,3-Dichloropropene	10061026	--	--	--	--	--	--	--	--
Trichloroethene	79016	500 {C,DD}	500 {C,DD}	7.1	37	78	260	1,800,000	2,300,000
Trichlorofluoromethane (CFC-11)	75694	560 {C}	560 {C}	560 {C}	560 {C}	92,000	110,000	3,800,000,000	1,700,000,000
Trifluorotrchloroethane (Freon 113)	76131	550 {C}	550 {C}	550 {C}	550 {C}	180,000	210,000	5,100,000,000	2,300,000,000
Vinyl chloride	75014	3.8	34	0.27	2.8	4.2	29	350,000	890,000
Xylenes (total)	1330207	150 {I,C}	150 {I,C}	150 {I,C}	150 {I,C}	46,000 {I}	54,000 {I}	290,000,000 {I}	130,000,000 {I}
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	108601	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	95954	23,000	73,000	{NLV}	{NLV}	{NLV}	{NLV}	23,000,000	10,000,000
2,4,6-Trichlorophenol	88062	710	3,300	{NLV}	{NLV}	{NLV}	{NLV}	1,000,000	1,300,000
2,4-Dichlorophenol	120832	660 {DD}	1,800 {C,DD}	{NLV}	{NLV}	{NLV}	{NLV}	5,100,000	2,300,000
2,4-Dimethylphenol	105679	11,000	36,000	{NLV}	{NLV}	{NLV}	{NLV}	4,700,000	2,100,000
2,4-Dinitrophenol	51285	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	121142	48	220	{NLV}	{NLV}	{NLV}	{NLV}	16,000	20,000
2,6-Dinitrotoluene	606202	--	--	--	--	--	--	--	--
2-Chloronaphthalene	91587	56,000	180,000	{ID}	{ID}	{ID}	{ID}	{ID}	{ID}
2-Chlorophenol	95578	1,400	4,500	{ID}	{ID}	{ID}	{ID}	{ID}	{ID}
2-Methylnaphthalene	91576	8,100	26,000	{ID}	{ID}	{ID}	{ID}	{ID}	{ID}
2-Methylphenol	95487	--	--	--	--	--	--	--	--
2-Nitroaniline	88744	--	--	--	--	--	--	--	--
2-Nitrophenol	88755	630	2,000	{NLV}	{NLV}	{NLV}	{NLV}	{ID}	{ID}
3,3'-Dichlorobenzidine	91941	6.6	30	{NLV}	{NLV}	{NLV}	{NLV}	6,500	8,200
3-Methylphenol	108394	--	--	--	--	--	--	--	--
3-Nitroaniline	99092	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	534521	79	260	{NLV}	{NLV}	{NLV}	{NLV}	{ID}	{ID}
4-Bromophenyl phenyl ether	101553	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	59507	4,500	15,000	{NLV}	{NLV}	{NLV}	{NLV}	{ID}	{ID}
4-Chloroaniline	106478	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	7005723	--	--	--	--	--	--	--	--
4-Nitroaniline	100016	--	--	--	--	--	--	--	--
4-Nitrophenol	100027	--	--	--	--	--	--	--	--
Acenaphthene	83329	41,000	130,000	190,000	350,000	81,000	97,000	14,000,000	6,200,000
Acenaphthylene	208968	1,600	5,200	1,600	3,000	2,200	2,700	2,300,000	1,000,000
Acetophenone	98862	1,100 {C}	1,100 {C}	1,100 {C}	1,100 {C}	44,000	52,000	33,000,000	14,000,000
Anthracene	120127	230,000	730,000	1,000,000 {D}	1,000,000 {D}	1,400,000	1,600,000	67,000,000	29,000,000
Atrazine	1912249	71 {DD}	330 {DD}	{NLV}	{NLV}	{NLV}	{NLV}	{ID}	{ID}

**TABLE B-2**  
**MDEQ PART 201 SOIL CRITERIA**  
(for constituents in the Project Analyte List)  
(concentrations presented in milligrams per kilogram)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Hazardous Substance	Chemical Abstract Service Number	Direct Contact		Indoor Air		Ambient Air {Y}			
		Residential Direct Contact Criteria (RDC)	Industrial and Commercial II Direct Contact (IDC)	Residential Soil Volatilization to Indoor Air Inhalation Criteria (RSVIA)	Industrial Soil Volatilization to Indoor Air Inhalation Criteria (ISVIA)	Residential Infinite Source Volatile Soil Inhalation Criteria (RISVSIC)	Industrial Infinite Source Volatile Soil Inhalation Criteria (IISVSIC)	Residential Particulate Soil Inhalation Criteria (RPSIC)	Industrial Particulate Soil Inhalation Criteria (IPSIC)
Benzaldehyde	100527	--	--	--	--	--	--	--	--
Benzo(a)anthracene	56553	20 {Q}	80 {Q}	{NLV}	{NLV}	{NLV}	{NLV}	{ID}	{ID}
Benzo(a)pyrene	50328	2 {Q}	8 {Q}	{NLV}	{NLV}	{NLV}	{NLV}	1,500 {Q}	1,900 {Q}
Benzo(b)fluoranthene	205992	20 {Q}	80 {Q}	{ID}	{ID}	{ID}	{ID}	{ID}	{ID}
Benzo(g,h,i)perylene	191242	2,500	7,000	{NLV}	{NLV}	{NLV}	{NLV}	800,000	350,000
Benzo(k)fluoranthene	207089	200 {Q}	800 {Q}	{NLV}	{NLV}	{NLV}	{NLV}	{ID}	{ID}
Biphenyl	92524	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	111911	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	111444	13 {I}	58 {I}	8.3 {I}	44 {I}	3.8 {I}	13 {I}	9,400 {I}	12,000 {I}
bis(2-Ethylhexyl)phthalate	117817	2,800	10,000 {C}	{NLV}	{NLV}	{NLV}	{NLV}	700,000	890,000
Butyl benzylphthalate	85687	310 {C}	310 {C}	{NLV}	{NLV}	{NLV}	{NLV}	47,000,000	21,000,000
Caprolactam	105602	53,000 {DD}	310,000 {I,DD}	{NLV}	{NLV}	{NLV}	{NLV}	670,000	290,000
Carbazole	86748	530	2,400	{NLV}	{NLV}	{NLV}	{NLV}	{ID}	{ID}
Chrysene	218019	2,000 {Q}	8,000 {Q}	{ID}	{ID}	{ID}	{ID}	{ID}	{ID}
Dibenz(a,h)anthracene	53703	2 {Q}	8 {Q}	{NLV}	{NLV}	{NLV}	{NLV}	{ID}	{ID}
Dibenzofuran	132649	{ID}	{ID}	{ID}	{ID}	{ID}	{ID}	{ID}	{ID}
Diethyl phthalate	84662	740 {C}	740 {C}	{NLV}	{NLV}	{NLV}	{NLV}	3,300,000	1,500,000
Dimethyl phthalate	131113	790 {C}	790 {C}	{NLV}	{NLV}	{NLV}	{NLV}	3,300,000	1,500,000
Di-n-butylphthalate	84742	760 {C}	760 {C}	{NLV}	{NLV}	{NLV}	{NLV}	3,300,000	1,500,000
Di-n-octyl phthalate	117840	6,900	20,000	{NLV}	{NLV}	{NLV}	{NLV}	{ID}	{ID}
Fluoranthene	206440	46,000	130,000	1,000,000 {D}	1,000,000 {D}	740,000	890,000	9,300,000	4,100,000
Fluorene	86737	27,000	87,000	580,000	1,000,000 {D}	130,000	150,000	9,300,000	4,100,000
Hexachlorobenzene	118741	8.9	37	41	220	17	56	6,800	8,500
Hexachlorobutadiene	87683	100	350 {C}	130	350 {C}	130	460	140,000	180,000
Hexachlorocyclopentadiene	77474	720 {C}	720 {C}	30	56	50	60	13,000	5,900
Hexachloroethane	67721	230	730	40	79	550	660	230,000	100,000
Indeno(1,2,3-cd)pyrene	193395	20 {Q}	80 {Q}	{NLV}	{NLV}	{NLV}	{NLV}	{ID}	{ID}
Isophorone	78591	2,400 {C}	2,400 {C}	{NLV}	{NLV}	{NLV}	{NLV}	12,000,000	8,200,000
Methylphenols, Total	1319773	11,000 {J}	36,000 {J}	{NLV}	{NLV}	{NLV}	{NLV}	6,700,000 {J}	2,900,000 {J}
Naphthalene	91203	16,000	52,000	250	470	300	350	200,000	88,000
Nitrobenzene	98953	100 {I}	340 {I}	91 {I}	170 {I}	54 {I}	64 {I}	47,000 {I}	21,000 {I}
N-Nitrosodi-n-propylamine	621647	1.2	5.4	{NLV}	{NLV}	{NLV}	{NLV}	1,600	2,000
N-Nitrosodiphenylamine	86306	1,700	7,800	{NLV}	{NLV}	{NLV}	{NLV}	{ID}	{ID}
Pentachlorophenol	87865	90	320	{NLV}	{NLV}	{NLV}	{NLV}	100,000	130,000
Phenanthrene	85018	1,600	5,200	2,800	5,100	160	190	6,700	2,900
Phenol	108952	12,000 {C,DD}	12,000 {C,DD}	{NLV}	{NLV}	{NLV}	{NLV}	40,000,000	18,000,000
Pyrene	129000	29,000	84,000	1,000,000 {D}	1,000,000 {D}	650,000	780,000	6,700,000	2,900,000
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	12674112	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	11104282	--	--	--	--	--	--	--	--

**TABLE B-2**  
**MDEQ PART 201 SOIL CRITERIA**  
 (for constituents in the Project Analyte List)  
 (concentrations presented in milligrams per kilogram)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Hazardous Substance	Chemical Abstract Service Number	Direct Contact		Indoor Air		Ambient Air {Y}				
		Residential Direct Contact Criteria (RDC)	Industrial and Commercial II Direct Contact (IDC)	Residential Soil Volatilization to Indoor Air Inhalation Criteria (RSVIA)	Industrial Soil Volatilization to Indoor Air Inhalation Criteria (ISVIA)	Residential Infinite Source Volatile Soil Inhalation Criteria (RISVSIC)	Industrial Infinite Source Volatile Soil Inhalation Criteria (IISVSIC)	Residential Particulate Soil Inhalation Criteria (RPSIC)	Industrial Particulate Soil Inhalation Criteria (IPSIC)	
Aroclor-1232 (PCB-1232)	11141165	--	--	--	--	--	--	--	--	
Aroclor-1242 (PCB-1242)	53469219	--	--	--	--	--	--	--	--	
Aroclor-1248 (PCB-1248)	12672296	--	--	--	--	--	--	--	--	
Aroclor-1254 (PCB-1254)	11097691	--	--	--	--	--	--	--	--	
Aroclor-1260 (PCB-1260)	11096825	--	--	--	--	--	--	--	--	
Total PCBs	1336363T	4 {J,T}	16 {J,T}	3,000 {J,T}	16,000 {J,T}	240 {J,T}	810 {J,T}	5,200 {J,T}	6,500 {J,T}	
<b>Inorganic</b>										
Antimony	7440360	180	670	{NLV}	{NLV}	{NLV}	{NLV}	13,000	5,900	
Arsenic	7440382	7.6	37	{NLV}	{NLV}	{NLV}	{NLV}	720	910	
Barium	7440393	37,000 {B}	130,000 {B}	{NLV}	{NLV}	{NLV}	{NLV}	330,000 {B}	150,000 {B}	
Beryllium	7440417	410	1,600	{NLV}	{NLV}	{NLV}	{NLV}	1,300	590	
Cadmium	7440439	550 {B}	2,100 {B}	{NLV}	{NLV}	{NLV}	{NLV}	1,700 {B}	2,200 {B}	
Chromium III (Trivalent)	16065831	790,000 {B,H}	1,000,000 {B,H,D}	{NLV}	{NLV}	{NLV}	{NLV}	330,000 {B,H}	150,000 {B,H}	
Chromium Total	7440473	2,500	9,200	{NLV}	{NLV}	{NLV}	{NLV}	260	240	
Chromium VI (Hexavalent)	18540299	2,500	9,200	{NLV}	{NLV}	{NLV}	{NLV}	260	240	
Cobalt	7440484	2,600	9,000	{NLV}	{NLV}	{NLV}	{NLV}	13,000	5,900	
Copper	7440508	20,000 {B}	73,000 {B}	{NLV}	{NLV}	{NLV}	{NLV}	130,000 {B}	59,000 {B}	
Cyanide (total)	57125	12 {P,R}	250 {P,R}	{NLV}	{NLV}	{NLV}	{NLV}	250 {P,R}	250 {P,R}	
Lead	7439921	400 {B}	900 {B,DD}	{NLV}	{NLV}	{NLV}	{NLV}	100,000 {B}	44,000 {B}	
Manganese	7439965	25,000 {B}	90,000 {B}	{NLV}	{NLV}	{NLV}	{NLV}	3,300 {B}	1,500 {B}	
Mercury	7439976	160 {B,Z}	580 {B,Z}	48 {B,Z}	89 {B,Z}	52 {B,Z}	62 {B,Z}	20,000 {B,Z}	8,800 {B,Z}	
Nickel	7440020	40,000 {B}	150,000 {B}	{NLV}	{NLV}	{NLV}	{NLV}	13,000 {B}	16,000 {B}	
Selenium	7782492	2,600 {B}	9,600 {B}	{NLV}	{NLV}	{NLV}	{NLV}	130,000 {B}	59,000 {B}	
Silver	7440224	2,500 {B}	9,000 {B}	{NLV}	{NLV}	{NLV}	{NLV}	6,700 {B}	2,900 {B}	
Thallium	7440280	35 {B}	130 {B}	{NLV}	{NLV}	{NLV}	{NLV}	{ID}	{ID}	
Vanadium	7440622	750 {DD}	5,500 {DD}	{NLV}	{NLV}	{NLV}	{NLV}	{ID}	{ID}	
Zinc	7440666	170,000 {B}	630,000 {B}	{NLV}	{NLV}	{B}	{NLV}	{ID}	{ID}	

**TABLE B-3**  
**NOTES FOR SOIL ANALYTICAL DATA TABLE AND MDEQ PART 201 SOIL CRITERIA TABLE**

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT MICHIGAN**

**General Notes:**

Samples were collected by Blasland, Bouck & Lee, Inc., and submitted to CT&E Environmental Services, Inc. and Merit Laboratories, for analysis of Project Analyte List (PAL) volatile organic compounds, PAL semivolatile organic compounds, polychlorinated biphenyls (PCBs), and PAL inorganics. Duplicate results are presented in brackets. Soil concentrations are presented in milligrams per kilogram (mg/kg). Total Methylphenols reported as the sum of 2-methylphenol and 3&4-methylphenol. Total Xylenes reported as the sum of m&p-Xylene and o-Xylene. Total PCBs reported as the sum of PCB aroclors. Highlighted cells represent constituent concentrations that exceed at least one of the listed Michigan Part 201 Criteria:

For Soils:

RDC = Residential Direct Contact criteria, updated December 2004.  
IDC = Industrial Direct Contact criteria, updated December 2004.  
RSVIA = Residential Soil Volatilization to Indoor Air Inhalation criteria, updated December 2004.  
ISVIA = Industrial Soil Volatilization to Indoor Air Inhalation criteria, updated December 2004.  
RISVSIC = Residential Infinite Source Volatile Soil Inhalation criteria, updated December 2004.  
IISVSIC = Industrial Infinite Source Volatile Soil Inhalation Criteria, updated December 2004.  
RPSIC = Residential Particulate Soil Inhalation criteria, updated December 2004.  
IPSIC = Industrial Particulate Soil Inhalation criteria, updated December 2004.

**Data Qualifiers:**

ND = Not detected. The value in parentheses represents the associated detection limit.  
NS = Not analyzed for this constituent.  
D = Concentration is based on a diluted sample analysis.  
J = The compound/constituent was positively identified; however, the associated numerical value is an estimated concentration only.  
E = Measured concentration exceeded the linear range of the instrument. A diluted sample analysis was run; however, the undiluted result was chosen as representative of the sample concentration.  
R = Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data shall not be used for any qualitative or quantitative purposes.

**MDEQ Criteria Qualifiers:**

ID = *Inadequate data* to develop criterion.  
NA = Criterion or value is *not available* or, as is the case for Csat, *not applicable*.  
NLV = Hazardous substance is *not likely to volatilize* under most conditions.  
(B) Background, as defined in R 299.5701(b), may be substituted if higher than the calculated cleanup criterion. Background levels may be less than criteria for some inorganic compounds.  
(C) Value presented is a screening level based on the chemical-specific generic soil saturation concentration since the calculated risk-based criterion is greater than Csat. Concentrations greater than Csat are acceptable cleanup criteria for this pathway where a site-specific demonstration indicates that free-phase material containing a hazardous substance is not present.  
(D) Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).  
(F) Criterion is based on adverse impacts to plant life and phytotoxicity.  
(H) Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria. If both Cr III and Cr VI are present in groundwater, the total concentration of both cannot exceed the drinking water criterion of 100 ug/l. If analytical data are provided for total chromium only, they shall be compared to the cleanup criteria for Cr VI. Cr III soil cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future, through an approved land or resource use restriction.  
(I) Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. §261.21 (revised as of July 1, 2001).  
(J) Hazardous substance may be present in several isomer forms. Isomer-specific concentrations shall be added together for comparison to criteria.  
(K) Hazardous substance may be flammable or explosive, or both.  
(L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules. The generic residential drinking water criterion of 4 ug/L is linked to the generic residential soil direct contact criterion of 400 mg/kg. A higher concentration in the drinking water, up to the state action level of 15 ug/L, may be allowed as a site-specific remedy and still allow for drinking water use, under Section 20120a(2) of the NREPA if soil concentrations are appropriately lower than 400 mg/kg. If a site-specific criterion is approved based on this subdivision, a notice shall be filed on the deed for all property where the groundwater concentrations will exceed 4 ug/L to provide notice of the potential for unacceptable risk if soil or groundwater concentrations increase. Acceptable combinations of site-specific soil and drinking water concentrations are presented in the following table:

**TABLE B-3  
NOTES FOR SOIL ANALYTICAL DATA TABLE AND MDEQ PART 201 SOIL CRITERIA TABLE**

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**MDEQ Criteria Qualifiers (continued):**

**Acceptable Combinations of Lead in Drinking Water and Soil**

Drinking Water Concentration (ug/L)	Soil Concentration (mg/kg)
5	386-395
6	376-385
7	376-385
8	366-375
9	356-365
10	346-355
11	336-345
12	336-345
13	326-335
14	316-325
15	306-315

- (M) Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.
- (P) Amenable cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with all groundwater criteria. Total cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with soil criteria. Industrial-commercial direct contact criteria may not be protective of the potential for release of hydrogen cyanide gas. Additional land or resource use restrictions may be necessary to protect for the acute inhalation concerns associated with hydrogen cyanide gas.
- (Q) Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.
- (R) Hazardous substance may exhibit the characteristic of reactivity as defined in 40 C.F.R. §261.23 (revised as of July 1, 2001), which is adopted by reference in these rules and is available for inspection at the DEQ, 525 West Allegan Street, Lansing, Michigan.
- (S) Criterion defaults to the hazardous substance-specific water solubility limit.
- (T) Refer to the federal Toxic Substances Control Act (TSCA), 40 C.F.R. §761, subpart d and 40 C.F.R. §761, Subpart G, to determine the

Land Use Category	TSCA, Subpart D	Part 201 Soil Direct Contact
	Cleanup Standards	Cleanup Criteria
Residential & Commercial I	1,000 ppb, or	4,000 ppb
	10,000 ppb if capped	
Industrial & Commercial II	1,000 ppb, or	16,000 ppb
	10,000 ppb if capped	
Commercial III	1,000 ppb, or	33,000 ppb
	10,000 ppb if capped	
Commercial IV	1,000 ppb, or	
	10,000 ppb if capped	22,000 ppb

- (X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting waters or discharge in close proximity to a water supply intake in inland surface waters, the generic GSI criterion shall be the surface water human drinking water value (HDV) listed in the table in this footnote, except for those HDV indicated with an asterisk. For HDV with an asterisk, the generic GSI criterion shall be the lowest of the HDV, the WV, and the calculated FCV. see formulas in footnote (G). Soil protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria for compounds with an asterisk shall be the greater of 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote.

**TABLE B-3  
NOTES FOR SOIL ANALYTICAL DATA TABLE AND MDEQ PART 201 SOIL CRITERIA TABLE**

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**MDEQ Criteria Qualifiers (continued):**

<b>Hazardous Substance</b>	<b>Chemical Abstract Service Number</b>	<b>Surface Water Human Drinking Water Values (HDV) (ug/L)</b>	<b>Soil GSI Protection Criteria (HDV) (ug/L)</b>
Acrylonitrile	107131	2.0 (M); 0.87	100 (M); 17
Alachlor	15972608	3.5	91
Antimony	7440360	2	1,400
Arsenic	7440382	50	23,000
Atrazine	1912249	4.3	86
Barium	7440393	1,900*	*
Benzene	71432	12	240
bis(2-Chloroethyl)ether	111444	1 (M); 0.79	100 (M); 20
Bromate	15541454	10 (M); 0.5	200 (M); 10
Butyl benzyl phthalate	85687	6.9	13,000
Cadmium	7440439	2.5*	*
Carbon tetrachloride	56235	5.6	110
Chloride	16887006	50,000	1.00E+06
Chloroform	67663	77	1,500
Chromium (III)	16065831	120*	*
Cyanazine	21725462	2 (M); 0.93	200 (M); 40
3,3'-Dichlorobenzidine	91941	0.3 (M); 0.14	2,000 (M); 7.7
1,2-Dichloroethane	107062	6	120
1,1-Dichloroethylene	75354	24	480
1,2-Dichloropropane	78875	9.1	180
N,N-Dimethylacetamide	127195	700	14,000
1,4-Dioxane	123911	34	680
Ethylene dibromide	106934	0.05 (M); 0.006	20 (M); 1.0
Ethylene glycol	107211	56,000	1.10E+06
Heptachlor	76448	0.01 (M); 0.0017	NLL
beta-Hexachlorocyclohexane	319857	0.024	20 (M)
Hexachloroethane	67721	5.3	310
Isophorone	78591	310	6,200
Isopropyl alcohol	67630	28,000	5.60E+05
Lead	7439921	14*	*
Manganese	7439965	3600	72,000
Methyl-tert-butyl ether (MTBE)	1634044	100	2,000
Methylene chloride	75092	47	940
Mirex	2385855	0.02 (M); 1.6E-5	NLL
Molybdenum	7439987	120	2,400
Nitrobenzene	98953	4.7	330 (M); 94
Pentachlorophenol	87865	1.8*	*
1,2,4,5-Tetrachlorobenzene	95943	2.8	3,300
1,1,1,2-Tetrachloroethane	630206	19	380
1,1,2,2-Tetrachloroethane	79345	3.2	64
Tetrachloroethylene	127184	11	220
Tetrahydrofuran	109999	350	7,000
Thallium	7440280	2.0 (M); 1.2	2,300
1,1,2-Trichloroethane	79005	12	240
Trichloroethylene	79016	29	580

# **Appendix C**

## **Groundwater Analytical Data (Including Tunnel, Basement, and Sewer Water Grab Sample Data)**

**TABLE C-1  
GROUNDWATER SAMPLE COLLECTION FIELD PARAMETERS**

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Well ID	Date Sampled	pH (SU)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Turbidity (NTUs)
03-02	6/14/2002	6.75	14.5	0.744	0.96	-74	34.5
03-101	6/25/2002	6.65	14.6	0.423	0	-155	173
03-109	6/13/2002	6.27	20.3	0.59	3.2	91	-9.3
03-114R	3/31/2003	6.77	10.12	2.24	1.15	191	8.7
04-4	3/27/2003	7.49	6.46	1.75	0.99	-10	0
04-160	6/25/2002	6.72	19.8	4.03	7.21	-58	245
04-160	10/4/2004	8.00	15.90	2.166	0.88	-129.7	30.0
07-02	6/20/2002	6.76	16.1	0.78	0	48	311
07-02	4/2/2003	7.11	9.03	0.685	3.78	224	29.6
20-101R	6/19/2002	6.03	14.88	4.32	4.15	-155	13.9
20-101R	10/11/2004	7.00	15.68	4.040	0.69	-101.3	7.82
20-101RD	3/27/2003	7.64	9.66	1.71	0.75	91	66.2
20-101RD	10/11/2004	7.40	15.32	2.349	0.93	-145.8	95.7
20-102	6/21/2002	6.26	18.05	14.6	0	282	0
20-102	3/27/2003	6.70	10.56	5.26	1.12	219	3.8
20-103N	6/19/2002	6.08	16.33	0.541	4.74	82	7.9
20-105R	6/19/2002	6.08	16.09	8.4	4.59	-7	49.8
20-105R	3/26/2003	6.80	9.75	7.7	0.92	98	4.2
20-120	6/17/2002	6.65	14.07	19.7	0	306	0
20-121	6/14/2002	6.80	16.9	1.78	0	-31	37.2
20-121	3/26/2003	6.84	13.34	2.7	0.87	3	0
20-140	6/20/2002	6.50	18.31	6.83	4.8	38	2.4
20-140	3/31/2003	6.61	11.38	3.78	1.38	177	6.6
20-140	10/11/2004	6.84	17.75	8.140	0.60	-7.5	5.38
20-143	10/12/2004	6.99	16.31	7.496	2.45	212.8	5.48
20-144	6/18/2002	6.48	16.87	13.9	9.42	-232	0
20-145	6/18/2002	5.96	16.21	1.4	9.88	-92	0
20-500	6/14/2002	6.37	14.97	7.09	0	-118	169
20-500	3/26/2003	7.16	10.54	11.41	0.34	-65	0
20-FP11	6/19/2002	6.65	17.5	3.7	1.66	-102	98.4
20-FP6	6/19/2002	6.58	17.6	0.94	0	-141	58.6
20-FP6	3/27/2003	7.54	9.44	1.15	0.43	-174	0
30-140	6/13/2002	7.00	12.3	6.76	5.33	76	0
30-140	3/27/2003	7.19	7.96	3.64	1.48	69	1
30-140	10/4/2004	7.02	18.20	11.43	0.35	24.3	3.47
31-5	6/21/2002	7.13	17	3.12	0	-6	114
31-6	6/21/2002	6.70	16.69	1.01	2.24	296	0
31-8	6/24/2002	7.31	20.7	3.50	1.18	-130	16.2
36-100	6/13/2002	6.77	14.6	4.63	0	-110	44
36-100	3/25/2003	6.90	12.05	2.86	0.55	-88	2
36-100	6/10/2005	7.67	19.13	4.12	6	-249.2	5.2
36-101	6/13/2002	6.58	13.84	3.41	0	-19	2.1
36-FP1	6/14/2002	6.33	14.65	6.68	0	-106	20.5
36-FP1	3/27/2003	6.73	11.77	4.20	0.94	-171	2
36-FP1	6/9/2005	7.39	16.98	9.87	0.41	-121.9	3.35
36-FP2	6/14/2002	6.29	12.75	6.12	0	-121	49.5
36-FP2	3/25/2003	6.86	10.41	2.28	0.22	68	4.6
36-FP5	12/16/2002	7.22	21.78	1.58	0.08	-109	0
36-FP5	4/2/2003	6.82	21.82	1.28	2.09	79	23.2
36-FP8	6/17/2002	6.88	15.08	7.99	0	-130	0
36-FP8	3/25/2003	6.85	11.39	26.60	1.46	131	0
37-01	12/18/2002	7.04	10.5	1.17	0.8	8	23
40-1R	4/3/2003	7.05	4.1	0.64	6.37	17	4.5
40-2	12/17/2002	7.06	8.3	8.43	0.96	-131	54.8
40-2	3/24/2003	6.93	12.24	4.02	0.47	131	2.6
40-3	12/17/2002	6.92	6.99	11.40	5.88	-94	0
40-3	3/24/2003	7.08	18.17	2.20	1.39	81	32.4
40-303R	6/24/2002	6.01	22.03	1.52	6.83	51	16.2
40-303R	3/27/2003	7.17	15.02	1.69	4.11	156	40.3
40-303R	10/5/2004	7.80	15.33	1.09	0.28	-51.8	23.8
40-304	12/17/2002	7.40	7.02	0.72	8.72	-1859	0

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**TABLE C-1  
GROUNDWATER SAMPLE COLLECTION FIELD PARAMETERS**

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Well ID	Date Sampled	pH (SU)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Turbidity (NTUs)
40-304	3/21/2003	7.33	3.78	0.61	0.28	-33	9.3
40-304	10/6/2004	8.16	16.44	0.43	0.09	-159.8	2.71
40-305	6/24/2002	5.63	17.86	1.07	8.85	13	0.7
40-305	3/21/2003	8.88	9.79	0.57	2.06	68	166
40-305	3/25/2003	7.85	9.46	0.665	0.88	106	16.5
40-4R	6/24/2002	7.24	22.9	2.2	4.43	-119	105
40-4R	3/24/2003	6.81	15.91	1.286	0.35	-52	31.9
40-6R	4/23/2003	7.01	9.12	1.025	2.42	-156	0.1
40-6R	10/5/2004	7.47	17.64	1.771	0.49	87.4	3.68
43-101R	6/18/2002	6.87	14.7	2.71	0.7	-122	3.6
43-140	6/12/2002	7.12	14.6	3.5	2.58	2	68.7
43-140	4/3/2003	6.83	7.65	5.73	1.14	3	5.9
43-140	10/12/2004	6.88	17.66	9.287	0.74	107.3	7.90
43-166	6/19/2002	6.70	17.2	15.1	0	-152	45.8
43-168	12/17/2002	7.00	14.9	5.93	0	-45	20.7
55-1	6/12/2002	7.02	18.13	2.79	0	-153	21.4
55-1	3/20/2003	7.17	20.1	1.81	0.43	-93	0.5
55-2	3/20/2003	7.07	10.94	2.24	0.21	85	1.2
55-3	6/12/2002	6.91	14.62	8.13	0	-150	22.8
55-3	3/21/2003	6.90	8.76	2.54	0.79	21	5.7
55-3	10/7/2004	6.87	18.13	4.593	1.40	-102.2	4.61
55-4	6/12/2002	7.10	14.51	4.5	0	105	33.8
55-4	3/21/2003	7.61	9.53	2.72	1.21	187	0
55-4	10/8/2004	7.03	18.66	3.324	1.14	140.2	0.57
55-5	6/12/2002	6.93	22.42	1.22	0	-153	13.2
55-5	3/20/2003	7.29	13.96	1.02	0.35	-79	0
55-5	10/4/2004	6.91	23.95	3.094	0.15	-137.7	0.59
70-100	6/13/2002	7.04	14.1	4.93	0	-125	0
70-100	3/27/2003	7.00	11.11	4.91	0.63	-202	1
70-109	3/26/2003	7.07	6.89	6.24	0.57	-115	14
70-160	6/17/2002	6.72	17.3	1.05	0.52	-91	76.5
70-160	3/28/2003	6.86	10.59	1.031	0.28	179	9.5
70-163	6/20/2002	6.82	16.4	1.65	0	-81	281
70-163	3/28/2003	6.60	8.67	2.18	0.96	176	0
70-165	6/22/2002	7.04	15.4	1.07	0	-91	120
70-165	3/28/2003	6.79	8.54	1.342	0.27	196	3.3
70-165	10/7/2004	7.04	17.80	0.961	0.24	-39.7	1.55
84-6	6/26/2002	6.55	16.8	1.91	0	-37	277
84-6R2	9/15/2003	7.31	14.61	2.13	0.39	178	214
84-6R2	10/5/2004	7.11	15.38	1.659	1.45	-65.1	6.71
84-6R2	6/9/2005	7.90	16.54	1.6	0.51	-151.6	11.2
84-6R2-D	7/29/2005	7.62	16.09	1.671	0.49	-203.7	23.1
84-7	4/5/2005	7.21	13.44	1.322	0.84	-5.9	8.62
84-7	6/8/2005	7.71	16.64	1.176	0.36	-171.5*	18.2
84-7D	7/28/2005	7.91	17.18	1.689	0.71	-211.3	34.9
86-100	6/18/2002	6.90	17.6	17	1.81	-138	12.9
86-100	4/1/2003	6.63	13.17	19.5	0.83	201	8.5
86-100	10/7/2004	7.01	20.71	21.36	0.75	-151.1	6.83
86-3	12/19/2002	7.06	15.3	8.2	4.32	34	>999
87-FP2	6/19/2002	6.61	15.5	14.2	0	-84	55.1
87-FP3	6/18/2002	6.81	18.5	7.32	0.21	-114	2.5
87-FP3	4/4/2003	6.67	9.06	5.06	0.42	-94	34
87-FP4	10/6/2004	7.17	18.51	1.696	3.50	23.5	2.55
87-FP5	6/19/2002	6.46	21.1	3.01	0.25	-117	165
87-FP5	4/3/2003	6.64	9.34	0.874	4.31	-37	46
88-7	6/14/2002	6.86	14.7	13.7	0.44	-80	1.8
88-8	6/13/2002	7.20	15.9	0.583	0.56	-133	0
88-8	4/1/2003	6.80	11.93	2	1.01	107	35
88-9	6/14/2002	6.95	15.1	2.34	0.48	-134	93.7
88-9	4/1/2003	6.84	13.22	1.416	0.75	121	37.7

See Notes on Page 9.

**TABLE C-1  
GROUNDWATER SAMPLE COLLECTION FIELD PARAMETERS**

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Well ID	Date Sampled	pH (SU)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Turbidity (NTUs)
ACSP-B2AR	12/13/2002	6.91	9.74	4.77	0.93	-31	56.3
BD01-02R	12/13/2002	7.37	12.7	3.81	5.45	132	20.2
BD01-02R	4/3/2003	6.90	10.8	2.71	3.65	189	12
BD01-02R	10/5/2004	7.78	14.31	1.345	5.52	69.4	8.22
BD01-04	4/24/2003	6.67	18.13	3.41	5.19	-154	8.9
GM-1	10/6/2004	7.63	16.28	1.066	0.39	-275.3	6.54
GM-11	10/6/2004	7.54	14.55	0.473	0.49	-238.6	3.77
MW-21	3/20/2003	9.71	13.7	2.82	2.35	166	17.9
MW-22	6/25/2002	7.55	16	3.13	2.62	49	35.7
MW-22	3/20/2003	7.39	10.25	3.25	1.8	353	2.9
MW-23	6/25/2002	6.94	23	110	0.31	-90	0
MW-23	3/20/2003	6.99	12.31	1.356	1.48	296	4.1
MW-23	10/4/2004	7.16	18.16	1.623	7.0	10.9	8.7
MW-24	6/26/2002	6.00	18.78	0.572	7.11	71	37.2
MW-24	3/20/2003	6.99	9.81	0.641	1.3	293	9.9
MW-25	6/26/2002	6.76	14.5	0.855	0	-103	301
MW-25	3/21/2003	8.20	18.18	0.728	4.2	43	15.73
MW-25	10/5/2004	7.10	8.98	1.001	5.26	258.9	206
MW-25	2/25/2005	7.35	6.57	0.522	2.54	194	3.23
MW-26	6/26/2002	5.96	19.7	0.445	12.17	-151	0.2
MW-26	3/24/2003	6.87	12.51	0.572	5.58	188	0
MW-26	10/5/2004	7.11	7.62	0.734	3.30	-121.7	272
MW-26	2/28/2005	6.16	3.79	0.628	3.7	139.1*	22.8
RFI-02-05	12/16/2002	7.21	6.18	2.6	9.81	12	0
RFI-02-07	6/27/2002	6.69	15.9	1.56	0	12	262
RFI-02-07	3/27/2003	6.76	6.67	5.86	0.49	175	0
RFI-02-08R	6/25/2002	6.93	17.8	1.66	0.77	-78	15.1
RFI-02-08R	4/5/2005	7.34	9.14	0.471	8.26	68.1	7.31
RFI-02-12	3/26/2003	7.24	8.73	0.642	2.03	116	1.3
RFI-02-12	10/5/2004	6.97	17.48	1.105	2.98	-193.6	2.61
RFI-02-12	2/24/2005	6.72	8.15	1.140	0.49	253.1	4.68
RFI-02-13	12/19/2002	7.29	11.6	0.809	0.52	118	36.1
RFI-02-13	10/7/2004	6.90	21.63	0.761	1.31	-14.8	8.45
RFI-02-19	4/8/2005	7.22	9.98	0.731	1.81	212.1	6.33
RFI-02-20	4/5/2005	7.27	8.32	0.941	1.85	-15.5	20.2
RFI-02-21	4/5/2005	7.03	9.11	1.345	1.22	-88.8	21.2
RFI-02-22	4/5/2005	8.45	11.23	8.329	1.78	74.8	14.1
RFI-02-24	4/5/2005	8.15	9.38	0.381	1.28	71.2	8.97
RFI-03-02	6/13/2002	7.56	16.2	3.78	3.23	-101	5
RFI-03-04	6/13/2002	7.56	14.5	3.93	0	-215	23.8
RFI-05-01	6/20/2002	6.66	17.35	2.8	3.78	-143	1.9
RFI-05-01	3/31/2003	6.92	4.27	1.91	1	158	18.6
RFI-05-02	4/3/2003	6.78	24.91	5.04	0.21	-64	2.8
RFI-05-04	6/21/2002	7.98	23.5	2.26	0.75	-3	39.4
RFI-05-05	6/21/2002	9.13	22.8	1.83	0.49	-111	38
RFI-05-05	4/3/2003	6.99	22.81	1.82	0.26	-96	0
RFI-05-06	6/20/2002	6.52	19.96	10.5	4.45	-128	47.9
RFI-05-08R	6/12/2002	6.60	14.4	2.84	1.04	-65	306
RFI-05-08R	3/27/2003	6.84	14.39	3.02	0.99	101	20.9
RFI-05-10	4/2/2003	6.87	24.79	5.13	0.38	134	0
RFI-05-10	10/12/2004	7.07	22.67	3.801	0.98	-197.2	7.37
RFI-05-12	6/14/2002	6.68	23.3	4.49	0.42	-110	0
RFI-05-19DR	12/18/2002	7.08	14.8	8.26	0	-170	288
RFI-05-19S	6/12/2002	7.01	16.4	4.07	2.29	26	20.3
RFI-05-19S	3/28/2003	7.08	11.24	3.76	0.5	180	0
RFI-05-20	6/12/2002	6.86	15.7	4.49	1.08	50	114
RFI-05-20	4/3/2003	7.10	8.2	1.69	2.63	51	44.5
RFI-05-21	3/27/2003	7.32	9.91	3.48	0.22	-125	5.2
RFI-05-30	6/12/2002	7.10	15.2	9.8	1.26	-155	48.9
RFI-05-30	10/4/2004	6.90	18.89	14.29	0.35	-109.5	9.03

See Notes on Page 9.

**TABLE C-1  
GROUNDWATER SAMPLE COLLECTION FIELD PARAMETERS**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Well ID	Date Sampled	pH (SU)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Turbidity (NTUs)
RFI-07-01R	9/15/2003	7.09	17.13	5.36	1.23	201	22.7
RFI-07-08	6/20/2002	6.89	17.2	1.98	1.56	46	211
RFI-07-08	10/6/2004	6.57	15.87	2.044	2.21	29.8	2.11
RFI-09-01	6/24/2002	7.07	17.2	2.54	0	-117	665
RFI-09-01	3/24/2003	7.33	10.69	8.85	1.49	293	33.5
RFI-09-04R	6/24/2002	6.72	19.4	2.56	6.42	156	167
RFI-09-04R	3/24/2003	6.72	13.06	4.2	1.35	253	3.8
RFI-09-04R	10/5/2004	7.05	15.89	1.738	1.79	68.9	1.64
RFI-09-04R	6/8/2005	8.82	17.36	1.56	2.5	38	0.53
RFI-09-06	6/21/2002	5.92	17.59	2.97	3.9	-174	0
RFI-09-07	6/21/2002	7.10	15.8	5.62	2.46	-114	95.6
RFI-09-07	10/5/2004	7.47	18.68	6.261	0.09	-334.3	9.47
RFI-09-08	6/21/2002	5.98	17.23	1.84	5.78	-140	24.8
RFI-09-08	3/21/2003	9.12	12.11	3.31	2.08	37	206
RFI-09-08D	4/7/2005	7.55	10.04	6.645	8.56	-80.9	9.67
RFI-09-09	6/21/2002	7.20	19.2	4.55	0	-127	357
RFI-09-09	3/21/2003	7.43	10.54	2.38	1.69	101	14.2
RFI-09-09D	4/7/2005	7.29	10.21	4.935	0.30	-94.4	4.72
RFI-09-10	6/21/2002	6.03	18.82	1.67	4.24	-24	12.7
RFI-09-11	6/21/2002	10.11	13.9	7.28	0.94	-168	48.2
RFI-09-11	3/21/2003	7.80	9.79	7.62	0.52	-76	23.3
RFI-09-11D	4/7/2005	6.98	9.92	8.383	1.16	13.1	23.2
RFI-09-12	6/21/2002	6.96	15.9	1.42	0	-136	87.5
RFI-09-12	3/21/2003	7.03	8.12	1.28	1.19	32	6.3
RFI-09-13	6/26/2002	6.53	14.2	5.54	0	-113	506
RFI-09-13	3/26/2003	6.87	10.08	6.17	0.43	-124	6
RFI-09-13	10/4/2004	6.98	14.83	4.792	0.34	-114.3	5.78
RFI-09-14	6/26/2002	9.72	16.6	0.614	1.62	-98	46.7
RFI-09-14	3/31/2003	3.09	7.69	3.42	1.46	360	39.5
RFI-09-14	10/4/2004	6.80	15.83	0.766	6.0	-8.2	7.13
RFI-09-32	6/26/2002	6.91	13.4	79.2	0.85	-135	19.6
RFI-09-32	3/31/2003	7.15	8.43	0.791	0.89	134	0
RFI-09-36R	3/24/2003	7.35	11.96	2.4	1.68	-75	0
RFI-09-44	3/21/2003	7.16	9.18	2.44	0.75	140	7.6
RFI-09-44	10/5/2004	7.19	20.53	1.757	0.45	26.2	1.96
RFI-09-45	12/20/2002	7.23	12.16	3.94	6.28	71	3.7
RFI-09-46	12/19/2002	7.01	13.3	7.32	0.92	-135	386
RFI-09-46	4/1/2003	6.88	10.7	7.11	0.59	33	1.4
RFI-09-46	10/5/2004	7.12	14.99	5.065	0.49	-93.3	7.35
RFI-09-48	4/24/2003	6.75	13.82	5.68	0.44	-254	12.6
RFI-09-48	10/6/2004	7.00	14.35	5.231	0.56	-86.1	5.32
RFI-09-48	2/24/2005	6.80	11.82	4.875	0.31	191.1	4.15
RFI-09-49R	4/3/2003	6.79	8.35	4.37	1.99	166	24.5
RFI-09-49R	10/5/2004	6.95	15.98	2.151	1.47	127.0	7.42
RFI-09-52	9/15/2003	7.13	19.4	8.03	0.4	196	8
RFI-09-53	4/7/2005	10.03	9.41	1.627	1.10	14.8	1.52
RFI-09-53	6/8/2005	8.01	15.74	1.218	6.83	139.4	1.71
RFI-09-54D	4/8/2005	6.68	11.17	5.668	1.75	18.7	3.90
RFI-09-54S	4/7/2005	7.18	9.09	3.998	1.22	-6.6	4.63
RFI-09-55D	4/8/2005	7.15	11.06	6.336	0.28	-113.0	6.20
RFI-09-55S	4/8/2005	7.29	10.01	1.766	0.19	-3.3	203
RFI-09-56	7/6/2005	11.99	17.37	1.681	0.04	-334.2	2.46
RFI-09-57	7/6/2005	7.63	15.9	1.852	3.96	-4.1	1.76
RFI-09-58	7/22/2005	7.25	17.33	1.355	2.72	31.3	1.77
RFI-10-01	6/18/2002	6.10	16.72	13.9	9.89	-154	32.5
RFI-10-01	3/26/2003	8.19	10.61	4.01	0.55	-164	13.6
RFI-10-02	6/18/2002	5.84	15.96	10.7	9.9	-172	0.7
RFI-10-02	3/27/2003	7.13	9.66	7.84	1.32	-90	29.3
RFI-10-03	6/19/2002	5.91	14.93	13.6	4.35	75	31.3
RFI-10-03	3/25/2003	6.43	12.32	22.4	1.36	200	5.8

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GROUNDWATER SAMPLE COLLECTION FIELD PARAMETERS**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

<b>Well ID</b>	<b>Date Sampled</b>	<b>pH (SU)</b>	<b>Temperature (°C)</b>	<b>Conductivity (mS/cm)</b>	<b>Dissolved Oxygen (mg/L)</b>	<b>Oxidation Reduction Potential (mV)</b>	<b>Turbidity (NTUs)</b>
RFI-10-04	6/21/2002	5.95	14.73	16.4	5.65	315	0
RFI-10-04	3/26/2003	6.23	8.63	13.99	2.08	212	0
RFI-10-05	6/25/2002	6.25	12	1.87	2.35	218	157
RFI-10-05	3/26/2003	7.01	8.27	5.31	0.78	252	7.9
RFI-10-06	6/19/2002	6.95	14.49	17.5	0	108	5.9
RFI-10-06	3/26/2003	6.95	8.84	1.58	0.67	166	7.7
RFI-10-07	3/26/2003	7.26	10.36	0.984	1.71	164	6
RFI-10-08	6/19/2002	5.97	16.2	0.446	5.46	67	42
RFI-10-11	6/21/2002	6.87	14.36	1.85	5.06	283	1.6
RFI-10-11	3/26/2003	7.78	7.34	3.12	3.19	106	9.4
RFI-10-11	10/8/2004	7.28	16.60	6.185	6.08	140.9	4.99
RFI-10-12	12/18/2002	7.16	13.3	4.29	0	-160	298
RFI-10-15	10/6/2004	7.47	14.11	0.589	1.50	35.6	3.30
RFI-10-24	6/25/2002	6.46	13.7	0.94	0.07	177	211
RFI-10-24	3/26/2003	6.87	8.99	0.874	1.49	231	7.9
RFI-10-24	10/6/2004	7.02	14.66	0.743	1.70	-152.2	9.00
RFI-10-25	3/26/2003	6.65	9.26	1.119	1.5	236	8.9
RFI-10-25	10/6/2004	11.48	14.08	0.865	1.20	-145.7	9.79
RFI-10-26	6/20/2002	6.67	15.7	2.23	8.38	95	48.4
RFI-10-26	3/27/2003	7.04	9.5	4.23	3.9	220	5.7
RFI-10-28	12/12/2002	6.10	7.91	0	13.86	281	154
RFI-10-28	10/6/2004	7.49	15.98	0.480	2.50	-87.9	3.15
RFI-10-29	6/30/2005	6.91	12.77	0.665	0.58	-28	1.64
RFI-10-30	4/24/2003	7.22	11.45	1.86	3.34	-156	1.6
RFI-10-30	10/7/2004	7.03	19.53	8.593	0.84	38.3	7.86
RFI-10-31	4/24/2003	7.17	8.04	0.639	3.12	-92	32.1
RFI-10-31	10/7/2004	7.36	17.64	0.420	1.58	-17.5	9.25
RFI-10-32	4/4/2005	7.20	10.61	4.441	1.4	33.5	3.00
RFI-10-32	6/9/2005	7.83	12.52	3.298	0.84	-114.1	4.46
RFI-10-33	6/29/2005	7.44	16.71	1.078	4.31	-8.2	4.21
RFI-10-34	6/29/2005	7.03	15.25	0.894	2.55	41.2	3.59
RFI-10-35	6/29/2005	7.15	15.59	1.124	5.17	34.8	3.70
RFI-10-36	6/29/2005	6.87	14.66	0.739	1.97	63.2	1.82
RFI-12-11S	6/25/2002	6.93	17.2	1.81	0.93	92	14
RFI-12-11S	12/16/2002	7.29	8.4	1.99	0.8	-105	0
RFI-12-15	12/16/2002	12.43	7.3	3.48	3.56	-192	202
RFI-12-24	4/4/2003	7.39	5.93	1.369	1.69	189	9.5
RFI-12-24	4/23/2003	7.40	9.22	1.318	0.49	-215	0.5
RFI-12-24	4/6/2005	7.66	10.78	1.410	1.25	15.1	6.82
RFI-12-25	4/23/2003	7.47	10.86	4.5	1.9	-237	0.1
RFI-12-32	10/4/2004	7.15	17.61	1.168	0.21	29.7	1.05
RFI-12-33	4/7/2005	7.11	7.75	1.469	1.98	-47.6	5.71
RFI-12-35	9/17/2003	7.32	21.17	1.78	0.22	52	2000
RFI-12-35	10/14/2003	7.18	15.12	1.651	0.59	76.2	22
RFI-16-04	6/25/2002	5.67	15.89	4.85	5.54	-251	5.8
RFI-16-11	6/26/2002	6.77	16.3	0.831	0	-160	235
RFI-16-11	3/26/2003	7.00	9.54	5.74	1.29	-66	17.6
RFI-16-12	6/24/2002	9.17	18.5	2.3	9.24	-100	30.2
RFI-16-20	4/9/2002	8.30	8.2	5.59	8.99	111	59
RFI-16-24	4/3/2003	7.38	8.36	0.541	1.3	-45	5.9
RFI-16-25	4/3/2003	7.21	9.44	1.479	0.76	-76	3.6
RFI-17-02	6/25/2002	5.80	19.64	2.34	6.83	69	121
RFI-17-02	4/2/2003	6.82	9.07	2.53	1.39	261	19.9
RFI-17-02	10/5/2004	8.64	17.39	1.912	1.26	-74.2	7.62
RFI-17-02	6/9/2005	7.71	16.22	1.935	0.8	-111	10.7
RFI-17-02D	7/29/2005	7.21	16.73	2.173	0.73	-111.3	210
RFI-21-04	6/13/2002	6.83	15.2	2.08	0.48	12	22
RFI-21-04	10/7/2004	6.77	20.05	20.36	0.14	-10.5	9.43
RFI-21-04	7/6/2005	6.84	14.45	36.31	4.28	6.8	5.75

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**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

<b>Well ID</b>	<b>Date Sampled</b>	<b>pH (SU)</b>	<b>Temperature (°C)</b>	<b>Conductivity (mS/cm)</b>	<b>Dissolved Oxygen (mg/L)</b>	<b>Oxidation Reduction Potential (mV)</b>	<b>Turbidity (NTUs)</b>
RFI-23-01R	10/4/2004	7.17	18.96	1.839	1.14	44.9	8.31
RFI-23-01R	4/6/2005	8.04	9.16	0.756	3.22	27.9	5.62
RFI-23-02R	10/4/2004	7.32	18.20	2.245	0.90	-36.3	7.41
RFI-23-02R	4/6/2005	7.07	8.75	2.095	2.48	52.5	9.12
RFI-36-02	6/13/2002	6.76	16.51	3.07	0	-128	22.1
RFI-36-02	3/25/2003	7.07	14.07	1.74	0.44	128	7.5
RFI-36-02	10/13/2004	7.06	17.45	1.502	0.56	-72.9	8.76
RFI-36-03	6/18/2002	6.42	12.75	6.75	0	195	0
RFI-36-03	3/25/2003	7.32	11.61	6.62	2.74	46	9
RFI-36-03	6/9/2005	8.10	15.05	2.786	3.76	-69.1	2.13
RFI-36-04	6/18/2002	6.52	24.07	2.9	0	-174	0
RFI-36-04	4/2/2003	6.95	23.88	2.83	0.26	-105	0
RFI-36-05	12/16/2002	6.93	21.8	1.93	2.08	28	0
RFI-36-05	4/2/2003	6.59	22.06	1.63	1.33	206	8.2
RFI-36-05	6/10/2005	6.41	21.85	1.666	0.57	-99.1	3.16*
RFI-36-08	6/14/2002	6.45	16.3	8.49	0	-169	9.8
RFI-36-08	3/25/2003	6.96	13.2	3.15	1.35	-65	2.3
RFI-36-08	10/8/2004	6.84	21.38	17.42	0.63	-180.3	2.36
RFI-36-09	6/14/2002	6.47	14.84	14.6	0.42	80	200
RFI-36-09	3/25/2003	6.86	12.74	13.31	2.86	17.5	0.7
RFI-36-10	3/27/2003	7.19	12.94	7.2	1.28	-165	0
RFI-36-13	6/24/2002	6.51	18	9.5	0	-55	302
RFI-36-14	6/17/2002	6.78	14.32	5.32	0	115	0
RFI-36-14	3/25/2003	6.91	10.89	1.156	0.86	23	8
RFI-36-14	10/11/2004	6.96	18.12	9.201	0.57	-25.4	4.90
RFI-36-17	10/7/2004	8.27	13.97	1.883	5.64	-13.4	1.17
RFI-36-17	2/28/2005	NA	8.96	4.348	1	-372.1	1.57
RFI-36-17	6/10/2005	5.91	12.6	1.555	64.8	94.2	0.6
RFI-36-18	10/7/2004	6.03	12.24	1.368	5.81	11.6	1.91
RFI-36-18	6/8/2005	6.90	13.44	1.929	2.25	-17.2	0.48
RFI-36-19	10/6/2004	6.93	15.69	1.011	5.50	41.7	2.38
RFI-36-20	6/22/2002	6.74	15.6	1.08	10.13	282	110
RFI-36-20	10/6/2004	6.53	15.15	1.668	6.32	60.9	3.14
RFI-36-23	6/19/2002	6.89	24.21	0.778	0	-186	0
RFI-36-24	6/19/2002	6.70	23.24	1.46	0.92	-90	0
RFI-36-25R	6/19/2002	6.67	22.62	7.98	0	-101	8.5
RFI-36-29R	6/20/2002	6.36	23.86	1.53	1.7	-98	11.6
RFI-36-29R	4/3/2003	6.64	15.94	1.6	NA	191	210
RFI-36-32	12/19/2002	6.68	24.91	2.93	2.19	-11	3.7
RFI-36-32	4/2/2003	6.37	24.09	2.74	0.31	-26	0
RFI-36-35	6/18/2002	6.41	15.46	4.41	0	-121	140
RFI-36-37	6/22/2002	6.94	15.9	1.66	4.97	-2	141
RFI-36-37	6/10/2005	NA	15.47	1.314	5.59	-48.5	1.55
RFI-36-44	6/20/2002	8.10	15	2.65	3.63	9	14
RFI-36-44	3/25/2003	7.02	9.97	3.17	2.04	99	4.7
RFI-36-44	10/7/2004	7.06	16.76	1.331	1.28	-15.7	3.92
RFI-36-44	6/8/2005	8.26	16.35	0.758	4.3	NA	12.3
RFI-36-45	6/20/2002	6.20	12.29	2.05	0	255	0
RFI-36-45	3/25/2003	6.97	10.37	2.33	0.9	60	5.6
RFI-36-45	6/10/2005	NA	13.64	0.783	1.81	-25.3	1.17
RFI-36-46	6/17/2002	6.56	13.1	3	0	288	0
RFI-36-46	3/25/2003	7.07	10.8	4.41	0.48	-146	0
RFI-36-46	10/11/2004	7.21	15.54	3.470	0.76	-11.0	7.45
RFI-36-46	6/9/2005	7.19	13.95	3.063	2.49	7.1	0.92
RFI-36-47	12/13/2002	7.12	11.8	2.47	1.68	74	0
RFI-36-47	3/25/2003	6.89	12.62	1.97	1.84	87	9.9
RFI-36-47	6/10/2005	8.36	12.18	2.24	6.7	-304.7	1.02
RFI-36-48	12/13/2002	7.03	9.37	5.11	0.45	58	15.2
RFI-36-48	2/28/2005	7.16	8.52	2.391	2.42	-36.9	4.95
RFI-36-48	6/10/2005	3.63	12.01	1.65	9.73	518	2.17

See Notes on Page 9.

**TABLE C-1  
GROUNDWATER SAMPLE COLLECTION FIELD PARAMETERS**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

<b>Well ID</b>	<b>Date Sampled</b>	<b>pH (SU)</b>	<b>Temperature (°C)</b>	<b>Conductivity (mS/cm)</b>	<b>Dissolved Oxygen (mg/L)</b>	<b>Oxidation Reduction Potential (mV)</b>	<b>Turbidity (NTUs)</b>
RFI-36-51	4/28/2003	6.86	12.03	1.97	3.94	-173	9.8
RFI-36-51	6/10/2005	7.01	15.74	1.934	3.49	13.8	4.43
RFI-36-53	4/4/2005	6.84	11.67	3.507	1.69	-32.2	2.08
RFI-36-53	6/10/2005	NA	13.05	2.386	0.67	-106.1	3.78
RFI-36-55	7/6/2005	6.73	11.32	1.971	0.35	-74.3	2.26
RFI-36-56	7/21/2005	NA	13.98	1.222	2.46	161.7	3.86
RFI-38-04	6/13/2002	6.78	18.14	4.05	1.6	111	115
RFI-38-04	3/25/2003	7.14	14.19	1.017	0.86	225	9.8
RFI-38-06	6/13/2002	6.61	14.03	2.84	0	-26	40.1
RFI-38-06	3/25/2003	6.87	11.46	1.96	0.3	260	8.4
RFI-38-06	10/13/2004	6.79	15.01	3.442	0.40	-41.4	8.80
RFI-40-03	6/24/2002	7.24	19.3	1.62	2.29	-2	40.7
RFI-40-03	3/27/2003	6.96	7.66	1.173	0.84	114	3.2
RFI-40-04	12/18/2002	7.54	14	2.41	0.73	-123	74.8
RFI-40-07	6/24/2002	7.09	17.9	5.74	0	19	540
RFI-40-09	6/24/2002	6.75	16.5	2.26	0	-149	359
RFI-40-09	3/26/2003	7.05	12.41	1.54	0.61	-103	45.2
RFI-40-10	6/24/2002	7.51	12.8	80.2	6.4	61	437
RFI-40-10R	4/23/2003	7.20	9.8	1.466	2.16	-165	29.4
RFI-40-11	4/3/2003	7.24	6.45	0.701	4.4	6	42
RFI-40-13	9/16/2003	7.18	16.89	1.325	0.41	219	57.9
RFI-40-13	10/13/2003	6.99	17.64	1.253	1.17	119.3	6.45
RFI-40-14R	4/22/2003	7.04	7.61	1.16	0.48	-224	29.3
RFI-40-15	4/22/2003	7.05	11.02	2.17	0.85	-203	15
RFI-44-04	12/20/2002	7.08	4.62	4.34	0	91	30
RFI-44-04	4/3/2003	6.63	5.72	2.91	0.66	5	7.6
RFI-44-05	12/20/2002	9.48	1.16	11.8	9.62	10	78.3
RFI-44-05	3/24/2003	17.28	11.79	1.921	0.61	-113	8
RFI-44-05	10/5/2004	8.69	14.10	2.583	1.36	-61.0	4.82
RFI-44-06R	4/1/2003	7.59	8.14	2.79	4.82	208	9.5
RFI-55-01	6/12/2002	7.01	15	0.349	1.01	-9	10.7
RFI-55-01	3/26/2003	6.81	8.38	2.64	0.63	32	1
RFI-55-02	6/17/2002	5.69	15.77	7.22	10.22	180	103
RFI-55-02	3/25/2003	6.83	10.79	7.89	0.74	-39	8
RFI-55-02	10/8/2004	6.66	18.22	7.316	1.31	119.4	2.43
RFI-55-09	6/18/2002	5.69	13.81	0.879	19.99	84	0
RFI-55-09	3/26/2003	6.81	10.37	1.97	2.49	30	4
RFI-55-10	6/17/2002	5.69	15.65	14.6	11.69	-39	33
RFI-55-11	9/26/2003	7.12	18.7	2.55	0.64	184	411
RFI-55-11	10/7/2004	7.02	19.61	2.010	1.53	147.9	3.34
RFI-55-12	9/26/2003	6.78	19.25	4.2	0	39	0
RFI-55-12	10/8/2004	6.88	19.43	0.676	1.70	-56.5	4.12
RFI-65-01	6/13/2002	7.05	16.2	0.628	1.19	78	7.1
RFI-65-01	4/1/2003	6.57	7.55	6.65	2.61	176	8.9
RFI-81-02	6/20/2002	6.85	23.9	9	0.37	-159	75.7
RFI-81-02	4/2/2003	7.59	23.7	7.46	0.89	NA	0
RFI-81-03	3/27/2003	7.31	12.66	1.251	4.55	208	8.6
RFI-81-03	2/28/2005	7.67	12.67	1.015	4.32	27.5	4.76
RFI-81-08	6/17/2002	6.95	19.8	4.13	0.88	-52	95.2
RFI-81-08	4/1/2003	6.95	12.3	8.65	1.47	-23	5
RFI-81-08	10/7/2004	7.02	16.53	6.109	1.15	-117.2	8.61
RFI-81-08	2/24/2005	7.25	10.15	3.778	0.45	328.7	10.42
RFI-81-09	6/18/2002	6.94	18.9	3.78	1.67	37	9.2
RFI-81-09	4/1/2003	7.46	16.06	2.52	0.93	248	9.8
RFI-81-11	6/19/2002	6.64	15.1	5.75	0	-159	49.3
RFI-81-11	4/1/2003	6.71	8.96	14.33	0.87	-63	4.8
RFI-81-12R	6/20/2002	6.63	15.5	0.657	0	-52	180
RFI-81-13	3/27/2003	7.92	8	2.15	0.43	181	4.8
RFI-81-21	10/6/2004	7.13	14.36	0.832	5.29	-56.2	2.10

See Notes on Page 9.

**TABLE C-1  
GROUNDWATER SAMPLE COLLECTION FIELD PARAMETERS**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

<b>Well ID</b>	<b>Date Sampled</b>	<b>pH (SU)</b>	<b>Temperature (°C)</b>	<b>Conductivity (mS/cm)</b>	<b>Dissolved Oxygen (mg/L)</b>	<b>Oxidation Reduction Potential (mV)</b>	<b>Turbidity (NTUs)</b>
RFI-81-33	6/20/2002	6.79	15.9	0.832	0	-86	154
RFI-81-33	4/3/2003	6.37	7.16	0.771	1.79	213	8.9
RFI-81-33	10/6/2004	6.53	17.62	1.155	1.04	-89.5	4.70
RFI-81-35	6/18/2002	8.27	22	2.4	0.63	-20	1.9
RFI-81-35	4/1/2003	7.64	15.52	2.2	0.34	-116	0
RFI-81-39R	9/17/2003	6.89	23.67	1.51	0.37	-59	64.8
RFI-81-39R	10/11/2004	6.80	22.33	1.813	1.96	-107.1	6.75
RFI-81-50	4/4/2005	7.04	8.52	1.322	3.06	66.1	6.36
RFI-81-51	4/4/2005	6.85	10.16	4.161	2.21	-12.2	9.13
RFI-83/84-01	4/4/2005	7.53	10.27	25.14	2.02	30.1	9.20
RFI-83/84-02	12/18/2002	7.31	12.3	4.16	4.81	-144	0
RFI-83/84-11	6/19/2002	9.09	16.1	2.85	0.54	-96	254
RFI-83/84-11	4/1/2003	7.04	10.29	3.78	0.59	77	14.4
RFI-83/84-11	10/7/2004	7.31	16.96	1.557	1.65	-138.6	8.79
RFI-83/84-20	6/20/2002	9.55	23.1	1.1	0.62	-108	9.6
RFI-83/84-20	4/2/2003	6.82	22.22	0.876	0.43	-97	0
RFI-83/84-27	6/18/2002	7.36	20.8	1.73	0.71	-203	0
RFI-83/84-27	4/2/2003	7.23	20.63	1.64	0.76	-114	NA
RFI-83/84-27	10/7/2004	7.09	20.54	0.831	0.94	-110.4	4.31
RFI-83/84-29	6/18/2002	7.02	15.3	2.75	0.48	-107	0
RFI-83/84-29	4/1/2003	6.90	12.1	2.72	0.86	28	0
RFI-83/84-51	9/19/2003	6.97	21.13	2.35	0.4	-228	642
RFI-83/84-51	10/14/2003	6.95	20.52	2.352	0.49	-125.7	4.67
RFI-84-03D	7/29/2005	7.12	16.26	2.583	0.68	-109.1	7.65
RFI-84-03I	7/29/2005	7.13	16.49	2.51	0.34	-88.6	8.9
RFI-84-03S	7/29/2005	7.13	19.63	1.346	0.34	-29.5	3.6
RFI-84-04D	7/27/2005	7.05	17.17	3.725	0.26	-97.2	22.3
RFI-84-04S	7/28/2005	7.10	19.37	2.406	0.24	-160.1	11
RFI-84-05	12/17/2002	7.05	8.7	9.86	1.19	114	26
RFI-84-05	3/24/2003	6.99	12.03	8.71	1.39	141	37.2
RFI-84-05	2/25/2005	7.17	6.60	5.725	1.18	179	20.2
RFI-84-05	6/8/2005	6.73	17.17	5.943	0.58	33.5	21.1
RFI-84-06R	4/2/2003	7.74	8.31	4.65	2.68	281	97
RFI-84-06R	2/25/2005	8.32	6.4	2.428	0.19	34	5.79
RFI-84-06R	7/22/2005	8.05	21.07	2.362	0.27	-61.7	35.2
RFI-84-06R2	10/5/2004	7.11	15.38	1.659	1.45	-65.1	6.71
RFI-84-06RD	7/21/2005	7.31	18.14	12.35	0.29	-17.63	4.76
RFI-84-07	7/1/2005	7.62	15.22	1.451	0.09	-174.5	5.38
RFI-84-07D	7/28/2005	7.35	16	2.411	0.38	-170.7	16.4
RFI-84-08S	7/22/2005	7.46	17.31	1.089	1.2	-8.3	5.05
RFI-84-08D	7/6/2005	7.19	15.13	3.384	0.15	-93.3	7.15
RFI-84-09S	7/22/2005	6.77	20.87	2.014	0.29	-47.8	14.1
RFI-84-09D	7/22/2005	7.00	19.98	2.908	0.39	-118.7	8.37
RFI-84-10S	7/22/2005	8.12	20.9	0.95	2.69	4.4	124
RFI-84-10D	7/21/2005	NA	16.44	3.925	0.1	-161.7	3.27
RFI-84-11S	7/28/2005	6.53	21.3	2.079	0.67	93.3	13.3
RFI-85-02R	6/14/2002	6.83	13.8	11.1	3.65	110	3.2
RFI-85-03	6/13/2002	7.32	15	2.81	8.13	113	14.3
RFI-85-04R	6/12/2002	6.18	20.35	10.7	11.38	-112	38.1
RFI-85-06	6/12/2002	6.08	17.49	4.48	10.79	32	0
RFI-85-06	4/2/2003	6.79	10.35	0.772	5.77	-63	0
RFI-85-07	6/12/2002	6.15	16.13	5.91	8.31	-118	27.2
RFI-85-07	4/2/2003	6.97	13.02	2.54	0.61	-34	0
RFI-85-08	12/18/2002	7.03	13.9	14.4	2.27	77	0
RFI-86-01R	6/25/2002	6.80	20.8	2.4	6.27	89	19.6
RFI-86-01R	4/2/2003	6.86	11.18	2.39	3.93	203	23.4
RFI-86-01R	10/7/2004	6.97	18.37	1.596	1.63	-4.1	2.80
RFI-86-03	6/17/2002	7.15	13.5	2.24	0.6	-134	0
RFI-86-04	6/17/2002	7.20	15.2	3.03	2.02	89	0
RFI-86-05	6/13/2002	7.00	16.6	1.91	1.77	101	13

See Notes on Page 9.

**TABLE C-1  
GROUNDWATER SAMPLE COLLECTION FIELD PARAMETERS**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Well ID	Date Sampled	pH (SU)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Turbidity (NTUs)
RFI-86-05	4/2/2003	6.61	12.54	7.13	3.64	227	6.8
RFI-86-06D	6/18/2002	6.98	21.2	3.38	6.6	97	3.8
RFI-86-06D	4/3/2003	7.01	8.97	4.98	4.35	208	>999
RFI-86-06S	6/17/2002	7.01	15.6	2.04	5.63	65	0
RFI-86-06S	4/3/2003	6.72	5.85	4.61	3.5	191	9.1
RFI-86-08R	6/20/2002	9.71	18.5	3.07	0.59	-118	5
RFI-86-08R	12/18/2002	6.75	20.1	3.46	0.66	-119	0
RFI-86-08R	4/3/2003	6.45	17.75	3.11	0.35	-47	9.6
RFI-86-14	6/17/2002	6.72	21.5	4.45	4	32	349
RFI-86-15	6/20/2002	7.21	14.1	3.83	0.49	-63	2.5
RFI-86-15	4/3/2003	6.83	7.63	2.73	1.41	80	3
RFI-86-16R	9/16/2003	6.96	19.38	2.18	0.83	180	48.3
RFI-86-16R	10/6/2004	6.90	16.89	1.037	1.64	-29.3	2.93
RFI-94-02R	4/3/2003	6.75	5.9	2.72	2.79	205	30.2
RFI-94-02R	4/4/2003	6.56	5.39	2.61	3.12	228	26.3
RFI-94-02R	9/18/2003	6.87	20.29	1.99	0.42	126	15.7
RFI-94-02R	10/6/2004	6.59	18.99	2.071	1.12	68.5	4.02
RFI-94-05	12/17/2002	7.31	9.8	1.83	0	27	43.8
RFI-94-07	12/17/2002	7.46	9.61	2.12	0.87	16	0
RFI-94-07	3/24/2003	7.56	12.06	1.077	0.46	136	58.7
RFI-94-08	12/16/2003	7.18	12.51	13.7	1.39	-31.9	4.97
RFI-94-09	12/15/2003	7.13	12.83	1.671	1.09	-66.9	70
RFI-94-09	2/25/2005	7.11	9.10	2.641	0.69	19	19.1
RFI-94-10	12/15/2003	6.79	13.5	1.331	1.58	172.5	3.1
RFI-94-10	10/8/2004	6.87	18.05	0.929	1.13	156.6	4.78
RFI-94-11	4/7/2005	7.04	9.01	10.81	1.39	-47.3	8.14

**Notes:**

°C = Celsius.

mg/L = milligrams per Liter.

mV = millivolts.

NA = Not Available.

NTUs = Nephelometric Turbidity Units.

SU = Standard Units.

uS/cm = microSiemens per centimeter.

\* Final measurement not available.

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	03-02 06/14/02	03-101 06/25/02	03-114R 03/31/03	04-4 03/27/03	04-160 06/25/02	04-160 10/04/04	07-02 06/20/02	07-02 04/02/03	20-101R 06/19/02
<b>VOC</b>									
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	2.4 D (IDW,RDW)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0044
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	12 D (IDW,RDW)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	0.0024	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0092 (IDW,RDW)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0044
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.025)	NA	NA	ND(0.030)	ND(0.025 J)	ND(0.025)	0.032 J
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	NA	NA	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.050)	NA	NA	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.050)
Acetone	ND(0.025)	ND(0.025)	ND(0.025)	NA	NA	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.025)
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0020 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	2.2 D (IDW,RDW)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	0.031	0.023	NA	NA	ND(0.0010)	0.013	0.0064	0.0012
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	NA	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.010)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.020)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	0.00082 J	0.0029	NA	NA	ND(0.0010)	0.0011	ND(0.0010)	0.0032
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	03-02 06/14/02	03-101 06/25/02	03-114R 03/31/03	04-4 03/27/03	04-160 06/25/02	04-160 10/04/04	07-02 06/20/02	07-02 04/02/03	20-101R 06/19/02
<b>VOC (Cont'd.)</b>									
Trichloroethene	ND(0.0010)	0.057 (IDW,RDW)	0.011 (IDW,RDW)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010)	0.0046 (IDW,RDW)	0.0084 (IDW,RDW)	NA	NA	ND(0.0010)	0.0024 (IDW,RDW)	0.0012	0.52 D (IDW,RDW)
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	NA	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0020)
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	03-02 06/14/02	03-101 06/25/02	03-114R 03/31/03	04-4 03/27/03	04-160 06/25/02	04-160 10/04/04	07-02 06/20/02	07-02 04/02/03	20-101R 06/19/02
<b>SVOC (Cont'd.)</b>									
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	03-02 06/14/02	03-101 06/25/02	03-114R 03/31/03	04-4 03/27/03	04-160 06/25/02	04-160 10/04/04	07-02 06/20/02	07-02 04/02/03	20-101R 06/19/02
<b>Inorganic</b>									
Antimony	NA	NA	NA	NA	ND(0.0012)	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	0.010	NA	NA	NA	NA
Barium	NA	NA	NA	NA	0.093	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	ND(0.00040)	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	0.000090 J	NA	NA	NA	NA
Chromium Total	NA	NA	NA	NA	0.0011	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	0.00042	NA	NA	NA	NA
Copper	NA	NA	NA	NA	0.0045	NA	NA	NA	NA
Cyanide (total)	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA	NA
Lead	NA	NA	NA	NA	0.0017	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	0.047	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	0.0051	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	ND(0.0014)	NA	NA	NA	NA
Silver	NA	NA	NA	NA	ND(0.00040 J)	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	0.00031 J	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	0.026	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	NA	NA	NA	NA	ND(0.0012)	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	0.0096	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	0.077	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	ND(0.00040)	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	ND(0.00060)	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	0.0053	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	ND(0.00040)	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	0.032 J	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	0.0031	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	0.0020 J	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	ND(0.00040 J)	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	ND(0.00080)	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	0.011	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	20-101R 10/11/04	20-101RD 03/27/03	20-101RD 10/11/04	20-102 06/21/02	20-102 03/27/03	20-103N 06/19/02	20-105R 06/19/02	20-105R 03/26/03
<b>VOC</b>								
1,1,1-Trichloroethane	0.86 (IDW,RDW)	ND(0.0010)	0.00040 J	0.0015 J	0.0017	ND(0.0010)	0.71 D (IDW,RDW)	0.54 D (IDW,RDW)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	0.0010	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	3.5 J (IDW,RDW)	0.0033	0.0040 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.078	0.086 D
1,1-Dichloroethene	0.055 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.040 (IDW,RDW)	0.047 (IDW,RDW)
1,2,4-Trichlorobenzene	ND(0.0020)	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	0.0030	0.017 (IDW,RDW)	0.010 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.030)	ND(0.025)	ND(0.030)	ND(0.025 J)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010)	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050 J)	ND(0.050)
Acetone	0.0040 J	ND(0.025)	0.010 J	ND(0.025)	ND(0.025)	0.0017 J	0.0015 J	ND(0.025)
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0020 J)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Carbon disulfide	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	1.6 J (RDW)	6.4 D (IDW,RDW)	7.4 J (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.016	0.063
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	0.00090 J	ND(0.0010)	ND(0.0010)	0.0014	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methyl cyclohexane	ND(0.020)	ND(0.0010)	ND(0.020)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	0.0050	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00074 J	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	0.0030 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	20-101R 10/11/04	20-101RD 03/27/03	20-101RD 10/11/04	20-102 06/21/02	20-102 03/27/03	20-103N 06/19/02	20-105R 06/19/02	20-105R 03/26/03
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.012 (IDW,RDW)	0.0078 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.030)	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Vinyl chloride	0.28 (IDW,RDW)	0.062 (IDW,RDW)	0.11 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	20-101R 10/11/04	20-101RD 03/27/03	20-101RD 10/11/04	20-102 06/21/02	20-102 03/27/03	20-103N 06/19/02	20-105R 06/19/02	20-105R 03/26/03
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	20-101R 10/11/04	20-101RD 03/27/03	20-101RD 10/11/04	20-102 06/21/02	20-102 03/27/03	20-103N 06/19/02	20-105R 06/19/02	20-105R 03/26/03
<b>Inorganic</b>								
Antimony	NA	NA	NA	NA	0.00034 J	ND(0.0012)	ND(0.0012)	ND(0.0012)
Arsenic	NA	NA	NA	NA	ND(0.0010)	ND(0.0017)	0.0065	0.0041
Barium	NA	NA	NA	NA	0.22	0.028	0.10	0.20
Beryllium	NA	NA	NA	NA	ND(0.00040)	ND(0.00040 J)	ND(0.00040 J)	ND(0.00040)
Cadmium	NA	NA	NA	NA	0.00043	ND(0.00020)	0.00025	0.00031
Chromium Total	NA	NA	NA	NA	0.0019	0.00074	0.0040	0.0012
Cobalt	NA	NA	NA	NA	0.0033	0.00029	0.0026	0.0029
Copper	NA	NA	NA	NA	0.0065	0.0041 J	0.0082 J	0.0022
Cyanide (total)	NA	NA	NA	NA	0.0076	ND(0.0050)	ND(0.0050)	0.0032 J
Lead	NA	NA	NA	NA	0.00071	0.00034 J	0.0049 (IDW,RDW)	0.00034 J
Manganese	NA	NA	NA	NA	1.0 (RDW)	0.15	0.34	0.98 (RDW)
Mercury	NA	NA	NA	NA	ND(0.00020)	ND(0.00020)	ND(0.00020)	ND(0.00020)
Nickel	NA	NA	NA	NA	0.023	0.0037	0.0094	0.020
Selenium	NA	NA	NA	NA	ND(0.0016)	0.0076	ND(0.0014)	ND(0.0016)
Silver	NA	NA	NA	NA	ND(0.00040)	ND(0.00040)	ND(0.00040)	0.00017 J
Thallium	NA	NA	NA	NA	ND(0.00020)	ND(0.00020)	0.00013 J	0.000048 J
Vanadium	NA	NA	NA	NA	ND(0.00080)	0.00038 J	0.0075 (RDW)	ND(0.00080)
Zinc	NA	NA	NA	NA	0.029	0.0091 J	0.026 J	0.010
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	20-120 06/17/02	20-121 06/14/02	20-121 03/26/03	20-140 06/20/02	20-140 03/31/03	20-140 10/11/04	20-143 10/12/04	20-144 06/18/02
<b>VOC</b>								
1,1,1-Trichloroethane	0.023	0.11 D [0.11 D]	0.097	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	0.0015 [0.0016]	0.0011	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	0.0054	0.37 D [0.38 D]	0.20 D	0.0017	0.0035	0.0030 J	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	0.0049 [0.0053]	0.0058	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0020)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	0.0019 [0.0020]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025) [ND(0.025)]	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.030)	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.0010)	ND(0.050)
Acetone	ND(0.025)	ND(0.025) [ND(0.025)]	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.030)	0.0054 J
Benzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00093 J
Bromodichloromethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	ND(0.0020 J)	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	0.0095 [0.0090]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	0.00077 J	0.16 D (IDW,RDW) [0.17 D (IDW,RDW)]	0.060	0.0029	0.0019	0.0010	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020) [ND(0.0020)]	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0020)
Methyl acetate	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.010)	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.020)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050 J)	ND(0.0050 J) [ND(0.0050 J)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.00060 J	0.00050 J	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010 J)	ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0092
trans-1,2-Dichloroethene	ND(0.0010)	0.0030 [0.0032]	0.0017	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	20-120 06/17/02	20-121 06/14/02	20-121 03/26/03	20-140 06/20/02	20-140 03/31/03	20-140 10/11/04	20-143 10/12/04	20-144 06/18/02
<b>VOC (Cont'd.)</b>								
Trichloroethene	0.0019	0.00058 J [0.00061 J]	ND(0.0010)	0.086 (IDW,RDW)	0.061 (IDW,RDW)	0.039 (IDW,RDW)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrichloroethane (Freon 113)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.030)	ND(0.0010)
Vinyl chloride	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	0.0010	0.019 J (IDW,RDW)	0.0070 (IDW,RDW)	ND(0.0010)	0.00054 J
Xylenes (total)	ND(0.0020)	ND(0.0020) [ND(0.0020)]	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	20-120 06/17/02	20-121 06/14/02	20-121 03/26/03	20-140 06/20/02	20-140 03/31/03	20-140 10/11/04	20-143 10/12/04	20-144 06/18/02
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	20-120 06/17/02	20-121 06/14/02	20-121 03/26/03	20-140 06/20/02	20-140 03/31/03	20-140 10/11/04	20-143 10/12/04	20-144 06/18/02
<b>Inorganic</b>								
Antimony	NA	ND(0.0012) [ND(0.0012)]	NA	ND(0.0012)	ND(0.0012)	NA	NA	NA
Arsenic	NA	0.00076 J [0.00079 J]	NA	ND(0.0010)	ND(0.0010)	NA	NA	NA
Barium	NA	0.083 [0.083]	NA	0.26	0.24	NA	NA	NA
Beryllium	NA	ND(0.00040 J) [ND(0.00040 J)]	NA	ND(0.00040)	ND(0.00040)	NA	NA	NA
Cadmium	NA	0.000046 J [0.000054 J]	NA	0.00077	0.00057	NA	NA	NA
Chromium Total	NA	0.00030 J [0.00031 J]	NA	0.00093	0.00092	NA	NA	NA
Cobalt	NA	0.0048 [0.0049]	NA	0.0091	0.0060	NA	NA	NA
Copper	NA	0.0047 [ND(0.0034)]	NA	0.012	0.012	NA	NA	NA
Cyanide (total)	NA	NA	NA	0.0026 J	0.0025 J	NA	NA	NA
Lead	NA	0.00011 J [0.00072]	NA	0.0014	0.0011	NA	NA	NA
Manganese	NA	2.0 J (RDW) [2.0 J (RDW)]	NA	1.7 (RDW)	1.9 J (RDW)	NA	NA	NA
Mercury	NA	ND(0.00020) [0.00012 J]	NA	ND(0.00020)	ND(0.00020)	NA	NA	NA
Nickel	NA	0.019 [0.020]	NA	0.024	0.030	0.023	NA	NA
Selenium	NA	ND(0.0014) [ND(0.0014)]	NA	0.0015	ND(0.0016)	NA	NA	NA
Silver	NA	ND(0.00040) [ND(0.00040)]	NA	ND(0.00040 J)	ND(0.00040)	NA	NA	NA
Thallium	NA	ND(0.00020) [ND(0.00021)]	NA	0.00016 J	0.000058 J	NA	NA	NA
Vanadium	NA	ND(0.00080) [ND(0.00080)]	NA	ND(0.00080)	ND(0.00080)	NA	NA	NA
Zinc	NA	0.013 [0.0084]	NA	ND(0.017 J)	0.013	NA	NA	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	20-145 06/18/02	20-500 06/14/02	20-500 03/26/03	20-FP6 06/19/02	20-FP6 03/27/03	20-FP11 06/19/02	30-140 06/13/02	30-140 03/27/03	30-140 10/04/04	31-5 06/21/02	31-6 06/21/02
<b>VOC</b>											
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.00063 J	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0020)	NA	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	NA	ND(0.025)	ND(0.030)	NA	ND(0.025 J)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050)	ND(0.050)	NA	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050 J)	ND(0.050)	ND(0.050)	NA	ND(0.050)	ND(0.0010)	NA	ND(0.050)
Acetone	ND(0.025)	ND(0.025)	ND(0.025)	0.0031 J	ND(0.025)	0.0021 J	NA	ND(0.025)	ND(0.030)	NA	ND(0.025)
Benzene	ND(0.0010)	0.0013	0.0017	0.00050 J	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010 J)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0020 J)	NA	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	0.012	0.00062 J	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0010)	NA	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0010)	NA	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)	ND(0.0010)	NA	ND(0.0020)
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050 J)	ND(0.010)	NA	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.020)	NA	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)	NA	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	0.0020	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	20-145 06/18/02	20-500 06/14/02	20-500 03/26/03	20-FP6 06/19/02	20-FP6 03/27/03	20-FP11 06/19/02	30-140 06/13/02	30-140 03/27/03	30-140 10/04/04	31-5 06/21/02	31-6 06/21/02
<b>VOC (Cont'd.)</b>											
Trichloroethene	0.0012	ND(0.0010)	0.0042	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.030)	NA	ND(0.0010)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)	ND(0.0010)	NA	ND(0.0020)
<b>SVOC</b>											
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	20-145 06/18/02	20-500 06/14/02	20-500 03/26/03	20-FP6 06/19/02	20-FP6 03/27/03	20-FP11 06/19/02	30-140 06/13/02	30-140 03/27/03	30-140 10/04/04	31-5 06/21/02	31-6 06/21/02
<b>SVOC (Cont'd.)</b>											
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>											
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
<b>PCB-Dissolved</b>											
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	20-145 06/18/02	20-500 06/14/02	20-500 03/26/03	20-FP6 06/19/02	20-FP6 03/27/03	20-FP11 06/19/02	30-140 06/13/02	30-140 03/27/03	30-140 10/04/04	31-5 06/21/02	31-6 06/21/02
<b>Inorganic</b>											
Antimony	ND(0.0012)	NA	ND(0.0012)	NA	NA	NA	ND(0.0012)	ND(0.0012)	NA	NA	NA
Arsenic	ND(0.0016)	NA	0.050	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	NA
Barium	0.069	NA	0.40	NA	NA	NA	0.30 J	0.14	NA	NA	NA
Beryllium	ND(0.00040 J)	NA	ND(0.00040)	NA	NA	NA	ND(0.00040 J)	ND(0.00040)	NA	NA	NA
Cadmium	0.00051	NA	ND(0.00020)	NA	NA	NA	0.00019 J	0.00063	NA	NA	NA
Chromium Total	0.0018	NA	0.0018	NA	NA	NA	0.0015	0.0012	NA	NA	NA
Cobalt	0.0017	NA	0.0022	NA	NA	NA	0.0024	0.0013	NA	NA	NA
Copper	0.052	NA	0.0097	NA	NA	NA	0.0062	0.0027	NA	NA	NA
Cyanide (total)	ND(0.0050)	NA	0.029	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Lead	0.00019 J	NA	0.0013	NA	NA	NA	ND(0.00040 J)	0.00023 J	NA	NA	NA
Manganese	0.42	NA	0.44	NA	NA	NA	3.1 J (IDW,RDW)	0.81	2.2 (RDW)	NA	NA
Mercury	ND(0.00020)	NA	ND(0.00020)	NA	NA	NA	ND(0.00020)	ND(0.00020)	NA	NA	NA
Nickel	0.022	NA	0.017	NA	NA	NA	0.0095	0.011	NA	NA	NA
Selenium	0.00041 J	NA	0.0017	NA	NA	NA	ND(0.0014)	ND(0.0016)	NA	NA	NA
Silver	ND(0.00040)	NA	0.00028 J	NA	NA	NA	ND(0.00040 J)	ND(0.00040)	NA	NA	NA
Thallium	ND(0.00020)	NA	ND(0.00020)	NA	NA	NA	0.00021	0.00012 J	NA	NA	NA
Vanadium	ND(0.00080)	NA	ND(0.00080)	NA	NA	NA	ND(0.00080)	ND(0.00080)	NA	NA	NA
Zinc	0.18 J	NA	0.021	NA	NA	NA	0.012 J	0.024	NA	NA	NA
<b>Inorganic-Dissolved</b>											
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	31-8 06/24/02	36-100 06/13/02	36-100 03/25/03	36-100 06/10/05	36-101 06/13/02	36-FP1 06/14/02	36-FP1 03/27/03
<b>VOC</b>							
1,1,1-Trichloroethane	ND(0.0010) [ND(0.0010)]	0.74 JD (IDW,RDW)	0.32 D (IDW,RDW)	0.23 (IDW,RDW)	NA	0.098 D	0.24 D (IDW,RDW)
1,1,2,2-Tetrachloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010) [ND(0.0010)]	0.0050	0.0021	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010) [ND(0.0010)]	0.78 JD	0.17 D	0.32	NA	0.11 D	0.50 D
1,1-Dichloroethene	ND(0.0010) [ND(0.0010)]	0.11 JD (IDW,RDW)	0.023 (IDW,RDW)	0.016 (IDW,RDW)	NA	0.0011	0.0056
1,2,4-Trichlorobenzene	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.010)	NA	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010) [ND(0.0010)]	0.0030	ND(0.0010)	ND(0.0050)	NA	0.0042	0.0040
1,2-Dichloropropane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	0.14 EJ [0.14 JD]	0.0039 J	ND(0.025)	ND(0.10)	NA	ND(0.025)	ND(0.025)
2-Hexanone	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.050)	ND(0.30)	NA	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.050)	ND(0.0050)	NA	ND(0.050)	ND(0.050)
Acetone	0.24 JD [0.27 JD]	0.013 J	ND(0.025)	ND(0.10)	NA	ND(0.025)	ND(0.025)
Benzene	0.70 D (IDW,RDW) [0.72 D (IDW,RDW)]	0.051 (IDW,RDW)	0.0032	0.0080 (IDW,RDW)	NA	1.3 D (IDW,RDW)	2.0 D (IDW,RDW)
Bromodichloromethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
Carbon disulfide	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050 J)	ND(0.030)	NA	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
Chloroethane	0.0061 [0.0060]	0.026	ND(0.0010)	0.061	NA	0.023	0.089
Chloroform (Trichloromethane)	ND(0.0010) [ND(0.0010)]	0.00071 J	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010) [ND(0.0010)]	0.033	0.0030	0.0040 J	NA	0.0018	0.0025
cis-1,3-Dichloropropene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
Cyclohexane	0.16 D [0.17 D]	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
Ethylbenzene	1.0 D (IDW,RDW) [1.0 D (IDW,RDW)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
Isopropylbenzene	0.066 [0.069]	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)
m&p-Xylene	1.1 D [1.1 D]	ND(0.0020)	ND(0.0020)	ND(0.0050)	NA	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.050)	NA	ND(0.0050)	ND(0.0050 J)
Methyl cyclohexane	0.13 D [0.15 D]	ND(0.0010)	ND(0.0010 J)	ND(0.10)	NA	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050) [ND(0.0050)]	0.0067	ND(0.0050)	0.0040 J	NA	0.0010 J	ND(0.0050)
Methylene chloride	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.030)	NA	ND(0.0050 J)	ND(0.0050)
o-Xylene	0.59 D [0.60 D]	0.0030	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010 J)	ND(0.0010)
Toluene	0.14 D [0.14 D]	0.00078 J	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010) [ND(0.0010)]	0.0045	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	31-8 06/24/02	36-100 06/13/02	36-100 03/25/03	36-100 06/10/05	36-101 06/13/02	36-FP1 06/14/02	36-FP1 03/27/03
<b>VOC (Cont'd.)</b>							
Trichloroethene	ND(0.0010) [ND(0.0010)]	0.0036	0.0037	0.0080 (IDW,RDW)	NA	0.018 (IDW,RDW)	0.018 (IDW,RDW)
Trichlorofluoromethane (CFC-11)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.20)	NA	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010) [ND(0.0010)]	0.0063 J (IDW,RDW)	ND(0.0010)	0.0090 (IDW,RDW)	NA	0.0013	0.0081 (IDW,RDW)
Xylenes (total)	1.7 [1.7]	0.0030	ND(0.0020)	ND(0.0050)	NA	ND(0.0020)	ND(0.0020)
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	31-8 06/24/02	36-100 06/13/02	36-100 03/25/03	36-100 06/10/05	36-101 06/13/02	36-FP1 06/14/02	36-FP1 03/27/03
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	31-8 06/24/02	36-100 06/13/02	36-100 03/25/03	36-100 06/10/05	36-101 06/13/02	36-FP1 06/14/02	36-FP1 03/27/03
<b>Inorganic</b>							
Antimony	0.00041 J [ND(0.0012)]	ND(0.0012)	ND(0.0012)	NA	ND(0.0012)	ND(0.0012)	ND(0.0012)
Arsenic	0.022 [0.018]	0.012	0.012	NA	ND(0.0010)	0.033	0.054 (IDW,RDW)
Barium	0.13 [0.097]	0.25 J	0.21 J	NA	0.12 J	0.56	0.51
Beryllium	ND(0.00040) [ND(0.00040)]	ND(0.00040 J)	ND(0.00040)	NA	ND(0.00040 J)	ND(0.00040 J)	ND(0.00040)
Cadmium	0.000044 J [ND(0.00020)]	0.00023	0.00033	NA	0.000072 J	0.00014 J	ND(0.00020)
Chromium Total	0.00084 [0.00069]	0.00080	0.0016	NA	0.00070	0.00043 J	0.0014
Cobalt	0.00051 [0.00040]	0.0060	0.0034	NA	0.0013	0.0035	0.0036
Copper	0.0013 [0.0019]	0.0045	0.0043	NA	0.0048	ND(0.0030)	0.0044
Cyanide (total)	ND(0.0050) [ND(0.0050)]	NA	ND(0.0050)	NA	NA	NA	ND(0.0050)
Lead	0.0017 [0.0014]	0.00033 J	0.00093	NA	0.00013 J	0.00047	0.00057
Manganese	0.17 J [0.13 J]	1.8 J (RDW)	0.63	NA	0.33 J	1.3 J (RDW)	0.84
Mercury	ND(0.00020) [ND(0.00020)]	ND(0.00020)	ND(0.00020)	NA	0.00013 J	ND(0.00020)	ND(0.00020)
Nickel	0.0035 [0.0029]	0.055	0.033	NA	0.013	0.012	0.027
Selenium	ND(0.0014) [ND(0.0014)]	0.00047 J	ND(0.0016)	NA	ND(0.0014)	ND(0.0014)	0.0019 J
Silver	ND(0.00056 J) [ND(0.00040 J)]	0.00039 J	ND(0.00040)	NA	ND(0.00040 J)	ND(0.00040)	ND(0.00040)
Thallium	ND(0.00020) [ND(0.00020)]	0.00015 J	0.000082 J	NA	0.000056 J	ND(0.00020)	0.000089 J
Vanadium	ND(0.00080) [ND(0.00080)]	ND(0.00080)	0.000097 J	NA	ND(0.00080)	ND(0.00080)	ND(0.00080)
Zinc	0.011 [0.0069]	0.021 J	ND(0.027)	NA	0.013 J	0.021	0.022
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	36-FP1 06/09/05	36-FP2 06/14/02	36-FP2 03/25/03	36-FP5 12/16/02	36-FP5 04/02/03	36-FP8 06/17/02	36-FP8 03/25/03	37-01 12/18/02	40-1R 04/03/03
<b>VOC</b>									
1,1,1-Trichloroethane	0.19	0.00064 J	ND(0.0010)	0.0083	0.011	0.0010	ND(0.0010)	NA	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1-Dichloroethane	0.40	0.0034	0.0051	0.011	0.011	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1-Dichloroethene	ND(0.0050)	ND(0.0010)	ND(0.0010)	0.00091 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichloroethane	ND(0.0050)	0.0052 (IDW,RDW)	0.013 (IDW,RDW)	0.00051 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichloropropane	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.10)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	NA	ND(0.025)
2-Hexanone	ND(0.30)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050)
Acetone	ND(0.10)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	NA	ND(0.025)
Benzene	0.71 (IDW,RDW)	2.7 D (IDW,RDW)	4.5 D (IDW,RDW)	0.00091 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Bromodichloromethane	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Bromoform	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Carbon disulfide	ND(0.030)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	NA	ND(0.0050)
Carbon tetrachloride	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chlorobenzene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chloroethane	0.069 J	0.021	0.0098	0.0026	0.0019	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0050)	ND(0.0010)	ND(0.0010)	0.00060 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Dibromochloromethane	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Ethylbenzene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
m&p-Xylene	ND(0.0050)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)
Methyl acetate	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050 J)
Methyl cyclohexane	ND(0.10)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.030)	0.00074 J	ND(0.0050)	0.0042 J	0.0061	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Methylene chloride	ND(0.030)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	NA	ND(0.0050)
o-Xylene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Styrene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Tetrachloroethene	ND(0.0050)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010)
Toluene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	36-FP1 06/09/05	36-FP2 06/14/02	36-FP2 03/25/03	36-FP5 12/16/02	36-FP5 04/02/03	36-FP8 06/17/02	36-FP8 03/25/03	37-01 12/18/02	40-1R 04/03/03
<b>VOC (Cont'd.)</b>									
Trichloroethene	0.0050 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	0.0017
Trichlorofluoromethane (CFC-11)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.20)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Vinyl chloride	ND(0.0050)	ND(0.0010)	ND(0.0010)	0.0012	0.0014	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Xylenes (total)	ND(0.0050)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	36-FP1 06/09/05	36-FP2 06/14/02	36-FP2 03/25/03	36-FP5 12/16/02	36-FP5 04/02/03	36-FP8 06/17/02	36-FP8 03/25/03	37-01 12/18/02	40-1R 04/03/03
<b>SVOC (Cont'd.)</b>									
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	36-FP1 06/09/05	36-FP2 06/14/02	36-FP2 03/25/03	36-FP5 12/16/02	36-FP5 04/02/03	36-FP8 06/17/02	36-FP8 03/25/03	37-01 12/18/02	40-1R 04/03/03
<b>Inorganic</b>									
Antimony	NA	ND(0.0012)	ND(0.0012)	NA	NA	ND(0.0012)	0.00059 J	ND(0.0012)	0.00090 J
Arsenic	NA	0.12 (IDW,RDW)	0.094 (IDW,RDW)	NA	NA	0.0023	ND(0.0010)	0.014	ND(0.0010)
Barium	NA	0.47	0.40 J	NA	NA	0.080	0.51 J	0.040 J	0.053
Beryllium	NA	ND(0.00040 J)	ND(0.00040)	NA	NA	ND(0.00040 J)	ND(0.00040)	ND(0.00040 J)	ND(0.00040)
Cadmium	NA	ND(0.00020)	ND(0.00020)	NA	NA	0.000079 J	0.0025	ND(0.00020 J)	0.000090 J
Chromium Total	NA	0.00072	0.00047 J	NA	NA	0.00029 J	0.0038	0.0089	0.0064
Cobalt	NA	0.0010	0.00058	NA	NA	0.0020	0.0033	0.0073 J	0.00048
Copper	NA	0.0083	0.0026	NA	NA	0.0068	0.0070	0.0025	0.0054
Cyanide (total)	NA	NA	ND(0.0050)	NA	NA	0.16	0.068	ND(0.0050)	0.0068
Lead	NA	0.00027 J	0.00026 J	NA	NA	0.00014 J	0.00020 J	0.00059 J	0.0013
Manganese	NA	0.14 J	0.11	NA	NA	0.29 J	1.2 (RDW)	2.1 (RDW)	0.057 J
Mercury	NA	ND(0.00020)	ND(0.00020)	NA	NA	ND(0.00020)	ND(0.00020)	ND(0.00020)	ND(0.00020)
Nickel	NA	0.0084	0.0086	NA	NA	0.0025	0.014	0.010 J	0.0083
Selenium	NA	ND(0.0014)	ND(0.0016)	NA	NA	ND(0.0014)	ND(0.0016)	ND(0.0016)	ND(0.0016)
Silver	NA	ND(0.00040)	ND(0.00040)	NA	NA	ND(0.00040)	0.00013 J	ND(0.00040 J)	ND(0.00040 J)
Thallium	NA	ND(0.00020)	ND(0.00020)	NA	NA	ND(0.00020)	0.000095 J	0.00022 J	0.00012 J
Vanadium	NA	ND(0.00080)	ND(0.00080)	NA	NA	ND(0.00080)	ND(0.00080)	0.00023 J	0.00024 J
Zinc	NA	0.024	ND(0.019)	NA	NA	0.011	ND(0.018)	0.017 J	0.011
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	NA	ND(0.0012)	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	0.12 (IDW,RDW)	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	0.47	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	ND(0.00040 J)	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	0.00097	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	0.00088	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	0.0043	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	ND(0.00040)	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	0.15	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	0.0077	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	ND(0.0014)	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	ND(0.00040)	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	ND(0.00080)	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	0.028	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	40-2 12/17/02	40-2 03/24/03	40-3 12/17/02	40-3 03/24/03	40-4R 06/24/02	40-4R 03/24/03	40-6R 04/23/03	40-6R 10/05/04
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010 J)	0.00051 J	ND(0.0010)	0.00075 J	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0020)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	0.0010 J	ND(0.025)	0.010 J	ND(0.025)	ND(0.025)	ND(0.030)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	0.00063 J	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.0010)
Acetone	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	0.027 J	ND(0.025)	0.0019 J	ND(0.030)
Benzene	0.021 (IDW,RDW)	0.018 (IDW,RDW)	0.041 (IDW,RDW)	0.050 (IDW,RDW)	2.6 D (IDW,RDW)	1.5 D (IDW,RDW)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020 J)
Carbon disulfide	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00099 J	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00069 J	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	0.038	0.028	0.022	0.068	0.077	0.096	ND(0.0050)	ND(0.0010)
Dibromochloromethane	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	0.061	0.092 D	0.012	0.031	0.68 D	0.41 D	ND(0.0010)	ND(0.0010)
Isopropylbenzene	0.074	0.025	0.012	0.023	0.036	0.037	ND(0.0050)	ND(0.0010)
m&p-Xylene	0.0016 J	0.0060	0.0022	0.0058	1.8 D	1.0 D	ND(0.0020)	ND(0.0010)
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)
Methyl cyclohexane	0.012	0.0065 J	0.0094	0.032 J	0.064	0.074 J	ND(0.0010)	ND(0.020)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.0014 J	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	0.00059 J	0.0018	0.084	0.0094	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	0.0015	0.0014	0.0027	0.0053	0.058	0.033	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	40-2 12/17/02	40-2 03/24/03	40-3 12/17/02	40-3 03/24/03	40-4R 06/24/02	40-4R 03/24/03	40-6R 04/23/03	40-6R 10/05/04
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00030 J
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.030)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	0.0016 J	0.0060	0.0028 J	0.0076	1.9	1.0	ND(0.0020)	ND(0.0010)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	40-2 12/17/02	40-2 03/24/03	40-3 12/17/02	40-3 03/24/03	40-4R 06/24/02	40-4R 03/24/03	40-6R 04/23/03	40-6R 10/05/04
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	40-2 12/17/02	40-2 03/24/03	40-3 12/17/02	40-3 03/24/03	40-4R 06/24/02	40-4R 03/24/03	40-6R 04/23/03	40-6R 10/05/04
<b>Inorganic</b>								
Antimony	NA	NA	ND(0.0012)	NA	0.00045 J	ND(0.0012)	0.0028	NA
Arsenic	NA	NA	0.44 (IDW,RDW)	NA	0.15 (IDW,RDW)	0.16 (IDW,RDW)	ND(0.0010)	ND(0.0020)
Barium	NA	NA	0.11 J	NA	0.18	0.18 J	0.035	NA
Beryllium	NA	NA	0.00093 J	NA	ND(0.00040)	ND(0.00040)	ND(0.00040)	NA
Cadmium	NA	NA	ND(0.00020 J)	NA	0.000062 J	0.000050 J	0.000078 J	NA
Chromium Total	NA	NA	0.0038	NA	0.0027	0.0026	0.0032	NA
Cobalt	NA	NA	0.00070 J	NA	0.0033	0.0026	0.00048	NA
Copper	NA	NA	0.0030 J	NA	0.0092	0.0038	0.0034	NA
Cyanide (total)	NA	NA	0.010	NA	ND(0.0050)	ND(0.0050)	0.024	0.024
Lead	NA	NA	0.00071 J	NA	0.0064 (IDW,RDW)	0.0049 (IDW,RDW)	0.0020	ND(0.0030)
Manganese	NA	NA	0.43 J	NA	1.0 J (RDW)	0.51	0.27	NA
Mercury	NA	NA	ND(0.00020)	NA	ND(0.00020)	ND(0.00020)	ND(0.00020)	NA
Nickel	NA	NA	0.0077 J	NA	0.0073	0.0072	0.0048	NA
Selenium	NA	NA	ND(0.0016)	NA	ND(0.0014)	ND(0.0016)	ND(0.0016)	NA
Silver	NA	NA	ND(0.00040 J)	NA	ND(0.00040 J)	ND(0.00040)	ND(0.00040 J)	NA
Thallium	NA	NA	ND(0.00020 J)	NA	ND(0.00020)	ND(0.00020)	ND(0.00020)	NA
Vanadium	NA	NA	ND(0.00080)	NA	0.0040	0.0037	0.00029 J	NA
Zinc	NA	NA	0.018 J	NA	0.022	ND(0.019)	0.0086	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	0.0033	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	0.14 (IDW,RDW)	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	0.14	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	ND(0.00040)	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	0.0018	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	0.0023	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	0.0031	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	0.0024	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	0.90 J (RDW)	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	0.0040	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	ND(0.0014)	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	0.00099 J	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	0.0014	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	0.014	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	40-303R 06/24/02	40-303R 03/27/03	40-303R 10/05/04	40-304 12/17/02	40-304 03/21/03	40-304 10/06/04	40-305 06/24/02	40-305 03/21/03
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0011	ND(0.0010)	0.0010 J	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025 J)	ND(0.025)	ND(0.030)	0.0046 J	ND(0.025)	ND(0.030)	0.0010 J	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050 J)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.050)
Acetone	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.025)	0.0070 J	ND(0.025)	ND(0.025)
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00030 J	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0020 J)	ND(0.0010)	ND(0.0010 J)
Carbon disulfide	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0049	0.0083	0.0070	0.019	0.0084
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.0050)	ND(0.0050 J)	ND(0.010)	ND(0.0050)	ND(0.0050 J)	ND(0.010)	ND(0.0050)	ND(0.0050 J)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00094 J	0.0011
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	40-303R 06/24/02	40-303R 03/27/03	40-303R 10/05/04	40-304 12/17/02	40-304 03/21/03	40-304 10/06/04	40-305 06/24/02	40-305 03/21/03
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00020 J	0.0021	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0053 (IDW,RDW)	0.0017	0.0050 (IDW,RDW)	0.0037 (IDW,RDW)	0.0039 (IDW,RDW)
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	40-303R 06/24/02	40-303R 03/27/03	40-303R 10/05/04	40-304 12/17/02	40-304 03/21/03	40-304 10/06/04	40-305 06/24/02	40-305 03/21/03
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	40-303R 06/24/02	40-303R 03/27/03	40-303R 10/05/04	40-304 12/17/02	40-304 03/21/03	40-304 10/06/04	40-305 06/24/02	40-305 03/21/03
<b>Inorganic</b>								
Antimony	0.0010 J	0.00034 J	NA	NA	NA	NA	NA	NA
Arsenic	0.041	0.037	NA	NA	NA	NA	NA	NA
Barium	0.22	0.15	NA	NA	NA	NA	NA	NA
Beryllium	ND(0.00040)	ND(0.00040)	ND(0.0010)	NA	NA	ND(0.0010)	NA	NA
Cadmium	0.00042	0.000067 J	NA	NA	NA	NA	NA	NA
Chromium Total	0.0093	0.0020	NA	NA	NA	NA	NA	NA
Cobalt	0.0018	0.0013	NA	NA	NA	NA	NA	NA
Copper	0.0039	0.0028	NA	NA	NA	NA	NA	NA
Cyanide (total)	ND(0.0050)	0.0050 J	NA	NA	NA	NA	NA	NA
Lead	0.0027	0.0016	ND(0.0030)	NA	NA	ND(0.0030)	NA	NA
Manganese	0.18 J	0.15	NA	NA	NA	NA	NA	NA
Mercury	0.00015 J	ND(0.00020)	NA	NA	NA	NA	NA	NA
Nickel	0.0073	0.013	NA	NA	NA	NA	NA	NA
Selenium	ND(0.0014)	ND(0.0016)	NA	NA	NA	NA	NA	NA
Silver	ND(0.00040 J)	ND(0.00040)	NA	NA	NA	NA	NA	NA
Thallium	ND(0.00020)	0.00081	NA	NA	NA	NA	NA	NA
Vanadium	0.0036	0.00042 J	NA	NA	NA	NA	NA	NA
Zinc	0.022	0.017	NA	NA	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0020
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.011
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.034
Beryllium (Dissolved)	NA	NA	ND(0.0010)	NA	NA	NA	NA	ND(0.00040)
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.00014 J
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0050
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.00059
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0022
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	0.010
Lead (Dissolved)	NA	NA	ND(0.0030)	NA	NA	NA	NA	0.00066
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.086
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00020)
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0011
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.0016)
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.000094 J
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.000057 J
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0021
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.010

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	40-305 03/25/03	43-101R 06/18/02	43-140 06/12/02	43-140 04/03/03	43-140 10/12/04	43-166 06/19/02	43-168 12/17/02	55-1 06/12/02
<b>VOC</b>								
1,1,1-Trichloroethane	NA	0.011	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1,1,2-Tetrachloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1,2-Trichloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1-Dichloroethane	NA	0.0029	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	0.027
1,1-Dichloroethene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2,4-Trichlorobenzene	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichloropropane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,3-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,4-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	NA	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.025)	NA	ND(0.025)
2-Hexanone	NA	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.050)	NA	ND(0.050)
Acetone	NA	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.030)	0.0039 J	NA	0.0092 J
Benzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	0.018 (IDW,RDW)
Bromodichloromethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Bromoform	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010)
Bromomethane (Methyl Bromide)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	NA	ND(0.0010)
Carbon disulfide	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	NA	ND(0.0050)
Carbon tetrachloride	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	NA	0.079
Chloroform (Trichloromethane)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chloromethane (Methyl Chloride)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
cis-1,2-Dichloroethene	NA	ND(0.0010)	0.00076 J	0.0033	0.0040	ND(0.0010)	NA	0.00070 J
cis-1,3-Dichloropropene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Cyclohexane	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	NA	ND(0.0050)
Dibromochloromethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Ethylbenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Isopropylbenzene	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	NA	ND(0.0050)
m&p-Xylene	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	NA	ND(0.0020)
Methyl acetate	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	NA	ND(0.0050)
Methyl cyclohexane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.0010)	NA	ND(0.0010)
Methyl Tert Butyl Ether	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	0.00076 J
Methylene chloride	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.00040 J	ND(0.0050 J)	NA	ND(0.0050)
o-Xylene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Styrene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Tetrachloroethene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010)
Toluene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
trans-1,2-Dichloroethene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
trans-1,3-Dichloropropene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	40-305 03/25/03	43-101R 06/18/02	43-140 06/12/02	43-140 04/03/03	43-140 10/12/04	43-166 06/19/02	43-168 12/17/02	55-1 06/12/02
<b>VOC (Cont'd.)</b>								
Trichloroethene	NA	ND(0.0010)	0.058 (IDW,RDW)	0.22 D (IDW,RDW)	0.25 (IDW,RDW)	ND(0.0010)	NA	ND(0.0010)
Trichlorofluoromethane (CFC-11)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Trifluorotrichloroethane (Freon 113)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.0010)	NA	ND(0.0010)
Vinyl chloride	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	0.020 J (IDW,RDW)
Xylenes (total)	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	NA	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	40-305 03/25/03	43-101R 06/18/02	43-140 06/12/02	43-140 04/03/03	43-140 10/12/04	43-166 06/19/02	43-168 12/17/02	55-1 06/12/02
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	40-305 03/25/03	43-101R 06/18/02	43-140 06/12/02	43-140 04/03/03	43-140 10/12/04	43-166 06/19/02	43-168 12/17/02	55-1 06/12/02
<b>Inorganic</b>								
Antimony	0.0011 J	ND(0.0012)	NA	NA	NA	ND(0.0012)	ND(0.0012)	NA
Arsenic	0.0091	0.056 (IDW,RDW)	NA	NA	NA	0.029	0.0044	NA
Barium	0.076 J	0.12	NA	NA	NA	0.93	0.17 J	NA
Beryllium	ND(0.00040)	ND(0.00040 J)	NA	NA	NA	ND(0.00040 J)	0.00024 J	NA
Cadmium	0.00020	ND(0.00020)	NA	NA	NA	ND(0.00020)	0.00014 J	NA
Chromium Total	0.0016	0.00053 J	NA	NA	NA	0.0012	0.0012	NA
Cobalt	0.00089	0.0017	NA	NA	NA	0.0042	0.0026 J	NA
Copper	0.0027	0.0023 J	NA	NA	NA	0.0066 J	0.0066 J	NA
Cyanide (total)	0.011	ND(0.0050)	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA
Lead	0.0092 (IDW,RDW)	0.00088	NA	NA	NA	0.00030 J	0.00074 J	NA
Manganese	0.15	0.53	NA	NA	NA	1.2 (RDW)	1.8 J (RDW)	NA
Mercury	ND(0.00020)	ND(0.00020)	NA	NA	NA	ND(0.00020)	ND(0.00020)	NA
Nickel	0.0017	0.0047	NA	NA	NA	0.013	0.0093 J	NA
Selenium	ND(0.0016)	0.0025 J	NA	NA	NA	ND(0.0014)	ND(0.0016)	NA
Silver	ND(0.00040)	ND(0.00040)	NA	NA	NA	ND(0.00040)	ND(0.00040 J)	NA
Thallium	ND(0.00020)	0.00047	NA	NA	NA	0.000085 J	0.00017 J	NA
Vanadium	0.00071 J	ND(0.00080)	NA	NA	NA	ND(0.00080)	ND(0.00080)	NA
Zinc	ND(0.030)	0.035 J	NA	NA	NA	0.026 J	0.018 J	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	55-1 03/20/03	55-2 03/20/03	55-3 06/12/02	55-3 03/21/03	55-3 10/08/04	55-4 06/12/02	55-4 03/21/03
<b>VOC</b>							
1,1,1-Trichloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	0.015 [0.015]	0.0030	NA	NA	0.0040	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	NA	ND(0.0020)	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	0.00030 J	0.0064 (IDW,RDW)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025) [ND(0.025)]	ND(0.025)	NA	NA	ND(0.030)	ND(0.025)	ND(0.025)
2-Hexanone	ND(0.050) [ND(0.050)]	ND(0.050)	NA	NA	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050) [ND(0.050)]	ND(0.050)	NA	NA	ND(0.0010)	ND(0.050)	ND(0.050)
Acetone	ND(0.025) [ND(0.025)]	ND(0.025)	NA	NA	ND(0.030)	ND(0.025)	ND(0.025)
Benzene	0.0015 [0.0016]	ND(0.0010)	NA	NA	0.00020 J	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0020 J)	ND(0.0010)	ND(0.0010 J)
Carbon disulfide	ND(0.0050 J) [ND(0.0050 J)]	ND(0.0050 J)	NA	NA	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)
Carbon tetrachloride	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	0.0092 [0.011]	ND(0.0010)	NA	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	0.0046	0.0021
Chloromethane (Methyl Chloride)	ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010 J)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
cis-1,2-Dichloroethene	0.0012 [0.0012]	ND(0.0010)	NA	NA	0.0020	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	NA	ND(0.0010)	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	NA	ND(0.0010)	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0020) [ND(0.0020)]	ND(0.0020)	NA	NA	ND(0.0010)	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	NA	ND(0.010 J)	ND(0.0050)	ND(0.0050 J)
Methyl cyclohexane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.020)	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	55-1 03/20/03	55-2 03/20/03	55-3 06/12/02	55-3 03/21/03	55-3 10/08/04	55-4 06/12/02	55-4 03/21/03
<b>VOC (Cont'd.)</b>							
Trichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	0.0020	0.015 (IDW,RDW)	0.011 (IDW,RDW)
Trichlorofluoromethane (CFC-11)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.030)	ND(0.0010)	ND(0.0010)
Vinyl chloride	0.013 (IDW,RDW) [0.013 (IDW,RDW)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020) [ND(0.0020)]	ND(0.0020)	NA	NA	ND(0.0010)	ND(0.0020)	ND(0.0020)
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	0.0025 J	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	ND(0.0050)	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	ND(0.0040)	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	ND(0.010)	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	ND(0.0050)	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	ND(0.020)	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	ND(0.0050)	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	ND(0.0050)	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	ND(0.0050)	NA
2-Chlorophenol	NA	NA	NA	NA	NA	ND(0.0050)	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	ND(0.0050)	NA
2-Methylphenol	NA	NA	NA	NA	NA	ND(0.0050)	NA
2-Nitroaniline	NA	NA	NA	NA	NA	ND(0.020)	NA
2-Nitrophenol	NA	NA	NA	NA	NA	ND(0.0050)	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	ND(0.010 J)	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	ND(0.020)	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	ND(0.020)	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	ND(0.020)	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	ND(0.0050)	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	ND(0.0050)	NA
4-Chloroaniline	NA	NA	NA	NA	NA	ND(0.020)	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	ND(0.0050)	NA
4-Nitroaniline	NA	NA	NA	NA	NA	ND(0.020)	NA
4-Nitrophenol	NA	NA	NA	NA	NA	ND(0.020)	NA
Acenaphthene	NA	NA	NA	NA	NA	ND(0.0050)	NA
Acenaphthylene	NA	NA	NA	NA	NA	ND(0.0050)	NA
Acetophenone	NA	NA	NA	NA	NA	ND(0.0050)	NA
Anthracene	NA	NA	NA	NA	NA	ND(0.0050)	NA
Atrazine	NA	NA	NA	NA	NA	ND(0.0050)	NA
Benzaldehyde	NA	NA	NA	NA	NA	ND(0.0050)	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	ND(0.0010)	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	ND(0.0020)	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	ND(0.0020)	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	ND(0.0050)	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	ND(0.0050)	NA
Biphenyl	NA	NA	NA	NA	NA	ND(0.0050)	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	ND(0.0050)	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	ND(0.0010)	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	55-1 03/20/03	55-2 03/20/03	55-3 06/12/02	55-3 03/21/03	55-3 10/08/04	55-4 06/12/02	55-4 03/21/03
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA
Caprolactam	NA	NA	NA	NA	NA	0.0018 J	NA
Carbazole	NA	NA	NA	NA	NA	ND(0.010)	NA
Chrysene	NA	NA	NA	NA	NA	ND(0.0050)	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	ND(0.0020)	NA
Dibenzofuran	NA	NA	NA	NA	NA	ND(0.0040)	NA
Diethyl phthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA
Fluoranthene	NA	NA	NA	NA	NA	ND(0.0020)	NA
Fluorene	NA	NA	NA	NA	NA	ND(0.0050)	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	ND(0.0010)	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	ND(0.0050)	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	ND(0.0050)	NA
Hexachloroethane	NA	NA	NA	NA	NA	ND(0.0050)	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	ND(0.0020)	NA
Isophorone	NA	NA	NA	NA	NA	ND(0.0050)	NA
Methylphenols, Total	NA	NA	NA	NA	NA	ND(0.010)	NA
Naphthalene	NA	NA	NA	NA	NA	ND(0.0050)	NA
Nitrobenzene	NA	NA	NA	NA	NA	ND(0.0020)	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	ND(0.0050)	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	ND(0.0050)	NA
Pentachlorophenol	NA	NA	NA	NA	NA	ND(0.020)	NA
Phenanthrene	NA	NA	NA	NA	NA	ND(0.0050)	NA
Phenol	NA	NA	NA	NA	NA	ND(0.0050)	NA
Pyrene	NA	NA	NA	NA	NA	ND(0.0050)	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	55-1 03/20/03	55-2 03/20/03	55-3 06/12/02	55-3 03/21/03	55-3 10/08/04	55-4 06/12/02	55-4 03/21/03
<b>Inorganic</b>							
Antimony	NA	NA	ND(0.0012)	ND(0.0012)	NA	ND(0.0012)	0.00050 J
Arsenic	NA	NA	0.069 (IDW,RDW)	0.057 (IDW,RDW)	0.086 (IDW,RDW)	ND(0.0010)	ND(0.0010)
Barium	NA	NA	0.13 J	0.12	NA	0.25 J	0.083
Beryllium	NA	NA	ND(0.00040 J)	ND(0.00040)	NA	ND(0.00040 J)	ND(0.00040)
Cadmium	NA	NA	0.00016 J	0.000049 J	NA	0.00038	0.00012 J
Chromium Total	NA	NA	0.0062	0.0011	NA	0.013	0.086
Cobalt	NA	NA	0.020	0.016	NA	0.0056	0.0024
Copper	NA	NA	0.013	0.0018	NA	0.0041	0.0043
Cyanide (total)	NA	NA	NA	0.0032 J	NA	NA	0.13
Lead	NA	NA	0.0035 J	0.00026 J	NA	0.00039 J	ND(0.00040)
Manganese	NA	NA	0.75 J	0.095	NA	2.9 J (IDW,RDW)	0.38
Mercury	NA	NA	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)	ND(0.00020)
Nickel	NA	NA	0.067	0.058	NA	0.041	0.048
Selenium	NA	NA	0.0015 J	0.0035	NA	0.00076 J	ND(0.0016)
Silver	NA	NA	ND(0.00040 J)	ND(0.00040)	NA	ND(0.00040 J)	ND(0.00040)
Thallium	NA	NA	0.00012 J	ND(0.00020)	NA	0.000050 J	0.0040 (IDW,RDW)
Vanadium	NA	NA	0.012 (RDW)	ND(0.00080)	NA	ND(0.00080)	ND(0.00080)
Zinc	NA	NA	0.072 J	0.030	NA	0.016 J	0.0049 J
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	55-4 10/08/04	55-5 06/12/02	55-5 03/20/03	55-5 10/04/04	70-100 06/13/02	70-100 03/27/03	70-109 03/26/03	70-160 06/17/02
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	0.00030 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	0.14 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
Acetone	ND(0.030)	0.0022 J	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)
Benzene	0.00050 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0030	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0020 J)	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Carbon disulfide	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	0.00090 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	0.0070	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00071 J	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.010 J)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)	ND(0.0050)
Methyl cyclohexane	ND(0.020)	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	0.0040 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	55-4 10/08/04	55-5 06/12/02	55-5 03/20/03	55-5 10/04/04	70-100 06/13/02	70-100 03/27/03	70-109 03/26/03	70-160 06/17/02
<b>VOC (Cont'd.)</b>								
Trichloroethene	0.0070 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010)	0.010 J (IDW,RDW)	0.0061 (IDW,RDW)	0.022 (IDW,RDW)	0.0029 J (IDW,RDW)	0.0027 (IDW,RDW)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	0.0050 J	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	ND(0.010)	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	ND(0.020 J)	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Acetophenone	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Anthracene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Atrazine	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ND(0.0010)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Biphenyl	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	0.026 (IDW,RDW)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	55-4 10/08/04	55-5 06/12/02	55-5 03/20/03	55-5 10/04/04	70-100 06/13/02	70-100 03/27/03	70-109 03/26/03	70-160 06/17/02
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	0.00060 J	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Caprolactam	ND(0.010)	NA	NA	NA	NA	NA	NA	NA
Carbazole	ND(0.010)	NA	NA	NA	NA	NA	NA	NA
Chrysene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Fluorene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Isophorone	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Phenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Pyrene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	55-4 10/08/04	55-5 06/12/02	55-5 03/20/03	55-5 10/04/04	70-100 06/13/02	70-100 03/27/03	70-109 03/26/03	70-160 06/17/02
<b>Inorganic</b>								
Antimony	ND(0.0050)	NA	NA	NA	NA	NA	NA	ND(0.0012)
Arsenic	ND(0.0020)	NA	NA	NA	NA	NA	NA	0.020
Barium	NA	NA	NA	NA	NA	NA	NA	0.28
Beryllium	ND(0.0010)	NA	NA	NA	NA	NA	NA	ND(0.00040 J)
Cadmium	0.00080	NA	NA	NA	NA	NA	NA	ND(0.00020)
Chromium Total	0.14 (IDW,RDW)	NA	NA	NA	NA	NA	NA	ND(0.00060)
Cobalt	NA	NA	NA	NA	NA	NA	NA	0.00034
Copper	NA	NA	NA	NA	NA	NA	NA	ND(0.0017)
Cyanide (total)	0.086	NA	NA	NA	NA	NA	NA	ND(0.0050)
Lead	ND(0.0030)	NA	NA	NA	NA	NA	NA	0.00083 J
Manganese	1.3 (RDW)	NA	NA	NA	NA	NA	NA	0.11 J
Mercury	NA	NA	NA	NA	NA	NA	NA	0.00018 J
Nickel	0.055	NA	NA	NA	NA	NA	NA	0.0023
Selenium	NA	NA	NA	NA	NA	NA	NA	ND(0.0014)
Silver	NA	NA	NA	NA	NA	NA	NA	ND(0.00040)
Thallium	ND(0.0020)	NA	NA	NA	NA	NA	NA	ND(0.00020)
Vanadium	NA	NA	NA	NA	NA	NA	NA	ND(0.00080)
Zinc	NA	NA	NA	NA	NA	NA	NA	0.010
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.0012)
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.022
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.27
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00040 J)
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00020)
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.00072
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.00031
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0012
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.0050)
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00040)
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.11
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00020)
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0021
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.0014)
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00040)
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00020)
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00080)
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.011

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	70-160 03/28/03	70-163 06/20/02	70-163 03/28/03	70-165 06/22/02	70-165 03/28/03	70-165 10/07/04	84-6 06/26/02	84-6R2 09/15/03
<b>VOC</b>								
1,1,1-Trichloroethane	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
1,1,2-Trichloroethane	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
1,1-Dichloroethane	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
1,1-Dichloroethene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	ND(0.0020)	ND(0.0050)	NA
1,2-Dibromo-3-chloropropane (DBCP)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
1,2-Dibromoethane (Ethylene Dibromide)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
1,2-Dichloroethane	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
1,3-Dichlorobenzene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
2-Butanone (Methyl Ethyl Ketone)	NA	NA	NA	NA	NA	ND(0.030)	ND(0.025)	NA
2-Hexanone	NA	NA	NA	NA	NA	ND(0.050)	ND(0.050)	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.050)	NA
Acetone	NA	NA	NA	NA	NA	ND(0.030)	ND(0.025)	NA
Benzene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
Bromodichloromethane	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
Bromoform	NA	NA	NA	NA	NA	ND(0.0010 J)	ND(0.0010)	NA
Bromomethane (Methyl Bromide)	NA	NA	NA	NA	NA	ND(0.0020 J)	ND(0.0010)	NA
Carbon disulfide	NA	NA	NA	NA	NA	ND(0.0050 J)	ND(0.0050)	NA
Carbon tetrachloride	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
Chlorobenzene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
Chloroethane	NA	NA	NA	NA	NA	ND(0.0010 J)	ND(0.0010)	NA
Chloroform (Trichloromethane)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
Chloromethane (Methyl Chloride)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
cis-1,2-Dichloroethene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
cis-1,3-Dichloropropene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
Cyclohexane	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0050)	NA
Dibromochloromethane	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
Dichlorodifluoromethane (CFC-12)	NA	NA	NA	NA	NA	ND(0.0010 J)	ND(0.0010)	NA
Ethylbenzene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
Isopropylbenzene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0050)	NA
m&p-Xylene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0020)	NA
Methyl acetate	NA	NA	NA	NA	NA	ND(0.010)	ND(0.0050)	NA
Methyl cyclohexane	NA	NA	NA	NA	NA	ND(0.020)	ND(0.0010)	NA
Methyl Tert Butyl Ether	NA	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA
Methylene chloride	NA	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA
o-Xylene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
Styrene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
Tetrachloroethene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
Toluene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	70-160 03/28/03	70-163 06/20/02	70-163 03/28/03	70-165 06/22/02	70-165 03/28/03	70-165 10/07/04	84-6 06/26/02	84-6R2 09/15/03
<b>VOC (Cont'd.)</b>								
Trichloroethene	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
Trichlorofluoromethane (CFC-11)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA
Trifluorotrchloroethane (Freon 113)	NA	NA	NA	NA	NA	ND(0.030)	ND(0.0010 J)	NA
Vinyl chloride	NA	NA	NA	NA	NA	ND(0.0010)	0.0013	NA
Xylenes (total)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0020)	NA
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	70-160 03/28/03	70-163 06/20/02	70-163 03/28/03	70-165 06/22/02	70-165 03/28/03	70-165 10/07/04	84-6 06/26/02	84-6R2 09/15/03
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	70-160 03/28/03	70-163 06/20/02	70-163 03/28/03	70-165 06/22/02	70-165 03/28/03	70-165 10/07/04	84-6 06/26/02	84-6R2 09/15/03
<b>Inorganic</b>								
Antimony	ND(0.0012) [ND(0.0012)]	ND(0.0012)	ND(0.0012)	ND(0.0012)	0.00060 J	NA	ND(0.0012)	0.0019 J
Arsenic	0.024 [0.025]	0.0036	0.0053	0.0027	0.0029	NA	0.0096 J	0.013 J
Barium	0.29 [0.29]	0.026	0.038	0.020	0.043	NA	0.085	0.17
Beryllium	ND(0.00040) [ND(0.00040)]	ND(0.00040)	ND(0.00040)	ND(0.00040)	ND(0.00040)	NA	ND(0.00040)	0.21 J (IDW,RDW)
Cadmium	ND(0.00020) [ND(0.00020)]	0.00019 J	0.00013 J	0.000064 J	ND(0.00020)	NA	0.00014 J	0.0029 J
Chromium Total	0.0014 [0.0014]	0.00054 J	0.00089	0.00042 J	0.00093	NA	0.00090	0.010 J
Cobalt	0.00096 [0.00094]	0.0076	0.014	0.0019	0.0012	NA	0.0059	0.0083
Copper	0.0021 [0.0018]	0.0037	0.0031	0.0048	0.0082	NA	0.0064	0.024 J
Cyanide (total)	ND(0.0050 J) [ND(0.0050 J)]	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)	NA	ND(0.0050 J)	0.0091
Lead	0.00042 [0.00042]	0.00037 J	0.00030 J	0.00023 J	0.027 (IDW,RDW)	0.055 (IDW,RDW)	0.00059	0.0026
Manganese	0.14 [0.14]	2.1 (RDW)	2.4 (RDW)	1.2 J (RDW)	0.46	NA	0.11	0.43 J
Mercury	ND(0.00020) [ND(0.00020)]	ND(0.00020)	ND(0.00020)	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)	0.000082 J
Nickel	0.0096 [0.0097]	0.011	0.039	0.0042	0.021	NA	0.0076	0.029 J
Selenium	ND(0.0016) [ND(0.0016)]	0.00058 J	0.0047 J	0.0031	0.0053	NA	ND(0.0014)	0.0025 J
Silver	ND(0.00040) [ND(0.00040)]	ND(0.00040 J)	ND(0.00040)	ND(0.00040 J)	ND(0.00040)	NA	ND(0.00040 J)	0.0019 J
Thallium	ND(0.00020) [ND(0.00020)]	0.00017 J	0.00018 J	ND(0.00020)	ND(0.00020)	NA	0.00014 J	0.0014
Vanadium	0.0012 [0.0012]	0.00027 J	0.00024 J	0.00030 J	0.00020 J	NA	0.00026 J	ND(0.00080)
Zinc	0.015 [0.016]	ND(0.035 J)	0.0095	0.029	0.017	NA	0.036 J	0.053 J
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	ND(0.0012)	NA	0.0017	NA	NA	ND(0.0012)	0.0032
Arsenic (Dissolved)	NA	0.0019	NA	0.0029	NA	NA	0.0076 J	0.0097 J
Barium (Dissolved)	NA	0.019	NA	0.017	NA	NA	0.057	0.15
Beryllium (Dissolved)	NA	ND(0.00040)	NA	ND(0.00040)	NA	NA	ND(0.00040)	0.26 J (IDW,RDW)
Cadmium (Dissolved)	NA	ND(0.00020)	NA	ND(0.00020)	NA	NA	ND(0.00020)	0.0025 J
Chromium Total (Dissolved)	NA	ND(0.00060)	NA	ND(0.00060)	NA	NA	0.0030	0.0084 J
Cobalt (Dissolved)	NA	0.0059	NA	0.0017	NA	NA	0.0039	0.0069 J
Copper (Dissolved)	NA	0.0054	NA	0.015	NA	NA	0.0046	0.019 J
Cyanide (dissolved)	NA	ND(0.0050)	NA	ND(0.0050)	NA	NA	ND(0.0050 J)	0.0050
Lead (Dissolved)	NA	ND(0.00040)	NA	ND(0.00040)	NA	NA	ND(0.00040)	0.0011
Manganese (Dissolved)	NA	1.6 (RDW)	NA	1.1 J (RDW)	NA	NA	0.077	0.35
Mercury (Dissolved)	NA	0.00013 J	NA	ND(0.00020)	NA	NA	ND(0.00020)	0.000047 J
Nickel (Dissolved)	NA	0.0092	NA	0.0035	NA	NA	0.0049	0.024 J
Selenium (Dissolved)	NA	ND(0.0014)	NA	0.0027	NA	NA	ND(0.0016)	ND(0.0016)
Silver (Dissolved)	NA	ND(0.00040 J)	NA	ND(0.00040 J)	NA	NA	ND(0.00040 J)	0.0017 J
Thallium (Dissolved)	NA	ND(0.00020)	NA	ND(0.00020)	NA	NA	0.00021	0.0012
Vanadium (Dissolved)	NA	ND(0.00080)	NA	ND(0.00080)	NA	NA	ND(0.00080)	ND(0.00080)
Zinc (Dissolved)	NA	0.011 J	NA	0.010	NA	NA	0.019	0.039 J

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	84-6R2 10/05/04	84-6R2 06/09/05	84-6R2D 07/29/05	84-07D 07/28/05	84-07S 04/05/05	84-07S 06/08/05	86-3 12/19/02	86-100 06/18/02
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
1,1-Dichloroethane	0.0030 J	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	0.0070	0.0080 (IDW,RDW)	NA	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0020)	ND(0.010)	ND(0.020)	ND(0.0020)	ND(0.0020)	ND(0.010)	NA	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010 J)	ND(0.0050)	NA	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.030)	ND(0.10)	ND(0.30)	ND(0.030)	ND(0.030)	ND(0.10)	NA	ND(0.025)
2-Hexanone	ND(0.050 J)	ND(0.30)	ND(0.50)	ND(0.050)	ND(0.050)	ND(0.30)	NA	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010)	ND(0.0050)	ND(0.010 J)	ND(0.0010 J)	ND(0.0010)	ND(0.0050)	NA	ND(0.050)
Acetone	0.0050 J	ND(0.10)	0.10 J	0.020 J	0.0080 J	ND(0.10)	NA	ND(0.025)
Benzene	0.26 (IDW,RDW)	0.40 (IDW,RDW)	0.35 (IDW,RDW)	0.051 (IDW,RDW)	0.0060 (IDW,RDW)	0.0030 J	NA	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
Bromoform	ND(0.0010 J)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010 J)	ND(0.0050)	NA	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0020 J)	ND(0.010)	ND(0.020)	ND(0.0020)	R	ND(0.010)	NA	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.030)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.030)	NA	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
Chloroethane	ND(0.0010 J)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
cis-1,2-Dichloroethene	0.0020	ND(0.0050)	ND(0.010)	0.027	0.29 (IDW,RDW)	0.32 (IDW,RDW)	NA	0.047
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
Cyclohexane	ND(0.0010)	0.0020 J	ND(0.010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0050)	NA	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
Isopropylbenzene	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0050)
m&p-Xylene	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0020)
Methyl acetate	ND(0.010)	ND(0.050)	ND(0.10 J)	ND(0.010)	ND(0.010)	ND(0.050)	NA	ND(0.0050)
Methyl cyclohexane	ND(0.020)	ND(0.10)	ND(0.20)	ND(0.020)	ND(0.020)	ND(0.10)	NA	ND(0.0010)
Methyl Tert Butyl Ether	0.00070 J	ND(0.030)	ND(0.050)	ND(0.0050 J)	ND(0.0050 J)	ND(0.030)	NA	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.030)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.030)	NA	ND(0.0050 J)
o-Xylene	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0050)	0.0030 J	0.00050 J	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0050)	ND(0.010)	0.0020	0.020	0.027	NA	0.0082
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	84-6R2 10/05/04	84-6R2 06/09/05	84-6R2D 07/29/05	84-07D 07/28/05	84-07S 04/05/05	84-07S 06/08/05	86-3 12/19/02	86-100 06/18/02
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	ND(0.0050)	ND(0.010)	0.00070 J	0.19 (IDW,RDW)	0.26 (IDW,RDW)	NA	0.032 (IDW,RDW)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.030)	ND(0.20)	ND(0.30)	ND(0.030)	ND(0.030)	ND(0.20)	NA	ND(0.0010)
Vinyl chloride	0.0040 (IDW,RDW)	ND(0.0050)	ND(0.010)	0.0080 (IDW,RDW)	0.061 (IDW,RDW)	0.11 (IDW,RDW)	NA	0.047 J (IDW,RDW)
Xylenes (total)	ND(0.0010)	ND(0.0050)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	84-6R2 10/05/04	84-6R2 06/09/05	84-6R2D 07/29/05	84-07D 07/28/05	84-07S 04/05/05	84-07S 06/08/05	86-3 12/19/02	86-100 06/18/02
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	84-6R2 10/05/04	84-6R2 06/09/05	84-6R2D 07/29/05	84-07D 07/28/05	84-07S 04/05/05	84-07S 06/08/05	86-3 12/19/02	86-100 06/18/02
<b>Inorganic</b>								
Antimony	NA	NA	NA	NA	NA	NA	ND(0.0012)	ND(0.0012)
Arsenic	NA	NA	NA	NA	NA	NA	0.0042 J	0.0029
Barium	NA	NA	NA	NA	NA	NA	0.25 J	1.2
Beryllium	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.00040)	ND(0.00040 J)
Cadmium	NA	NA	NA	NA	NA	NA	0.000048 J	0.00035
Chromium Total	ND(0.0050)	NA	NA	NA	NA	NA	0.00054 J	0.00060 J
Cobalt	NA	NA	NA	NA	NA	NA	0.0017 J	0.0019
Copper	NA	NA	NA	NA	NA	NA	0.0027 J	0.026 J
Cyanide (total)	NA	NA	NA	NA	NA	NA	ND(0.0050)	0.011
Lead	NA	NA	NA	NA	NA	NA	ND(0.00040)	0.0034
Manganese	NA	NA	NA	NA	NA	NA	1.1 J (RDW)	1.2 (RDW)
Mercury	NA	NA	NA	NA	NA	NA	ND(0.00020)	ND(0.00020)
Nickel	ND(0.0050)	NA	NA	NA	NA	NA	0.0073 J	0.0098
Selenium	NA	NA	NA	NA	NA	NA	ND(0.0016)	ND(0.0014)
Silver	NA	NA	NA	NA	NA	NA	ND(0.00040 J)	0.0013
Thallium	NA	NA	NA	NA	NA	NA	ND(0.00020)	ND(0.00020)
Vanadium	NA	NA	NA	NA	NA	NA	ND(0.00080)	ND(0.00080)
Zinc	NA	NA	NA	NA	NA	NA	0.020 J	0.068 J
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	86-100 04/01/03	86-100 10/07/04	87-FP2 06/19/02	87-FP3 06/18/02	87-FP3 04/04/03	87-FP4 10/06/04	87-FP5 06/19/02
<b>VOC</b>							
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00084 J	ND(0.0010)	0.00030 J	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0012	0.0017	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	0.0018	0.054	0.015	ND(0.0010)	0.0012
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.011 (IDW,RDW)	0.020 (IDW,RDW)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00074 J	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050 J)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.050 J)
Acetone	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.030)	0.0029 J
Benzene	ND(0.0010)	0.00030 J	ND(0.0010)	0.0010	0.0011	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	0.28 D	0.12 D	ND(0.0010 J)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00040 J	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	0.0027	0.0080	0.011	0.19 D (IDW,RDW)	0.20 D (IDW,RDW)	0.0010	0.051 J
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)
Methyl acetate	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	ND(0.020)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	0.015 J (IDW,RDW)	0.018 (IDW,RDW)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	0.0040 J	0.00097 J	0.0080	0.012	ND(0.0010)	0.0015
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	86-100 04/01/03	86-100 10/07/04	87-FP2 06/19/02	87-FP3 06/18/02	87-FP3 04/04/03	87-FP4 10/06/04	87-FP5 06/19/02
<b>VOC (Cont'd.)</b>							
Trichloroethene	0.0018	0.0070 (IDW,RDW)	0.014 (IDW,RDW)	0.99 D (IDW,RDW)	0.96 D (IDW,RDW)	0.023 (IDW,RDW)	0.011 J (IDW,RDW)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrichloroethane (Freon 113)	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.0010)
Vinyl chloride	ND(0.0010)	0.0090 (IDW,RDW)	0.00070 J	0.43 D (IDW,RDW)	0.097 D (IDW,RDW)	ND(0.0010)	0.0019
Xylenes (total)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	86-100 04/01/03	86-100 10/07/04	87-FP2 06/19/02	87-FP3 06/18/02	87-FP3 04/04/03	87-FP4 10/06/04	87-FP5 06/19/02
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	86-100 04/01/03	86-100 10/07/04	87-FP2 06/19/02	87-FP3 06/18/02	87-FP3 04/04/03	87-FP4 10/06/04	87-FP5 06/19/02
<b>Inorganic</b>							
Antimony	0.0057	NA	NA	NA	NA	NA	NA
Arsenic	0.0030 J	NA	NA	NA	NA	NA	NA
Barium	0.66	1.4	NA	NA	NA	NA	NA
Beryllium	ND(0.00040)	NA	NA	NA	NA	NA	NA
Cadmium	0.0098 (IDW,RDW)	0.00080	NA	NA	NA	NA	NA
Chromium Total	0.0034	NA	NA	NA	NA	NA	NA
Cobalt	0.072 (RDW)	NA	NA	NA	NA	NA	NA
Copper	0.051	NA	NA	NA	NA	NA	NA
Cyanide (total)	0.011	NA	NA	NA	NA	NA	NA
Lead	0.033 (IDW,RDW)	0.0060 (IDW,RDW)	NA	NA	NA	NA	NA
Manganese	1.7 J (RDW)	NA	NA	NA	NA	NA	NA
Mercury	ND(0.00020)	NA	NA	NA	NA	NA	NA
Nickel	0.24 (IDW,RDW)	0.0060	NA	NA	NA	NA	NA
Selenium	0.0059 J	NA	NA	NA	NA	NA	NA
Silver	0.00037 J	NA	NA	NA	NA	NA	NA
Thallium	0.00045	NA	NA	NA	NA	NA	NA
Vanadium	ND(0.00080)	NA	NA	NA	NA	NA	NA
Zinc	6.0 (IDW,RDW)	0.042	NA	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	87-FP5 04/03/03	88-7 06/14/02	88-8 06/13/02	88-8 04/01/03	88-9 06/14/02	88-9 04/01/03	ACSP-B2AR 12/13/02
<b>VOC</b>							
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,1-Dichloroethane	0.0016	0.00071 J	0.00076 J	ND(0.0010)	0.0010	0.0010 [ND(0.0010)]	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025) [ND(0.025)]	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050) [ND(0.050)]	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050 J)	ND(0.050) [ND(0.050)]	ND(0.050)
Acetone	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025) [ND(0.025)]	0.0012 J
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)
cis-1,2-Dichloroethene	0.025	ND(0.0010)	0.00090 J	ND(0.0010)	0.024	0.0016 [0.0014]	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0030)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020) [ND(0.0020)]	ND(0.0020)
Methyl acetate	ND(0.0050 J)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0030)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0030)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050) [ND(0.0050)]	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
trans-1,2-Dichloroethene	0.0011	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0010	ND(0.0010) [ND(0.0010)]	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	87-FP5 04/03/03	88-7 06/14/02	88-8 06/13/02	88-8 04/01/03	88-9 06/14/02	88-9 04/01/03	ACSP-B2AR 12/13/02
<b>VOC (Cont'd.)</b>							
Trichloroethene	0.0089 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	0.0010
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0030)
Vinyl chloride	0.0020	ND(0.0010)	0.0038 (IDW,RDW)	0.012 J (IDW,RDW)	0.10 (IDW,RDW)	0.10 D (IDW,RDW) [0.10 D (IDW,RDW)]	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020) [ND(0.0020)]	ND(0.0020)
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	87-FP5 04/03/03	88-7 06/14/02	88-8 06/13/02	88-8 04/01/03	88-9 06/14/02	88-9 04/01/03	ACSP-B2AR 12/13/02
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	87-FP5 04/03/03	88-7 06/14/02	88-8 06/13/02	88-8 04/01/03	88-9 06/14/02	88-9 04/01/03	ACSP-B2AR 12/13/02
<b>Inorganic</b>							
Antimony	NA	ND(0.0012)	NA	NA	NA	NA	NA
Arsenic	NA	0.0031	NA	NA	NA	NA	NA
Barium	NA	0.53	NA	NA	NA	NA	NA
Beryllium	NA	ND(0.00040 J)	NA	NA	NA	NA	NA
Cadmium	NA	0.00040	NA	NA	NA	NA	NA
Chromium Total	NA	0.00055 J	NA	NA	NA	NA	NA
Cobalt	NA	0.0011	NA	NA	NA	NA	NA
Copper	NA	0.0041	NA	NA	NA	NA	NA
Cyanide (total)	NA	NA	NA	NA	NA	NA	NA
Lead	NA	0.00014 J	NA	NA	NA	NA	NA
Manganese	NA	1.1 J (RDW)	NA	NA	NA	NA	NA
Mercury	NA	ND(0.00020)	NA	NA	NA	NA	NA
Nickel	NA	0.0060	NA	NA	NA	NA	NA
Selenium	NA	ND(0.0014)	NA	NA	NA	NA	NA
Silver	NA	0.00064 J	NA	NA	NA	NA	NA
Thallium	NA	ND(0.00020)	NA	NA	NA	NA	NA
Vanadium	NA	ND(0.00080)	NA	NA	NA	NA	NA
Zinc	NA	0.014	NA	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	BD01-02R 12/13/02	BD01-02R 04/03/03	BD01-02R 10/05/04	BD01-04 04/24/03	GM-1 10/06/04	GM-11 10/06/04	MW-21 03/20/03	MW-22 06/25/02	MW-22 03/20/03	MW-23 06/25/02
<b>VOC</b>										
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0020)	ND(0.0020)	ND(0.0050)	NA	ND(0.0050)	NA
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
1,2-Dichloroethane	0.0038	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
1,3-Dichlorobenzene	0.0011	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
2-Butanone (Methyl Ethyl Ketone)	0.0013 J	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.030)	ND(0.030)	ND(0.025)	NA	ND(0.025)	NA
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050 J)	ND(0.050)	ND(0.050)	NA	ND(0.050)	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	0.0038 J	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.0010)	ND(0.0010)	ND(0.050)	NA	ND(0.050)	NA
Acetone	0.0019 J	ND(0.025)	ND(0.030)	0.0018 J	ND(0.030)	ND(0.030)	ND(0.025)	NA	ND(0.025)	NA
Benzene	0.087 D (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010)	NA
Bromomethane (Methyl Bromide)	ND(0.0010 J)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	ND(0.0020 J)	ND(0.0020 J)	ND(0.0010)	NA	ND(0.0010)	NA
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)	NA	ND(0.0050 J)	NA
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010)	NA
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Chloromethane (Methyl Chloride)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010 J)	NA
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Cyclohexane	ND(0.0030)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0050)	NA
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	ND(0.0050)	NA
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0020)	NA	ND(0.0020)	NA
Methyl acetate	ND(0.0030)	ND(0.0050 J)	ND(0.010)	ND(0.0050)	ND(0.010 J)	ND(0.010)	ND(0.0050)	NA	ND(0.0050)	NA
Methyl cyclohexane	ND(0.0030)	ND(0.0010)	ND(0.020)	ND(0.0010)	ND(0.020)	ND(0.020)	ND(0.0010)	NA	ND(0.0010)	NA
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	NA
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	NA
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Toluene	0.0012	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	BD01-02R 12/13/02	BD01-02R 04/03/03	BD01-02R 10/05/04	BD01-04 04/24/03	GM-1 10/06/04	GM-11 10/06/04	MW-21 03/20/03	MW-22 06/25/02	MW-22 03/20/03	MW-23 06/25/02
<b>VOC (Cont'd.)</b>										
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	0.0010 J	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Trifluorotrichloroethane (Freon 113)	ND(0.0030)	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.030)	ND(0.030)	ND(0.0010)	NA	ND(0.0010)	NA
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0020)	NA	ND(0.0020)	NA
<b>SVOC</b>										
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	ND(0.010)	ND(0.010)	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	ND(0.020)	ND(0.020)	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	ND(0.020)	ND(0.020)	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	ND(0.020)	ND(0.020)	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	ND(0.020)	ND(0.020)	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	ND(0.020)	ND(0.020)	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	ND(0.020)	ND(0.020 J)	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	ND(0.020)	ND(0.020)	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	ND(0.020)	ND(0.020)	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	ND(0.0020 J)	ND(0.0020 J)	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	ND(0.0050)	0.00050 J	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	BD01-02R 12/13/02	BD01-02R 04/03/03	BD01-02R 10/05/04	BD01-04 04/24/03	GM-1 10/06/04	GM-11 10/06/04	MW-21 03/20/03	MW-22 06/25/02	MW-22 03/20/03	MW-23 06/25/02
<b>SVOC (Cont'd.)</b>										
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	ND(0.010)	ND(0.010)	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	ND(0.010)	ND(0.010)	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	ND(0.020)	ND(0.020)	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	ND(0.0020 J)	ND(0.0020 J)	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	ND(0.0020 J)	ND(0.0020 J)	NA	NA	NA	NA
<b>PCB</b>										
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	ND(0.000010)	ND(0.000010)	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	ND(0.000010)	ND(0.000010)	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	ND(0.000010)	ND(0.000010)	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	ND(0.000010)	ND(0.000010)	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	ND(0.000010)	ND(0.000010)	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	ND(0.000010)	ND(0.000010)	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	ND(0.000010)	ND(0.000010)	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	ND(0.000010)	ND(0.000010)	NA	NA	NA	NA
<b>PCB-Dissolved</b>										
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	ND(0.00010)	ND(0.00010)	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	ND(0.00010)	ND(0.00010)	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	ND(0.00010)	ND(0.00010)	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	ND(0.00010)	ND(0.00010)	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	ND(0.00010)	ND(0.00010)	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	ND(0.00010)	ND(0.00010)	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	ND(0.00010)	ND(0.00010)	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	ND(0.00010)	ND(0.00010)	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	BD01-02R 12/13/02	BD01-02R 04/03/03	BD01-02R 10/05/04	BD01-04 04/24/03	GM-1 10/06/04	GM-11 10/06/04	MW-21 03/20/03	MW-22 06/25/02	MW-22 03/20/03	MW-23 06/25/02
<b>Inorganic</b>										
Antimony	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	ND(0.0012)	NA	ND(0.0012)
Arsenic	NA	NA	NA	NA	0.032	0.014	NA	NA	NA	NA
Barium	NA	NA	NA	NA	0.034	0.12	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	ND(0.00050)	ND(0.00050)	NA	NA	NA	NA
Chromium Total	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Copper	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Cyanide (total)	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Lead	NA	NA	NA	NA	ND(0.0030)	ND(0.0030)	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	0.039	0.25	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	ND(0.00010)	ND(0.00010)	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	ND(0.0050)	0.010	NA	0.00073 J	NA	0.00070 J
Silver	NA	NA	NA	NA	ND(0.00050)	ND(0.00050)	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	ND(0.0050)	0.011	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>										
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	MW-23 03/20/03	MW-23 10/04/04	MW-24 06/26/02	MW-24 03/20/03	MW-25 06/26/02	MW-25 03/21/03	MW-25 10/05/04	MW-25 02/25/05	MW-26 06/26/02	MW-26 03/24/03	MW-26 10/05/04
<b>VOC</b>											
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	0.0031	0.0018	0.0030
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	0.00051 J	ND(0.0010)	ND(0.0010)	NA	0.0045	0.0017	0.0060 J
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0020)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0020)	NA	ND(0.0050)	ND(0.0050)	ND(0.0020)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.030)	NA	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.030)	NA	ND(0.025)	ND(0.025)	ND(0.030)
2-Hexanone	ND(0.050)	ND(0.050)	NA	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.0010)	NA	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.0010)	NA	ND(0.050)	ND(0.050)	ND(0.0010)
Acetone	ND(0.025)	ND(0.030)	NA	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.030)	NA	0.0035 J	ND(0.025)	ND(0.030)
Benzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0020 J)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0020 J)	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0020 J)
Carbon disulfide	ND(0.0050 J)	ND(0.0050)	NA	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)	NA	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	0.0021	ND(0.0010)	0.0020 J
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010 J)	0.0026	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0080	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0010)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0010)	NA	0.034	0.0053	0.0020 J
Dibromochloromethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	0.00057 J	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0010)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0010)	NA	0.0036 J	ND(0.0050)	ND(0.0010)
m&p-Xylene	ND(0.0020)	ND(0.0010)	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0010)	NA	ND(0.0020)	ND(0.0020)	ND(0.0010)
Methyl acetate	ND(0.0050)	ND(0.010)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.010)	NA	ND(0.0050)	ND(0.0050)	0.0060 J
Methyl cyclohexane	ND(0.0010)	ND(0.020)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.020)	NA	0.12 EJ	0.010	ND(0.020)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00050 J	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	MW-23 03/20/03	MW-23 10/04/04	MW-24 06/26/02	MW-24 03/20/03	MW-25 06/26/02	MW-25 03/21/03	MW-25 10/05/04	MW-25 02/25/05	MW-26 06/26/02	MW-26 03/24/03	MW-26 10/05/04
<b>VOC (Cont'd.)</b>											
Trichloroethene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrichloroethane (Freon 113)	ND(0.0010)	ND(0.030)	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.030)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.030)
Vinyl chloride	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0010)	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0010)	NA	ND(0.0020)	ND(0.0020)	ND(0.0010)
<b>SVOC</b>											
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	MW-23 03/20/03	MW-23 10/04/04	MW-24 06/26/02	MW-24 03/20/03	MW-25 06/26/02	MW-25 03/21/03	MW-25 10/05/04	MW-25 02/25/05	MW-26 06/26/02	MW-26 03/24/03	MW-26 10/05/04
<b>SVOC (Cont'd.)</b>											
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>											
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>											
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	MW-23 03/20/03	MW-23 10/04/04	MW-24 06/26/02	MW-24 03/20/03	MW-25 06/26/02	MW-25 03/21/03	MW-25 10/05/04	MW-25 02/25/05	MW-26 06/26/02	MW-26 03/24/03	MW-26 10/05/04
<b>Inorganic</b>											
Antimony	NA	NA	0.00059 J	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	NA	0.18	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	0.00030 J	NA	NA	ND(0.0010)	NA	NA	NA
Manganese	NA	NA	NA	NA	0.10	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	ND(0.0050)	ND(0.0014)	NA	NA	NA	NA	NA	NA	NA	NA
Silver	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>											
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	ND(0.00040)	NA	NA	ND(0.0010)	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	0.070	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	MW-26 02/28/05	RFI-02-05 12/16/02	RFI-02-07 06/27/02	RFI-02-07 03/27/03	RFI-02-08R 06/25/02	RFI-02-08R 04/04/05	RFI-02-12 03/26/03	RFI-02-12 10/05/04	RFI-02-12 02/24/05
<b>VOC</b>									
1,1,1-Trichloroethane	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,1,2-Trichloroethane	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,1-Dichloroethane	NA	NA	NA	NA	0.0023	NA	NA	ND(0.0010) [ND(0.0010)]	0.00060 J
1,1-Dichloroethene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,2,4-Trichlorobenzene	NA	NA	NA	NA	ND(0.0050)	NA	NA	ND(0.0020) [ND(0.0020)]	ND(0.0020)
1,2-Dibromo-3-chloropropane (DBCP)	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,2-Dichlorobenzene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,2-Dichloroethane	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,2-Dichloropropane	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,3-Dichlorobenzene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
1,4-Dichlorobenzene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	NA	NA	NA	NA	ND(0.025)	NA	NA	0.0070 J [0.0070 J]	0.14 J
2-Hexanone	NA	NA	NA	NA	ND(0.050)	NA	NA	ND(0.050) [ND(0.050)]	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	NA	NA	ND(0.050)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Acetone	NA	NA	NA	NA	ND(0.025)	NA	NA	2.0 (RDW) [2.4 EJ (IDW,RDW)]	47 Y (IDW,RDW)
Benzene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Bromodichloromethane	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Bromoform	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Bromomethane (Methyl Bromide)	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0020 J) [ND(0.0020 J)]	R
Carbon disulfide	NA	NA	NA	NA	ND(0.0050)	NA	NA	ND(0.0050 J) [ND(0.0050 J)]	ND(0.0050)
Carbon tetrachloride	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Chlorobenzene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Chloroethane	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Chloroform (Trichloromethane)	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Chloromethane (Methyl Chloride)	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
cis-1,2-Dichloroethene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
cis-1,3-Dichloropropene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Cyclohexane	NA	NA	NA	NA	ND(0.0050)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Dibromochloromethane	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Ethylbenzene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Isopropylbenzene	NA	NA	NA	NA	ND(0.0050)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
m&p-Xylene	NA	NA	NA	NA	ND(0.0020)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Methyl acetate	NA	NA	NA	NA	ND(0.0050)	NA	NA	0.0070 J [0.0070 J]	0.18
Methyl cyclohexane	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.020) [0.0020 J]	ND(0.020)
Methyl Tert Butyl Ether	NA	NA	NA	NA	ND(0.0050)	NA	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050)
Methylene chloride	NA	NA	NA	NA	ND(0.0050)	NA	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050)
o-Xylene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Styrene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Tetrachloroethene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Toluene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
trans-1,2-Dichloroethene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
trans-1,3-Dichloropropene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	MW-26 02/28/05	RFI-02-05 12/16/02	RFI-02-07 06/27/02	RFI-02-07 03/27/03	RFI-02-08R 06/25/02	RFI-02-08R 04/04/05	RFI-02-12 03/26/03	RFI-02-12 10/05/04	RFI-02-12 02/24/05
<b>VOC (Cont'd.)</b>									
Trichloroethene	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Trichlorofluoromethane (CFC-11)	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.030) [ND(0.030)]	ND(0.030)
Vinyl chloride	NA	NA	NA	NA	ND(0.0010)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
Xylenes (total)	NA	NA	NA	NA	ND(0.0020)	NA	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	ND(0.010)	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	ND(0.020 J)	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	ND(0.020)	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	ND(0.020)	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	ND(0.020)	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	ND(0.020 J)	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	ND(0.020)	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	ND(0.020)	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	ND(0.020)	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	MW-26 02/28/05	RFI-02-05 12/16/02	RFI-02-07 06/27/02	RFI-02-07 03/27/03	RFI-02-08R 06/25/02	RFI-02-08R 04/04/05	RFI-02-12 03/26/03	RFI-02-12 10/05/04	RFI-02-12 02/24/05
<b>SVOC (Cont'd.)</b>									
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	ND(0.010)	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	ND(0.010)	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	ND(0.0010)	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	MW-26 02/28/05	RFI-02-05 12/16/02	RFI-02-07 06/27/02	RFI-02-07 03/27/03	RFI-02-08R 06/25/02	RFI-02-08R 04/04/05	RFI-02-12 03/26/03	RFI-02-12 10/05/04	RFI-02-12 02/24/05
<b>Inorganic</b>									
Antimony	NA	ND(0.0012)	ND(0.0012)	ND(0.0012)	NA	NA	ND(0.0012)	NA	NA
Arsenic	NA	0.0014	0.00060 J	ND(0.0010)	NA	NA	ND(0.0010)	NA	NA
Barium	NA	0.12 J	0.086	0.11	NA	NA	0.073	NA	NA
Beryllium	NA	ND(0.00040 J)	ND(0.00040)	ND(0.00040)	NA	NA	ND(0.00040)	NA	NA
Cadmium	NA	0.00011 J	ND(0.00020)	0.00012 J	NA	NA	ND(0.00020)	NA	NA
Chromium Total	NA	0.0050	0.00054 J	0.0016	NA	NA	0.00070	NA	NA
Cobalt	NA	0.00064 J	0.00035	0.0024	NA	NA	0.00030	NA	NA
Copper	NA	0.021 J	0.0019	0.0032	NA	NA	0.0019	NA	NA
Cyanide (total)	NA	NA	ND(0.0050 J)	ND(0.0050)	NA	NA	0.0048 J	NA	NA
Lead	0.0040	0.0021 J	0.00030 J	0.00015 J	NA	NA	ND(0.00040)	NA	NA
Manganese	NA	2.0 (RDW)	0.45	2.2 (RDW)	NA	NA	0.083	NA	NA
Mercury	NA	ND(0.00020)	ND(0.00020)	0.00015 J	NA	NA	ND(0.00020)	NA	NA
Nickel	NA	0.012 J	0.0029	0.026	NA	NA	0.0084	NA	NA
Selenium	NA	0.0022 J	ND(0.0014)	ND(0.0016)	NA	NA	ND(0.0016)	NA	NA
Silver	NA	ND(0.00040 J)	ND(0.00040 J)	ND(0.00040)	NA	NA	ND(0.00040)	NA	NA
Thallium	NA	0.00012 J	0.000062 J	0.000086 J	NA	NA	ND(0.00020)	NA	NA
Vanadium	NA	0.00027 J	ND(0.00080)	ND(0.00080)	NA	NA	0.00027 J	NA	NA
Zinc	NA	0.060 J	0.017	0.011	NA	NA	0.0066	NA	NA
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	NA	NA	ND(0.0012)	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	0.0011 J	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	0.074	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	ND(0.00040)	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	0.0034	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	0.00074	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	0.0031	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	ND(0.0050 J)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.0020	NA	ND(0.00040)	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	0.38	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	0.0042	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	ND(0.0014)	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	ND(0.00040 J)	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	ND(0.00080)	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	0.014	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-02-13 12/19/02	RFI-02-13 10/07/04	RFI-02-19 04/08/05	RFI-02-20 04/05/05	RFI-02-21 04/05/05	RFI-02-22 04/05/05	RFI-02-24 04/05/05	RFI-03-02 06/13/02	RFI-03-04 06/13/02
<b>VOC</b>									
1,1,1-Trichloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
1,1,2,2-Tetrachloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
1,1,2-Trichloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
1,1-Dichloroethane	NA	ND(0.0010)	ND(0.0010)	0.0010 J	0.00060 J	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
1,1-Dichloroethene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
1,2,4-Trichlorobenzene	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0050) [ND(0.0050)]	NA
1,2-Dibromo-3-chloropropane (DBCP)	NA	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010) [ND(0.0010)]	NA
1,2-Dibromoethane (Ethylene Dibromide)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
1,2-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
1,2-Dichloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
1,2-Dichloropropane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
1,3-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
1,4-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
2-Butanone (Methyl Ethyl Ketone)	NA	ND(0.030)	ND(0.030)	0.020 J	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.025) [ND(0.025)]	NA
2-Hexanone	NA	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050) [ND(0.050)]	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.050) [ND(0.050)]	NA
Acetone	NA	ND(0.030)	0.0060 J	2.3 (IDW,RDW)	0.0080 J	0.010 J	ND(0.030 J)	ND(0.025) [ND(0.025)]	NA
Benzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00020 J	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Bromodichloromethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Bromoform	NA	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010) [ND(0.0010)]	NA
Bromomethane (Methyl Bromide)	NA	ND(0.0020 J)	R	R	R	R	R	ND(0.0010) [ND(0.0010)]	NA
Carbon disulfide	NA	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	NA
Carbon tetrachloride	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Chlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Chloroethane	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Chloroform (Trichloromethane)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Chloromethane (Methyl Chloride)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
cis-1,2-Dichloroethene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00030 J	0.00080 J	ND(0.0010) [ND(0.0010)]	NA
cis-1,3-Dichloropropene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Cyclohexane	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0050) [ND(0.0050)]	NA
Dibromochloromethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Dichlorodifluoromethane (CFC-12)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Ethylbenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Isopropylbenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]	NA
m&p-Xylene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020) [ND(0.0020)]	NA
Methyl acetate	NA	ND(0.010 J)	ND(0.010)	0.010 J	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.0050) [ND(0.0050)]	NA
Methyl cyclohexane	NA	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020 J)	ND(0.020 J)	ND(0.020)	ND(0.0010) [ND(0.0010)]	NA
Methyl Tert Butyl Ether	NA	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050) [ND(0.0050)]	NA
Methylene chloride	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	NA
o-Xylene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Styrene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Tetrachloroethene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Toluene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
trans-1,2-Dichloroethene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
trans-1,3-Dichloropropene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-02-13 12/19/02	RFI-02-13 10/07/04	RFI-02-19 04/08/05	RFI-02-20 04/05/05	RFI-02-21 04/05/05	RFI-02-22 04/05/05	RFI-02-24 04/05/05	RFI-03-02 06/13/02	RFI-03-04 06/13/02
<b>VOC (Cont'd.)</b>									
Trichloroethene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00020 J	ND(0.0010)	0.0021 [0.0020]	NA
Trichlorofluoromethane (CFC-11)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Trifluorotrichloroethane (Freon 113)	NA	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.0010) [ND(0.0010)]	NA
Vinyl chloride	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA
Xylenes (total)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020) [ND(0.0020)]	NA
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-02-13 12/19/02	RFI-02-13 10/07/04	RFI-02-19 04/08/05	RFI-02-20 04/05/05	RFI-02-21 04/05/05	RFI-02-22 04/05/05	RFI-02-24 04/05/05	RFI-03-02 06/13/02	RFI-03-04 06/13/02
<b>SVOC (Cont'd.)</b>									
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-02-13 12/19/02	RFI-02-13 10/07/04	RFI-02-19 04/08/05	RFI-02-20 04/05/05	RFI-02-21 04/05/05	RFI-02-22 04/05/05	RFI-02-24 04/05/05	RFI-03-02 06/13/02	RFI-03-04 06/13/02
<b>Inorganic</b>									
Antimony	ND(0.0012)	NA	NA	NA	NA	NA	NA	ND(0.0012) [ND(0.0012)]	ND(0.0012)
Arsenic	0.0025 J	NA	NA	NA	NA	NA	NA	0.0031 [0.0026]	0.012
Barium	0.016 J	NA	NA	NA	NA	NA	NA	0.20 J [0.21 J]	0.46 J
Beryllium	ND(0.00040)	NA	NA	NA	NA	NA	NA	ND(0.00040 J) [ND(0.00040 J)]	ND(0.00040 J)
Cadmium	0.000083 J	NA	NA	NA	NA	NA	NA	0.000090 J [0.000090 J]	0.000050 J
Chromium Total	0.0012 J	NA	NA	NA	NA	NA	NA	0.0017 [0.0012]	0.00078
Cobalt	0.00058 J	NA	NA	NA	NA	NA	NA	0.00030 [0.00030]	0.0012
Copper	0.0044 J	NA	NA	NA	NA	NA	NA	0.022 [0.0083]	0.0057
Cyanide (total)	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA	NA
Lead	0.0011 J	NA	NA	NA	NA	NA	NA	0.0013 J [0.0011 J]	0.00040 J
Manganese	0.38 J	2.3 (RDW)	NA	NA	NA	NA	NA	0.17 [0.17]	0.63 J
Mercury	ND(0.00020)	NA	NA	NA	NA	NA	NA	ND(0.00020) [ND(0.00020)]	ND(0.00020)
Nickel	0.0051 J	NA	NA	NA	NA	NA	NA	0.0030 [0.0028]	0.0027
Selenium	ND(0.0016)	NA	NA	NA	NA	NA	NA	0.00060 J [ND(0.0014)]	ND(0.0014)
Silver	ND(0.00040 J)	NA	NA	NA	NA	NA	NA	ND(0.00040 J) [ND(0.00040 J)]	ND(0.00040 J)
Thallium	0.00052 J	NA	NA	NA	NA	NA	NA	ND(0.00020) [ND(0.00020)]	ND(0.00020)
Vanadium	0.00062 J	NA	NA	NA	NA	NA	NA	ND(0.00080) [ND(0.00080)]	ND(0.00080)
Zinc	0.0097 J	NA	NA	NA	NA	NA	NA	0.011 J [0.0089 J]	0.015 J
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-05-01 06/20/02	RFI-05-01 03/31/03	RFI-05-02 04/03/03	RFI-05-04 06/21/02	RFI-05-05 06/21/02	RFI-05-05 04/03/03	RFI-05-06 06/20/02
<b>VOC</b>							
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	0.00095 J	ND(0.0010)	NA	0.00084 J	ND(0.0010)	ND(0.0010)	0.0011
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	NA	ND(0.025 J)	ND(0.025 J)	ND(0.025)	ND(0.025 J)
2-Hexanone	ND(0.050)	ND(0.050)	NA	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	NA	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
Acetone	ND(0.025)	ND(0.025)	NA	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)
Benzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	0.00099 J	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)
Chlorobenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	0.0078	0.0090	NA	0.0090	0.0025	0.0014	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	0.00066 J	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	0.00053 J	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-05-01 06/20/02	RFI-05-01 03/31/03	RFI-05-02 04/03/03	RFI-05-04 06/21/02	RFI-05-05 06/21/02	RFI-05-05 04/03/03	RFI-05-06 06/20/02
<b>VOC (Cont'd.)</b>							
Trichloroethene	0.0081 (IDW,RDW)	0.0094 (IDW,RDW)	NA	0.024 (IDW,RDW)	0.016 (IDW,RDW)	0.0099 (IDW,RDW)	0.00070 J
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Vinyl chloride	0.0022 (IDW,RDW)	0.0035 (IDW,RDW)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-05-01 06/20/02	RFI-05-01 03/31/03	RFI-05-02 04/03/03	RFI-05-04 06/21/02	RFI-05-05 06/21/02	RFI-05-05 04/03/03	RFI-05-06 06/20/02
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-05-01 06/20/02	RFI-05-01 03/31/03	RFI-05-02 04/03/03	RFI-05-04 06/21/02	RFI-05-05 06/21/02	RFI-05-05 04/03/03	RFI-05-06 06/20/02
<b>Inorganic</b>							
Antimony	ND(0.0012)	NA	ND(0.0012) [ND(0.0012)]	NA	NA	ND(0.0012)	NA
Arsenic	0.010	NA	0.0011 J [0.00085 J]	NA	NA	0.0040	NA
Barium	0.12	NA	0.22 [0.21]	NA	NA	0.11	NA
Beryllium	ND(0.00040)	NA	ND(0.00040) [ND(0.00040)]	NA	NA	ND(0.00040)	NA
Cadmium	ND(0.00020)	NA	0.0034 [0.0032]	NA	NA	0.00012 J	NA
Chromium Total	0.00071	NA	0.0016 [0.0014]	NA	NA	0.00048 J	NA
Cobalt	0.0026	NA	0.096 (RDW) [0.088 (RDW)]	NA	NA	0.0031	NA
Copper	0.0023	NA	0.010 [0.0086]	NA	NA	0.0039	NA
Cyanide (total)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]	NA	NA	ND(0.0050)	NA
Lead	0.0017	NA	0.0022 [0.0021]	NA	NA	0.0025	NA
Manganese	0.78	NA	1.9 J (RDW) [1.8 J (RDW)]	NA	NA	0.76 J	NA
Mercury	ND(0.00020)	NA	ND(0.00020) [ND(0.00020)]	NA	NA	ND(0.00020)	NA
Nickel	0.033	NA	0.21 (IDW,RDW) [0.20 (IDW,RDW)]	NA	NA	0.012	NA
Selenium	ND(0.0014)	NA	0.0023 J [0.0019]	NA	NA	ND(0.0016)	NA
Silver	ND(0.00040 J)	NA	0.000094 J [0.00015 J]	NA	NA	ND(0.00040 J)	NA
Thallium	0.00019 J	NA	0.00086 [0.0011]	NA	NA	0.00027	NA
Vanadium	ND(0.00080)	NA	ND(0.00080) [ND(0.00080)]	NA	NA	ND(0.00080)	NA
Zinc	ND(0.013 J)	NA	0.035 [0.035]	NA	NA	0.011	NA
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-05-08R 06/12/02	RFI-05-08R 03/27/03	RFI-05-10 04/02/03	RFI-05-10 10/12/04	RFI-05-12 06/14/02	RFI-05-19DR 12/18/02	RFI-05-19S 06/12/02	RFI-05-19S 03/28/03
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,1,2,2-Tetrachloroethane	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,1,2-Trichloroethane	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,1-Dichloroethane	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,1-Dichloroethene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2,4-Trichlorobenzene	ND(0.0050)	NA	NA	ND(0.0020)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2-Dichlorobenzene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2-Dichloroethane	ND(0.0010)	NA	NA	ND(0.0010)	NA	0.0012	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2-Dichloropropane	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,3-Dichlorobenzene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,4-Dichlorobenzene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	NA	NA	ND(0.030)	NA	ND(0.025)	ND(0.025)	ND(0.025) [ND(0.025)]
2-Hexanone	ND(0.050)	NA	NA	ND(0.050)	NA	ND(0.050)	ND(0.050)	ND(0.050) [ND(0.050)]
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	NA	NA	ND(0.0010)	NA	ND(0.050)	ND(0.050)	ND(0.050) [ND(0.050)]
Acetone	ND(0.025)	NA	NA	0.19 J	NA	ND(0.025)	ND(0.025)	ND(0.025) [ND(0.025)]
Benzene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Bromodichloromethane	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Bromoform	ND(0.0010)	NA	NA	ND(0.0010 J)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Bromomethane (Methyl Bromide)	ND(0.0010)	NA	NA	ND(0.0020 J)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Carbon disulfide	ND(0.0050)	NA	NA	ND(0.0050 J)	NA	0.00055 J	ND(0.0050)	ND(0.0050) [ND(0.0050)]
Carbon tetrachloride	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Chlorobenzene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Chloroethane	ND(0.0010)	NA	NA	ND(0.0010 J)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Chloroform (Trichloromethane)	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Chloromethane (Methyl Chloride)	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
cis-1,2-Dichloroethene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	0.046	0.034 [0.032]
cis-1,3-Dichloropropene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Cyclohexane	ND(0.0050)	NA	NA	ND(0.0010)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]
Dibromochloromethane	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Ethylbenzene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Isopropylbenzene	ND(0.0050)	NA	NA	ND(0.0010)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]
m&p-Xylene	ND(0.0020)	NA	NA	ND(0.0010)	NA	ND(0.0020)	ND(0.0020)	ND(0.0020) [ND(0.0020)]
Methyl acetate	ND(0.0050)	NA	NA	0.080 J	NA	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]
Methyl cyclohexane	ND(0.0010)	NA	NA	ND(0.020)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Methyl Tert Butyl Ether	ND(0.0050)	NA	NA	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]
Methylene chloride	ND(0.0050)	NA	NA	0.00040 J	NA	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]
o-Xylene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Styrene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Tetrachloroethene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Toluene	ND(0.0010)	NA	NA	0.00020 J	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
trans-1,2-Dichloroethene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	0.00089 J	ND(0.0010) [ND(0.0010)]
trans-1,3-Dichloropropene	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-05-08R 06/12/02	RFI-05-08R 03/27/03	RFI-05-10 04/02/03	RFI-05-10 10/12/04	RFI-05-12 06/14/02	RFI-05-19DR 12/18/02	RFI-05-19S 06/12/02	RFI-05-19S 03/28/03
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	NA	NA	0.00040 J	NA	ND(0.0010)	0.020 (IDW,RDW)	0.021 (IDW,RDW) [0.021 (IDW,RDW)]
Trichlorofluoromethane (CFC-11)	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	NA	NA	ND(0.030)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Vinyl chloride	ND(0.0010)	NA	NA	ND(0.0010)	NA	ND(0.0010)	0.016 J (IDW,RDW)	0.0074 (IDW,RDW) [0.0070 (IDW,RDW)]
Xylenes (total)	ND(0.0020)	NA	NA	ND(0.0010)	NA	ND(0.0020)	ND(0.0020)	ND(0.0020) [ND(0.0020)]
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	ND(0.0040)	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	ND(0.010)	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	ND(0.010 J)	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Acetophenone	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Anthracene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Atrazine	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ND(0.0010)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Biphenyl	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	ND(0.0010)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-05-08R 06/12/02	RFI-05-08R 03/27/03	RFI-05-10 04/02/03	RFI-05-10 10/12/04	RFI-05-12 06/14/02	RFI-05-19DR 12/18/02	RFI-05-19S 06/12/02	RFI-05-19S 03/28/03
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Caprolactam	ND(0.010)	NA	NA	NA	NA	NA	NA	NA
Carbazole	ND(0.010)	NA	NA	NA	NA	NA	NA	NA
Chrysene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	ND(0.0040)	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Fluorene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	ND(0.0010)	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Isophorone	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	ND(0.010)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Phenol	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Pyrene	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-05-08R 06/12/02	RFI-05-08R 03/27/03	RFI-05-10 04/02/03	RFI-05-10 10/12/04	RFI-05-12 06/14/02	RFI-05-19DR 12/18/02	RFI-05-19S 06/12/02	RFI-05-19S 03/28/03
<b>Inorganic</b>								
Antimony	ND(0.0012)	ND(0.0012)	ND(0.0012)	NA	ND(0.0012)	0.00058 J	ND(0.0012)	ND(0.0012)
Arsenic	ND(0.0010)	0.0017	0.00085 J	NA	0.046	0.017 J	ND(0.0010)	ND(0.0010)
Barium	0.21 J	0.25	0.22	NA	0.27	0.49 J	0.10 J	0.091
Beryllium	ND(0.00040 J)	ND(0.00040)	ND(0.00040)	NA	ND(0.00040 J)	ND(0.00040)	ND(0.00040 J)	ND(0.00040)
Cadmium	0.00016 J	0.00021	0.0031	NA	0.00013 J	0.00017 J	0.00029	0.00024
Chromium Total	0.00077	0.0012	0.0015	NA	0.0010	0.00076 J	0.00091	0.0012
Cobalt	0.0013	0.0012	0.099 (RDW)	NA	0.0030	0.0037 J	0.0098	0.011
Copper	0.0041	0.0022	0.0078	NA	0.0068	0.0020 J	0.0039	0.0039
Cyanide (total)	NA	ND(0.0050)	0.0024 J	NA	NA	ND(0.0050)	NA	ND(0.0050)
Lead	0.00049	0.00088	0.0017	NA	0.0013	0.00019 J	0.00013 J	0.00022 J
Manganese	0.91 J (RDW)	0.47	1.9 J (RDW)	NA	0.39 J	0.88 (RDW)	2.7 J (IDW,RDW)	1.0 (RDW)
Mercury	ND(0.00020)	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)	ND(0.00020)	ND(0.00020)	ND(0.00020)
Nickel	0.0058 J	0.013	0.22 (IDW,RDW)	0.015	0.020	0.011 J	0.026	0.034
Selenium	0.0012 J	ND(0.0016 J)	0.0041	NA	ND(0.0014)	ND(0.0016)	ND(0.0014)	ND(0.0016)
Silver	0.00015 J	ND(0.00040)	ND(0.00040)	NA	ND(0.00040)	0.00059 J	ND(0.00040 J)	ND(0.00040)
Thallium	0.00059	0.000072 J	0.00063	NA	ND(0.00020)	0.00028 J	0.00072	0.00030
Vanadium	0.00044 J	ND(0.00080)	ND(0.00080)	NA	ND(0.00080)	ND(0.00080)	ND(0.00080)	ND(0.00080)
Zinc	0.011 J	0.014	0.034	NA	0.012	0.017 J	0.0065 J	0.028
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	ND(0.0012)	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	0.0016	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	0.18	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	ND(0.00040)	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	ND(0.00020)	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	0.0015	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	0.00094	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	ND(0.0093)	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	ND(0.00040)	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	0.77 J	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	0.00013 J	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	0.0050	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	0.0017 J	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	ND(0.00040 J)	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	ND(0.00020)	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	ND(0.00080)	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	0.014 J	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-05-20 06/12/02	RFI-05-20 04/03/03	RFI-05-21 03/27/03	RFI-05-30 06/12/02	RFI-05-30 10/04/04	RFI-07-01R 09/15/03	RFI-07-08 06/20/02	RFI-07-08 10/06/04	RFI-09-01 06/24/02	RFI-09-01R 03/24/03
<b>VOC</b>										
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	0.0010	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	ND(0.0020)	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	NA	0.00069 J	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	NA	ND(0.025)	ND(0.030)	ND(0.025)	NA	ND(0.030)	0.0011 J	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050)	NA	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050 J)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	NA	ND(0.050)	ND(0.0010)	ND(0.050)	NA	ND(0.0010)	ND(0.050)	ND(0.050)
Acetone	ND(0.025)	ND(0.025)	NA	ND(0.025)	ND(0.030)	ND(0.025)	NA	ND(0.030)	0.0024 J	ND(0.025)
Benzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	0.00020 J	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	NA	ND(0.0020 J)	ND(0.0010)	ND(0.0010 J)
Carbon disulfide	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050 J)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
cis-1,2-Dichloroethene	0.0017	0.0013	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	0.0012	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0010)	ND(0.0050)	NA	ND(0.0010)	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)	ND(0.0010)	ND(0.0020)	NA	ND(0.0010)	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.010)	ND(0.0050)	NA	ND(0.010)	ND(0.0050)	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.020)	ND(0.0010)	NA	ND(0.020)	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	0.00053 J	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	0.00050 J	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-05-20 06/12/02	RFI-05-20 04/03/03	RFI-05-21 03/27/03	RFI-05-30 06/12/02	RFI-05-30 10/04/04	RFI-07-01R 09/15/03	RFI-07-08 06/20/02	RFI-07-08 10/06/04	RFI-09-01 06/24/02	RFI-09-01R 03/24/03
<b>VOC (Cont'd.)</b>										
Trichloroethene	0.14 D (IDW,RDW)	0.17 D (IDW,RDW)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	0.0013	0.0015
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.030)	ND(0.0010)	NA	ND(0.030)	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	0.0022 (IDW,RDW)	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)	ND(0.0010)	ND(0.0020)	NA	ND(0.0010)	ND(0.0020)	ND(0.0020)
<b>SVOC</b>										
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
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GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-05-20 06/12/02	RFI-05-20 04/03/03	RFI-05-21 03/27/03	RFI-05-30 06/12/02	RFI-05-30 10/04/04	RFI-07-01R 09/15/03	RFI-07-08 06/20/02	RFI-07-08 10/06/04	RFI-09-01 06/24/02	RFI-09-01R 03/24/03
<b>SVOC (Cont'd.)</b>										
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>										
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>										
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
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GENERAL MOTORS CORPORATION  
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Sample ID: Date Collected:	RFI-05-20 06/12/02	RFI-05-20 04/03/03	RFI-05-21 03/27/03	RFI-05-30 06/12/02	RFI-05-30 10/04/04	RFI-07-01R 09/15/03	RFI-07-08 06/20/02	RFI-07-08 10/06/04	RFI-09-01 06/24/02	RFI-09-01R 03/24/03
<b>Inorganic</b>										
Antimony	NA	NA	ND(0.0012)	NA	NA	NA	ND(0.0012)	NA	NA	NA
Arsenic	NA	NA	0.035	NA	NA	NA	0.0011	NA	NA	NA
Barium	NA	NA	0.43	NA	NA	NA	0.076	NA	NA	NA
Beryllium	NA	NA	ND(0.00040)	NA	NA	NA	ND(0.00040)	ND(0.0010)	NA	NA
Cadmium	NA	NA	ND(0.00020)	NA	NA	NA	ND(0.00020)	NA	NA	NA
Chromium Total	NA	NA	0.0013	NA	NA	NA	0.00056 J	NA	NA	NA
Cobalt	NA	NA	0.0029	NA	NA	NA	0.00029	NA	NA	NA
Copper	NA	NA	0.0018	NA	NA	NA	0.0040	NA	NA	NA
Cyanide (total)	NA	NA	ND(0.0050)	NA	NA	NA	ND(0.0050)	NA	NA	NA
Lead	NA	NA	0.00016 J	NA	NA	NA	0.00030 J	NA	NA	NA
Manganese	NA	NA	0.54	NA	1.1 (RDW)	NA	0.023	NA	NA	NA
Mercury	NA	NA	0.00029	NA	NA	NA	ND(0.00020)	NA	NA	NA
Nickel	NA	NA	0.016	NA	NA	NA	0.0063	NA	NA	NA
Selenium	NA	NA	ND(0.0016)	NA	NA	NA	0.012	NA	NA	NA
Silver	NA	NA	ND(0.00040)	NA	NA	NA	ND(0.00040 J)	NA	NA	NA
Thallium	NA	NA	ND(0.00020)	NA	NA	NA	0.00023	NA	NA	NA
Vanadium	NA	NA	ND(0.00080)	NA	NA	NA	ND(0.00080)	NA	NA	NA
Zinc	NA	NA	0.018	NA	NA	NA	ND(0.020 J)	NA	NA	NA
<b>Inorganic-Dissolved</b>										
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	ND(0.0012)	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	ND(0.0010)	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	0.063	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	ND(0.00040)	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	0.0020	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	0.0020	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	ND(0.00040)	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	0.013	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	0.0053	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	0.011	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	ND(0.00040 J)	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	ND(0.00080)	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	0.011 J	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-04R 06/24/02	RFI-09-04R 03/24/03	RFI-09-04R 10/05/04	RFI-09-04R 06/08/05	RFI-09-06 06/21/02	RFI-09-07 06/21/02	RFI-09-07 10/05/04	RFI-09-08 06/21/02
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	0.00030 J	0.00030 J	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025 J)	ND(0.025)	ND(0.030)	ND(0.030)	ND(0.025 J)	0.0060 J	ND(0.030)	ND(0.025 J)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.050)
Acetone	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.030)	ND(0.025)	ND(0.025)	0.0060 J	ND(0.025)
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.012 (IDW,RDW)	0.052 J (IDW,RDW)	0.0070 (IDW,RDW)	0.0089 (IDW,RDW)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010 J)	ND(0.0020 J)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	0.00030 J	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)
cis-1,2-Dichloroethene	0.00098 J	ND(0.0010)	0.0020	0.0010	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0010)	0.021	0.23 JD	0.18	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0045	0.062 J	0.018	0.0011
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0010)	0.0012 J	0.024 J	0.011 J	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0010)	0.016	0.062 J	0.013 J	0.00064 J
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.010 J)	ND(0.010)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.020)	0.012	0.14 JD	0.19	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0022	0.0099 J	0.0020 J	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0024	0.0065 J	0.00090 J	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-04R 06/24/02	RFI-09-04R 03/24/03	RFI-09-04R 10/05/04	RFI-09-04R 06/08/05	RFI-09-06 06/21/02	RFI-09-07 06/21/02	RFI-09-07 10/05/04	RFI-09-08 06/21/02
<b>VOC (Cont'd.)</b>								
Trichloroethene	0.0067 (IDW,RDW)	0.0055 (IDW,RDW)	0.011 (IDW,RDW)	0.0090 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	0.0040	0.0096	0.0050	0.0050 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.0010)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0010)	0.018	0.072 J	0.015 J	0.00064 J
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	ND(0.0040)	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	ND(0.010)	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	ND(0.020)	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	ND(0.0050 J)	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	ND(0.020)	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	ND(0.010 J)	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	ND(0.020)	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	ND(0.020)	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	ND(0.020)	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	ND(0.020)	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	ND(0.020)	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	0.0022 J	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Acetophenone	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Anthracene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Atrazine	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	ND(0.0050 J)	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	ND(0.0010)	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	ND(0.0020)	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	ND(0.0020)	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Biphenyl	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	ND(0.0010)	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
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NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-04R 06/24/02	RFI-09-04R 03/24/03	RFI-09-04R 10/05/04	RFI-09-04R 06/08/05	RFI-09-06 06/21/02	RFI-09-07 06/21/02	RFI-09-07 10/05/04	RFI-09-08 06/21/02
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Caprolactam	NA	NA	NA	NA	NA	ND(0.010)	NA	NA
Carbazole	NA	NA	NA	NA	NA	ND(0.010)	NA	NA
Chrysene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	ND(0.0020)	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	ND(0.0040)	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	ND(0.0020)	NA	NA
Fluorene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	ND(0.0010)	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	ND(0.0020)	NA	NA
Isophorone	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	ND(0.010)	NA	NA
Naphthalene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	ND(0.0020)	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	ND(0.020)	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Phenol	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Pyrene	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Total PCBs	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	ND(0.00010)	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-04R 06/24/02	RFI-09-04R 03/24/03	RFI-09-04R 10/05/04	RFI-09-04R 06/08/05	RFI-09-06 06/21/02	RFI-09-07 06/21/02	RFI-09-07 10/05/04	RFI-09-08 06/21/02
<b>Inorganic</b>								
Antimony	NA	NA	NA	NA	NA	0.00058 J	NA	0.00039 J
Arsenic	NA	NA	NA	NA	NA	0.0020	NA	0.0025
Barium	NA	NA	NA	NA	NA	0.19	NA	0.059
Beryllium	NA	NA	NA	NA	NA	ND(0.00040)	NA	ND(0.00040)
Cadmium	NA	NA	NA	NA	NA	0.000055 J	NA	0.000062 J
Chromium Total	NA	NA	NA	NA	NA	0.0011	NA	0.0029
Cobalt	NA	NA	NA	NA	NA	0.00024	NA	0.00096
Copper	NA	NA	NA	NA	NA	0.010	NA	0.0061
Cyanide (total)	NA	NA	NA	NA	NA	ND(0.0050)	NA	ND(0.0050)
Lead	NA	NA	ND(0.0030)	NA	NA	0.00096	NA	0.0014
Manganese	NA	NA	NA	NA	NA	0.044	NA	0.058
Mercury	NA	NA	NA	NA	NA	ND(0.00020)	NA	ND(0.00020)
Nickel	NA	NA	NA	NA	NA	0.0037	NA	0.0040
Selenium	NA	NA	NA	NA	NA	0.00087 J	NA	0.00068 J
Silver	NA	NA	NA	NA	NA	ND(0.00040 J)	NA	ND(0.00040 J)
Thallium	NA	NA	NA	NA	NA	0.00010 J	NA	0.00011 J
Vanadium	NA	NA	NA	NA	NA	0.0012	NA	0.0020
Zinc	NA	NA	NA	NA	NA	ND(0.015 J)	NA	ND(0.017 J)
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	ND(0.0012)	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	0.0016	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	0.13	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	ND(0.00040)	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	ND(0.00020)	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	0.0047	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	ND(0.00020)	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	0.0017	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	ND(0.0050)	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	ND(0.00040)	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	0.032	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	0.00014 J	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	0.0026	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	ND(0.0014)	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	ND(0.00040 J)	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	ND(0.00020)	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	0.0016	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	ND(0.0060 J)	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-08 03/21/03	RFI-09-08D 04/07/05	RFI-09-09 06/21/02	RFI-09-09 03/21/03	RFI-09-09D 04/07/05	RFI-09-10 06/21/02	RFI-09-11 06/21/02	RFI-09-11 03/21/03	RFI-09-11D 04/07/05
<b>VOC</b>									
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0020)	NA	ND(0.0050)	ND(0.0050)	ND(0.0020)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	0.00030 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.030)	NA	ND(0.025 J)	ND(0.025)	ND(0.030)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.0010)	NA	ND(0.050)	ND(0.050)	ND(0.0010)
Acetone	ND(0.025)	0.020 J	ND(0.025)	ND(0.025)	ND(0.030 J)	NA	ND(0.025)	ND(0.025)	0.010 J
Benzene	0.20 D (IDW,RDW)	0.094 (IDW,RDW)	ND(0.0010)	ND(0.0010)	0.00040 J	NA	1.1 D (IDW,RDW)	1.0 D (IDW,RDW)	0.19 (IDW,RDW)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)
Bromomethane (Methyl Bromide)	ND(0.0010 J)	R	ND(0.0010)	ND(0.0010 J)	R	NA	ND(0.0010)	ND(0.0010 J)	R
Carbon disulfide	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050 J)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0050)
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	0.070	0.047 J	ND(0.0050)	ND(0.0050)	0.012 J	NA	0.094	0.035	0.035 J
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	0.097 D	0.16	ND(0.0010)	ND(0.0010)	0.00070 J	NA	0.075	0.026	0.0030
Isopropylbenzene	0.0097	0.013	ND(0.0050)	ND(0.0050)	0.00030 J	NA	0.0090	ND(0.0050)	0.00040 J
m&p-Xylene	0.072	0.24 J	ND(0.0020)	ND(0.0020)	0.0010 J	NA	0.063	0.044	0.011 J
Methyl acetate	ND(0.0050 J)	ND(0.010)	ND(0.0050)	ND(0.0050 J)	ND(0.010)	NA	ND(0.0050)	ND(0.0050 J)	ND(0.010)
Methyl cyclohexane	0.027	0.040	ND(0.0010)	ND(0.0010)	0.0070 J	NA	0.042	0.011	0.020
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050 J)
Methylene chloride	0.0074 (IDW,RDW)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	0.0067 (IDW,RDW)	ND(0.0050)
o-Xylene	0.045	0.12	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	0.025	0.022	0.012
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	0.0075	0.031 J	ND(0.0010)	ND(0.0010)	0.00030 J	NA	0.075	0.10	0.020 J
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-08 03/21/03	RFI-09-08D 04/07/05	RFI-09-09 06/21/02	RFI-09-09 03/21/03	RFI-09-09D 04/07/05	RFI-09-10 06/21/02	RFI-09-11 06/21/02	RFI-09-11 03/21/03	RFI-09-11D 04/07/05
<b>VOC (Cont'd.)</b>									
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.030)	NA	ND(0.0010)	ND(0.0010)	ND(0.030)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	0.12	0.36 J	ND(0.0020)	ND(0.0020)	0.0010 J	NA	0.088	0.066	0.023 J
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-08 03/21/03	RFI-09-08D 04/07/05	RFI-09-09 06/21/02	RFI-09-09 03/21/03	RFI-09-09D 04/07/05	RFI-09-10 06/21/02	RFI-09-11 06/21/02	RFI-09-11 03/21/03	RFI-09-11D 04/07/05
<b>SVOC (Cont'd.)</b>									
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-08 03/21/03	RFI-09-08D 04/07/05	RFI-09-09 06/21/02	RFI-09-09 03/21/03	RFI-09-09D 04/07/05	RFI-09-10 06/21/02	RFI-09-11 06/21/02	RFI-09-11 03/21/03	RFI-09-11D 04/07/05
<b>Inorganic</b>									
Antimony	NA	NA	0.00051 J	NA	NA	0.0030	NA	NA	NA
Arsenic	NA	NA	0.0030	NA	NA	0.0020	NA	NA	NA
Barium	NA	NA	0.16	NA	NA	0.047	NA	NA	NA
Beryllium	NA	NA	ND(0.00040)	NA	NA	ND(0.00040)	NA	NA	NA
Cadmium	NA	NA	0.00011 J	NA	NA	0.000057 J	NA	NA	NA
Chromium Total	NA	NA	0.0026	NA	NA	0.0030	NA	NA	NA
Cobalt	NA	NA	0.0020	NA	NA	0.0017	NA	NA	NA
Copper	NA	NA	0.013	NA	NA	0.0062	NA	NA	NA
Cyanide (total)	NA	NA	ND(0.0050)	NA	NA	ND(0.0050)	NA	NA	NA
Lead	NA	NA	0.0028	NA	NA	0.0019	NA	NA	NA
Manganese	NA	NA	0.89 (RDW)	NA	NA	0.11	NA	NA	NA
Mercury	NA	NA	ND(0.00020)	NA	NA	ND(0.00020)	NA	NA	NA
Nickel	NA	NA	0.013	NA	NA	0.0066	NA	NA	NA
Selenium	NA	NA	0.00074 J	NA	NA	0.00050 J	NA	NA	NA
Silver	NA	NA	ND(0.00040 J)	NA	NA	ND(0.00040 J)	NA	NA	NA
Thallium	NA	NA	0.00023	NA	NA	0.00010 J	NA	NA	NA
Vanadium	NA	NA	0.0033	NA	NA	0.0043	NA	NA	NA
Zinc	NA	NA	ND(0.019 J)	NA	NA	ND(0.028 J)	NA	NA	NA
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	NA	NA	0.0021	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	0.0021	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	0.11	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	ND(0.00040)	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	0.0080	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	0.00084	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	0.0059	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	0.0021 J	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	ND(0.00040)	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	0.71	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	0.00027	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	0.0081	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	0.0017 J	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	ND(0.00040 J)	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	0.0023	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	0.011 J	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-12 06/21/02	RFI-09-12 03/21/03	RFI-09-13 06/26/02	RFI-09-13 03/26/03	RFI-09-13 10/04/04	RFI-09-14 06/26/02	RFI-09-14 03/31/03	RFI-09-14 10/04/04
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.020)	NA	ND(0.0050)	ND(0.0020)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010 J)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.30)	NA	ND(0.025)	ND(0.030)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.50)	NA	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.010)	NA	ND(0.050)	ND(0.0010)
Acetone	ND(0.025)	ND(0.025)	0.016 J	ND(0.025)	0.090 J	NA	0.047	ND(0.030)
Benzene	0.013 J (IDW,RDW)	0.0036	0.28 D(GSI,IDW,RDW)	0.45 D(GSI,IDW,RDW)	1.2(GSI,IDW,RDW)	NA	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010 J)	NA	ND(0.0010)	ND(0.0010 J)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.020 J)	NA	ND(0.0010)	ND(0.0020 J)
Carbon disulfide	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.050)	NA	ND(0.0050)	ND(0.0050 J)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010 J)	NA	ND(0.0010)	ND(0.0010 J)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050 J)	ND(0.0050)	0.19 D	0.17 D	0.31 J	NA	ND(0.0050)	ND(0.0010)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	0.0021	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	0.0053	0.0048	0.0030 J	NA	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	0.023	0.021	0.030	NA	ND(0.0050)	ND(0.0010)
m&p-Xylene	ND(0.0020)	ND(0.0020)	0.034	0.034	0.050 J	NA	ND(0.0020)	ND(0.0010)
Methyl acetate	ND(0.0050 J)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.10)	NA	ND(0.0050)	ND(0.010)
Methyl cyclohexane	ND(0.0010 J)	ND(0.0010)	0.087	0.067	0.10 J	NA	ND(0.0010)	ND(0.020)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.050)	NA	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.050)	NA	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	0.0060	0.0065	0.0080 J	NA	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	0.011	0.013	0.020	NA	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-12 06/21/02	RFI-09-12 03/21/03	RFI-09-13 06/26/02	RFI-09-13 03/26/03	RFI-09-13 10/04/04	RFI-09-14 06/26/02	RFI-09-14 03/31/03	RFI-09-14 10/04/04
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.30)	NA	ND(0.0010)	ND(0.030)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020)	0.040(GSI)	0.041(GSI)	0.058 J(GSI)	NA	ND(0.0020)	ND(0.0010)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-12 06/21/02	RFI-09-12 03/21/03	RFI-09-13 06/26/02	RFI-09-13 03/26/03	RFI-09-13 10/04/04	RFI-09-14 06/26/02	RFI-09-14 03/31/03	RFI-09-14 10/04/04
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-12 06/21/02	RFI-09-12 03/21/03	RFI-09-13 06/26/02	RFI-09-13 03/26/03	RFI-09-13 10/04/04	RFI-09-14 06/26/02	RFI-09-14 03/31/03	RFI-09-14 10/04/04
<b>Inorganic</b>								
Antimony	ND(0.0012)	ND(0.0012)	ND(0.0012)	NA	NA	0.00071 J	NA	NA
Arsenic	0.049	0.056 (IDW,RDW)	NA	NA	NA	NA	NA	NA
Barium	0.096	0.10	NA	NA	0.61	0.15	NA	0.12
Beryllium	ND(0.00040)	ND(0.00040)	NA	NA	NA	NA	NA	NA
Cadmium	ND(0.00020)	0.000049 J	NA	NA	NA	NA	NA	NA
Chromium Total	0.00049 J	0.00042 J	NA	NA	NA	NA	NA	NA
Cobalt	0.00055	0.00051	NA	NA	NA	NA	NA	NA
Copper	0.0017	0.0029	NA	NA	NA	NA	NA	NA
Cyanide (total)	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA	NA	NA
Lead	0.00013 J	0.00023 J	NA	NA	NA	NA	NA	NA
Manganese	0.065	0.050	NA	NA	NA	NA	NA	NA
Mercury	0.00014 J	ND(0.00020)	NA	NA	NA	NA	NA	NA
Nickel	0.0026	0.0029	NA	NA	NA	NA	NA	NA
Selenium	ND(0.0014)	ND(0.0016)	ND(0.0014)	NA	ND(0.0050)	ND(0.0025)	NA	ND(0.0050)
Silver	ND(0.00040 J)	ND(0.00040)	NA	NA	NA	NA	NA	NA
Thallium	0.000045 J	0.0016	NA	NA	NA	NA	NA	NA
Vanadium	ND(0.00080)	0.00034 J	NA	NA	NA	NA	NA	NA
Zinc	ND(0.011 J)	0.028	NA	NA	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	ND(0.0012)	NA	ND(0.0012)	NA	NA	NA	NA	NA
Arsenic (Dissolved)	0.040	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	0.074	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	ND(0.00040)	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	ND(0.00020)	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	0.0042	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	0.00040	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	0.00095	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	ND(0.00040)	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	0.051	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	ND(0.00020)	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	0.0020	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	ND(0.0014)	NA	ND(0.0024)	NA	NA	NA	NA	NA
Silver (Dissolved)	ND(0.00040 J)	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	ND(0.00020)	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	0.0012	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	ND(0.0060 J)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-32 06/26/02	RFI-09-32 03/31/03	RFI-09-36R 03/24/03	RFI-09-44 03/21/03	RFI-09-44 10/05/04
<b>VOC</b>					
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0020)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.030)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.0010)
Acetone	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.030)
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0020 J)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0010)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0010)
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0010)
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.010)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.020)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-32 06/26/02	RFI-09-32 03/31/03	RFI-09-36R 03/24/03	RFI-09-44 03/21/03	RFI-09-44 10/05/04
<b>VOC (Cont'd.)</b>					
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.030)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0010)
<b>SVOC</b>					
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-32 06/26/02	RFI-09-32 03/31/03	RFI-09-36R 03/24/03	RFI-09-44 03/21/03	RFI-09-44 10/05/04
<b>SVOC (Cont'd.)</b>					
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA
<b>PCB</b>					
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>					
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-32 06/26/02	RFI-09-32 03/31/03	RFI-09-36R 03/24/03	RFI-09-44 03/21/03	RFI-09-44 10/05/04
<b>Inorganic</b>					
Antimony	ND(0.0012)	0.00098 J	NA	0.00037 J	NA
Arsenic	NA	0.0047	NA	0.0017 J	ND(0.0020)
Barium	NA	0.14	NA	0.16	NA
Beryllium	NA	ND(0.00040)	NA	ND(0.00040)	NA
Cadmium	NA	ND(0.00020)	NA	0.00018 J	NA
Chromium Total	NA	0.0021	NA	0.0018	NA
Cobalt	NA	0.0012	NA	0.0012	NA
Copper	NA	0.0012	NA	0.0055	NA
Cyanide (total)	NA	ND(0.0050)	NA	ND(0.0050)	NA
Lead	0.00055	ND(0.00040)	NA	0.00033 J	ND(0.0030)
Manganese	NA	0.14 J	NA	0.30	NA
Mercury	NA	ND(0.00020)	NA	ND(0.00020)	NA
Nickel	NA	0.0077	NA	0.0092	NA
Selenium	ND(0.0014)	ND(0.0016)	NA	ND(0.0016)	NA
Silver	NA	ND(0.00040)	NA	ND(0.00040)	NA
Thallium	NA	ND(0.00020)	NA	0.00086	NA
Vanadium	NA	0.00053 J	NA	ND(0.00080)	NA
Zinc	NA	0.0080	NA	0.010	NA
<b>Inorganic-Dissolved</b>					
Antimony (Dissolved)	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-45 12/20/02	RFI-09-46 12/19/02	RFI-09-46 04/01/03	RFI-09-46 10/05/04	RFI-09-48 04/24/03	RFI-09-48 10/06/04
<b>VOC</b>						
1,1,1-Trichloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050) [ND(0.0050)]	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0020)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010) [ND(0.0010)]	ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025) [ND(0.025)]	ND(0.025) [ND(0.025)]	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.030)
2-Hexanone	ND(0.050) [ND(0.050)]	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050) [ND(0.050)]	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.0010)
Acetone	ND(0.025) [ND(0.025)]	0.0061 J [0.0052 J]	ND(0.025)	0.060 J	0.0019 J	ND(0.030)
Benzene	ND(0.0010) [ND(0.0010)]	0.70 D(GSI,IDW,RDW) [0.68 D(GSI,IDW,RDW)]	0.50 D(GSI,IDW,RDW)	0.049 (IDW,RDW)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010) [ND(0.0010)]	ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)
Bromomethane (Methyl Bromide)	ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	ND(0.0020 J)
Carbon disulfide	ND(0.0050) [ND(0.0050)]	0.00057 J [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)
Carbon tetrachloride	ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010 J) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)
Chloroform (Trichloromethane)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0030)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050) [ND(0.0050)]	0.17 D [0.16 D]	0.16 D	0.12 J	ND(0.0050)	ND(0.0010)
Dibromochloromethane	ND(0.0010) [ND(0.0010)]	ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010) [ND(0.0010)]	0.0019 [0.0018]	0.0016	0.00040 J	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050) [ND(0.0050)]	0.017 [0.016]	0.015	0.0090	ND(0.0050)	ND(0.0010)
m&p-Xylene	ND(0.0020) [ND(0.0020)]	0.045 [0.043]	0.038	0.016 J	ND(0.0020)	ND(0.0010)
Methyl acetate	ND(0.0050) [ND(0.0050)]	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.010 J)	ND(0.0050)	ND(0.010)
Methyl cyclohexane	ND(0.0010) [ND(0.0010)]	0.049 [0.045]	0.048	0.040	ND(0.0010)	ND(0.020)
Methyl Tert Butyl Ether	ND(0.0050) [ND(0.0050)]	0.00061 J [0.00059 J]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050) [ND(0.0050)]	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010) [ND(0.0010)]	0.0082 [0.0078]	0.0067	0.0030	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010) [ND(0.0010)]	0.019 [0.018]	0.016	0.0060	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-45 12/20/02	RFI-09-46 12/19/02	RFI-09-46 04/01/03	RFI-09-46 10/05/04	RFI-09-48 04/24/03	RFI-09-48 10/06/04
<b>VOC (Cont'd.)</b>						
Trichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrichloroethane (Freon 113)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.030)
Vinyl chloride	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020) [ND(0.0020)]	0.053(GSI) [0.051(GSI)]	0.045(GSI)	0.019 J	ND(0.0020)	ND(0.0010)
<b>SVOC</b>						
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-45 12/20/02	RFI-09-46 12/19/02	RFI-09-46 04/01/03	RFI-09-46 10/05/04	RFI-09-48 04/24/03	RFI-09-48 10/06/04
<b>SVOC (Cont'd.)</b>						
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA
<b>PCB</b>						
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>						
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-45 12/20/02	RFI-09-46 12/19/02	RFI-09-46 04/01/03	RFI-09-46 10/05/04	RFI-09-48 04/24/03	RFI-09-48 10/06/04
<b>Inorganic</b>						
Antimony	0.0011 J [0.0012 J]	ND(0.0012) [ND(0.0012)]	NA	NA	ND(0.0012)	ND(0.0050)
Arsenic	0.0020 J [0.0024 J]	0.0022 J [0.0020 J]	NA	NA	0.049	NA
Barium	0.13 [0.12]	1.3 J [1.2 J]	NA	0.64	0.19	0.20
Beryllium	ND(0.00040) [ND(0.00040)]	ND(0.00040) [ND(0.00040)]	NA	NA	ND(0.00040)	NA
Cadmium	0.000057 J [0.000089 J]	ND(0.00020) [ND(0.00020)]	NA	NA	ND(0.00020)	NA
Chromium Total	0.0019 J [0.0024 J]	ND(0.00060) [ND(0.00060)]	NA	NA	0.00049 J	NA
Cobalt	0.00080 J [0.00061 J]	0.00040 J [0.00034 J]	NA	NA	0.00092	NA
Copper	0.0042 J [0.0051 J]	0.0033 J [0.0019 J]	NA	NA	0.0023	NA
Cyanide (total)	ND(0.0050) [ND(0.0050)]	ND(0.0050) [0.0033 J]	NA	NA	0.0026 J	NA
Lead	0.00090 J [0.00096 J]	0.00048 J [ND(0.00040)]	NA	NA	0.00021 J	NA
Manganese	0.091 [0.079]	0.065 J [0.059 J]	NA	NA	0.090	NA
Mercury	ND(0.00020) [ND(0.00020)]	ND(0.00020) [ND(0.00020)]	NA	NA	ND(0.00020)	NA
Nickel	0.0049 J [0.0049 J]	0.0069 J [0.0058 J]	NA	NA	0.012	NA
Selenium	0.0042 J [0.0066 J]	ND(0.0016) [ND(0.0016)]	NA	ND(0.0050)	ND(0.0016)	ND(0.0050)
Silver	ND(0.00040 J) [ND(0.00040 J)]	ND(0.00040 J) [ND(0.00040 J)]	NA	NA	ND(0.00040 J)	NA
Thallium	ND(0.00020) [ND(0.00020)]	ND(0.00020) [ND(0.00020)]	NA	NA	0.000061 J	NA
Vanadium	0.00089 J [0.00099 J]	ND(0.00080) [ND(0.00080)]	NA	NA	ND(0.00080)	NA
Zinc	0.11 J [0.073 J]	0.057 J [0.047 J]	NA	NA	0.010	NA
<b>Inorganic-Dissolved</b>						
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-48 02/24/05	RFI-09-49R 04/03/03	RFI-09-49R 10/05/04	RFI-09-52 09/15/03	RFI-09-53 04/07/05	RFI-09-53 06/08/05	RFI-09-54D 04/08/05	RFI-09-54S 04/07/05	RFI-09-55D 04/08/05
<b>VOC</b>									
1,1,1-Trichloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.050	0.26 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.010)
1,1,2,2-Tetrachloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
1,1,2-Trichloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
1,1-Dichloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.015	0.035	ND(0.0010)	ND(0.0010)	ND(0.010)
1,1-Dichloroethene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00060 J	0.0040 J	ND(0.0010)	ND(0.0010)	ND(0.010)
1,2,4-Trichlorobenzene	NA	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.020)
1,2-Dibromo-3-chloropropane (DBCP)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0050)	ND(0.0010 J)	ND(0.0010 J)	ND(0.010 J)
1,2-Dibromoethane (Ethylene Dibromide)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
1,2-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
1,2-Dichloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	0.0030	ND(0.010)
1,2-Dichloropropane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
1,3-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
1,4-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
2-Butanone (Methyl Ethyl Ketone)	NA	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.030)	ND(0.10)	ND(0.030)	ND(0.030)	ND(0.30)
2-Hexanone	NA	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.050)	ND(0.050)	ND(0.50)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
Acetone	NA	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.030 J)	ND(0.10)	ND(0.030 J)	0.0070 J	0.10 J
Benzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00030 J	ND(0.0050)	0.033 (IDW,RDW)	0.0060 (IDW,RDW)	0.84 (IDW,RDW)
Bromodichloromethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
Bromoform	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0050)	ND(0.0010 J)	ND(0.0010 J)	ND(0.010 J)
Bromomethane (Methyl Bromide)	NA	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	R	ND(0.010)	R	R	R
Carbon disulfide	NA	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.030)	ND(0.0050)	ND(0.0050)	ND(0.050)
Carbon tetrachloride	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00030 J	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
Chlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
Chloroethane	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
Chloroform (Trichloromethane)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0020	0.0030 J	ND(0.0010)	ND(0.0010)	ND(0.010)
Chloromethane (Methyl Chloride)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
cis-1,2-Dichloroethene	NA	ND(0.0010)	0.0030	ND(0.0010)	0.012	0.011	ND(0.0010)	ND(0.0010)	ND(0.010)
cis-1,3-Dichloropropene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
Cyclohexane	NA	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0010 J)	ND(0.0050)	0.010 J	0.00080 J	0.56 J
Dibromochloromethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
Dichlorodifluoromethane (CFC-12)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
Ethylbenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	0.0020	0.070
Isopropylbenzene	NA	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	0.020
m&p-Xylene	NA	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0050)	0.00050 J	0.0020 J	0.33 J
Methyl acetate	NA	ND(0.0050 J)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.10)
Methyl cyclohexane	NA	ND(0.0010)	ND(0.020)	0.00064 J	0.00020 J	ND(0.10)	ND(0.020)	0.0010 J	0.40
Methyl Tert Butyl Ether	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.030)	ND(0.0050 J)	ND(0.0050 J)	ND(0.050 J)
Methylene chloride	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.030)	0.00030 J	ND(0.0050)	0.0070 J (IDW,RDW)
o-Xylene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	0.0010	0.020
Styrene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
Tetrachloroethene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
Toluene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	0.00070 J	0.00090 J	0.020 J
trans-1,2-Dichloroethene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00030 J	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
trans-1,3-Dichloropropene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-48 02/24/05	RFI-09-49R 04/03/03	RFI-09-49R 10/05/04	RFI-09-52 09/15/03	RFI-09-53 04/07/05	RFI-09-53 06/08/05	RFI-09-54D 04/08/05	RFI-09-54S 04/07/05	RFI-09-55D 04/08/05
<b>VOC (Cont'd.)</b>									
Trichloroethene	NA	0.0028	0.0080 (IDW,RDW)	ND(0.0010)	0.035 (IDW,RDW)	0.18 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.010)
Trichlorofluoromethane (CFC-11)	NA	0.0042	0.014	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
Trifluorotrichloroethane (Freon 113)	NA	ND(0.0010)	ND(0.030)	ND(0.0010)	0.00050 J	ND(0.20)	ND(0.030)	ND(0.030)	ND(0.30)
Vinyl chloride	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0010 J	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)
Xylenes (total)	NA	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0050)	0.00050 J	0.0030 J	0.35 J
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-48 02/24/05	RFI-09-49R 04/03/03	RFI-09-49R 10/05/04	RFI-09-52 09/15/03	RFI-09-53 04/07/05	RFI-09-53 06/08/05	RFI-09-54D 04/08/05	RFI-09-54S 04/07/05	RFI-09-55D 04/08/05
<b>SVOC (Cont'd.)</b>									
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-48 02/24/05	RFI-09-49R 04/03/03	RFI-09-49R 10/05/04	RFI-09-52 09/15/03	RFI-09-53 04/07/05	RFI-09-53 06/08/05	RFI-09-54D 04/08/05	RFI-09-54S 04/07/05	RFI-09-55D 04/08/05
<b>Inorganic</b>									
Antimony	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (total)	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	ND(0.0030)	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-55S 04/08/05	RFI-09-56 07/06/05	RFI-09-57 07/06/05	RFI-09-58 07/22/05	RFI-10-01 06/18/02	RFI-10-01 03/26/03	RFI-10-02 06/18/02
<b>VOC</b>							
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	0.0053 J
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020) [ND(0.0020)]	NA	NA	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	0.0015 J
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030) [ND(0.030)]	NA	NA	0.0068 J
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050) [ND(0.050)]	NA	NA	0.0067 J
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	0.0098 J
Acetone	0.010 J	0.040	0.0070 J	ND(0.030) [ND(0.030)]	NA	NA	0.012 J
Benzene	0.00050 J	0.0010	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	0.016 J (IDW,RDW)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
Bromoform	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
Bromomethane (Methyl Bromide)	R	ND(0.0020)	ND(0.0020)	ND(0.0020) [ND(0.0020)]	NA	NA	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	NA	NA	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	3.3 JD (IDW,RDW)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	0.00090 J	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
Cyclohexane	0.088 J	ND(0.0010)	ND(0.0010)	ND(0.0010 J) [ND(0.0010 J)]	NA	NA	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
Ethylbenzene	0.010	0.00030 J	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	0.062 J
Isopropylbenzene	0.0050	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	0.0018 J
m&p-Xylene	0.012 J	0.00080 J	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	0.17 J
Methyl acetate	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010) [ND(0.010)]	NA	NA	ND(0.0050)
Methyl cyclohexane	0.18	ND(0.020)	ND(0.020)	ND(0.020) [ND(0.020)]	NA	NA	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	NA	NA	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	NA	NA	ND(0.014 J)
o-Xylene	0.0010	0.00060 J	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	0.043 J
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
Toluene	ND(0.0010)	0.0020	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	0.0065 J
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	0.00072 J
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-55S 04/08/05	RFI-09-56 07/06/05	RFI-09-57 07/06/05	RFI-09-58 07/22/05	RFI-10-01 06/18/02	RFI-10-01 03/26/03	RFI-10-02 06/18/02
<b>VOC (Cont'd.)</b>							
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030) [ND(0.030)]	NA	NA	ND(0.0010)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	0.00083 J
Xylenes (total)	0.013 J	0.0014 J	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	0.21 J
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-55S 04/08/05	RFI-09-56 07/06/05	RFI-09-57 07/06/05	RFI-09-58 07/22/05	RFI-10-01 06/18/02	RFI-10-01 03/26/03	RFI-10-02 06/18/02
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-09-55S 04/08/05	RFI-09-56 07/06/05	RFI-09-57 07/06/05	RFI-09-58 07/22/05	RFI-10-01 06/18/02	RFI-10-01 03/26/03	RFI-10-02 06/18/02
<b>Inorganic</b>							
Antimony	NA	NA	NA	NA	ND(0.0012)	0.00035 J	ND(0.0012)
Arsenic	NA	NA	NA	NA	ND(0.0026)	0.0033	0.041
Barium	NA	NA	NA	NA	33 (IDW,RDW)	25 (IDW,RDW)	0.41
Beryllium	NA	NA	NA	NA	0.00013 J	ND(0.00040)	ND(0.00040 J)
Cadmium	NA	NA	NA	NA	0.00054	0.000083 J	ND(0.00020)
Chromium Total	NA	NA	NA	NA	0.0017	0.0041	0.016
Cobalt	NA	NA	NA	NA	0.0011	0.0021	0.0067
Copper	NA	NA	NA	NA	0.31 J	0.042	0.0059 J
Cyanide (total)	NA	NA	NA	NA	0.0047 J	0.012	ND(0.0050)
Lead	NA	NA	NA	NA	0.0088 (IDW,RDW)	0.0048 (IDW,RDW)	0.00086
Manganese	NA	NA	NA	NA	0.54	0.52	7.6 (IDW,RDW)
Mercury	NA	NA	NA	NA	ND(0.00020)	ND(0.00020)	ND(0.00020)
Nickel	NA	NA	NA	NA	0.012	0.018	0.036
Selenium	NA	NA	NA	NA	ND(0.0014)	ND(0.0016)	ND(0.0014)
Silver	NA	NA	NA	NA	ND(0.00040)	0.00012 J	ND(0.00040)
Thallium	NA	NA	NA	NA	ND(0.00020)	ND(0.00020)	ND(0.00020)
Vanadium	NA	NA	NA	NA	ND(0.00080)	ND(0.00080)	0.0023
Zinc	NA	NA	NA	NA	0.66 J	0.55	0.014 J
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-02 03/27/03	RFI-10-03 06/19/02	RFI-10-03 03/25/03	RFI-10-04 06/21/02	RFI-10-04 03/26/03	RFI-10-05 06/25/02	RFI-10-05 03/26/03
<b>VOC</b>							
1,1,1-Trichloroethane	ND(0.0010)	0.22 D (IDW,RDW)	0.18 D	0.0071 J	NA	0.14 D	0.49 D (IDW,RDW)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	0.00055 J	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	0.0013	0.58 D	0.75 D	0.0021	NA	0.17 D	0.70 D
1,1-Dichloroethene	ND(0.0010)	0.083 (IDW,RDW)	0.038 (IDW,RDW)	0.00056 J	NA	0.029 (IDW,RDW)	0.090 (IDW,RDW)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	0.00053 J	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	0.0012
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025 J)	NA	ND(0.025)	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050 J)	ND(0.050)	ND(0.050)	NA	ND(0.050)	ND(0.050)
Acetone	0.041	0.0020 J	ND(0.025)	ND(0.025)	NA	ND(0.025)	ND(0.025)
Benzene	0.010 (IDW,RDW)	0.0012	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Chloroethane	1.9 D (IDW,RDW)	0.14 D	0.13 D	ND(0.0010)	NA	0.27 D	1.0 D (RDW)
Chloroform (Trichloromethane)	ND(0.0010)	0.0012	0.0042	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	0.13 D (IDW,RDW)	0.053	ND(0.0010)	NA	0.0037	0.020
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Ethylbenzene	0.015	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	0.00074 J	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0057 J)	ND(0.0050)	ND(0.0050)	NA	0.0087 (IDW,RDW)	0.029 (IDW,RDW)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Toluene	0.0015	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	0.010	0.0030	ND(0.0010)	NA	ND(0.0010)	0.0011
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-02 03/27/03	RFI-10-03 06/19/02	RFI-10-03 03/25/03	RFI-10-04 06/21/02	RFI-10-04 03/26/03	RFI-10-05 06/25/02	RFI-10-05 03/26/03
<b>VOC (Cont'd.)</b>							
Trichloroethene	ND(0.0010)	0.15 D (IDW,RDW)	0.16 D (IDW,RDW)	0.0014	NA	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010)	0.054 (IDW,RDW)	0.010 (IDW,RDW)	ND(0.0010)	NA	0.0066 (IDW,RDW)	0.033 (IDW,RDW)
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)	ND(0.0020)
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-02 03/27/03	RFI-10-03 06/19/02	RFI-10-03 03/25/03	RFI-10-04 06/21/02	RFI-10-04 03/26/03	RFI-10-05 06/25/02	RFI-10-05 03/26/03
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-02 03/27/03	RFI-10-03 06/19/02	RFI-10-03 03/25/03	RFI-10-04 06/21/02	RFI-10-04 03/26/03	RFI-10-05 06/25/02	RFI-10-05 03/26/03
<b>Inorganic</b>							
Antimony	0.00036 J	ND(0.0012)	0.00043 J	ND(0.0012)	ND(0.0012)	NA	ND(0.0012)
Arsenic	0.052 (IDW,RDW)	0.0044	ND(0.0010)	0.0014	ND(0.0010)	NA	0.0011
Barium	0.34	0.20	0.51	0.77	1.1	NA	0.073
Beryllium	ND(0.00040)	ND(0.00040 J)	ND(0.00040)	ND(0.00040)	ND(0.00040)	NA	ND(0.00040)
Cadmium	0.000048 J	0.0032	0.0044	0.00069	0.00089	NA	0.00037
Chromium Total	0.0077	0.0029	0.0065	0.0026	0.0098	NA	0.0021
Cobalt	0.0068	0.011	0.0094	0.0011	0.0014	NA	0.0037
Copper	0.0071	0.011 J	0.0067	0.0062	0.0055	NA	0.0047
Cyanide (total)	0.0031 J	0.0099	0.023	0.027	0.022	NA	0.018
Lead	0.0029	0.0023	0.00055	0.0019	0.00036 J	NA	0.00014 J
Manganese	3.2 (IDW,RDW)	4.0 (IDW,RDW)	1.3 (RDW)	0.025	0.24	NA	1.3 (RDW)
Mercury	ND(0.00020)	0.00012 J	ND(0.00020)	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)
Nickel	0.044	0.024	0.057	0.011	0.030	NA	0.025
Selenium	0.0031	ND(0.0014)	ND(0.0016)	ND(0.0014)	ND(0.0016 J)	NA	0.0019
Silver	ND(0.00040)	ND(0.00040)	0.0030	0.00020 J	0.0010	NA	0.00029 J
Thallium	0.000060 J	0.00027	0.00023	0.00014 J	0.00011 J	NA	0.00042
Vanadium	0.0085 (RDW)	0.0029	ND(0.00080)	0.00072 J	ND(0.00080)	NA	ND(0.00080)
Zinc	0.029	0.022 J	0.029	ND(0.034 J)	0.027	NA	0.014
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	0.0026 [0.0022]	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	0.033 [0.033]	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	0.25 [0.26]	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	ND(0.00040) [ND(0.00040)]	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	0.000066 J [ND(0.00020)]	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	0.0050 [0.0054]	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	0.0036 [0.0040]	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	0.0050 [0.0033]	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	0.0024 J [0.0044 J]	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.00017 J [ND(0.00040)]	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	3.0 (IDW,RDW) [3.0 (IDW,RDW)]	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	ND(0.00020) [ND(0.00020)]	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	0.037 [0.036]	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	0.0016 J [ND(0.0016)]	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	ND(0.00040) [ND(0.00040)]	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	ND(0.00020) [ND(0.00020)]	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	0.0020 [0.0019]	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	0.019 [0.012]	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-06 06/19/02	RFI-10-06 03/26/03	RFI-10-07 03/26/03	RFI-10-08 06/19/02	RFI-10-11 06/21/02	RFI-10-11 03/26/03	RFI-10-11 10/08/04	RFI-10-12 12/18/02	RFI-10-15 10/06/04
<b>VOC</b>									
1,1,1-Trichloroethane	0.34 D (IDW,RDW)	1.0 D (IDW,RDW)	0.015	NA	ND(0.0010 J)	NA	0.00060 J	NA	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
1,1-Dichloroethane	0.095 D	0.73 D	0.0020	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
1,1-Dichloroethene	0.056 (IDW,RDW)	0.13 D (IDW,RDW)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	NA	ND(0.0020)	NA	ND(0.0020)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)	NA	ND(0.0010)	NA	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	0.0018	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.025)	NA	0.0024 J	NA	ND(0.030)	NA	ND(0.030)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050)	NA	ND(0.050)	NA	ND(0.050 J)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050)	NA	ND(0.0010)	NA	ND(0.0010)
Acetone	ND(0.025)	ND(0.025)	ND(0.025)	NA	ND(0.025)	NA	ND(0.030)	NA	ND(0.030)
Benzene	ND(0.0010)	0.0020	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)	NA	ND(0.0010 J)	NA	ND(0.0010 J)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0020 J)	NA	ND(0.0020 J)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	NA	ND(0.0050 J)	NA	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)	NA	ND(0.0010)	NA	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
Chloroethane	0.10	0.096 D	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010 J)	NA	ND(0.0010 J)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	0.0030	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	NA	ND(0.0010)	NA	ND(0.0010)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)	NA	ND(0.0010)	NA	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010 J)	NA	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	NA	ND(0.0010)	NA	ND(0.0010)
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)	NA	ND(0.0010)	NA	ND(0.0010)
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	NA	ND(0.010)	NA	ND(0.010)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.020)	NA	ND(0.020)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	NA	ND(0.0050)	NA	ND(0.0050)
Methylene chloride	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	NA	ND(0.0050)	NA	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-06 06/19/02	RFI-10-06 03/26/03	RFI-10-07 03/26/03	RFI-10-08 06/19/02	RFI-10-11 06/21/02	RFI-10-11 03/26/03	RFI-10-11 10/08/04	RFI-10-12 12/18/02	RFI-10-15 10/06/04
<b>VOC (Cont'd.)</b>									
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
Trifluorotrichloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.030)	NA	ND(0.030)
Vinyl chloride	0.00064 J	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)	NA	ND(0.0010)	NA	ND(0.0010)
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-06 06/19/02	RFI-10-06 03/26/03	RFI-10-07 03/26/03	RFI-10-08 06/19/02	RFI-10-11 06/21/02	RFI-10-11 03/26/03	RFI-10-11 10/08/04	RFI-10-12 12/18/02	RFI-10-15 10/06/04
<b>SVOC (Cont'd.)</b>									
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-06 06/19/02	RFI-10-06 03/26/03	RFI-10-07 03/26/03	RFI-10-08 06/19/02	RFI-10-11 06/21/02	RFI-10-11 03/26/03	RFI-10-11 10/08/04	RFI-10-12 12/18/02	RFI-10-15 10/06/04
<b>Inorganic</b>									
Antimony	ND(0.0012)	ND(0.0012)	NA	ND(0.0012)	NA	ND(0.0012)	NA	ND(0.0012)	NA
Arsenic	ND(0.0024)	0.0015	NA	ND(0.0026)	NA	ND(0.0010)	NA	0.045	NA
Barium	0.051	0.050	NA	0.064	NA	0.070	NA	0.050 J	NA
Beryllium	ND(0.00040 J)	ND(0.00040)	NA	ND(0.00040 J)	NA	ND(0.00040)	NA	ND(0.00040 J)	NA
Cadmium	ND(0.00020)	0.00092 J	NA	0.00030	NA	0.00051	NA	0.00016 J	NA
Chromium Total	0.0015	0.00086	NA	0.0016	NA	0.0031	NA	0.0099	NA
Cobalt	0.00079	0.00084	NA	0.0014	NA	0.0014	NA	0.0014 J	NA
Copper	0.0058 J	0.0043	NA	0.0083 J	NA	0.0026	NA	0.013 J	NA
Cyanide (total)	0.0032 J	0.0025 J	NA	ND(0.0050)	NA	0.034	NA	ND(0.0050)	NA
Lead	0.00064	0.00075	NA	0.0011	NA	0.00015 J	NA	0.0068 J (IDW,RDW)	NA
Manganese	0.25	0.50	NA	0.90 (RDW)	NA	0.33	NA	1.2 J (RDW)	NA
Mercury	ND(0.00020)	ND(0.00020)	NA	0.00012 J	NA	ND(0.00020)	NA	ND(0.00020)	NA
Nickel	0.0057	0.0081	NA	0.0070	NA	0.020	NA	0.035 J	NA
Selenium	0.0079	ND(0.0016)	NA	ND(0.0014)	NA	0.0029	NA	ND(0.0016)	NA
Silver	ND(0.00040)	ND(0.00040)	NA	ND(0.00040)	NA	ND(0.00040)	NA	ND(0.00040 J)	NA
Thallium	0.000070 J	ND(0.00020)	NA	0.000064 J	NA	ND(0.00020)	NA	0.00021 J	NA
Vanadium	0.00081	0.00029 J	NA	0.0017	NA	ND(0.00080)	NA	0.0033	NA
Zinc	0.014 J	0.013	NA	0.038 J	NA	0.0089	NA	0.033 J	NA
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	R	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.044 J	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.066 J	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	R	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	R	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0033 J	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0012 J	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0026 J	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0040 J	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.00090 J	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	1.0 J (RDW)	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00020)	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.023 J	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0046 J	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	R	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	R	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0021 J	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0067 J	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-24 06/25/02	RFI-10-24 03/26/03	RFI-10-24 10/06/04	RFI-10-25 03/26/03	RFI-10-25 10/06/04	RFI-10-26 06/20/02	RFI-10-26 03/27/03	RFI-10-28 12/12/02	RFI-10-28 10/06/04
<b>VOC</b>									
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	ND(0.0050)	ND(0.0020) [ND(0.0020)]
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.030)	ND(0.025)	NA	0.011 J	ND(0.030) [ND(0.030)]
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050)	ND(0.050 J) [ND(0.050 J)]
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.0010)	ND(0.050)	NA	ND(0.050)	ND(0.0010) [ND(0.0010)]
Acetone	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.030)	ND(0.025)	NA	0.21 JD	ND(0.030) [ND(0.030)]
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010 J) [ND(0.0010 J)]
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0020 J) [ND(0.0020 J)]
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050) [ND(0.0050)]
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010 J) [ND(0.0010 J)]
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0050)	NA	ND(0.0030)	ND(0.0010) [ND(0.0010)]
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0050)	NA	ND(0.0050)	ND(0.0010) [ND(0.0010)]
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	NA	ND(0.0020)	ND(0.0010) [ND(0.0010)]
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.010 J)	ND(0.0050 J)	ND(0.010 J)	ND(0.0050)	NA	ND(0.0030)	ND(0.010) [ND(0.010)]
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.0010 J)	ND(0.020)	ND(0.0010)	NA	ND(0.0030)	ND(0.020) [ND(0.020)]
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050) [ND(0.0050)]
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050) [ND(0.0050)]
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-24 06/25/02	RFI-10-24 03/26/03	RFI-10-24 10/06/04	RFI-10-25 03/26/03	RFI-10-25 10/06/04	RFI-10-26 06/20/02	RFI-10-26 03/27/03	RFI-10-28 12/12/02	RFI-10-28 10/06/04
<b>VOC (Cont'd.)</b>									
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Trifluorotrichloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.030)	ND(0.0010)	NA	ND(0.0030)	ND(0.030) [ND(0.030)]
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	NA	ND(0.0020)	ND(0.0010) [ND(0.0010)]
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-24 06/25/02	RFI-10-24 03/26/03	RFI-10-24 10/06/04	RFI-10-25 03/26/03	RFI-10-25 10/06/04	RFI-10-26 06/20/02	RFI-10-26 03/27/03	RFI-10-28 12/12/02	RFI-10-28 10/06/04
<b>SVOC (Cont'd.)</b>									
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
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Sample ID: Date Collected:	RFI-10-24 06/25/02	RFI-10-24 03/26/03	RFI-10-24 10/06/04	RFI-10-25 03/26/03	RFI-10-25 10/06/04	RFI-10-26 06/20/02	RFI-10-26 03/27/03	RFI-10-28 12/12/02	RFI-10-28 10/06/04
<b>Inorganic</b>									
Antimony	NA	NA	NA	NA	NA	ND(0.0012)	ND(0.0012)	NA	NA
Arsenic	NA	NA	NA	NA	NA	0.0043	ND(0.0010)	NA	NA
Barium	NA	NA	NA	NA	NA	0.052	0.13	NA	NA
Beryllium	NA	NA	NA	NA	NA	ND(0.00040)	ND(0.00040)	NA	NA
Cadmium	NA	NA	NA	NA	NA	0.00013 J	0.00028	NA	NA
Chromium Total	NA	NA	NA	NA	NA	0.0042	0.0036	NA	NA
Cobalt	NA	NA	NA	NA	NA	0.0021	0.0011	NA	NA
Copper	NA	NA	NA	NA	NA	0.0064	0.0028	NA	NA
Cyanide (total)	NA	NA	NA	NA	NA	0.028	0.0049 J	NA	NA
Lead	NA	NA	NA	NA	NA	0.0048 (IDW,RDW)	0.00036 J	NA	NA
Manganese	NA	NA	NA	NA	NA	0.14	0.015	NA	NA
Mercury	NA	NA	NA	NA	NA	0.00026	ND(0.00020)	NA	NA
Nickel	NA	NA	NA	NA	NA	0.0071	0.012	NA	NA
Selenium	NA	NA	NA	NA	NA	ND(0.0014)	0.0059	NA	NA
Silver	NA	NA	NA	NA	NA	ND(0.00040 J)	ND(0.00040)	NA	NA
Thallium	NA	NA	NA	NA	NA	0.00018 J	ND(0.00020)	NA	NA
Vanadium	NA	NA	NA	NA	NA	0.0051 (RDW)	ND(0.00080)	NA	NA
Zinc	NA	NA	NA	NA	NA	ND(0.025 J)	0.011	NA	NA
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
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Sample ID: Date Collected:	RFI-10-29 12/12/02	RFI-10-29 06/30/05	RFI-10-30 04/24/03	RFI-10-30 10/07/04	RFI-10-31 04/24/03	RFI-10-31 10/07/04	RFI-10-32 04/04/05	RFI-10-32 06/09/05
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0087	0.00040 J	0.19	0.26 (IDW,RDW) [0.28 (IDW,RDW)]
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0070	ND(0.0010)	0.14	0.25 [0.28]
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0011	ND(0.0010)	0.026 (IDW,RDW)	0.033 (IDW,RDW) [0.037 (IDW,RDW)]
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0020)	ND(0.0020)	ND(0.010) [ND(0.010)]
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0050) [ND(0.0050)]
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.030)	0.00068 J	ND(0.030)	ND(0.030)	ND(0.10) [ND(0.10)]
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30) [ND(0.30)]
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Acetone	0.0019 J	ND(0.030)	0.0014 J	ND(0.030)	0.0038 J	ND(0.030)	ND(0.030)	ND(0.10) [ND(0.10)]
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00010 J	0.0010 J [ND(0.0050)]
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0050) [ND(0.0050)]
Bromomethane (Methyl Bromide)	ND(0.0010 J)	ND(0.0020)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	ND(0.0020 J)	R	ND(0.010) [ND(0.010)]
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)	ND(0.030) [ND(0.030)]
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	0.0043	ND(0.0010 J)	0.067 J	0.11 J [0.12]
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0020	0.0030 J [0.0040 J]
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Cyclohexane	ND(0.0030)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010 J)	ND(0.0050) [ND(0.0050)]
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0050) [ND(0.0050)]
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Isopropylbenzene	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
m&p-Xylene	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Methyl acetate	ND(0.0030)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.010)	ND(0.050) [ND(0.050)]
Methyl cyclohexane	ND(0.0030)	ND(0.020)	ND(0.0010)	ND(0.020)	ND(0.0010)	ND(0.020)	ND(0.020 J)	ND(0.10) [ND(0.10)]
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.030) [ND(0.030)]
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.030) [ND(0.030)]
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Toluene	0.00051 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-29 12/12/02	RFI-10-29 06/30/05	RFI-10-30 04/24/03	RFI-10-30 10/07/04	RFI-10-31 04/24/03	RFI-10-31 10/07/04	RFI-10-32 04/04/05	RFI-10-32 06/09/05
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
Trifluorotrchloroethane (Freon 113)	ND(0.0030)	ND(0.030)	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.030)	ND(0.030)	ND(0.20) [ND(0.20)]
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0020	ND(0.0050) [ND(0.0050)]
Xylenes (total)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0050) [ND(0.0050)]
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-29 12/12/02	RFI-10-29 06/30/05	RFI-10-30 04/24/03	RFI-10-30 10/07/04	RFI-10-31 04/24/03	RFI-10-31 10/07/04	RFI-10-32 04/04/05	RFI-10-32 06/09/05
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-29 12/12/02	RFI-10-29 06/30/05	RFI-10-30 04/24/03	RFI-10-30 10/07/04	RFI-10-31 04/24/03	RFI-10-31 10/07/04	RFI-10-32 04/04/05	RFI-10-32 06/09/05
<b>Inorganic</b>								
Antimony	NA	NA	ND(0.0012)	NA	0.00038 J	NA	NA	NA
Arsenic	NA	NA	ND(0.0010)	NA	0.0013 J	NA	NA	NA
Barium	NA	NA	0.040	NA	0.034	NA	NA	NA
Beryllium	NA	NA	ND(0.00040)	NA	ND(0.00040)	NA	NA	NA
Cadmium	NA	NA	0.000088 J	NA	0.00010 J	NA	NA	NA
Chromium Total	NA	NA	0.0046	NA	0.0018	NA	NA	NA
Cobalt	NA	NA	0.00045	NA	0.0014	NA	NA	NA
Copper	NA	NA	0.0017	NA	0.0048	NA	NA	NA
Cyanide (total)	NA	NA	0.0023 J	NA	ND(0.0050)	NA	NA	NA
Lead	NA	NA	0.00013 J	NA	0.0013	NA	NA	NA
Manganese	NA	NA	0.10	NA	0.11	NA	NA	NA
Mercury	NA	NA	ND(0.00020)	NA	ND(0.00020)	NA	NA	NA
Nickel	NA	NA	0.0048	NA	0.0068	NA	NA	NA
Selenium	NA	NA	0.0047	NA	0.0038	NA	NA	NA
Silver	NA	NA	ND(0.00040 J)	NA	ND(0.00040 J)	NA	NA	NA
Thallium	NA	NA	0.000082 J	NA	0.000080 J	NA	NA	NA
Vanadium	NA	NA	ND(0.00080)	NA	0.0028	NA	NA	NA
Zinc	NA	NA	0.0051 J	NA	0.013	NA	NA	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-33 06/29/05	RFI-10-34 06/29/05	RFI-10-35 06/29/05	RFI-10-36 06/29/05	RFI-12-11S 06/25/02	RFI-12-15 12/16/02	RFI-12-24 04/04/03	RFI-12-24 04/23/03	RFI-12-24 04/06/05	RFI-12-25 04/23/03
<b>VOC</b>										
1,1,1-Trichloroethane	0.019	ND(0.0010)	0.0030	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1-Dichloroethane	0.021	ND(0.0010)	0.015	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1-Dichloroethene	0.0040	ND(0.0010)	0.0010	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	0.0017 J	0.035 J	ND(0.025)	0.0015 J	NA	0.0015 J
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.050)	0.00087 J	ND(0.050)	ND(0.050)	NA	ND(0.050)
Acetone	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	0.0078 J	0.22 D	ND(0.025)	0.0082 J	NA	0.0062 J
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0027	ND(0.0010)	0.00062 J	NA	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chloroethane	0.0040	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	0.0028	0.0039	NA	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0015	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Isopropylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
m&p-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0021	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)
Methyl acetate	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.0050)	0.023	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Methyl cyclohexane	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0016	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0057	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-33 06/29/05	RFI-10-34 06/29/05	RFI-10-35 06/29/05	RFI-10-36 06/29/05	RFI-12-11S 06/25/02	RFI-12-15 12/16/02	RFI-12-24 04/04/03	RFI-12-24 04/23/03	RFI-12-24 04/06/05	RFI-12-25 04/23/03
<b>VOC (Cont'd.)</b>										
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Trifluorotrichloroethane (Freon 113)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Xylenes (total)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0037	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)
<b>SVOC</b>										
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	ND(0.0044)	ND(0.0040)	ND(0.0050)	ND(0.0040)
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	ND(0.011)	ND(0.010)	ND(0.010)	ND(0.010)
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	ND(0.022)	ND(0.020)	ND(0.020 J)	ND(0.020)
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
2-Chlorophenol	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
2-Methylphenol	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
2-Nitroaniline	NA	NA	NA	NA	NA	NA	ND(0.022)	ND(0.020)	ND(0.020)	ND(0.020)
2-Nitrophenol	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	ND(0.011 J)	ND(0.010 J)	NA	ND(0.010 J)
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	ND(0.022 J)	ND(0.020 J)	ND(0.020)	ND(0.020 J)
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	ND(0.0050)	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	ND(0.022)	ND(0.020 J)	ND(0.020)	ND(0.020 J)
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	ND(0.022)	ND(0.020)	ND(0.020 J)	ND(0.020)
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
4-Chloroaniline	NA	NA	NA	NA	NA	NA	ND(0.022 J)	ND(0.020)	ND(0.020)	ND(0.020)
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
4-Nitroaniline	NA	NA	NA	NA	NA	NA	ND(0.022)	ND(0.020 J)	ND(0.020)	ND(0.020 J)
4-Nitrophenol	NA	NA	NA	NA	NA	NA	ND(0.022)	ND(0.020)	ND(0.020 J)	ND(0.020)
Acenaphthene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Acenaphthylene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Acetophenone	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Anthracene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	0.00020 J	ND(0.0050)
Atrazine	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Benzaldehyde	NA	NA	NA	NA	NA	NA	ND(0.0056 J)	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	ND(0.0011)	ND(0.0010)	ND(0.0050)	ND(0.0010)
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	ND(0.0022)	ND(0.0020)	ND(0.0050)	ND(0.0020)
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	ND(0.0022)	ND(0.0020)	ND(0.0050)	ND(0.0020)
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Biphenyl	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	0.00010 J	ND(0.0050)
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	ND(0.0017)	ND(0.0015)	ND(0.0050)	ND(0.0015)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-33 06/29/05	RFI-10-34 06/29/05	RFI-10-35 06/29/05	RFI-10-36 06/29/05	RFI-12-11S 06/25/02	RFI-12-15 12/16/02	RFI-12-24 04/04/03	RFI-12-24 04/23/03	RFI-12-24 04/06/05	RFI-12-25 04/23/03
<b>SVOC (Cont'd.)</b>										
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Caprolactam	NA	NA	NA	NA	NA	NA	ND(0.011)	ND(0.010)	ND(0.010 J)	ND(0.010)
Carbazole	NA	NA	NA	NA	NA	NA	ND(0.011)	ND(0.010)	0.00020 J	ND(0.010)
Chrysene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	ND(0.0022)	ND(0.0020 J)	ND(0.0050)	ND(0.0020 J)
Dibenzofuran	NA	NA	NA	NA	NA	NA	ND(0.0044)	ND(0.0040)	0.00010 J	ND(0.0040)
Diethyl phthalate	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)
Fluoranthene	NA	NA	NA	NA	NA	NA	ND(0.0022)	ND(0.0020)	ND(0.0050)	ND(0.0020)
Fluorene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	0.00020 J	ND(0.0050)
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	ND(0.0011)	ND(0.0010)	ND(0.0050)	ND(0.0010)
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)
Hexachloroethane	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	ND(0.0022)	ND(0.0020 J)	ND(0.0050)	ND(0.0020 J)
Isophorone	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylphenols, Total	NA	NA	NA	NA	NA	NA	ND(0.011)	ND(0.010)	ND(0.0050)	ND(0.010)
Naphthalene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Nitrobenzene	NA	NA	NA	NA	NA	NA	ND(0.0022)	ND(0.0020)	ND(0.0050)	ND(0.0020)
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Pentachlorophenol	NA	NA	NA	NA	NA	NA	ND(0.022 J)	ND(0.020)	ND(0.0010)	ND(0.020)
Phenanthrene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	0.00020 J	ND(0.0050)
Phenol	NA	NA	NA	NA	NA	NA	0.0098	ND(0.0050)	ND(0.0050)	ND(0.0050)
Pyrene	NA	NA	NA	NA	NA	NA	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0050)
<b>PCB</b>										
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	ND(0.00011)	ND(0.00010)	NA	ND(0.00010)
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	ND(0.00011)	ND(0.00010)	NA	ND(0.00010)
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	ND(0.00011)	ND(0.00010)	NA	ND(0.00010)
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	ND(0.00011)	ND(0.00010)	NA	ND(0.00010)
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	ND(0.00011)	ND(0.00010)	NA	ND(0.00010)
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	ND(0.00011)	ND(0.00010)	NA	ND(0.00010)
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	ND(0.00011)	ND(0.00010)	NA	ND(0.00010)
Total PCBs	NA	NA	NA	NA	NA	NA	ND(0.00011)	ND(0.00010)	NA	ND(0.00010)
<b>PCB-Dissolved</b>										
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-10-33 06/29/05	RFI-10-34 06/29/05	RFI-10-35 06/29/05	RFI-10-36 06/29/05	RFI-12-11S 06/25/02	RFI-12-15 12/16/02	RFI-12-24 04/04/03	RFI-12-24 04/23/03	RFI-12-24 04/06/05	RFI-12-25 04/23/03
<b>Inorganic</b>										
Antimony	NA	NA	NA	NA	0.0013	NA	0.00038 J	0.0011 J	NA	0.00039 J
Arsenic	NA	NA	NA	NA	0.0010 J	NA	0.0023	0.0018	NA	0.0016 J
Barium	NA	NA	NA	NA	0.13	NA	0.059	0.057	NA	0.15
Beryllium	NA	NA	NA	NA	ND(0.00040)	NA	ND(0.00080)	ND(0.00040)	NA	ND(0.00040)
Cadmium	NA	NA	NA	NA	0.00020	NA	0.00043	0.00064	NA	0.00012 J
Chromium Total	NA	NA	NA	NA	0.00068	NA	0.0014	0.00065	NA	0.0011
Cobalt	NA	NA	NA	NA	0.0011	NA	0.019	0.024	NA	0.0018
Copper	NA	NA	NA	NA	0.0099	NA	0.0075	0.0049	NA	0.0046
Cyanide (total)	NA	NA	NA	NA	ND(0.0050)	NA	0.0046 J	ND(0.0050)	NA	ND(0.0050)
Lead	NA	NA	NA	NA	0.00043	NA	0.0026	0.0015	NA	0.0015
Manganese	NA	NA	NA	NA	0.74 J	NA	0.74 J	0.89 (RDW)	NA	0.40
Mercury	NA	NA	NA	NA	ND(0.00020)	NA	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)
Nickel	NA	NA	NA	NA	0.017	NA	0.024	0.030	NA	0.024
Selenium	NA	NA	NA	NA	0.0012 J	NA	ND(0.0016)	0.0021	NA	0.0017 J
Silver	NA	NA	NA	NA	ND(0.00040 J)	NA	ND(0.00040 J)	0.00015 J	NA	ND(0.00040 J)
Thallium	NA	NA	NA	NA	ND(0.00020)	NA	0.000059 J	0.00015 J	NA	0.000094 J
Vanadium	NA	NA	NA	NA	0.00033 J	NA	0.0024	0.00074 J	NA	ND(0.00080)
Zinc	NA	NA	NA	NA	0.024	NA	0.019	0.012	NA	0.0083
<b>Inorganic-Dissolved</b>										
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-12-32 10/04/04	RFI-12-33 04/07/05	RFI-12-35 09/17/03	RFI-12-35 10/14/03	RFI-16-04 06/25/02	RFI-16-11 06/26/02	RFI-16-11 03/26/03	RFI-16-12 06/24/02	RFI-16-20 04/09/02
<b>VOC</b>									
1,1,1-Trichloroethane	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0020)	NA	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	NA	ND(0.0010)	NA	0.0037 [0.0038]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.030)	NA	0.0085 J	NA	ND(0.025) [ND(0.025)]	ND(0.025)	ND(0.025)	0.0041 J	ND(0.025)
2-Hexanone	ND(0.050)	NA	ND(0.050)	NA	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010)	NA	ND(0.050)	NA	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
Acetone	ND(0.030)	NA	0.020 J	NA	ND(0.025) [0.0023 J]	0.0048 J	ND(0.025)	0.016 J	ND(0.025)
Benzene	ND(0.0010)	NA	ND(0.0010)	NA	0.0043 [0.0045]	0.21 D (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010 J)	NA	ND(0.0010 J)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0020 J)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Carbon disulfide	ND(0.0050)	NA	ND(0.0050 J)	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	NA	ND(0.0010)	NA	0.021 [0.020]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010 J)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	NA	ND(0.0010 J)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0010)	NA	0.015	NA	ND(0.0050) [ND(0.0050)]	0.016	ND(0.0050)	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0010)	NA	0.0038 J	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	0.0012 J	ND(0.0050)
m&p-Xylene	ND(0.0010)	NA	0.00085 J	NA	ND(0.0020) [ND(0.0020)]	0.00053 J	ND(0.0020)	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.010)	NA	ND(0.0050 J)	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methyl cyclohexane	ND(0.020)	NA	0.011	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	NA	ND(0.0050 J)	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	NA	ND(0.0050 J)	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	NA	0.00058 J	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	NA	ND(0.0010 J)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	0.0012	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-12-32 10/04/04	RFI-12-33 04/07/05	RFI-12-35 09/17/03	RFI-12-35 10/14/03	RFI-16-04 06/25/02	RFI-16-11 06/26/02	RFI-16-11 03/26/03	RFI-16-12 06/24/02	RFI-16-20 04/09/02
<b>VOC (Cont'd.)</b>									
Trichloroethene	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	0.0020	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrichloroethane (Freon 113)	ND(0.030)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010)	NA	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0010)	NA	0.0014 J	NA	ND(0.0020) [ND(0.0020)]	0.00053 J	ND(0.0020)	ND(0.0020)	ND(0.0020)
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
2,4,5-Trichlorophenol	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
2,4,6-Trichlorophenol	NA	ND(0.0050)	NA	ND(0.0043)	ND(0.0040) [ND(0.0040)]	NA	NA	NA	ND(0.020)
2,4-Dichlorophenol	NA	ND(0.010)	NA	ND(0.011)	ND(0.010) [ND(0.010)]	NA	NA	NA	ND(0.050)
2,4-Dimethylphenol	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
2,4-Dinitrophenol	NA	ND(0.020 J)	NA	ND(0.022)	ND(0.020) [ND(0.020)]	NA	NA	NA	ND(0.10)
2,4-Dinitrotoluene	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
2,6-Dinitrotoluene	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
2-Chloronaphthalene	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
2-Chlorophenol	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
2-Methylnaphthalene	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
2-Methylphenol	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
2-Nitroaniline	NA	ND(0.020)	NA	ND(0.022)	ND(0.020) [ND(0.020)]	NA	NA	NA	ND(0.10)
2-Nitrophenol	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
3&4-Methylphenol	NA	NA	NA	ND(0.011 J)	ND(0.010 J) [ND(0.010 J)]	NA	NA	NA	ND(0.050 J)
3,3'-Dichlorobenzidine	NA	ND(0.020)	NA	ND(0.022)	ND(0.020) [ND(0.020)]	NA	NA	NA	ND(0.10)
3-Methylphenol	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	ND(0.020)	NA	ND(0.022)	ND(0.020) [ND(0.020)]	NA	NA	NA	ND(0.10)
4,6-Dinitro-2-methylphenol	NA	ND(0.020 J)	NA	ND(0.022)	ND(0.020) [ND(0.020)]	NA	NA	NA	ND(0.10)
4-Bromophenyl phenyl ether	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
4-Chloro-3-methylphenol	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
4-Chloroaniline	NA	ND(0.020)	NA	ND(0.022)	ND(0.020) [ND(0.020)]	NA	NA	NA	ND(0.10)
4-Chlorophenyl phenyl ether	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
4-Nitroaniline	NA	ND(0.020)	NA	ND(0.022)	ND(0.020) [ND(0.020)]	NA	NA	NA	ND(0.10)
4-Nitrophenol	NA	ND(0.020 J)	NA	ND(0.022)	ND(0.020) [ND(0.020)]	NA	NA	NA	ND(0.10)
Acenaphthene	NA	0.00030 J	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Acenaphthylene	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Acetophenone	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Anthracene	NA	0.00010 J	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Atrazine	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Benzaldehyde	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050 J) [ND(0.0050 J)]	NA	NA	NA	ND(0.025 J)
Benzo(a)anthracene	NA	ND(0.0050)	NA	ND(0.0011)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0050)
Benzo(a)pyrene	NA	ND(0.0050)	NA	ND(0.0022)	ND(0.0020) [ND(0.0020)]	NA	NA	NA	ND(0.010)
Benzo(b)fluoranthene	NA	ND(0.0050)	NA	ND(0.0022)	ND(0.0020) [ND(0.0020)]	NA	NA	NA	ND(0.010 J)
Benzo(g,h,i)perylene	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Benzo(k)fluoranthene	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Biphenyl	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
bis(2-Chloroethoxy)methane	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
bis(2-Chloroethyl)ether	NA	ND(0.0050)	NA	ND(0.0016)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0050)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-12-32 10/04/04	RFI-12-33 04/07/05	RFI-12-35 09/17/03	RFI-12-35 10/14/03	RFI-16-04 06/25/02	RFI-16-11 06/26/02	RFI-16-11 03/26/03	RFI-16-12 06/24/02	RFI-16-20 04/09/02
<b>SVOC (Cont'd.)</b>									
bis(2-Ethylhexyl)phthalate	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Butyl benzylphthalate	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Caprolactam	NA	ND(0.010 J)	NA	ND(0.011)	ND(0.010) [ND(0.010)]	NA	NA	NA	ND(0.050)
Carbazole	NA	ND(0.010)	NA	ND(0.011)	ND(0.010) [ND(0.010)]	NA	NA	NA	ND(0.050)
Chrysene	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Dibenz(a,h)anthracene	NA	ND(0.0050)	NA	ND(0.0022)	ND(0.0020) [ND(0.0020)]	NA	NA	NA	ND(0.010)
Dibenzofuran	NA	0.00030 J	NA	ND(0.0043)	ND(0.0040) [ND(0.0040)]	NA	NA	NA	ND(0.020)
Diethyl phthalate	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Dimethyl phthalate	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Di-n-butylphthalate	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Di-n-octyl phthalate	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Fluoranthene	NA	ND(0.0050)	NA	ND(0.0022)	ND(0.0020) [ND(0.0020)]	NA	NA	NA	ND(0.010)
Fluorene	NA	0.00050 J	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Hexachlorobenzene	NA	ND(0.0050)	NA	ND(0.0011)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0050)
Hexachlorobutadiene	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Hexachlorocyclopentadiene	NA	ND(0.0050 J)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Hexachloroethane	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Indeno(1,2,3-cd)pyrene	NA	ND(0.0050)	NA	ND(0.0022)	ND(0.0020) [ND(0.0020)]	NA	NA	NA	ND(0.010)
Isophorone	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Methylphenols, Total	NA	ND(0.0050)	NA	ND(0.011)	ND(0.010) [ND(0.010)]	NA	NA	NA	ND(0.050)
Naphthalene	NA	0.00020 J	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Nitrobenzene	NA	ND(0.0050)	NA	ND(0.0022)	ND(0.0020) [ND(0.0020)]	NA	NA	NA	ND(0.010)
N-Nitrosodi-n-propylamine	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
N-Nitrosodiphenylamine	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Pentachlorophenol	NA	ND(0.0010)	NA	ND(0.022)	ND(0.020) [ND(0.020)]	NA	NA	NA	ND(0.10)
Phenanthrene	NA	0.00010 J	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Phenol	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
Pyrene	NA	ND(0.0050)	NA	ND(0.0054)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.025)
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	NA	ND(0.00010)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	ND(0.00010)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	ND(0.00010)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	ND(0.00010)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	ND(0.00010)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	ND(0.00010)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	ND(0.00010)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Total PCBs	NA	NA	ND(0.00010)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	ND(0.00011)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	ND(0.00011)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	ND(0.00011)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	ND(0.00011)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	ND(0.00011)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	ND(0.00011)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	ND(0.00011)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	ND(0.00011)	NA	ND(0.00010) [ND(0.00010)]	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-12-32 10/04/04	RFI-12-33 04/07/05	RFI-12-35 09/17/03	RFI-12-35 10/14/03	RFI-16-04 06/25/02	RFI-16-11 06/26/02	RFI-16-11 03/26/03	RFI-16-12 06/24/02	RFI-16-20 04/09/02
<b>Inorganic</b>									
Antimony	NA	NA	0.0043 J	NA	ND(0.0012) [ND(0.0012)]	NA	NA	0.00038 J	NA
Arsenic	NA	NA	0.060 J (IDW,RDW)	NA	0.00097 J [0.00069 J]	NA	NA	0.012	NA
Barium	NA	NA	0.61	NA	0.40 [0.38]	NA	NA	0.33	NA
Beryllium	NA	NA	0.27 JDM (IDW,RDW)	NA	ND(0.00040) [ND(0.00040)]	NA	NA	ND(0.00040)	NA
Cadmium	NA	NA	0.0067 J (IDW,RDW)	NA	ND(0.00020) [ND(0.00020)]	NA	NA	ND(0.00020)	NA
Chromium Total	NA	NA	0.12 (IDW,RDW)	NA	0.0011 [0.0011]	NA	NA	0.0012	NA
Cobalt	NA	NA	0.046 (RDW)	NA	0.00046 [0.00043]	NA	NA	0.00086	NA
Copper	NA	NA	0.089	NA	0.0015 [0.0014]	NA	NA	0.0093	NA
Cyanide (total)	NA	NA	0.015	NA	ND(0.0050) [ND(0.0050)]	NA	NA	0.026	NA
Lead	NA	NA	0.059 (IDW,RDW)	NA	0.00049 [0.00043]	NA	NA	0.00092	NA
Manganese	NA	NA	2.1 (RDW)	NA	0.56 J [0.54]	NA	NA	0.68 J	NA
Mercury	NA	NA	0.000044 J	NA	ND(0.00020) [ND(0.00020)]	NA	NA	ND(0.00020)	NA
Nickel	NA	NA	0.12 (IDW,RDW)	NA	0.0062 [0.0059]	NA	NA	0.0099	NA
Selenium	NA	NA	NA	NA	ND(0.0014) [ND(0.0014)]	NA	NA	0.0013 J	NA
Silver	NA	NA	0.0044 J	NA	ND(0.00040 J) [ND(0.00040 J)]	NA	NA	ND(0.00040 J)	NA
Thallium	NA	NA	0.0036 (IDW,RDW)	NA	ND(0.00020) [ND(0.00020)]	NA	NA	ND(0.00020)	NA
Vanadium	NA	NA	0.14 (IDW,RDW)	NA	ND(0.00080) [ND(0.00080)]	NA	NA	0.0025	NA
Zinc	NA	NA	0.26 J	NA	0.012 [0.010]	NA	NA	0.013	NA
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	NA	NA	0.0028 J	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	0.020	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	0.10	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	0.030 J (IDW,RDW)	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	0.0027 J	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	0.0040	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	0.0074 J	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	0.016 J	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	0.024	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	0.0010 J	NA	NA	NA	NA	NA	0.00042
Manganese (Dissolved)	NA	NA	0.27	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	0.027 J	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	0.0041	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	0.0020 J	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	0.00089 J	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	ND(0.00080 J)	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	0.042 J	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-16-24 04/03/03	RFI-16-25 04/03/03	RFI-17-02 06/25/02	RFI-17-02 04/02/03	RFI-17-02 10/05/04	RFI-17-02 06/09/05	RFI-17-02D 07/29/05	RFI-21-04 06/13/02	RFI-21-04 10/07/04
<b>VOC</b>									
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	0.0020	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.0020)	ND(0.0020)	ND(0.0050)	ND(0.0020)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025) [ND(0.025)]	NA	NA	NA	ND(0.030)	ND(0.030)	ND(0.025)	ND(0.030)
2-Hexanone	ND(0.050)	ND(0.050) [ND(0.050)]	NA	NA	NA	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050) [ND(0.050)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.050)	ND(0.0010)
Acetone	ND(0.025)	ND(0.025) [ND(0.025)]	NA	NA	NA	ND(0.030)	ND(0.030)	ND(0.025)	ND(0.030)
Benzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020 J)
Carbon disulfide	ND(0.0050)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)
Carbon tetrachloride	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	0.0030	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0050)	ND(0.0010)
Dibromochloromethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
Ethylbenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0010)
m&p-Xylene	ND(0.0020)	ND(0.0020) [ND(0.0020)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)
Methyl acetate	ND(0.0050)	ND(0.0050 J) [ND(0.0050)]	NA	NA	NA	ND(0.010)	ND(0.010)	ND(0.0050)	ND(0.010)
Methyl cyclohexane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.020)	ND(0.020)	ND(0.0010)	ND(0.020)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	0.0030 J	0.0030 J	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.00060 J
o-Xylene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-16-24 04/03/03	RFI-16-25 04/03/03	RFI-17-02 06/25/02	RFI-17-02 04/02/03	RFI-17-02 10/05/04	RFI-17-02 06/09/05	RFI-17-02D 07/29/05	RFI-21-04 06/13/02	RFI-21-04 10/07/04
<b>VOC (Cont'd.)</b>									
Trichloroethene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.030)	ND(0.030)	ND(0.0010)	ND(0.030)
Vinyl chloride	ND(0.0010)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	ND(0.0010)	0.0030 (IDW,RDW)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020) [ND(0.0020)]	NA	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-16-24 04/03/03	RFI-16-25 04/03/03	RFI-17-02 06/25/02	RFI-17-02 04/02/03	RFI-17-02 10/05/04	RFI-17-02 06/09/05	RFI-17-02D 07/29/05	RFI-21-04 06/13/02	RFI-21-04 10/07/04
<b>SVOC (Cont'd.)</b>									
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-16-24 04/03/03	RFI-16-25 04/03/03	RFI-17-02 06/25/02	RFI-17-02 04/02/03	RFI-17-02 10/05/04	RFI-17-02 06/09/05	RFI-17-02D 07/29/05	RFI-21-04 06/13/02	RFI-21-04 10/07/04
<b>Inorganic</b>									
Antimony	NA	NA	ND(0.0012)	ND(0.0012)	ND(0.0050)	NA	NA	ND(0.0012)	NA
Arsenic	NA	NA	0.027	0.0058	NA	NA	NA	0.0018 J	NA
Barium	NA	NA	0.093	0.12	NA	NA	NA	0.64 J	NA
Beryllium	NA	NA	ND(0.00040)	ND(0.00040)	NA	NA	NA	ND(0.00040 J)	NA
Cadmium	NA	NA	0.000062 J	ND(0.00020)	NA	NA	NA	0.0011	NA
Chromium Total	NA	NA	0.0026	0.0012	NA	NA	NA	0.0019	NA
Cobalt	NA	NA	0.0012	0.00056	NA	NA	NA	0.0037	NA
Copper	NA	NA	0.0033	0.0063	NA	NA	NA	0.0051	NA
Cyanide (total)	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA	NA
Lead	NA	NA	0.0020	0.00077	NA	NA	NA	0.00035 J	NA
Manganese	NA	NA	0.085	0.016 J	NA	NA	NA	6.3 (IDW,RDW)	16 (IDW,RDW)
Mercury	NA	NA	ND(0.00020)	ND(0.00020)	NA	NA	NA	ND(0.00020)	NA
Nickel	NA	NA	0.0038	0.0079	NA	NA	NA	0.014	NA
Selenium	NA	NA	0.0032	0.0019 J	ND(0.0050)	NA	NA	ND(0.0014)	NA
Silver	NA	NA	ND(0.00040 J)	ND(0.00040)	ND(0.00050)	NA	NA	ND(0.00040 J)	NA
Thallium	NA	NA	ND(0.00020)	ND(0.00020)	NA	NA	NA	0.000053 J	NA
Vanadium	NA	NA	0.0038	0.00056 J	NA	NA	NA	ND(0.00080)	NA
Zinc	NA	NA	0.012	0.013	NA	NA	NA	0.019 J	NA
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	NA	NA	0.0043	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	0.0017 J	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	0.081	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	ND(0.00040)	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	0.00089	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	0.00023	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	0.0014	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	ND(0.00040)	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	0.039 J	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	0.0021	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	0.0038	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	ND(0.00040 J)	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	ND(0.00080)	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	0.0066	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-21-04 04/06/05	RFI-23-01R 10/04/04	Bldg 23 Basement 11/22/02	RFI-23-01R 04/06/05	RFI-23-02R 10/04/04	RFI-23-02R 04/06/05	RFI-36-02 06/13/02	RFI-36-02 03/25/03
<b>VOC</b>								
1,1,1-Trichloroethane	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
1,1-Dichloroethane	NA	NA	0.00064 J	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	ND(0.0050)	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
1,2-Dichloroethane	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	NA	NA	0.0025 J	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	ND(0.050)	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	0.00067 J	NA	NA	NA	NA	NA
Acetone	NA	NA	0.0050 J	NA	NA	NA	NA	NA
Benzene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Bromoform	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Bromomethane (Methyl Bromide)	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Carbon disulfide	NA	NA	ND(0.0050)	NA	NA	NA	NA	NA
Carbon tetrachloride	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Chlorobenzene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Chloroethane	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Chloroform (Trichloromethane)	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Chloromethane (Methyl Chloride)	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	0.0013	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Cyclohexane	NA	NA	ND(0.0030)	NA	NA	NA	NA	NA
Dibromochloromethane	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	ND(0.0050)	NA	NA	NA	NA	NA
m&p-Xylene	NA	NA	ND(0.0020)	NA	NA	NA	NA	NA
Methyl acetate	NA	NA	ND(0.0030)	NA	NA	NA	NA	NA
Methyl cyclohexane	NA	NA	ND(0.0030)	NA	NA	NA	NA	NA
Methyl Tert Butyl Ether	NA	NA	ND(0.0050)	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	ND(0.0050)	NA	NA	NA	NA	NA
o-Xylene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Styrene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Toluene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-21-04 04/06/05	RFI-23-01R 10/04/04	Bldg 23 Basement 11/22/02	RFI-23-01R 04/06/05	RFI-23-02R 10/04/04	RFI-23-02R 04/06/05	RFI-36-02 06/13/02	RFI-36-02 03/25/03
<b>VOC (Cont'd.)</b>								
Trichloroethene	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Trichlorofluoromethane (CFC-11)	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Trifluorotrchloroethane (Freon 113)	NA	NA	ND(0.0030)	NA	NA	NA	NA	NA
Vinyl chloride	NA	NA	ND(0.0010)	NA	NA	NA	NA	NA
Xylenes (total)	NA	NA	ND(0.0020)	NA	NA	NA	NA	NA
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
2,4,5-Trichlorophenol	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
2,4,6-Trichlorophenol	ND(0.0050)	ND(0.0050)	ND(0.040)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
2,4-Dichlorophenol	ND(0.010)	0.00060 J	ND(0.10)	ND(0.010)	ND(0.010)	ND(0.010)	NA	NA
2,4-Dimethylphenol	ND(0.0050)	0.0010 J	ND(0.050)	ND(0.0050)	0.00060 J	ND(0.0050)	NA	NA
2,4-Dinitrophenol	ND(0.020 J)	ND(0.020)	ND(0.20)	ND(0.020 J)	ND(0.020)	ND(0.020 J)	NA	NA
2,4-Dinitrotoluene	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
2,6-Dinitrotoluene	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
2-Chloronaphthalene	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
2-Chlorophenol	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
2-Methylnaphthalene	ND(0.0050)	ND(0.0020)	ND(0.050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
2-Methylphenol	ND(0.0050)	0.00070 J	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
2-Nitroaniline	ND(0.020)	ND(0.020)	ND(0.20)	ND(0.020)	ND(0.020)	ND(0.020)	NA	NA
2-Nitrophenol	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
3&4-Methylphenol	NA	NA	ND(0.10 J)	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	ND(0.020)	ND(0.020)	ND(0.20 J)	ND(0.020)	ND(0.020)	ND(0.020)	NA	NA
3-Methylphenol	ND(0.0050)	0.0010 J	ND(0.20 J)	ND(0.0050)	0.00070 J	ND(0.0050)	NA	NA
3-Nitroaniline	ND(0.020)	ND(0.020)	ND(0.20)	ND(0.020)	ND(0.020)	ND(0.020)	NA	NA
4,6-Dinitro-2-methylphenol	ND(0.020 J)	ND(0.020)	ND(0.050)	ND(0.020 J)	ND(0.020)	ND(0.020 J)	NA	NA
4-Bromophenyl phenyl ether	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
4-Chloro-3-methylphenol	ND(0.0050)	ND(0.0050)	ND(0.20)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
4-Chloroaniline	ND(0.020)	ND(0.020 J)	ND(0.050)	ND(0.020)	ND(0.020 J)	ND(0.020)	NA	NA
4-Chlorophenyl phenyl ether	ND(0.0050)	ND(0.0050)	ND(0.20)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
4-Nitroaniline	ND(0.020)	ND(0.020)	ND(0.20)	ND(0.020)	ND(0.020)	ND(0.020)	NA	NA
4-Nitrophenol	ND(0.020 J)	0.0080 J	ND(0.050)	ND(0.020 J)	0.0060 J	ND(0.020 J)	NA	NA
Acenaphthene	ND(0.0050)	ND(0.0020)	ND(0.050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
Acenaphthylene	ND(0.0050)	ND(0.0020)	ND(0.050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
Acetophenone	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Anthracene	ND(0.0050)	ND(0.0020)	ND(0.050 J)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
Atrazine	ND(0.0050)	ND(0.0050)	ND(0.050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Benzaldehyde	ND(0.0050)	ND(0.0050)	0.011 (GCC,IDW,RDW)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Benzo(a)anthracene	ND(0.0050)	ND(0.0010)	0.011 J (GCC,IDW,RDW)	ND(0.0050)	ND(0.0010)	ND(0.0050)	NA	NA
Benzo(a)pyrene	ND(0.0050)	ND(0.0020)	0.066 J (GCC,IDW,RDW)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
Benzo(b)fluoranthene	ND(0.0050)	ND(0.0020)	ND(0.050 J)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
Benzo(g,h,i)perylene	ND(0.0050)	ND(0.0020)	0.0088 J (GCC,IDW,RDW)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
Benzo(k)fluoranthene	ND(0.0050)	ND(0.0020)	ND(0.050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
Biphenyl	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	0.00010 J	NA	NA
bis(2-Chloroethoxy)methane	ND(0.0050)	ND(0.0050)	ND(0.015)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
bis(2-Chloroethyl)ether	ND(0.0050)	ND(0.0050)	0.20 (IDW,RDW)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-21-04 04/06/05	RFI-23-01R 10/04/04	Bldg 23 Basement 11/22/02	RFI-23-01R 04/06/05	RFI-23-02R 10/04/04	RFI-23-02R 04/06/05	RFI-36-02 06/13/02	RFI-36-02 03/25/03
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	ND(0.0050)	0.00070 J	ND(0.050)	ND(0.0050)	0.00070 J	ND(0.0050)	NA	NA
Butyl benzylphthalate	ND(0.0050)	ND(0.0050)	ND(0.10)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Caprolactam	ND(0.010 J)	ND(0.010)	ND(0.10 J)	ND(0.010 J)	ND(0.010)	ND(0.010 J)	NA	NA
Carbazole	ND(0.010)	ND(0.010)	0.010 J (GCC,IDW,RDW)	ND(0.010)	ND(0.010)	ND(0.010)	NA	NA
Chrysene	ND(0.0050)	ND(0.0020)	ND(0.020 J)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
Dibenz(a,h)anthracene	0.00050 J	ND(0.0020)	ND(0.040)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
Dibenzofuran	0.00010 J	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Diethyl phthalate	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Dimethyl phthalate	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Di-n-butylphthalate	ND(0.0050)	ND(0.0050)	0.23 J (RDW)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Di-n-octyl phthalate	ND(0.0050)	ND(0.0050)	0.022	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Fluoranthene	ND(0.0050)	ND(0.0020)	ND(0.050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
Fluorene	0.00010 J	ND(0.0020)	ND(0.010)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
Hexachlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Hexachlorobutadiene	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Hexachlorocyclopentadiene	ND(0.0050 J)	ND(0.0050)	ND(0.050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)	NA	NA
Hexachloroethane	ND(0.0050)	ND(0.0050)	0.017 J (GCC,IDW,RDW)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Indeno(1,2,3-cd)pyrene	ND(0.0050)	ND(0.0020)	ND(0.050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
Isophorone	ND(0.0050)	ND(0.0050)	ND(0.10)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Methylphenols, Total	ND(0.0050)	0.00070 J	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Naphthalene	ND(0.0050)	ND(0.0020)	ND(0.020)	ND(0.0050)	ND(0.0020)	0.00010 J	NA	NA
Nitrobenzene	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
N-Nitrosodi-n-propylamine	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
N-Nitrosodiphenylamine	ND(0.0050)	ND(0.0050)	ND(0.20)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Pentachlorophenol	ND(0.0010)	0.0020 J (IDW,RDW)	NA	ND(0.0010)	0.0030 J (IDW,RDW)	ND(0.0010)	NA	NA
Phenanthrene	0.00040 J	ND(0.0020)	0.016 J	0.00020 J	ND(0.0020)	0.00020 J	NA	NA
Phenol	ND(0.0050)	0.00090 J	ND(0.050)	ND(0.0050)	0.0010 J	ND(0.0050)	NA	NA
Pyrene	ND(0.0050)	ND(0.0020)	0.020 J	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA
Total PCBs	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-21-04 04/06/05	RFI-23-01R 10/04/04	Bldg 23 Basement 11/22/02	RFI-23-01R 04/06/05	RFI-23-02R 10/04/04	RFI-23-02R 04/06/05	RFI-36-02 06/13/02	RFI-36-02 03/25/03
<b>Inorganic</b>								
Antimony	NA	NA	0.0031	NA	NA	NA	ND(0.0012)	ND(0.0012)
Arsenic	NA	NA	ND(0.0017)	NA	ND(0.0020)	NA	0.091 (IDW,RDW)	0.019
Barium	NA	NA	0.040	NA	NA	NA	0.23 J	0.17 J
Beryllium	NA	NA	ND(0.00040)	NA	ND(0.0010)	NA	ND(0.00040 J)	ND(0.00040)
Cadmium	NA	NA	0.00031	NA	ND(0.00050)	NA	ND(0.00020)	0.00014 J
Chromium Total	NA	NA	0.0067	NA	ND(0.0050)	NA	0.00050 J	0.00043 J
Cobalt	NA	NA	0.00075	NA	NA	NA	0.0053	0.012
Copper	NA	NA	0.0069	NA	NA	NA	0.0025	0.0031
Cyanide (total)	NA	NA	ND(0.0050)	NA	NA	NA	NA	ND(0.0050)
Lead	NA	ND(0.0030)	0.0077 (IDW,RDW)	NA	ND(0.0030)	NA	0.00042 J	0.0013
Manganese	NA	NA	0.17 J	NA	0.30	NA	1.4 J (RDW)	0.64
Mercury	NA	NA	ND(0.00020)	NA	NA	NA	ND(0.00020)	ND(0.00020)
Nickel	NA	NA	0.0068	NA	ND(0.0050)	NA	0.092	0.066
Selenium	NA	NA	0.0024 J	NA	NA	NA	ND(0.0014)	ND(0.0016)
Silver	NA	NA	0.00052 J	NA	NA	NA	ND(0.00040 J)	ND(0.00040)
Thallium	NA	NA	ND(0.00020)	NA	ND(0.0020)	NA	ND(0.00020)	ND(0.00020)
Vanadium	NA	NA	0.00069 J	NA	0.0090 (RDW)	NA	ND(0.00080)	ND(0.00080)
Zinc	NA	NA	0.094 J	NA	NA	NA	0.015 J	ND(0.023)
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-02 10/13/04	RFI-36-03 06/18/02	RFI-36-03 03/25/03	RFI-36-03 06/09/05	RFI-36-04 06/18/02	RFI-36-04 04/02/03	RFI-36-05 12/16/02	RFI-36-05 04/02/03
<b>VOC</b>								
1,1,1-Trichloroethane	0.00040 J	0.019	0.054	0.0020	NA	NA	0.19 D	0.12 D
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	0.0014	0.0011
1,1-Dichloroethane	0.0040 J	0.086	0.16 D	ND(0.0010)	NA	NA	0.33 D	0.24 D
1,1-Dichloroethene	ND(0.0010)	0.00076 J	0.0030	ND(0.0010)	NA	NA	0.0056	0.0025
1,2,4-Trichlorobenzene	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0020)	NA	NA	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010 J)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	0.0019	0.0011	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.030)	NA	NA	ND(0.025)	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	NA	NA	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.0010)	NA	NA	ND(0.050)	ND(0.050)
Acetone	ND(0.030)	0.0015 J	ND(0.025)	ND(0.030)	NA	NA	ND(0.025)	ND(0.025)
Benzene	ND(0.0010)	ND(0.0010)	0.0028	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010 J)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0020 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0020)	NA	NA	ND(0.0010)	ND(0.0010)
Carbon disulfide	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010 J)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010 J)	0.016	0.019	ND(0.0010)	NA	NA	0.0082	0.017
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.012	NA	NA	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	0.00077 J	0.0012	ND(0.0010)	NA	NA	0.0019	0.0010
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0010)	NA	NA	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010 J)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	NA	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0010)	NA	NA	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0010)	NA	NA	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.010)	ND(0.0050)	ND(0.0050)	ND(0.010)	NA	NA	ND(0.0050)	ND(0.0050)
Methyl cyclohexane	ND(0.020)	ND(0.0010)	ND(0.0010)	ND(0.020)	NA	NA	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	0.00065 J	ND(0.0050)	ND(0.0050)	NA	NA	0.0047 J	ND(0.0050)
Methylene chloride	0.00040 J	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-02 10/13/04	RFI-36-03 06/18/02	RFI-36-03 03/25/03	RFI-36-03 06/09/05	RFI-36-04 06/18/02	RFI-36-04 04/02/03	RFI-36-05 12/16/02	RFI-36-05 04/02/03
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	0.0023	0.0014
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.030)	NA	NA	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010)	0.0019	ND(0.0010)	ND(0.0010)	NA	NA	0.00069 J	ND(0.0010)
Xylenes (total)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0010)	NA	NA	ND(0.0020)	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-02 10/13/04	RFI-36-03 06/18/02	RFI-36-03 03/25/03	RFI-36-03 06/09/05	RFI-36-04 06/18/02	RFI-36-04 04/02/03	RFI-36-05 12/16/02	RFI-36-05 04/02/03
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-02 10/13/04	RFI-36-03 06/18/02	RFI-36-03 03/25/03	RFI-36-03 06/09/05	RFI-36-04 06/18/02	RFI-36-04 04/02/03	RFI-36-05 12/16/02	RFI-36-05 04/02/03
<b>Inorganic</b>								
Antimony	NA	ND(0.0012)	0.0014	NA	ND(0.0012) [0.0011 J]	ND(0.0012)	ND(0.0012)	NA
Arsenic	0.013	ND(0.0019)	0.0028	NA	0.080 (IDW,RDW) [0.080 J (IDW,RDW)]	0.087 (IDW,RDW)	0.0045	NA
Barium	NA	0.20	0.15 J	NA	0.46 [0.53 J]	0.41	0.15 J	NA
Beryllium	NA	ND(0.00040 J)	ND(0.00040)	NA	ND(0.00040 J) [0.00013 J]	ND(0.00040)	ND(0.00040 J)	NA
Cadmium	NA	0.00049	0.021 (IDW,RDW)	NA	ND(0.00020) [0.00012 J]	0.00019 J	0.00014 J	NA
Chromium Total	NA	0.0012	0.0029	NA	0.00071 [0.00067]	0.0033	0.0022	NA
Cobalt	NA	0.0053	0.0092	NA	0.0029 [0.0031]	0.0030	0.011 J	NA
Copper	NA	0.0045 J	0.017	NA	0.0057 J [0.0034]	0.0097	0.0050 J	NA
Cyanide (total)	NA	0.0061	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	NA
Lead	NA	0.00019 J	0.0052 (IDW,RDW)	NA	0.0010 [0.00091]	0.0018	0.00096 J	NA
Manganese	NA	0.43	0.25	NA	0.44 [0.56 J]	0.60 J	1.4 J (RDW)	NA
Mercury	NA	0.00039	ND(0.00020)	NA	ND(0.00020) [ND(0.00020)]	ND(0.00020)	ND(0.00020)	NA
Nickel	0.020	0.020	0.019	NA	0.061 [0.061]	0.040	0.073 J	NA
Selenium	NA	0.0027 J	ND(0.0016)	NA	ND(0.0014) [0.0013 J]	ND(0.0016)	ND(0.0016)	NA
Silver	NA	ND(0.00040)	ND(0.00040)	NA	ND(0.00040) [0.00054]	ND(0.00040)	ND(0.00040 J)	NA
Thallium	NA	0.00042	0.00023	NA	ND(0.00021) [0.00012 J]	0.00022	0.00080 J	NA
Vanadium	NA	ND(0.00080)	0.0023	NA	0.00021 J [ND(0.00080)]	0.00065 J	0.00022 J	NA
Zinc	NA	0.012 J	0.095 J	NA	0.034 J [0.017]	0.026	0.014 J	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-05 06/10/05	RFI-36-08 06/14/02	RFI-36-08 03/25/03	RFI-36-08 10/08/04	RFI-36-09 06/14/02	RFI-36-09 03/25/03	RFI-36-10 03/27/03
<b>VOC</b>							
1,1,1-Trichloroethane	0.21 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
1,1,2,2-Tetrachloroethane	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
1,1,2-Trichloroethane	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
1,1-Dichloroethane	0.40	0.0019	ND(0.0010)	ND(0.010)	NA	NA	NA
1,1-Dichloroethene	0.0090 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
1,2,4-Trichlorobenzene	ND(0.010)	ND(0.0050)	ND(0.0050)	ND(0.020)	NA	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010 J)	NA	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
1,2-Dichlorobenzene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
1,2-Dichloroethane	ND(0.0050)	ND(0.0010)	0.0011	ND(0.010)	NA	NA	NA
1,2-Dichloropropane	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
1,3-Dichlorobenzene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
1,4-Dichlorobenzene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	ND(0.10)	ND(0.025)	ND(0.025)	ND(0.30)	NA	NA	NA
2-Hexanone	ND(0.30)	ND(0.050)	ND(0.050)	ND(0.50)	NA	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0050)	ND(0.050)	ND(0.050)	ND(0.010)	NA	NA	NA
Acetone	ND(0.10)	ND(0.025)	ND(0.025)	ND(0.30)	NA	NA	NA
Benzene	ND(0.0050)	1.3 D (IDW,RDW)	0.13 D (IDW,RDW)	0.78 (IDW,RDW)	NA	NA	NA
Bromodichloromethane	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
Bromoform	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010 J)	NA	NA	NA
Bromomethane (Methyl Bromide)	ND(0.010)	ND(0.0010)	ND(0.0010 J)	ND(0.020 J)	NA	NA	NA
Carbon disulfide	ND(0.030)	ND(0.0050)	ND(0.0050)	ND(0.050 J)	NA	NA	NA
Carbon tetrachloride	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
Chlorobenzene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
Chloroethane	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010 J)	NA	NA	NA
Chloroform (Trichloromethane)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
Chloromethane (Methyl Chloride)	ND(0.0050)	ND(0.0010)	ND(0.0010 J)	ND(0.010)	NA	NA	NA
cis-1,2-Dichloroethene	0.0030 J	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
cis-1,3-Dichloropropene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.020 J	NA	NA	NA
Dibromochloromethane	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010 J)	NA	NA	NA
Ethylbenzene	ND(0.0050)	1.2 D (IDW,RDW)	0.025	0.77 (IDW,RDW)	NA	NA	NA
Isopropylbenzene	ND(0.0050)	0.037 J	ND(0.0050)	0.020	NA	NA	NA
m&p-Xylene	ND(0.0050)	2.1 D	0.24 D	1.6 J	NA	NA	NA
Methyl acetate	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.10)	NA	NA	NA
Methyl cyclohexane	ND(0.10)	0.064	0.028	0.090 J	NA	NA	NA
Methyl Tert Butyl Ether	0.0030 J	ND(0.0050)	ND(0.0050)	ND(0.050)	NA	NA	NA
Methylene chloride	ND(0.030)	ND(0.0050 J)	ND(0.0050)	0.010 J (IDW,RDW)	NA	NA	NA
o-Xylene	ND(0.0050)	1.2 D	0.10 D	0.91	NA	NA	NA
Styrene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
Tetrachloroethene	ND(0.0050)	ND(0.0010 J)	ND(0.0010)	ND(0.010)	NA	NA	NA
Toluene	ND(0.0050)	0.87 D	0.098 D	1.5 (IDW,RDW)	NA	NA	NA
trans-1,2-Dichloroethene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
trans-1,3-Dichloropropene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-05 06/10/05	RFI-36-08 06/14/02	RFI-36-08 03/25/03	RFI-36-08 10/08/04	RFI-36-09 06/14/02	RFI-36-09 03/25/03	RFI-36-10 03/27/03
<b>VOC (Cont'd.)</b>							
Trichloroethene	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
Trichlorofluoromethane (CFC-11)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
Trifluorotrchloroethane (Freon 113)	ND(0.20)	ND(0.0010)	ND(0.0010)	ND(0.30)	NA	NA	NA
Vinyl chloride	0.019 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.010)	NA	NA	NA
Xylenes (total)	ND(0.0050)	3.3	0.34	2.5 J	NA	NA	NA
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-05 06/10/05	RFI-36-08 06/14/02	RFI-36-08 03/25/03	RFI-36-08 10/08/04	RFI-36-09 06/14/02	RFI-36-09 03/25/03	RFI-36-10 03/27/03
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-05 06/10/05	RFI-36-08 06/14/02	RFI-36-08 03/25/03	RFI-36-08 10/08/04	RFI-36-09 06/14/02	RFI-36-09 03/25/03	RFI-36-10 03/27/03
<b>Inorganic</b>							
Antimony	NA	NA	ND(0.0012)	NA	ND(0.0012)	ND(0.0012)	0.00044 J [ND(0.0012)]
Arsenic	NA	NA	0.013	NA	0.00088 J	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Barium	NA	NA	0.093 J	NA	0.26	0.23 J	0.14 [0.14]
Beryllium	NA	NA	ND(0.00040)	NA	ND(0.00040 J)	ND(0.00040)	ND(0.00040) [ND(0.00040)]
Cadmium	NA	NA	ND(0.00020)	NA	0.00031	0.00038	0.00024 [0.00023]
Chromium Total	NA	NA	0.00051 J	NA	0.0035	0.0060	0.0032 [0.0031]
Cobalt	NA	NA	0.0010	NA	0.00048	0.00070	0.0023 [0.0023]
Copper	NA	NA	0.0029	NA	ND(0.0029)	0.0026	0.0069 [0.0055]
Cyanide (total)	NA	NA	ND(0.0050)	NA	NA	0.0093	0.010 [0.011]
Lead	NA	NA	0.00040 J	NA	0.00057	0.00024 J	0.00052 [0.00042]
Manganese	NA	NA	0.57	NA	0.0097 J	0.012	0.43 [0.44]
Mercury	NA	NA	ND(0.00020)	NA	ND(0.00020)	ND(0.00020)	ND(0.00020) [ND(0.00020)]
Nickel	NA	NA	0.0048	NA	0.0047	0.011	0.013 [0.012]
Selenium	NA	NA	ND(0.0016)	NA	ND(0.0014)	ND(0.0016)	0.0022 J [0.0017 J]
Silver	NA	NA	ND(0.00040)	NA	ND(0.00040)	0.000085 J	0.00012 J [ND(0.00040)]
Thallium	NA	NA	ND(0.00020)	NA	ND(0.00020)	0.00013 J	0.000075 J [0.000062 J]
Vanadium	NA	NA	ND(0.00080)	NA	ND(0.00080)	ND(0.00080)	ND(0.00080) [ND(0.00080)]
Zinc	NA	NA	ND(0.019)	NA	0.016	ND(0.013)	0.020 [0.015]
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	NA	NA	NA	NA	ND(0.0012)	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	0.0026 J	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	0.26	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	ND(0.00040 J)	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	0.00049	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	0.0042	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	0.00058	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	0.0050	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	0.00076	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	0.012	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	ND(0.00020)	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	0.0046	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	0.0061 J	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	0.00069 J	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	ND(0.00020)	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	ND(0.00080)	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	0.021	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-13 06/24/02	RFI-36-14 06/17/02	RFI-36-14 03/25/03	RFI-36-14 10/11/04	RFI-36-17 10/07/04	RFI-36-17 02/28/05	RFI-36-17 06/10/05
<b>VOC</b>							
1,1,1-Trichloroethane	0.011 [0.012]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,1,2,2-Tetrachloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,1,2-Trichloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,1-Dichloroethane	0.0041 [0.0044]	ND(0.0010)	NA	ND(0.0010)	0.022 J	0.79	0.29
1,1-Dichloroethene	0.0015 [0.0015]	ND(0.0010)	NA	ND(0.0010)	0.0010 J	0.010 (IDW,RDW)	0.0040 J
1,2,4-Trichlorobenzene	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,2-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,2-Dichloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	0.0020	ND(0.0050)
1,2-Dichloropropane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,3-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,4-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025) [ND(0.025)]	ND(0.025)	NA	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.10)
2-Hexanone	ND(0.050) [ND(0.050)]	ND(0.050)	NA	ND(0.050)	ND(0.050)	ND(0.050 J)	ND(0.30)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050) [ND(0.050)]	ND(0.050)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Acetone	ND(0.025) [0.0038 J]	ND(0.025)	NA	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.10)
Benzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Bromodichloromethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Bromoform	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010)	ND(0.0050)
Bromomethane (Methyl Bromide)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0020 J)	ND(0.0020 J)	R	ND(0.010)
Carbon disulfide	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	ND(0.0050 J)	ND(0.0050 J)	ND(0.0050)	ND(0.030)
Carbon tetrachloride	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Chlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Chloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010 J)	0.043 J	0.060	0.040
Chloroform (Trichloromethane)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	0.00020 J	ND(0.0050)
Chloromethane (Methyl Chloride)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
cis-1,2-Dichloroethene	0.061 [0.065]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	0.00040 J	ND(0.0050)
cis-1,3-Dichloropropene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Cyclohexane	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Dibromochloromethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Dichlorodifluoromethane (CFC-12)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0050)
Ethylbenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Isopropylbenzene	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
m&p-Xylene	ND(0.0020) [ND(0.0020)]	ND(0.0020)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Methyl acetate	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)
Methyl cyclohexane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)
Methyl Tert Butyl Ether	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	ND(0.0050)	0.0020 J	0.0020 J	ND(0.030)
Methylene chloride	ND(0.0050) [ND(0.0050)]	ND(0.0050 J)	NA	ND(0.0050)	0.0010 J	0.0010 J	ND(0.030)
o-Xylene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Styrene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Tetrachloroethene	0.0014 J [0.0014 J]	ND(0.0010 J)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Toluene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
trans-1,2-Dichloroethene	0.013 [0.014]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
trans-1,3-Dichloropropene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-13 06/24/02	RFI-36-14 06/17/02	RFI-36-14 03/25/03	RFI-36-14 10/11/04	RFI-36-17 10/07/04	RFI-36-17 02/28/05	RFI-36-17 06/10/05
<b>VOC (Cont'd.)</b>							
Trichloroethene	0.032 (IDW,RDW) [0.031 (IDW,RDW)]	ND(0.0010)	NA	ND(0.0010)	0.00030 J	0.0020	ND(0.0050)
Trichlorofluoromethane (CFC-11)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Trifluorotrchloroethane (Freon 113)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.20)
Vinyl chloride	0.014 (IDW,RDW) [0.014 (IDW,RDW)]	ND(0.0010)	NA	ND(0.0010)	0.082 (IDW,RDW)	0.20 (IDW,RDW)	0.11 (IDW,RDW)
Xylenes (total)	ND(0.0020) [ND(0.0020)]	ND(0.0020)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0050)
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-13 06/24/02	RFI-36-14 06/17/02	RFI-36-14 03/25/03	RFI-36-14 10/11/04	RFI-36-17 10/07/04	RFI-36-17 02/28/05	RFI-36-17 06/10/05
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-13 06/24/02	RFI-36-14 06/17/02	RFI-36-14 03/25/03	RFI-36-14 10/11/04	RFI-36-17 10/07/04	RFI-36-17 02/28/05	RFI-36-17 06/10/05
<b>Inorganic</b>							
Antimony	ND(0.0012) [0.00034 J]	ND(0.0012)	ND(0.0012) [ND(0.0012)]	NA	NA	NA	NA
Arsenic	ND(0.0010) [ND(0.0010)]	0.00048 J	0.0038 [0.0035]	NA	NA	NA	NA
Barium	0.54 [0.46]	0.11	0.026 [0.026]	NA	NA	NA	NA
Beryllium	ND(0.00040) [ND(0.00040)]	ND(0.00040 J)	ND(0.00040) [ND(0.00040)]	ND(0.0010)	NA	NA	NA
Cadmium	0.00049 [0.00048]	0.00010 J	ND(0.00020) [ND(0.00020)]	NA	NA	NA	NA
Chromium Total	0.00046 J [0.00040 J]	0.00048 J	0.00077 [0.00085]	NA	NA	NA	NA
Cobalt	0.0069 [0.0055]	0.00056	0.0019 [0.0018]	NA	NA	NA	NA
Copper	0.014 [0.0081]	ND(0.0028)	0.0023 [0.0024]	NA	NA	NA	NA
Cyanide (total)	ND(0.0050) [ND(0.0050)]	0.029	0.0030 J [0.0033 J]	NA	NA	NA	NA
Lead	0.000093 J [0.00012 J]	0.00025 J	ND(0.00040) [0.00034 J]	NA	NA	NA	NA
Manganese	2.2 J (RDW) [1.9 (RDW)]	0.28 J	0.72 [0.72]	0.68	NA	NA	NA
Mercury	ND(0.00020) [ND(0.00020)]	ND(0.00020)	ND(0.00020) [ND(0.00020)]	NA	NA	NA	NA
Nickel	0.015 [0.013]	0.0033	0.011 [0.011]	0.012	NA	NA	NA
Selenium	ND(0.0014) [0.00038 J]	0.0032	ND(0.0016) [ND(0.0016)]	NA	NA	NA	NA
Silver	ND(0.00046 J) [ND(0.00057 J)]	ND(0.00040)	0.00037 J [0.00012 J]	NA	NA	NA	NA
Thallium	ND(0.00020) [ND(0.00020)]	0.000088 J	0.000052 J [ND(0.00020)]	NA	NA	NA	NA
Vanadium	ND(0.00080) [ND(0.00080)]	ND(0.00080)	0.00012 J [ND(0.00080)]	NA	NA	NA	NA
Zinc	0.013 [0.012]	0.032	0.0083 [0.0089]	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	ND(0.0012) [ND(0.0012)]	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	ND(0.0010) [ND(0.0010)]	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	0.42 [0.42]	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	ND(0.00040) [ND(0.00040)]	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	0.00041 [0.00042]	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	ND(0.00060) [0.00065]	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	0.0050 [0.0053]	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	0.0054 [0.0059]	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	ND(0.00040) [ND(0.00040)]	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	1.7 J (RDW) [1.8 J (RDW)]	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	ND(0.00020) [ND(0.00020)]	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	0.011 [0.012]	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	0.0017 [0.0015]	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	ND(0.00071 J) [0.00088 J]	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	ND(0.00020) [ND(0.00020)]	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	ND(0.00080) [ND(0.00080)]	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	0.022 [0.014]	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-18 10/07/04	RFI-36-18 06/08/05	RFI-36-19 10/06/04	RFI-36-20 06/22/02	RFI-36-20 10/06/04	RFI-36-23 06/19/02	RFI-36-24 06/19/02	RFI-36-25R 06/19/02
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
1,1-Dichloroethane	0.0030 J	0.011	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	0.0064	NA
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	0.0016	NA
1,2,4-Trichlorobenzene	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)	ND(0.0050)	ND(0.0050)	NA
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
2-Butanone (Methyl Ethyl Ketone)	ND(0.030)	ND(0.030)	ND(0.030)	NA	ND(0.030)	ND(0.025)	ND(0.025)	NA
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050 J)	ND(0.050)	ND(0.050)	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.050)	ND(0.050 J)	NA
Acetone	ND(0.030)	ND(0.030)	ND(0.030)	NA	ND(0.030)	ND(0.025)	0.0012 J	NA
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Bromoform	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	NA
Bromomethane (Methyl Bromide)	ND(0.0020 J)	ND(0.0020)	ND(0.0020 J)	NA	ND(0.0020 J)	ND(0.0010)	ND(0.0010)	NA
Carbon disulfide	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	0.00085 J	0.00097 J	NA
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Chloroethane	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010 J)	0.021	ND(0.0010)	NA
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0050)	ND(0.0050)	NA
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Dichlorodifluoromethane (CFC-12)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Isopropylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0050)	ND(0.0050)	NA
m&p-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0020)	ND(0.0020)	NA
Methyl acetate	ND(0.010)	ND(0.010)	ND(0.010 J)	NA	ND(0.010)	ND(0.0050)	ND(0.0050)	NA
Methyl cyclohexane	ND(0.020)	ND(0.020)	ND(0.020)	NA	ND(0.020)	ND(0.0010)	ND(0.0010)	NA
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)	NA
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-18 10/07/04	RFI-36-18 06/08/05	RFI-36-19 10/06/04	RFI-36-20 06/22/02	RFI-36-20 10/06/04	RFI-36-23 06/19/02	RFI-36-24 06/19/02	RFI-36-25R 06/19/02
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	0.00080 J	NA	0.0020	ND(0.0010)	ND(0.0010)	NA
Trifluorotrchloroethane (Freon 113)	ND(0.030)	ND(0.030)	ND(0.030)	NA	ND(0.030)	ND(0.0010)	ND(0.0010)	NA
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA
Xylenes (total)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0020)	ND(0.0020)	NA
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-18 10/07/04	RFI-36-18 06/08/05	RFI-36-19 10/06/04	RFI-36-20 06/22/02	RFI-36-20 10/06/04	RFI-36-23 06/19/02	RFI-36-24 06/19/02	RFI-36-25R 06/19/02
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-18 10/07/04	RFI-36-18 06/08/05	RFI-36-19 10/06/04	RFI-36-20 06/22/02	RFI-36-20 10/06/04	RFI-36-23 06/19/02	RFI-36-24 06/19/02	RFI-36-25R 06/19/02
<b>Inorganic</b>								
Antimony	NA	NA	NA	ND(0.0012)	NA	ND(0.0012)	NA	ND(0.0012)
Arsenic	NA	NA	NA	ND(0.0010)	NA	0.093 (IDW,RDW)	NA	0.0036
Barium	NA	NA	NA	0.023	NA	0.075	NA	0.39
Beryllium	NA	NA	NA	ND(0.00040)	NA	ND(0.00040 J)	NA	ND(0.00040 J)
Cadmium	NA	NA	NA	ND(0.00020)	NA	ND(0.00020)	NA	ND(0.00020)
Chromium Total	NA	NA	NA	0.00056 J	NA	0.0010	NA	0.0010
Cobalt	NA	NA	NA	0.00014 J	NA	0.00090	NA	0.00076
Copper	NA	NA	NA	0.0046	NA	0.0044 J	NA	0.010 J
Cyanide (total)	NA	NA	NA	ND(0.0050)	NA	ND(0.0050)	NA	ND(0.0050)
Lead	NA	NA	NA	0.000089 J	NA	0.00017 J	NA	0.00044
Manganese	NA	NA	NA	0.00054 J	NA	0.098	NA	0.57
Mercury	NA	NA	NA	ND(0.00020)	NA	ND(0.00020)	NA	ND(0.00020)
Nickel	NA	NA	NA	0.0028	NA	0.010	NA	0.0074
Selenium	NA	NA	NA	ND(0.0014)	NA	ND(0.0014)	NA	ND(0.0014)
Silver	NA	NA	NA	ND(0.00040 J)	NA	ND(0.00040)	NA	ND(0.00040)
Thallium	NA	NA	NA	ND(0.00020)	NA	ND(0.00020)	NA	0.000057 J
Vanadium	NA	NA	NA	ND(0.00080)	NA	0.0038	NA	0.00050 J
Zinc	NA	NA	NA	0.0076	NA	0.0085 J	NA	0.030 J
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	0.0022	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	ND(0.0010)	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	0.019	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	ND(0.00040)	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	0.0013	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	0.0039	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	ND(0.0050)	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	ND(0.00040)	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	0.00048 J	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	0.0023	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	ND(0.0014)	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	ND(0.00040 J)	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	ND(0.00080)	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	ND(0.0060)	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-29R 06/20/02	RFI-36-29R 04/03/03	RFI-36-32 12/19/02	RFI-36-32 04/02/03	RFI-36-35 06/18/02	RFI-36-37 06/22/02	RFI-36-37 06/10/05
<b>VOC</b>							
1,1,1-Trichloroethane	ND(0.0010 J) [ND(0.0010)]	ND(0.0010)	NA	NA	0.27 D (IDW,RDW)	ND(0.0010)	0.0060 J
1,1,2,2-Tetrachloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	0.018 J [0.028 J]	0.081	NA	NA	0.78 D	0.053	0.0010
1,1-Dichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	0.095 (IDW,RDW)	0.0015	0.0020
1,2,4-Trichlorobenzene	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0020)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010 J) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	0.0017 [0.0027]	0.0069 (IDW,RDW)	NA	NA	0.0093 (IDW,RDW)	0.0017	ND(0.0010)
1,2-Dichloropropane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	0.0027 J [ND(0.025)]	ND(0.025)	NA	NA	ND(0.025)	0.0026 J	ND(0.030)
2-Hexanone	ND(0.050) [ND(0.050)]	ND(0.050)	NA	NA	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050) [ND(0.050)]	ND(0.050)	NA	NA	ND(0.050)	ND(0.050)	ND(0.0010)
Acetone	ND(0.025) [ND(0.025)]	ND(0.025)	NA	NA	0.0034 J	ND(0.025)	ND(0.030)
Benzene	0.050 J (IDW,RDW) [0.085 J (IDW,RDW)]	0.36 D (IDW,RDW)	NA	NA	0.0023	ND(0.0010)	0.0090 (IDW,RDW)
Bromodichloromethane	ND(0.0010 J) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010 J) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0020)
Carbon disulfide	ND(0.0050) [0.0025 J]	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010 J) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	0.026 J [0.040 J]	0.093	NA	NA	1.1 D (RDW)	0.10	0.0050 J
Chloroform (Trichloromethane)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	0.0043 J [0.0068 J]	0.018	NA	NA	0.017	0.0010	0.00040 J
cis-1,3-Dichloropropene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0010)
Dibromochloromethane	ND(0.0010 J) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0010)
m&p-Xylene	ND(0.0020) [ND(0.0020)]	ND(0.0020)	NA	NA	ND(0.0020)	ND(0.0020)	ND(0.0010)
Methyl acetate	ND(0.0050 J) [ND(0.0050)]	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.010)
Methyl cyclohexane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.020)
Methyl Tert Butyl Ether	0.0057 [0.0077]	0.012	NA	NA	0.0057	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050) [ND(0.0050)]	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Toluene	0.00057 J [0.0010]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	0.0015	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-29R 06/20/02	RFI-36-29R 04/03/03	RFI-36-32 12/19/02	RFI-36-32 04/02/03	RFI-36-35 06/18/02	RFI-36-37 06/22/02	RFI-36-37 06/10/05
<b>VOC (Cont'd.)</b>							
Trichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrichloroethane (Freon 113)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.030)
Vinyl chloride	0.029 J (IDW,RDW) [0.050 J (IDW,RDW)]	0.078 D (IDW,RDW)	NA	NA	0.093 (IDW,RDW)	0.00056 J	ND(0.0010)
Xylenes (total)	ND(0.0020) [ND(0.0020)]	ND(0.0020)	NA	NA	ND(0.0020)	ND(0.0020)	ND(0.0010)
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-29R 06/20/02	RFI-36-29R 04/03/03	RFI-36-32 12/19/02	RFI-36-32 04/02/03	RFI-36-35 06/18/02	RFI-36-37 06/22/02	RFI-36-37 06/10/05
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-29R 06/20/02	RFI-36-29R 04/03/03	RFI-36-32 12/19/02	RFI-36-32 04/02/03	RFI-36-35 06/18/02	RFI-36-37 06/22/02	RFI-36-37 06/10/05
<b>Inorganic</b>							
Antimony	0.0010 J [ND(0.0012)]	0.00039 J	0.0014 J	ND(0.0012)	ND(0.0012)	NA	NA
Arsenic	0.085 (IDW,RDW) [0.10 (IDW,RDW)]	0.14 (IDW,RDW)	0.076 J (IDW,RDW)	0.037	0.015	NA	NA
Barium	0.15 [0.19]	0.18	0.32 J	0.23	0.42	NA	NA
Beryllium	ND(0.00040) [ND(0.00040)]	ND(0.00040)	0.00045 J	ND(0.00040)	ND(0.00040 J)	NA	NA
Cadmium	0.00025 [0.00027]	ND(0.00020)	0.0032 J	0.00016 J	0.00027	NA	NA
Chromium Total	0.0017 [0.0016]	0.0010	0.025 J	0.0019	0.0030	NA	NA
Cobalt	0.0014 [0.0018]	0.0021	0.010 J	0.0037	0.0041	NA	NA
Copper	0.0089 [0.0065]	0.0051	0.070 J	0.0034	0.0068 J	NA	NA
Cyanide (total)	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.0023 J	NA	NA
Lead	0.0019 [0.0021]	0.0013	0.022 J (IDW,RDW)	0.00020 J	0.0022	NA	NA
Manganese	0.12 [0.15]	0.10 J	2.2 J (RDW)	1.2 J (RDW)	1.1 (RDW)	NA	NA
Mercury	ND(0.00020) [0.00019 J]	ND(0.00020)	ND(0.00020)	ND(0.00020)	ND(0.00020)	NA	NA
Nickel	0.013 [0.017]	0.013	0.034 J	0.021	0.038	NA	NA
Selenium	0.00069 J [0.00043 J]	ND(0.0016)	ND(0.0016)	ND(0.0016)	ND(0.0014)	NA	NA
Silver	0.00027 J [ND(0.00040 J)]	ND(0.00040)	0.00015 J	ND(0.00040)	ND(0.00040)	NA	NA
Thallium	0.00019 J [0.00012 J]	0.00029	0.0013 J	0.00016 J	ND(0.00020)	NA	NA
Vanadium	0.0010 [0.0012]	0.0013	0.025 J (RDW)	ND(0.00080)	0.0025	NA	NA
Zinc	0.089 J [0.089 J]	0.015	0.13 J	0.016	0.024 J	NA	NA
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	NA	ND(0.0012)	NA	NA	ND(0.0012)	NA	NA
Arsenic (Dissolved)	NA	0.050	NA	NA	0.012	NA	NA
Barium (Dissolved)	NA	0.16	NA	NA	0.34	NA	NA
Beryllium (Dissolved)	NA	ND(0.00040)	NA	NA	ND(0.00040 J)	NA	NA
Cadmium (Dissolved)	NA	ND(0.00020)	NA	NA	0.00031	NA	NA
Chromium Total (Dissolved)	NA	0.0065	NA	NA	0.0054	NA	NA
Cobalt (Dissolved)	NA	0.0015	NA	NA	0.0032	NA	NA
Copper (Dissolved)	NA	0.0014	NA	NA	0.0072	NA	NA
Cyanide (dissolved)	NA	ND(0.0050)	NA	NA	0.0023 J	NA	NA
Lead (Dissolved)	NA	0.00018 J	NA	NA	0.00091	NA	NA
Manganese (Dissolved)	NA	0.086	NA	NA	0.89 J (RDW)	NA	NA
Mercury (Dissolved)	NA	ND(0.00020)	NA	NA	ND(0.00020)	NA	NA
Nickel (Dissolved)	NA	0.0097	NA	NA	0.031	NA	NA
Selenium (Dissolved)	NA	ND(0.0016)	NA	NA	0.0022	NA	NA
Silver (Dissolved)	NA	0.00015 J	NA	NA	0.00044	NA	NA
Thallium (Dissolved)	NA	ND(0.00020)	NA	NA	ND(0.00020)	NA	NA
Vanadium (Dissolved)	NA	0.0017	NA	NA	0.0017	NA	NA
Zinc (Dissolved)	NA	0.011	NA	NA	0.024	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-44 06/20/02	RFI-36-44 03/25/03	RFI-36-44 10/07/04	RFI-36-44 06/08/05	RFI-36-45 06/20/02	RFI-36-45 03/25/03	RFI-36-45 06/10/05
<b>VOC</b>							
1,1,1-Trichloroethane	0.033	0.042	0.048	0.028	0.19 D	0.22 D (IDW,RDW) [0.20 D]	0.013 [0.013]
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
1,1-Dichloroethane	0.025	0.037	0.033	0.029	0.44 D	1.1 D (RDW) [1.1 D (RDW)]	0.12 [0.14]
1,1-Dichloroethene	0.0017	0.0024	0.00080 J	0.0010	0.021 (IDW,RDW)	0.073 (IDW,RDW) [0.074 (IDW,RDW)]	0.013 (IDW,RDW) [0.013 (IDW,RDW)]
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0020)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0020) [ND(0.0020)]
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0019	0.0053 (IDW,RDW) [0.0056 (IDW,RDW)]	ND(0.0010) [ND(0.0010)]
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.030)	ND(0.025)	ND(0.025) [ND(0.025)]	ND(0.030) [ND(0.030)]
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050) [ND(0.050)]	ND(0.050) [ND(0.050)]
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.0010)	ND(0.050)	ND(0.050) [ND(0.050)]	ND(0.0010) [ND(0.0010)]
Acetone	ND(0.025)	ND(0.025)	ND(0.030 J)	ND(0.030)	ND(0.025)	ND(0.025) [ND(0.025)]	ND(0.030) [ND(0.030)]
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010 J)	ND(0.0020 J)	ND(0.0020)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0020) [ND(0.0020)]
Carbon disulfide	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050 J) [ND(0.0050 J)]	ND(0.0050) [ND(0.0050)]
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Chloroethane	0.0064	0.013	ND(0.0010 J)	0.0030	0.11 D	0.11 D [0.10 D]	0.0050 J [0.0040 J]
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
cis-1,2-Dichloroethene	0.00073 J	0.0011	ND(0.0010)	ND(0.0010)	0.0024	0.011 [0.011]	0.0010 [0.0010]
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0010 J)	ND(0.0010)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0010) [ND(0.0010)]
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0010) [ND(0.0010)]
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0020) [ND(0.0020)]	ND(0.0010) [ND(0.0010)]
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.010)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.010) [ND(0.010)]
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.020)	ND(0.0010)	ND(0.0010 J) [ND(0.0010 J)]	ND(0.020) [ND(0.020)]
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.0036 J	0.0052 [0.0053]	ND(0.0050) [ND(0.0050)]
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050) [ND(0.0050)]
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-44 06/20/02	RFI-36-44 03/25/03	RFI-36-44 10/07/04	RFI-36-44 06/08/05	RFI-36-45 06/20/02	RFI-36-45 03/25/03	RFI-36-45 06/10/05
<b>VOC (Cont'd.)</b>							
Trichloroethene	0.0031	0.0039	0.0020	0.0010	0.00057 J	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010) [ND(0.0010)]
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.030)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.030) [ND(0.030)]
Vinyl chloride	0.0016	0.0021 (IDW,RDW)	ND(0.0010)	ND(0.0010)	0.065 (IDW,RDW)	0.11 D (IDW,RDW) [0.11 D (IDW,RDW)]	ND(0.0010) [ND(0.0010)]
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0020) [ND(0.0020)]	ND(0.0010) [ND(0.0010)]
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-44 06/20/02	RFI-36-44 03/25/03	RFI-36-44 10/07/04	RFI-36-44 06/08/05	RFI-36-45 06/20/02	RFI-36-45 03/25/03	RFI-36-45 06/10/05
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-44 06/20/02	RFI-36-44 03/25/03	RFI-36-44 10/07/04	RFI-36-44 06/08/05	RFI-36-45 06/20/02	RFI-36-45 03/25/03	RFI-36-45 06/10/05
<b>Inorganic</b>							
Antimony	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.0011 J	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA
Chromium Total	NA	NA	NA	NA	0.00082	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Cyanide (total)	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	0.51	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Silver	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	ND(0.00080)	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-46 06/17/02	RFI-36-46 03/25/03	RFI-36-46 10/11/04	RFI-36-46 06/09/05	RFI-36-47 12/13/02	RFI-36-47 03/25/03	RFI-36-47 06/10/05	RFI-36-48 12/13/02
<b>VOC</b>								
1,1,1-Trichloroethane	0.059	0.072	0.044	0.018	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	0.11 D	0.049	0.016 J	0.021	0.0085	0.0040	0.0060	ND(0.0010)
1,1-Dichloroethene	0.021 (IDW,RDW)	0.013 (IDW,RDW)	0.0050 J	0.0040	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	0.0011	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00077 J
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.050)
Acetone	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.030)	0.0013 J	ND(0.025)	ND(0.030)	0.0017 J
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	ND(0.0020)	ND(0.0010 J)	ND(0.0010)	ND(0.0020)	ND(0.0010 J)
Carbon disulfide	ND(0.0050)	ND(0.0050 J)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	0.0018	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	0.00050 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
cis-1,2-Dichloroethene	0.00089 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0030)	ND(0.0050)	ND(0.0010)	ND(0.0030)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.010)	ND(0.0030)	ND(0.0050)	ND(0.010)	ND(0.0030)
Methyl cyclohexane	ND(0.0010)	ND(0.0010 J)	ND(0.020)	ND(0.020)	ND(0.0030)	ND(0.0010 J)	ND(0.020)	ND(0.0030)
Methyl Tert Butyl Ether	0.00080 J	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00086 J
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-46 06/17/02	RFI-36-46 03/25/03	RFI-36-46 10/11/04	RFI-36-46 06/09/05	RFI-36-47 12/13/02	RFI-36-47 03/25/03	RFI-36-47 06/10/05	RFI-36-48 12/13/02
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.030)	ND(0.0030)	ND(0.0010)	ND(0.030)	ND(0.0030)
Vinyl chloride	0.00059 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-46 06/17/02	RFI-36-46 03/25/03	RFI-36-46 10/11/04	RFI-36-46 06/09/05	RFI-36-47 12/13/02	RFI-36-47 03/25/03	RFI-36-47 06/10/05	RFI-36-48 12/13/02
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-46 06/17/02	RFI-36-46 03/25/03	RFI-36-46 10/11/04	RFI-36-46 06/09/05	RFI-36-47 12/13/02	RFI-36-47 03/25/03	RFI-36-47 06/10/05	RFI-36-48 12/13/02
<b>Inorganic</b>								
Antimony	ND(0.0012)	0.00047 J	NA	NA	NA	NA	NA	NA
Arsenic	0.00048 J	ND(0.0010)	NA	NA	NA	NA	NA	NA
Barium	0.32	0.30 J	NA	NA	NA	NA	NA	NA
Beryllium	ND(0.00040 J)	ND(0.00040)	NA	NA	NA	NA	NA	NA
Cadmium	0.00015 J	0.00024	NA	NA	NA	NA	NA	NA
Chromium Total	0.00028 J	0.0014	NA	NA	NA	NA	NA	NA
Cobalt	0.0043	0.0040	NA	NA	NA	NA	NA	NA
Copper	0.0074	0.0035	NA	NA	NA	NA	NA	NA
Cyanide (total)	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA	NA	NA
Lead	0.00014 J	ND(0.00040)	NA	NA	NA	NA	NA	NA
Manganese	1.6 J (RDW)	1.2 (RDW)	NA	NA	NA	NA	NA	NA
Mercury	ND(0.00020)	ND(0.00020)	NA	NA	NA	NA	NA	NA
Nickel	0.018	0.015	NA	NA	NA	NA	NA	NA
Selenium	0.00094 J	ND(0.0016)	NA	NA	NA	NA	NA	NA
Silver	ND(0.00040)	ND(0.00040)	NA	NA	NA	NA	NA	NA
Thallium	ND(0.00020)	0.00072	NA	NA	NA	NA	NA	NA
Vanadium	ND(0.00080)	ND(0.00080)	NA	NA	NA	NA	NA	NA
Zinc	0.017	ND(0.017)	NA	NA	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-48 02/28/05	RFI-36-48 06/10/05	RFI-36-51 04/28/03	RFI-36-51 06/10/05	RFI-36-53 04/04/05	RFI-36-53 06/10/05	RFI-36-55 07/06/05
<b>VOC</b>							
1,1,1-Trichloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	0.30 D (IDW,RDW)	0.12	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	0.0017	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	0.0030 [0.0020]	0.0020	0.29 D	0.050	0.0030	0.0010	ND(0.0010)
1,1-Dichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	0.090 D (IDW,RDW)	0.014 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0020) [ND(0.0020)]	ND(0.0020)	ND(0.0050)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	0.0016	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.030) [ND(0.030)]	ND(0.030)	ND(0.025)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)
2-Hexanone	ND(0.050 J) [ND(0.050 J)]	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Acetone	ND(0.030) [ND(0.030)]	ND(0.030)	0.0011 J	ND(0.030)	0.0060 J	ND(0.030)	ND(0.030)
Benzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	0.0044	0.00080 J	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	R [R]	ND(0.0020)	ND(0.0010)	ND(0.0020)	R	ND(0.0020)	ND(0.0020)
Carbon disulfide	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	0.0020 [0.0010]	ND(0.0010)	0.034	ND(0.0010)	0.0090 J	0.0070 J	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	0.0040	0.00030 J	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Dibromochloromethane	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0040	0.0030	ND(0.0010)
Isopropylbenzene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0050)	ND(0.0010)	0.0030 J	0.0030	0.0020 J
m&p-Xylene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0020)	ND(0.0010)	0.0090	0.0070	ND(0.0010)
Methyl acetate	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
Methyl cyclohexane	ND(0.020) [ND(0.020)]	ND(0.020)	ND(0.0010)	ND(0.020)	0.00080 J	0.0010 J	ND(0.020)
Methyl Tert Butyl Ether	0.00020 J [0.00030 J]	ND(0.0050)	0.0011 J	ND(0.0050)	0.0010 J	0.00090 J	ND(0.0050)
Methylene chloride	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0020	0.0010	ND(0.0010)
Styrene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0010 J
Toluene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00040 J	0.00030 J	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	0.00055 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-48 02/28/05	RFI-36-48 06/10/05	RFI-36-51 04/28/03	RFI-36-51 06/10/05	RFI-36-53 04/04/05	RFI-36-53 06/10/05	RFI-36-55 07/06/05
<b>VOC (Cont'd.)</b>							
Trichloroethene	ND(0.0010) [ND(0.0010)]	ND(0.0010)	0.0011	0.00030 J	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.030) [ND(0.030)]	ND(0.030)	ND(0.0010)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)
Vinyl chloride	0.0050 (IDW,RDW) [0.0060 (IDW,RDW)]	0.0040 (IDW,RDW)	0.010 (IDW,RDW)	0.0010	0.013 (IDW,RDW)	0.013 (IDW,RDW)	ND(0.0010)
Xylenes (total)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0020)	ND(0.0010)	0.011	0.0080	ND(0.0010)
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-48 02/28/05	RFI-36-48 06/10/05	RFI-36-51 04/28/03	RFI-36-51 06/10/05	RFI-36-53 04/04/05	RFI-36-53 06/10/05	RFI-36-55 07/06/05
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-48 02/28/05	RFI-36-48 06/10/05	RFI-36-51 04/28/03	RFI-36-51 06/10/05	RFI-36-53 04/04/05	RFI-36-53 06/10/05	RFI-36-55 07/06/05
<b>Inorganic</b>							
Antimony	NA	NA	0.00071 J	NA	NA	NA	NA
Arsenic	NA	NA	0.00079 J	NA	NA	NA	NA
Barium	NA	NA	0.058	NA	NA	NA	NA
Beryllium	NA	NA	0.00028 J	NA	NA	NA	NA
Cadmium	NA	NA	0.00022	NA	NA	NA	NA
Chromium Total	NA	NA	0.00025 J	NA	NA	NA	NA
Cobalt	NA	NA	0.0041	NA	NA	NA	NA
Copper	NA	NA	0.0073	NA	NA	NA	NA
Cyanide (total)	NA	NA	ND(0.0050)	NA	NA	NA	NA
Lead	NA	NA	0.00048	NA	NA	NA	NA
Manganese	NA	NA	0.42	NA	NA	NA	NA
Mercury	NA	NA	ND(0.00020)	NA	NA	NA	NA
Nickel	NA	NA	0.013	NA	NA	NA	NA
Selenium	NA	NA	0.0025	NA	NA	NA	NA
Silver	NA	NA	0.00018 J	NA	NA	NA	NA
Thallium	NA	NA	0.00016 J	NA	NA	NA	NA
Vanadium	NA	NA	0.00015 J	NA	NA	NA	NA
Zinc	NA	NA	0.012	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-56 07/21/05	RFI-38-04 06/13/02	RFI-38-04 03/25/03	RFI-38-06 06/13/02	RFI-38-06 03/25/03	RFI-38-06 10/13/04	RFI-40-03 06/24/02	RFI-40-03 03/27/03
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	0.0040	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	NA	NA	NA	NA	NA	0.00064 J	0.0013
1,2,4-Trichlorobenzene	ND(0.0020)	NA	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.030)	NA	NA	NA	NA	NA	ND(0.025 J)	ND(0.025)
2-Hexanone	ND(0.050)	NA	NA	NA	NA	NA	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.050)	ND(0.050)
Acetone	ND(0.030)	NA	NA	NA	NA	NA	0.0025 J	ND(0.025)
Benzene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0020)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Carbon disulfide	ND(0.0050)	NA	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	NA	NA	NA	NA	NA	0.0062	0.010
cis-1,3-Dichloropropene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0010 J)	NA	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.010)	NA	NA	NA	NA	NA	ND(0.0050)	ND(0.0050 J)
Methyl cyclohexane	ND(0.020)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	NA	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	NA	NA	NA	NA	NA	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	NA	NA	NA	NA	NA	0.00061 J	0.0010
trans-1,3-Dichloropropene	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-56 07/21/05	RFI-38-04 06/13/02	RFI-38-04 03/25/03	RFI-38-06 06/13/02	RFI-38-06 03/25/03	RFI-38-06 10/13/04	RFI-40-03 06/24/02	RFI-40-03 03/27/03
<b>VOC (Cont'd.)</b>								
Trichloroethene	0.00030 J	NA	NA	NA	NA	NA	0.073 (IDW,RDW)	0.12 D (IDW,RDW)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.030)	NA	NA	NA	NA	NA	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0010)	0.0030 (IDW,RDW)
Xylenes (total)	ND(0.0010)	NA	NA	NA	NA	NA	ND(0.0020)	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-56 07/21/05	RFI-38-04 06/13/02	RFI-38-04 03/25/03	RFI-38-06 06/13/02	RFI-38-06 03/25/03	RFI-38-06 10/13/04	RFI-40-03 06/24/02	RFI-40-03 03/27/03
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-36-56 07/21/05	RFI-38-04 06/13/02	RFI-38-04 03/25/03	RFI-38-06 06/13/02	RFI-38-06 03/25/03	RFI-38-06 10/13/04	RFI-40-03 06/24/02	RFI-40-03 03/27/03
<b>Inorganic</b>								
Antimony	NA	ND(0.0012)	ND(0.0012)	ND(0.0012)	0.00036 J	NA	0.0011 J	NA
Arsenic	NA	0.00098 J	ND(0.0010)	0.0027	0.0015	NA	0.00099 J	NA
Barium	NA	0.097 J	0.039 J	0.083 J	0.098 J	NA	0.096	NA
Beryllium	NA	ND(0.00040 J)	ND(0.00040)	ND(0.00040 J)	ND(0.00040)	ND(0.0010)	ND(0.00040)	NA
Cadmium	NA	0.000063 J	ND(0.00020)	0.000083 J	0.000098 J	NA	0.00020	NA
Chromium Total	NA	0.0011	0.0017	0.00022 J	0.00038 J	NA	0.00050 J	NA
Cobalt	NA	0.0016	0.00042	0.0042	0.0042	NA	0.0022	NA
Copper	NA	0.0058	0.0021	0.0031	0.0028	NA	0.0056	NA
Cyanide (total)	NA	NA	ND(0.0050)	NA	ND(0.0050)	NA	ND(0.0050)	NA
Lead	NA	0.0010 J	ND(0.00040)	0.000093 J	0.00022 J	NA	0.00065	NA
Manganese	NA	0.49	0.24	0.41	0.34	NA	1.0 J (RDW)	NA
Mercury	NA	ND(0.00020)	ND(0.00020)	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)	NA
Nickel	NA	0.012	0.0039	0.013	0.015	NA	0.013	NA
Selenium	NA	ND(0.0014)	ND(0.0016)	ND(0.0014)	ND(0.0016)	NA	ND(0.0014)	NA
Silver	NA	ND(0.00040 J)	ND(0.00040)	ND(0.00040 J)	ND(0.00040)	NA	ND(0.00044 J)	NA
Thallium	NA	0.000045 J	0.000068 J	0.0022 (IDW,RDW)	0.0026 (IDW,RDW)	0.0030 (IDW,RDW)	ND(0.00020)	NA
Vanadium	NA	0.00075 J	ND(0.00080)	ND(0.00080)	ND(0.00080)	NA	ND(0.00080)	NA
Zinc	NA	0.014 J	ND(0.0068)	0.0079 J	ND(0.013)	NA	0.025	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	ND(0.0012)	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	0.0033	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	0.14	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	ND(0.00040)	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	0.0049	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	0.0031	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	ND(0.015)	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	0.0065 (IDW,RDW)	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	1.7 J (RDW)	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	0.017	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	ND(0.0014)	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	ND(0.00040 J)	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	ND(0.00020)	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	0.0045	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	0.037 J	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-40-04 12/18/02	RFI-40-07 06/24/02	RFI-40-09 06/24/02	RFI-40-09 03/26/03	RFI-40-10 06/24/02	RFI-40-10R 04/24/03	RFI-40-11 04/03/03	RFI-40-13 09/16/03
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	0.0013	0.0011	ND(0.0010)	0.00067 J	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	0.0012 J	0.0017 J	ND(0.025)	ND(0.025 J)	ND(0.025)	ND(0.025)	ND(0.025) [ND(0.025)]
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050) [ND(0.050)]
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050) [ND(0.050)]
Acetone	ND(0.025)	ND(0.025)	0.0091 J	ND(0.025)	ND(0.025)	0.0014 J	ND(0.025)	ND(0.025) [ND(0.025)]
Benzene	ND(0.0010)	ND(0.0010)	0.73 D (IDW,RDW)	0.85 D (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Bromomethane (Methyl Bromide)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]
Carbon tetrachloride	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0055	0.093 (IDW,RDW)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Cyclohexane	ND(0.0050)	ND(0.0050)	0.17 D	0.079 D	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.011 [0.012]
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Ethylbenzene	ND(0.0010)	ND(0.0010)	0.036	0.0066	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0024 [0.0023]
Isopropylbenzene	ND(0.0050)	ND(0.0050)	0.014	0.0068	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.00084 J [0.00084 J]
m&p-Xylene	ND(0.0020)	ND(0.0020)	0.0070	0.0055	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0030 [0.0031]
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	0.088 D	0.029	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0094 [0.0095]
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]
o-Xylene	ND(0.0010)	ND(0.0010)	0.0021	0.0012	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00043 J [0.00043 J]
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00052 J	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Toluene	ND(0.0010)	ND(0.0010)	0.011	0.014	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0033	ND(0.0010)	ND(0.0010) [ND(0.0010)]
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-40-04 12/18/02	RFI-40-07 06/24/02	RFI-40-09 06/24/02	RFI-40-09 03/26/03	RFI-40-10 06/24/02	RFI-40-10R 04/24/03	RFI-40-11 04/03/03	RFI-40-13 09/16/03
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.017 (IDW,RDW)	0.10 (IDW,RDW)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Trifluorotrichloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0078 (IDW,RDW)	ND(0.0010)	ND(0.0010) [ND(0.0010)]
Xylenes (total)	ND(0.0020)	ND(0.0020)	0.0091	0.0067	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0034 J [0.0035 J]
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-40-04 12/18/02	RFI-40-07 06/24/02	RFI-40-09 06/24/02	RFI-40-09 03/26/03	RFI-40-10 06/24/02	RFI-40-10R 04/24/03	RFI-40-11 04/03/03	RFI-40-13 09/16/03
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011) [ND(0.00010)]
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011) [ND(0.00010)]
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011) [ND(0.00010)]
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011) [ND(0.00010)]
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011) [ND(0.00010)]
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011) [ND(0.00010)]
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011) [ND(0.00010)]
Total PCBs	NA	NA	NA	NA	NA	NA	NA	ND(0.00011) [ND(0.00010)]
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
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Sample ID: Date Collected:	RFI-40-04 12/18/02	RFI-40-07 06/24/02	RFI-40-09 06/24/02	RFI-40-09 03/26/03	RFI-40-10 06/24/02	RFI-40-10R 04/24/03	RFI-40-11 04/03/03	RFI-40-13 09/16/03
<b>Inorganic</b>								
Antimony	NA	NA	ND(0.0012)	NA	NA	NA	NA	0.0014 J [0.0014 J]
Arsenic	NA	NA	0.043	NA	NA	NA	NA	0.0087 J [0.0086 J]
Barium	NA	NA	0.33	NA	NA	NA	NA	0.071 [0.070]
Beryllium	NA	NA	ND(0.00040)	NA	NA	NA	NA	0.17 J (IDW,RDW) [0.19 J (IDW,RDW)]
Cadmium	NA	NA	0.000096 J	NA	NA	NA	NA	0.0020 J [0.0019 J]
Chromium Total	NA	NA	0.00026 J	NA	NA	NA	NA	0.0065 J [0.0059 J]
Cobalt	NA	NA	0.0017	NA	NA	NA	NA	0.0040 [0.0038]
Copper	NA	NA	0.0028	NA	NA	NA	NA	0.016 J [0.016 J]
Cyanide (total)	NA	NA	ND(0.0050)	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]
Lead	NA	NA	0.00031 J	NA	NA	NA	NA	0.0011 [0.0011]
Manganese	NA	NA	0.12 J	NA	NA	NA	NA	0.20 [0.20]
Mercury	NA	NA	ND(0.00020)	NA	NA	NA	NA	ND(0.00020) [ND(0.00020)]
Nickel	NA	NA	0.0040	NA	NA	NA	NA	0.019 J [0.018 J]
Selenium	NA	NA	ND(0.0014)	NA	NA	NA	NA	ND(0.0016 J) [ND(0.0016 J)]
Silver	NA	NA	ND(0.00040 J)	NA	NA	NA	NA	0.0013 J [0.0012 J]
Thallium	NA	NA	ND(0.00020)	NA	NA	NA	NA	0.00099 [0.00094]
Vanadium	NA	NA	0.00025 J	NA	NA	NA	NA	ND(0.00080) [ND(0.00080)]
Zinc	NA	NA	0.0089	NA	NA	NA	NA	ND(0.031 J) [ND(0.027 J)]
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	ND(0.0012)	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	0.041	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	0.29	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	ND(0.00040)	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	ND(0.00060)	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	0.0014	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	0.0040	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	ND(0.0050)	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	ND(0.00040)	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	0.10 J	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	0.0035	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	ND(0.0014)	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	0.00084 J	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	ND(0.00080)	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	0.015	NA	NA	NA	NA	NA

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GROUNDWATER ANALYTICAL DATA  
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GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-40-13 10/13/03	RFI-40-14R 04/22/03	RFI-40-15 04/22/03	RFI-44-04 12/20/02	RFI-44-04 04/03/03	RFI-44-05 12/20/02	RFI-44-05 03/24/03
<b>VOC</b>							
1,1,1-Trichloroethane	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
1,1,2-Trichloroethane	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
1,1-Dichloroethane	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
1,1-Dichloroethene	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
1,2,4-Trichlorobenzene	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050 J)	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
1,2-Dichlorobenzene	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
1,2-Dichloroethane	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
1,2-Dichloropropane	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	NA	ND(0.025) [ND(0.025)]	0.0037 J	NA	NA	NA	NA
2-Hexanone	NA	ND(0.050) [ND(0.050)]	ND(0.050 J)	NA	NA	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	ND(0.050) [ND(0.050)]	ND(0.050 J)	NA	NA	NA	NA
Acetone	NA	ND(0.025) [ND(0.025)]	0.015 J	NA	NA	NA	NA
Benzene	NA	ND(0.0010) [ND(0.0010)]	5.5 JD (IDW,RDW)	NA	NA	NA	NA
Bromodichloromethane	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Bromoform	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Bromomethane (Methyl Bromide)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Carbon disulfide	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050 J)	NA	NA	NA	NA
Carbon tetrachloride	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Chlorobenzene	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Chloroethane	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Chloroform (Trichloromethane)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Chloromethane (Methyl Chloride)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	0.0025 [0.0027]	ND(0.0010 J)	NA	NA	NA	NA
cis-1,3-Dichloropropene	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Cyclohexane	NA	ND(0.0050) [ND(0.0050)]	0.10 J	NA	NA	NA	NA
Dibromochloromethane	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Ethylbenzene	NA	ND(0.0010) [ND(0.0010)]	0.0048 J	NA	NA	NA	NA
Isopropylbenzene	NA	ND(0.0050) [ND(0.0050)]	0.0016 J	NA	NA	NA	NA
m&p-Xylene	NA	ND(0.0020) [ND(0.0020)]	0.026 J	NA	NA	NA	NA
Methyl acetate	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050 J)	NA	NA	NA	NA
Methyl cyclohexane	NA	ND(0.0010) [ND(0.0010)]	0.011 J	NA	NA	NA	NA
Methyl Tert Butyl Ether	NA	ND(0.0050) [ND(0.0050)]	0.00050 J	NA	NA	NA	NA
Methylene chloride	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050 J)	NA	NA	NA	NA
o-Xylene	NA	ND(0.0010) [ND(0.0010)]	0.0037 J	NA	NA	NA	NA
Styrene	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Tetrachloroethene	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Toluene	NA	ND(0.0010) [ND(0.0010)]	0.015 J	NA	NA	NA	NA
trans-1,2-Dichloroethene	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
trans-1,3-Dichloropropene	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-40-13 10/13/03	RFI-40-14R 04/22/03	RFI-40-15 04/22/03	RFI-44-04 12/20/02	RFI-44-04 04/03/03	RFI-44-05 12/20/02	RFI-44-05 03/24/03
<b>VOC (Cont'd.)</b>							
Trichloroethene	NA	0.0021 [0.0024]	ND(0.0010 J)	NA	NA	NA	NA
Trichlorofluoromethane (CFC-11)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Trifluorotrchloroethane (Freon 113)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	NA	NA	NA	NA
Vinyl chloride	NA	ND(0.0010) [0.00059 J]	ND(0.0010 J)	NA	NA	NA	NA
Xylenes (total)	NA	ND(0.0020) [ND(0.0020)]	0.030 J	NA	NA	NA	NA
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	ND(0.0050)	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	ND(0.0050)	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	ND(0.0040)	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	ND(0.010)	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	ND(0.0050)	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	ND(0.020)	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ND(0.0050)	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	ND(0.0050)	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	ND(0.0050)	NA	NA	NA	NA	NA	NA
2-Chlorophenol	ND(0.0050)	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	ND(0.0050)	NA	NA	NA	NA	NA	NA
2-Methylphenol	ND(0.0050)	NA	NA	NA	NA	NA	NA
2-Nitroaniline	ND(0.020)	NA	NA	NA	NA	NA	NA
2-Nitrophenol	ND(0.0050)	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	ND(0.010 J)	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	ND(0.020)	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	ND(0.020)	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	ND(0.020)	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	ND(0.0050)	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	ND(0.0050)	NA	NA	NA	NA	NA	NA
4-Chloroaniline	ND(0.020)	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ND(0.0050)	NA	NA	NA	NA	NA	NA
4-Nitroaniline	ND(0.020)	NA	NA	NA	NA	NA	NA
4-Nitrophenol	ND(0.020)	NA	NA	NA	NA	NA	NA
Acenaphthene	ND(0.0050)	NA	NA	NA	NA	NA	NA
Acenaphthylene	ND(0.0050)	NA	NA	NA	NA	NA	NA
Acetophenone	ND(0.0050)	NA	NA	NA	NA	NA	NA
Anthracene	ND(0.0050)	NA	NA	NA	NA	NA	NA
Atrazine	ND(0.0050)	NA	NA	NA	NA	NA	NA
Benzaldehyde	ND(0.0050)	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ND(0.0010)	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	ND(0.0020)	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	ND(0.0020)	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	ND(0.0050)	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	ND(0.0050)	NA	NA	NA	NA	NA	NA
Biphenyl	ND(0.0050)	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ND(0.0050)	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	ND(0.0015)	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-40-13 10/13/03	RFI-40-14R 04/22/03	RFI-40-15 04/22/03	RFI-44-04 12/20/02	RFI-44-04 04/03/03	RFI-44-05 12/20/02	RFI-44-05 03/24/03
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA
Caprolactam	ND(0.010)	NA	NA	NA	NA	NA	NA
Carbazole	ND(0.010)	NA	NA	NA	NA	NA	NA
Chrysene	ND(0.0050)	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	ND(0.0020)	NA	NA	NA	NA	NA	NA
Dibenzofuran	ND(0.0040)	NA	NA	NA	NA	NA	NA
Diethyl phthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	ND(0.0050)	NA	NA	NA	NA	NA	NA
Fluoranthene	ND(0.0020)	NA	NA	NA	NA	NA	NA
Fluorene	ND(0.0050)	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	ND(0.0010)	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	ND(0.0050)	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	ND(0.0050)	NA	NA	NA	NA	NA	NA
Hexachloroethane	ND(0.0050)	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ND(0.0020)	NA	NA	NA	NA	NA	NA
Isophorone	ND(0.0050)	NA	NA	NA	NA	NA	NA
Methylphenols, Total	ND(0.010)	NA	NA	NA	NA	NA	NA
Naphthalene	ND(0.0050)	NA	NA	NA	NA	NA	NA
Nitrobenzene	ND(0.0020)	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	ND(0.0050)	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	ND(0.0050)	NA	NA	NA	NA	NA	NA
Pentachlorophenol	ND(0.020)	NA	NA	NA	NA	NA	NA
Phenanthrene	ND(0.0050)	NA	NA	NA	NA	NA	NA
Phenol	ND(0.0050)	NA	NA	NA	NA	NA	NA
Pyrene	ND(0.0050)	NA	NA	NA	NA	NA	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	ND(0.00011) [ND(0.00012)]	ND(0.00010)	ND(0.00012 J)	ND(0.00010) [ND(0.00010)]
Aroclor-1221 (PCB-1221)	NA	NA	NA	ND(0.00011) [ND(0.00012)]	ND(0.00010)	ND(0.00012 J)	ND(0.00010) [ND(0.00010)]
Aroclor-1232 (PCB-1232)	NA	NA	NA	ND(0.00011) [ND(0.00012)]	ND(0.00010)	ND(0.00012 J)	ND(0.00010) [ND(0.00010)]
Aroclor-1242 (PCB-1242)	NA	NA	NA	ND(0.00011) [ND(0.00012)]	ND(0.00010)	ND(0.00012 J)	ND(0.00010) [ND(0.00010)]
Aroclor-1248 (PCB-1248)	NA	NA	NA	ND(0.00011) [ND(0.00012)]	ND(0.00010)	ND(0.00012 J)	ND(0.00010) [ND(0.00010)]
Aroclor-1254 (PCB-1254)	NA	NA	NA	ND(0.00011) [ND(0.00012)]	ND(0.00010)	ND(0.00012 J)	ND(0.00010) [ND(0.00010)]
Aroclor-1260 (PCB-1260)	NA	NA	NA	ND(0.00011) [ND(0.00012)]	ND(0.00010)	ND(0.00012 J)	ND(0.00010) [ND(0.00010)]
Total PCBs	NA	NA	NA	ND(0.00011) [ND(0.00012)]	ND(0.00010)	ND(0.00012)	ND(0.00010) [ND(0.00010)]
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	ND(0.00011) [ND(0.00011)]	NA	ND(0.00011)	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	ND(0.00011) [ND(0.00011)]	NA	ND(0.00011)	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	ND(0.00011) [ND(0.00011)]	NA	ND(0.00011)	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	ND(0.00011) [ND(0.00011)]	NA	ND(0.00011)	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	ND(0.00011) [ND(0.00011)]	NA	ND(0.00011)	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	ND(0.00011) [ND(0.00011)]	NA	ND(0.00011)	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	ND(0.00011) [ND(0.00011)]	NA	ND(0.00011)	NA
Total PCBs (Dissolved)	NA	NA	NA	ND(0.00011) [ND(0.00011)]	NA	ND(0.00011)	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-40-13 10/13/03	RFI-40-14R 04/22/03	RFI-40-15 04/22/03	RFI-44-04 12/20/02	RFI-44-04 04/03/03	RFI-44-05 12/20/02	RFI-44-05 03/24/03
<b>Inorganic</b>							
Antimony	NA	0.00053 J	0.00042 J	0.00035 J	NA	0.042 J (IDW,RDW)	0.0027
Arsenic	NA	ND(0.0010)	0.011	0.0017 J	NA	0.033 J	0.0069
Barium	NA	0.091	0.67	0.086	NA	0.29	0.043 J
Beryllium	NA	ND(0.00040)	ND(0.00040)	ND(0.00040)	NA	ND(0.00040)	ND(0.00040)
Cadmium	NA	0.000064 J	0.000064 J	0.00036 J	NA	0.0043 J	0.00013 J
Chromium Total	NA	0.0017	0.00096	0.00071 J	NA	0.38 J (IDW,RDW)	0.0027
Cobalt	NA	0.00070	0.0028	0.0019 J	NA	0.025 J	0.0042
Copper	NA	0.0034	0.0020	0.037 J	NA	0.22 J	0.0099
Cyanide (total)	NA	ND(0.0050)	0.0031 J	ND(0.0050) [ND(0.0050)]	NA	0.0067 JDM	0.019
Lead	NA	0.00077	0.00053	0.0036 J	NA	0.075 J (IDW,RDW)	0.0016
Manganese	NA	0.15	0.12	0.099	NA	0.41	0.14
Mercury	NA	0.00012 J	0.00012 J	ND(0.00020)	NA	ND(0.00020)	ND(0.00020)
Nickel	NA	0.0055	0.0086	0.014 J	NA	0.51 J (IDW,RDW)	0.012
Selenium	NA	ND(0.0016)	ND(0.0016)	ND(0.0016)	NA	0.034	0.0096
Silver	NA	ND(0.00040 J)	ND(0.00040 J)	ND(0.00040 J)	NA	0.000085 J	ND(0.00040)
Thallium	NA	0.000078 J	0.00019 J	ND(0.00020)	NA	ND(0.00020)	ND(0.00020)
Vanadium	NA	0.0026	0.00099	0.00014 J	NA	0.0050 J (RDW)	0.0016
Zinc	NA	0.0084	0.021	0.045 J	NA	0.62 J	ND(0.042)
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	NA	NA	NA	NA	NA	0.029 J (IDW,RDW)	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	0.036 J	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	0.18 J	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	R	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	0.0022 J	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	0.22 J (IDW,RDW)	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	0.017 J	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	0.13 J	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	0.0054 J	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	0.018 J (IDW,RDW)	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	0.43 J	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	R	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	0.36 J (IDW,RDW)	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	0.051 J (IDW,RDW)	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	R	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	R	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	0.0074 J (RDW)	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	0.19 J	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-44-05 10/05/04	RFI-44-06R 04/01/03	RFI-55-01 06/12/02	RFI-55-01 03/26/03	RFI-55-02 06/17/02	RFI-55-02 03/25/03	RFI-55-02 10/08/04	RFI-55-09 06/18/02	RFI-55-09 03/26/03
<b>VOC</b>									
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0014	NA	0.0020 [0.0020]	0.0028	0.0023
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	0.00070 J [0.00080 J]	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0020) [ND(0.0020)]	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0058 (IDW,RDW)	NA	0.0070 (IDW,RDW) [0.0070 (IDW,RDW)]	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	NA	ND(0.030) [ND(0.030)]	ND(0.025)	ND(0.025)
2-Hexanone	ND(0.050 J)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.0010) [ND(0.0010)]	ND(0.050)	ND(0.050)
Acetone	0.0060 J	ND(0.025)	ND(0.025)	ND(0.025)	0.0022 J	NA	ND(0.030) [ND(0.030)]	ND(0.025)	ND(0.025)
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0020 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0020 J) [ND(0.0020 J)]	ND(0.0010)	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050 J) [ND(0.0050 J)]	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0014	NA	0.0010 [0.0010]	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.010 J) [ND(0.010 J)]	ND(0.0050)	ND(0.0050)
Methyl cyclohexane	ND(0.020)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.020) [ND(0.020)]	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	0.00059 J	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-44-05 10/05/04	RFI-44-06R 04/01/03	RFI-55-01 06/12/02	RFI-55-01 03/26/03	RFI-55-02 06/17/02	RFI-55-02 03/25/03	RFI-55-02 10/08/04	RFI-55-09 06/18/02	RFI-55-09 03/26/03
<b>VOC (Cont'd.)</b>									
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0041	NA	0.0080 (IDW,RDW) [0.0080 (IDW,RDW)]	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Trifluorotrichloroethane (Freon 113)	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.030) [ND(0.030)]	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0010)	0.0013
Xylenes (total)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	ND(0.0010) [ND(0.0010)]	ND(0.0020)	ND(0.0020)
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	ND(0.0040)	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	ND(0.010)	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	ND(0.010 J)	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	ND(0.0050 J)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	ND(0.0010)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	ND(0.0015)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-44-05 10/05/04	RFI-44-06R 04/01/03	RFI-55-01 06/12/02	RFI-55-01 03/26/03	RFI-55-02 06/17/02	RFI-55-02 03/25/03	RFI-55-02 10/08/04	RFI-55-09 06/18/02	RFI-55-09 03/26/03
<b>SVOC (Cont'd.)</b>									
bis(2-Ethylhexyl)phthalate	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	ND(0.010)	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	ND(0.010)	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	ND(0.0040)	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	ND(0.0010)	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	ND(0.010)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	ND(0.0020)	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	ND(0.020)	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	ND(0.0050)	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-44-05 10/05/04	RFI-44-06R 04/01/03	RFI-55-01 06/12/02	RFI-55-01 03/26/03	RFI-55-02 06/17/02	RFI-55-02 03/25/03	RFI-55-02 10/08/04	RFI-55-09 06/18/02	RFI-55-09 03/26/03
<b>Inorganic</b>									
Antimony	ND(0.0050)	NA	NA	NA	ND(0.0012)	ND(0.0012)	NA	NA	NA
Arsenic	NA	NA	NA	NA	0.0052	ND(0.0010)	NA	NA	NA
Barium	NA	NA	NA	NA	0.18	0.21	NA	NA	NA
Beryllium	NA	NA	NA	NA	0.00018 J	ND(0.00040)	NA	NA	NA
Cadmium	NA	NA	NA	NA	0.00045	0.00035	NA	NA	NA
Chromium Total	0.0050	NA	NA	NA	0.0066	0.0039	NA	NA	NA
Cobalt	NA	NA	NA	NA	0.0084	0.0083	NA	NA	NA
Copper	NA	NA	NA	NA	0.011 J	0.0057	NA	NA	NA
Cyanide (total)	NA	NA	NA	NA	0.034	0.054	NA	NA	NA
Lead	ND(0.0030)	NA	NA	NA	0.0053 (IDW,RDW)	0.0021	ND(0.0030) [ND(0.0030)]	NA	NA
Manganese	NA	NA	NA	NA	1.6 (RDW)	2.1 (RDW)	NA	NA	NA
Mercury	NA	NA	NA	NA	0.00024	ND(0.00020)	NA	NA	NA
Nickel	0.026	NA	NA	NA	0.021	0.031	NA	NA	NA
Selenium	ND(0.0050)	NA	NA	NA	ND(0.0014)	ND(0.0016)	NA	NA	NA
Silver	NA	NA	NA	NA	ND(0.00040)	0.00027 J	NA	NA	NA
Thallium	NA	NA	NA	NA	0.0010	0.000066 J	NA	NA	NA
Vanadium	NA	NA	NA	NA	0.012 (RDW)	0.00012 J	NA	NA	NA
Zinc	NA	NA	NA	NA	0.041 J	0.016	NA	NA	NA
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	NA	NA	NA	NA	ND(0.0015)	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	ND(0.0014)	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	0.16	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	ND(0.00040 J)	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	0.00038	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	0.0086	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	0.0054	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	0.0046	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	0.025	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	ND(0.00040)	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	1.6 J (RDW)	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	0.013	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	0.0037	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	0.00062 J	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	0.00025	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	0.0021	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	0.014	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-55-10 06/17/02	RFI-55-11 09/26/03	RFI-55-11 10/08/04	RFI-55-12 09/26/03	RFI-55-12 10/08/04	RFI-65-01 06/13/02	RFI-65-01 04/01/03	RFI-81-02 06/20/02
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0021	0.0021	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	0.00042 J	ND(0.0010)	0.00048 J	0.00040 J	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00040 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	0.12 D (IDW,RDW)	0.069 (IDW,RDW)	0.050 (IDW,RDW)	0.0070 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.050)	0.0016 J
Acetone	0.0021 J	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.030 J)	ND(0.025)	ND(0.025)	ND(0.025)
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00030 J	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	0.0082	0.0050	0.0013	0.00060 J	0.037	0.019	0.0011
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.0050)	ND(0.0050 J)	ND(0.010)	ND(0.0050 J)	ND(0.010)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.0010)	ND(0.020)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.00050 J	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00082 J	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	0.0090	0.0050 J	ND(0.0010)	ND(0.0010)	0.00071 J	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-55-10 06/17/02	RFI-55-11 09/26/03	RFI-55-11 10/08/04	RFI-55-12 09/26/03	RFI-55-12 10/08/04	RFI-65-01 06/13/02	RFI-65-01 04/01/03	RFI-81-02 06/20/02
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	0.018 (IDW,RDW)	0.017 (IDW,RDW)	0.068 (IDW,RDW)	0.11 (IDW,RDW)	0.046 (IDW,RDW)	0.036 (IDW,RDW)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010)	ND(0.0010)	0.0030 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0072 (IDW,RDW)
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	0.0051 J	0.0030 J	ND(0.0052)	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	ND(0.0040)	ND(0.0050)	ND(0.0042)	NA	NA	NA	NA
2,4-Dichlorophenol	NA	ND(0.010)	ND(0.010)	ND(0.010)	NA	NA	NA	NA
2,4-Dimethylphenol	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
2,4-Dinitrophenol	NA	ND(0.020)	ND(0.020)	ND(0.021)	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
2-Chloronaphthalene	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
2-Chlorophenol	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
2-Methylnaphthalene	NA	ND(0.0050)	ND(0.0020)	ND(0.0052)	NA	NA	NA	NA
2-Methylphenol	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
2-Nitroaniline	NA	ND(0.020)	ND(0.020)	ND(0.021)	NA	NA	NA	NA
2-Nitrophenol	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
3&4-Methylphenol	NA	ND(0.010 J)	NA	ND(0.010 J)	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	ND(0.020)	ND(0.020)	ND(0.021)	NA	NA	NA	NA
3-Methylphenol	NA	NA	ND(0.0050)	NA	NA	NA	NA	NA
3-Nitroaniline	NA	ND(0.020)	ND(0.020)	ND(0.021)	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	ND(0.020)	ND(0.020)	ND(0.021)	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
4-Chloroaniline	NA	ND(0.020)	ND(0.020 J)	ND(0.021)	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
4-Nitroaniline	NA	ND(0.020)	ND(0.020)	ND(0.021)	NA	NA	NA	NA
4-Nitrophenol	NA	0.0012 J	ND(0.020)	ND(0.021)	NA	NA	NA	NA
Acenaphthene	NA	ND(0.0050)	ND(0.0020)	ND(0.0052)	NA	NA	NA	NA
Acenaphthylene	NA	ND(0.0050)	ND(0.0020)	ND(0.0052)	NA	NA	NA	NA
Acetophenone	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Anthracene	NA	ND(0.0050)	ND(0.0020)	ND(0.0052)	NA	NA	NA	NA
Atrazine	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Benzaldehyde	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Benzo(a)anthracene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	NA	NA
Benzo(a)pyrene	NA	ND(0.0020)	ND(0.0020)	ND(0.0021)	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	ND(0.0020)	ND(0.0020)	ND(0.0021)	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	ND(0.0050)	ND(0.0020)	ND(0.0052)	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	ND(0.0050)	ND(0.0020)	ND(0.0052)	NA	NA	NA	NA
Biphenyl	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	0.025 (IDW,RDW)	0.017 (IDW,RDW)	0.0038 (RDW)	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-55-10 06/17/02	RFI-55-11 09/26/03	RFI-55-11 10/08/04	RFI-55-12 09/26/03	RFI-55-12 10/08/04	RFI-65-01 06/13/02	RFI-65-01 04/01/03	RFI-81-02 06/20/02
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Butyl benzylphthalate	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Caprolactam	NA	ND(0.010)	ND(0.010)	ND(0.010)	NA	NA	NA	NA
Carbazole	NA	ND(0.010)	ND(0.010)	ND(0.010)	NA	NA	NA	NA
Chrysene	NA	ND(0.0050)	ND(0.0020)	ND(0.0052)	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	ND(0.0020)	ND(0.0020)	ND(0.0021)	NA	NA	NA	NA
Dibenzofuran	NA	ND(0.0040)	ND(0.0050)	ND(0.0042)	NA	NA	NA	NA
Diethyl phthalate	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Dimethyl phthalate	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Di-n-butylphthalate	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Di-n-octyl phthalate	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Fluoranthene	NA	ND(0.0020)	ND(0.0020)	ND(0.0021)	NA	NA	NA	NA
Fluorene	NA	ND(0.0050)	ND(0.0020)	ND(0.0052)	NA	NA	NA	NA
Hexachlorobenzene	NA	ND(0.0010)	ND(0.0050)	ND(0.0010)	NA	NA	NA	NA
Hexachlorobutadiene	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Hexachloroethane	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	ND(0.0020)	ND(0.0020)	ND(0.0021)	NA	NA	NA	NA
Isophorone	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Methylphenols, Total	NA	ND(0.010)	ND(0.0050)	ND(0.010)	NA	NA	NA	NA
Naphthalene	NA	ND(0.0050)	ND(0.0020)	ND(0.0052)	NA	NA	NA	NA
Nitrobenzene	NA	ND(0.0020)	ND(0.0050)	ND(0.0021)	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Pentachlorophenol	NA	ND(0.020)	ND(0.020)	ND(0.021)	NA	NA	NA	NA
Phenanthrene	NA	ND(0.0050)	ND(0.0020)	ND(0.0052)	NA	NA	NA	NA
Phenol	NA	ND(0.0050)	ND(0.0050)	ND(0.0052)	NA	NA	NA	NA
Pyrene	NA	ND(0.0050)	ND(0.0020)	ND(0.0052)	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	ND(0.00010)	NA	ND(0.00010)	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	ND(0.00010)	NA	ND(0.00010)	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	ND(0.00010)	NA	ND(0.00010)	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	ND(0.00010)	NA	ND(0.00010)	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	ND(0.00010)	NA	ND(0.00010)	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	ND(0.00010)	NA	ND(0.00010)	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	ND(0.00010)	NA	ND(0.00010)	NA	NA	NA	NA
Total PCBs	NA	ND(0.00010)	NA	ND(0.00010)	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	ND(0.00010)	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-55-10 06/17/02	RFI-55-11 09/26/03	RFI-55-11 10/08/04	RFI-55-12 09/26/03	RFI-55-12 10/08/04	RFI-65-01 06/13/02	RFI-65-01 04/01/03	RFI-81-02 06/20/02
<b>Inorganic</b>								
Antimony	NA	0.0024 J	ND(0.0050)	0.013 J (IDW,RDW)	ND(0.0050)	ND(0.0012)	NA	ND(0.0012)
Arsenic	NA	0.031	ND(0.0020)	0.052 J (IDW,RDW)	0.021	ND(0.0010)	NA	0.080 (IDW,RDW)
Barium	NA	0.21	NA	0.31	NA	0.17 J	NA	1.0
Beryllium	NA	0.025 J (IDW,RDW)	0.0010	0.61 J (IDW,RDW)	ND(0.0010)	ND(0.00040 J)	NA	ND(0.00040)
Cadmium	NA	0.0021 J	ND(0.00050)	0.016 J (IDW,RDW)	ND(0.00050)	0.00033	NA	ND(0.00020)
Chromium Total	NA	8.2 (IDW,RDW)	26 (IDW,RDW)	0.0092 J	ND(0.0050)	0.0021	NA	0.0015
Cobalt	NA	0.058 (RDW)	0.023	0.017 J	ND(0.0050)	0.0029	NA	0.0038
Copper	NA	0.11 J	NA	0.052 J	NA	0.0062	NA	0.0026
Cyanide (total)	NA	1.1 D (IDW,RDW)	0.32 (IDW,RDW)	ND(0.0050)	ND(0.0050)	NA	NA	0.0024 J
Lead	NA	0.025 (IDW,RDW)	ND(0.0030)	0.0038 J	ND(0.0030)	0.00028 J	NA	0.0014
Manganese	NA	1.6 J (RDW)	0.85	0.86 J	0.56	1.9 J (RDW)	NA	0.066
Mercury	NA	ND(0.00020)	NA	ND(0.00020)	NA	ND(0.00020)	NA	0.00013 J
Nickel	NA	0.13 J (IDW,RDW)	0.085	0.065 J	0.0070	0.0091	NA	0.017
Selenium	NA	0.0066 J	NA	ND(0.0016)	NA	0.0012 J	NA	ND(0.0014)
Silver	NA	0.0011 J	NA	0.0096 J	NA	ND(0.00040 J)	NA	0.00013 J
Thallium	NA	0.0010	ND(0.0020)	0.0041 J (IDW,RDW)	ND(0.0020)	0.00017 J	NA	0.00013 J
Vanadium	NA	ND(0.00080)	NA	ND(0.0080)	NA	0.00056 J	NA	ND(0.00080)
Zinc	NA	0.17 J	NA	ND(0.11 J)	NA	0.014 J	NA	ND(0.029 J)
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	0.0020 J	NA	NA	NA	NA	NA	0.0017
Arsenic (Dissolved)	NA	0.0077 J	NA	NA	NA	NA	NA	0.073 (IDW,RDW)
Barium (Dissolved)	NA	0.14	NA	NA	NA	NA	NA	0.87
Beryllium (Dissolved)	NA	0.030 J (IDW,RDW)	NA	NA	NA	NA	NA	ND(0.00040)
Cadmium (Dissolved)	NA	0.0017 J	NA	NA	NA	NA	NA	ND(0.00020)
Chromium Total (Dissolved)	NA	8.0 (IDW,RDW)	NA	NA	NA	NA	NA	0.0055
Cobalt (Dissolved)	NA	0.043 (RDW)	NA	NA	NA	NA	NA	0.0032
Copper (Dissolved)	NA	0.025	NA	NA	NA	NA	NA	0.0025
Cyanide (dissolved)	NA	1.1 D (IDW,RDW)	NA	NA	NA	NA	NA	0.0032 J
Lead (Dissolved)	NA	0.00068 J	NA	NA	NA	NA	NA	0.00043
Manganese (Dissolved)	NA	0.68	NA	NA	NA	NA	NA	0.058
Mercury (Dissolved)	NA	ND(0.00020)	NA	NA	NA	NA	NA	ND(0.00020)
Nickel (Dissolved)	NA	0.069	NA	NA	NA	NA	NA	0.015
Selenium (Dissolved)	NA	0.0019 J	NA	NA	NA	NA	NA	0.0018 J
Silver (Dissolved)	NA	0.0015 J	NA	NA	NA	NA	NA	ND(0.00040 J)
Thallium (Dissolved)	NA	0.00070 J	NA	NA	NA	NA	NA	ND(0.00020)
Vanadium (Dissolved)	NA	ND(0.00080 J)	NA	NA	NA	NA	NA	ND(0.00080)
Zinc (Dissolved)	NA	0.053	NA	NA	NA	NA	NA	0.020 J

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-81-02 04/02/03	RFI-81-03 03/27/03	RFI-81-03 02/28/05	RFI-81-08 06/17/02	RFI-81-08 04/01/03	RFI-81-08 10/07/04	RFI-81-08 02/24/05	RFI-81-09 06/18/02
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	NA	ND(0.0010)	0.0011	ND(0.0010)	0.00040 J	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	NA	ND(0.0010)	0.0011	0.0047	0.0020	0.0020	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	NA	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0020)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	NA	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.030)	ND(0.025)
2-Hexanone	ND(0.050)	NA	ND(0.050 J)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	NA	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.0010)	ND(0.050)
Acetone	ND(0.025)	NA	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.030)	0.0080 J	ND(0.025)
Benzene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	NA	R	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	R	ND(0.0010)
Carbon disulfide	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	NA	ND(0.0010)	0.0014	0.050	0.025	0.024	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	NA	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	NA	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0050)
m&p-Xylene	ND(0.0020)	NA	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0020)
Methyl acetate	ND(0.0050)	NA	ND(0.010)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.010)	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	NA	ND(0.020)	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.020)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	NA	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.010 J (IDW,RDW)
Toluene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	0.0047	0.0030 J	0.0020	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-81-02 04/02/03	RFI-81-03 03/27/03	RFI-81-03 02/28/05	RFI-81-08 06/17/02	RFI-81-08 04/01/03	RFI-81-08 10/07/04	RFI-81-08 02/24/05	RFI-81-09 06/18/02
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	NA	ND(0.0010)	0.0077 (IDW,RDW)	0.0026	0.0020	0.0020	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrichloroethane (Freon 113)	ND(0.0010)	NA	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.030)	ND(0.0010)
Vinyl chloride	0.010 (IDW,RDW)	NA	ND(0.0010)	0.00060 J	0.029 (IDW,RDW)	0.0080 (IDW,RDW)	0.012 J (IDW,RDW)	ND(0.0010)
Xylenes (total)	ND(0.0020)	NA	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-81-02 04/02/03	RFI-81-03 03/27/03	RFI-81-03 02/28/05	RFI-81-08 06/17/02	RFI-81-08 04/01/03	RFI-81-08 10/07/04	RFI-81-08 02/24/05	RFI-81-09 06/18/02
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-81-02 04/02/03	RFI-81-03 03/27/03	RFI-81-03 02/28/05	RFI-81-08 06/17/02	RFI-81-08 04/01/03	RFI-81-08 10/07/04	RFI-81-08 02/24/05	RFI-81-09 06/18/02
<b>Inorganic</b>								
Antimony	ND(0.0012)	0.00070 J	NA	ND(0.0012)	ND(0.0012)	NA	NA	NA
Arsenic	0.091 (IDW,RDW)	0.00091 J	NA	0.0011 J	0.0073	NA	NA	NA
Barium	0.66	0.086	NA	0.13	1.0	NA	NA	NA
Beryllium	ND(0.00040)	ND(0.00040)	NA	ND(0.00040 J)	ND(0.00040)	NA	NA	NA
Cadmium	ND(0.00020)	0.000081 J	NA	ND(0.00020)	ND(0.00020)	NA	NA	NA
Chromium Total	0.0023	0.0019	NA	0.00054 J	0.0013	NA	NA	NA
Cobalt	0.0031	0.00033	NA	0.00058	0.0033	NA	NA	NA
Copper	0.0043	0.0032	NA	0.0044	0.0033	NA	NA	NA
Cyanide (total)	0.0045 J	ND(0.0050)	NA	ND(0.0050)	0.0028 J	NA	NA	NA
Lead	0.010 (IDW,RDW)	0.00082	NA	0.00067	0.00039 J	ND(0.0030)	NA	NA
Manganese	0.10 J	0.045	NA	1.4 J (RDW)	3.3 J (IDW,RDW)	1.4 (RDW)	NA	NA
Mercury	ND(0.00020)	0.00012 J	NA	ND(0.00020)	ND(0.00020)	NA	NA	NA
Nickel	0.024	0.0076	NA	0.015	0.031	NA	NA	NA
Selenium	0.0017 J	ND(0.0016)	NA	ND(0.0014)	0.0019 J	NA	NA	NA
Silver	ND(0.00040)	ND(0.00040)	NA	ND(0.00040)	ND(0.00040)	NA	NA	NA
Thallium	ND(0.00020)	0.00048	NA	ND(0.00020)	ND(0.00020)	NA	NA	NA
Vanadium	0.00075 J	0.00054 J	NA	ND(0.00080)	ND(0.00080)	NA	NA	NA
Zinc	0.026	0.013	NA	0.012	0.027	NA	NA	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	ND(0.0012)	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	0.0010	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	0.14	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	ND(0.00040 J)	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	0.0020	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	0.00060	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	0.0050	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	ND(0.0050)	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	ND(0.00040)	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	1.6 (RDW)	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	0.015	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	ND(0.0014)	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	ND(0.00040)	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	ND(0.00080)	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	0.014	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-81-09 04/01/03	RFI-81-11 06/19/02	RFI-81-11 04/01/03	RFI-81-12R 06/20/02	RFI-81-13 03/27/03	RFI-81-21 10/06/04	RFI-81-33 06/20/02	RFI-81-33 04/03/03	RFI-81-33 10/06/04	RFI-81-35 06/18/02
<b>VOC</b>										
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	0.0036	0.0013	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010 J)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	NA	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	NA	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050 J)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050 J)	ND(0.050)	ND(0.050)	NA	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.050)
Acetone	ND(0.025)	0.0025 J	ND(0.025)	ND(0.025)	NA	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.030)	0.0019 J
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0020 J)	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.010 J)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.020)	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	0.0028	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-81-09 04/01/03	RFI-81-11 06/19/02	RFI-81-11 04/01/03	RFI-81-12R 06/20/02	RFI-81-13 03/27/03	RFI-81-21 10/06/04	RFI-81-33 06/20/02	RFI-81-33 04/03/03	RFI-81-33 10/06/04	RFI-81-35 06/18/02
<b>VOC (Cont'd.)</b>										
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.0010)
Vinyl chloride	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	NA	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)
<b>SVOC</b>										
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-81-09 04/01/03	RFI-81-11 06/19/02	RFI-81-11 04/01/03	RFI-81-12R 06/20/02	RFI-81-13 03/27/03	RFI-81-21 10/06/04	RFI-81-33 06/20/02	RFI-81-33 04/03/03	RFI-81-33 10/06/04	RFI-81-35 06/18/02
<b>SVOC (Cont'd.)</b>										
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>										
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>										
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-81-09 04/01/03	RFI-81-11 06/19/02	RFI-81-11 04/01/03	RFI-81-12R 06/20/02	RFI-81-13 03/27/03	RFI-81-21 10/06/04	RFI-81-33 06/20/02	RFI-81-33 04/03/03	RFI-81-33 10/06/04	RFI-81-35 06/18/02
<b>Inorganic</b>										
Antimony	NA	ND(0.0012)	ND(0.0012)	ND(0.0012)	ND(0.0012)	NA	ND(0.0012)	0.00086 J	NA	ND(0.0012)
Arsenic	NA	0.011	0.0064	0.0014	0.0010 J	NA	0.0056	0.0049	NA	0.0096
Barium	NA	0.22	1.0	0.12	0.50	NA	0.12	0.11	0.12	0.063
Beryllium	NA	ND(0.00040 J)	ND(0.00040)	ND(0.00040)	ND(0.00040)	NA	ND(0.00040)	ND(0.00040)	NA	ND(0.00040 J)
Cadmium	NA	ND(0.00020)	ND(0.00020)	0.00093 J	ND(0.00020)	NA	ND(0.00020)	0.000072 J	ND(0.00050)	0.00013 J
Chromium Total	NA	0.00097	0.0019	0.0015	0.00086	NA	0.00046 J	0.00026 J	NA	0.0037
Cobalt	NA	0.00026	0.0012	0.0022	0.00018 J	NA	0.0013	0.0014	NA	0.00078
Copper	NA	0.0040 J	0.0036	0.0036	0.0014	NA	0.0059	ND(0.0024)	NA	0.028 J
Cyanide (total)	NA	0.010	0.011	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Lead	NA	0.047 (IDW,RDW)	0.021 (IDW,RDW)	0.00080	0.00045	NA	0.00025 J	0.00015 J	ND(0.0030)	0.0061 (IDW,RDW)
Manganese	NA	0.45	2.0 J (RDW)	0.27	0.18	NA	0.88 (RDW)	0.79 J	NA	0.21
Mercury	NA	0.00019 J	ND(0.00020)	0.00015 J	ND(0.00020)	NA	0.00012 J	ND(0.00020)	NA	ND(0.00020)
Nickel	NA	0.0031	0.025	0.0062	0.0057	NA	0.0044	0.0050	ND(0.0050)	0.0045
Selenium	NA	ND(0.0014)	ND(0.0016)	0.00059 J	ND(0.0016)	NA	ND(0.0014)	ND(0.0016)	NA	ND(0.0014)
Silver	NA	ND(0.00040)	ND(0.00040)	ND(0.00040 J)	ND(0.00040)	NA	ND(0.00040 J)	0.00011 J	NA	ND(0.00040)
Thallium	NA	ND(0.00020)	ND(0.00020)	0.00015 J	ND(0.00020)	NA	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)
Vanadium	NA	0.00050 J	ND(0.00080)	0.0014	ND(0.00080)	NA	ND(0.00080)	0.000098 J	NA	0.012 (RDW)
Zinc	NA	0.015 J	0.025	ND(0.021 J)	0.016	NA	ND(0.015 J)	0.033	ND(0.0050)	0.020 J
<b>Inorganic-Dissolved</b>										
Antimony (Dissolved)	NA	ND(0.0012)	NA	ND(0.0012)	NA	NA	ND(0.0012)	NA	NA	NA
Arsenic (Dissolved)	NA	0.0097	NA	ND(0.0010)	NA	NA	0.0048	NA	NA	NA
Barium (Dissolved)	NA	0.19	NA	0.087	NA	NA	0.10	NA	NA	NA
Beryllium (Dissolved)	NA	ND(0.00040 J)	NA	ND(0.00040)	NA	NA	ND(0.00040)	NA	NA	NA
Cadmium (Dissolved)	NA	ND(0.00020)	NA	ND(0.00020)	NA	NA	ND(0.00020)	NA	NA	NA
Chromium Total (Dissolved)	NA	0.0030	NA	0.0019	NA	NA	0.0033	NA	NA	NA
Cobalt (Dissolved)	NA	0.00022	NA	0.0012	NA	NA	0.0012	NA	NA	NA
Copper (Dissolved)	NA	0.0042	NA	0.011	NA	NA	0.00098	NA	NA	NA
Cyanide (dissolved)	NA	0.0089	NA	0.0013 J	NA	NA	ND(0.0050)	NA	NA	NA
Lead (Dissolved)	NA	ND(0.00040)	NA	ND(0.00040)	NA	NA	ND(0.00040)	NA	NA	NA
Manganese (Dissolved)	NA	0.37 J	NA	0.20	NA	NA	0.77	NA	NA	NA
Mercury (Dissolved)	NA	ND(0.00020)	NA	ND(0.00020)	NA	NA	ND(0.00020)	NA	NA	NA
Nickel (Dissolved)	NA	0.0034	NA	0.0040	NA	NA	0.0032	NA	NA	NA
Selenium (Dissolved)	NA	ND(0.0016)	NA	ND(0.0014)	NA	NA	ND(0.0014)	NA	NA	NA
Silver (Dissolved)	NA	ND(0.00040)	NA	ND(0.00040 J)	NA	NA	ND(0.00040 J)	NA	NA	NA
Thallium (Dissolved)	NA	ND(0.00020)	NA	ND(0.00020)	NA	NA	ND(0.00020)	NA	NA	NA
Vanadium (Dissolved)	NA	0.00085	NA	0.00081	NA	NA	0.00093	NA	NA	NA
Zinc (Dissolved)	NA	0.013	NA	0.015 J	NA	NA	0.0083 J	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-81-35 04/01/03	RFI-81-39R 09/17/03	RFI-81-39R 10/11/04	RFI-81-50 04/04/05	RFI-81-51 04/04/05	RFI-83/84-01 04/04/05	RFI-83/84-02 12/18/02
<b>VOC</b>							
1,1,1-Trichloroethane	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
1,1,2,2-Tetrachloroethane	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
1,1,2-Trichloroethane	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
1,1-Dichloroethane	NA	0.00069 J	0.00070 J	NA	0.0040 [0.0040]	NA	NA
1,1-Dichloroethene	NA	ND(0.0010)	ND(0.0010)	NA	0.00060 J [0.00050 J]	NA	NA
1,2,4-Trichlorobenzene	NA	ND(0.0050)	ND(0.0020)	NA	ND(0.0020) [ND(0.0020)]	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J) [ND(0.0010 J)]	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
1,2-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
1,2-Dichloroethane	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
1,2-Dichloropropane	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
1,3-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
1,4-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
2-Butanone (Methyl Ethyl Ketone)	NA	ND(0.025)	ND(0.030)	NA	ND(0.030) [ND(0.030)]	NA	NA
2-Hexanone	NA	ND(0.050)	ND(0.050)	NA	ND(0.050) [ND(0.050)]	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	ND(0.050)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Acetone	NA	ND(0.025)	ND(0.030)	NA	ND(0.030) [ND(0.030)]	NA	NA
Benzene	NA	0.00043 J	0.00050 J	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Bromodichloromethane	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Bromoform	NA	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010 J) [ND(0.0010 J)]	NA	NA
Bromomethane (Methyl Bromide)	NA	ND(0.0010)	ND(0.0020 J)	NA	R [R]	NA	NA
Carbon disulfide	NA	ND(0.0050)	ND(0.0050 J)	NA	ND(0.0050 J) [ND(0.0050 J)]	NA	NA
Carbon tetrachloride	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Chlorobenzene	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Chloroethane	NA	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Chloroform (Trichloromethane)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Chloromethane (Methyl Chloride)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
cis-1,2-Dichloroethene	NA	ND(0.0010)	ND(0.0010)	NA	0.16 (IDW,RDW) [0.16 (IDW,RDW)]	NA	NA
cis-1,3-Dichloropropene	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Cyclohexane	NA	ND(0.0050)	ND(0.0010)	NA	ND(0.0010 J) [ND(0.0010 J)]	NA	NA
Dibromochloromethane	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Dichlorodifluoromethane (CFC-12)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J) [ND(0.0010 J)]	NA	NA
Ethylbenzene	NA	0.0012	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Isopropylbenzene	NA	0.023	0.022 J	NA	ND(0.0010) [ND(0.0010)]	NA	NA
m&p-Xylene	NA	0.0017 J	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Methyl acetate	NA	ND(0.0050)	ND(0.010)	NA	ND(0.010) [ND(0.010)]	NA	NA
Methyl cyclohexane	NA	0.00086 J	0.0010 J	NA	ND(0.020 J) [ND(0.020 J)]	NA	NA
Methyl Tert Butyl Ether	NA	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]	NA	NA
Methylene chloride	NA	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]	NA	NA
o-Xylene	NA	0.00050 J	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Styrene	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Tetrachloroethene	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Toluene	NA	ND(0.0010)	0.00020 J	NA	ND(0.0010) [ND(0.0010)]	NA	NA
trans-1,2-Dichloroethene	NA	ND(0.0010)	ND(0.0010)	NA	0.0070 [0.0060]	NA	NA
trans-1,3-Dichloropropene	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-81-35 04/01/03	RFI-81-39R 09/17/03	RFI-81-39R 10/11/04	RFI-81-50 04/04/05	RFI-81-51 04/04/05	RFI-83/84-01 04/04/05	RFI-83/84-02 12/18/02
<b>VOC (Cont'd.)</b>							
Trichloroethene	NA	ND(0.0010)	ND(0.0010)	NA	0.00080 J [0.00080 J]	NA	NA
Trichlorofluoromethane (CFC-11)	NA	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
Trifluorotrchloroethane (Freon 113)	NA	ND(0.0010)	ND(0.030)	NA	ND(0.030) [ND(0.030)]	NA	NA
Vinyl chloride	NA	ND(0.0010)	ND(0.0010)	NA	0.064 (IDW,RDW) [0.065 (IDW,RDW)]	NA	NA
Xylenes (total)	NA	0.0022 J	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]	NA	NA
<b>SVOC</b>							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	ND(0.010) [ND(0.010)]	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	ND(0.020 J) [ND(0.020 J)]	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
2-Chlorophenol	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
2-Methylphenol	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
2-Nitroaniline	NA	NA	NA	NA	NA	ND(0.020) [ND(0.020)]	NA
2-Nitrophenol	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	ND(0.020) [ND(0.020)]	NA
3-Methylphenol	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
3-Nitroaniline	NA	NA	NA	NA	NA	ND(0.020) [ND(0.020)]	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	ND(0.020 J) [ND(0.020 J)]	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
4-Chloroaniline	NA	NA	NA	NA	NA	ND(0.020) [ND(0.020)]	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
4-Nitroaniline	NA	NA	NA	NA	NA	ND(0.020) [ND(0.020)]	NA
4-Nitrophenol	NA	NA	NA	NA	NA	ND(0.020) [ND(0.020)]	NA
Acenaphthene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Acenaphthylene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Acetophenone	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Anthracene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Atrazine	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Benzaldehyde	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Biphenyl	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-81-35 04/01/03	RFI-81-39R 09/17/03	RFI-81-39R 10/11/04	RFI-81-50 04/04/05	RFI-81-51 04/04/05	RFI-83/84-01 04/04/05	RFI-83/84-02 12/18/02
<b>SVOC (Cont'd.)</b>							
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Caprolactam	NA	NA	NA	NA	NA	ND(0.010) [ND(0.010)]	NA
Carbazole	NA	NA	NA	NA	NA	ND(0.010) [ND(0.010)]	NA
Chrysene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Dibenzofuran	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Diethyl phthalate	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Fluoranthene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Fluorene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Hexachloroethane	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Isophorone	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Methylphenols, Total	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Naphthalene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Nitrobenzene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Pentachlorophenol	NA	NA	NA	NA	NA	ND(0.0010) [ND(0.0010)]	NA
Phenanthrene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Phenol	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
Pyrene	NA	NA	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA
<b>PCB</b>							
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>							
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-81-35 04/01/03	RFI-81-39R 09/17/03	RFI-81-39R 10/11/04	RFI-81-50 04/04/05	RFI-81-51 04/04/05	RFI-83/84-01 04/04/05	RFI-83/84-02 12/18/02
<b>Inorganic</b>							
Antimony	ND(0.0012)	NA	NA	NA	NA	NA	ND(0.0012)
Arsenic	0.0033	NA	NA	NA	NA	NA	0.0081
Barium	0.10	NA	NA	NA	NA	NA	0.17 J
Beryllium	ND(0.00040)	NA	NA	NA	NA	NA	ND(0.00040 J)
Cadmium	ND(0.00020)	NA	NA	NA	NA	NA	ND(0.00020 J)
Chromium Total	0.0014	NA	NA	NA	NA	NA	0.0018
Cobalt	0.00031	NA	NA	NA	NA	NA	0.00022 J
Copper	0.0021	NA	NA	NA	NA	NA	0.0031 J
Cyanide (total)	0.0038 J	NA	NA	NA	NA	NA	0.0030 J
Lead	0.00050	NA	NA	ND(0.0030) [ND(0.0030)]	NA	NA	0.00065 J
Manganese	0.24 J	NA	NA	NA	NA	NA	1.0 (RDW)
Mercury	ND(0.00020)	NA	NA	NA	NA	NA	ND(0.00020)
Nickel	0.0060	NA	NA	NA	NA	NA	0.0040 J
Selenium	ND(0.0016)	NA	NA	NA	NA	NA	ND(0.0016)
Silver	ND(0.00040)	NA	NA	NA	NA	NA	ND(0.00040 J)
Thallium	ND(0.00020)	NA	NA	NA	NA	NA	0.00012 J
Vanadium	0.0028	NA	NA	NA	NA	NA	0.00024 J
Zinc	0.0085	NA	NA	NA	NA	NA	0.015 J
<b>Inorganic-Dissolved</b>							
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-83/84-11 06/19/02	RFI-83/84-11 04/01/03	RFI-83/84-11 10/07/04
<b>VOC</b>			
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,2,4-Trichlorobenzene	0.00075 J	ND(0.0050)	ND(0.010)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010 J)	ND(0.0050)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0050)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0050)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.10)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.30)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050 J)	ND(0.050)	ND(0.0050)
Acetone	0.023 J	ND(0.025)	0.030 J
Benzene	0.16 D (IDW,RDW)	0.023 (IDW,RDW)	0.067 (IDW,RDW)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0050)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0050 J)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.010 J)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.030 J)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0050)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0050)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0050 J)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Chloromethane (Methyl Chloride)	0.016	ND(0.0010)	ND(0.0050)
cis-1,2-Dichloroethene	0.00090 J	0.0010	ND(0.0050)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0050)
Cyclohexane	0.057	0.069	0.064 J
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0050)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0050 J)
Ethylbenzene	0.49 D	0.084	0.57
Isopropylbenzene	0.018 J	0.013	0.013
m&p-Xylene	1.3 D	0.13	0.75 J
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.050)
Methyl cyclohexane	0.0090	0.022	0.0030 J
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.030)
Methylene chloride	ND(0.0050 J)	ND(0.0050)	0.010 J (IDW,RDW)
o-Xylene	0.62 D	0.0054	0.24
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0050)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0050)
Toluene	2.3 D (IDW,RDW)	0.012	0.64
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0050)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0050)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-83/84-11 06/19/02	RFI-83/84-11 04/01/03	RFI-83/84-11 10/07/04
<b>VOC (Cont'd.)</b>			
Trichloroethene	0.0019	ND(0.0010)	ND(0.0050)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0050)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.20)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0050)
Xylenes (total)	1.9	0.14	0.99 J
<b>SVOC</b>			
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA
2-Chlorophenol	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA
2-Methylphenol	NA	NA	NA
2-Nitroaniline	NA	NA	NA
2-Nitrophenol	NA	NA	NA
3&4-Methylphenol	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA
3-Methylphenol	NA	NA	NA
3-Nitroaniline	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA
4-Chloroaniline	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA
4-Nitroaniline	NA	NA	NA
4-Nitrophenol	NA	NA	NA
Acenaphthene	NA	NA	NA
Acenaphthylene	NA	NA	NA
Acetophenone	NA	NA	NA
Anthracene	NA	NA	NA
Atrazine	NA	NA	NA
Benzaldehyde	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA
Biphenyl	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-83/84-11 06/19/02	RFI-83/84-11 04/01/03	RFI-83/84-11 10/07/04
<b>SVOC (Cont'd.)</b>			
bis(2-Ethylhexyl)phthalate	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA
Caprolactam	NA	NA	NA
Carbazole	NA	NA	NA
Chrysene	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA
Dibenzofuran	NA	NA	NA
Diethyl phthalate	NA	NA	NA
Dimethyl phthalate	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA
Fluoranthene	NA	NA	NA
Fluorene	NA	NA	NA
Hexachlorobenzene	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA
Hexachloroethane	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA
Isophorone	NA	NA	NA
Methylphenols, Total	NA	NA	NA
Naphthalene	NA	NA	NA
Nitrobenzene	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA
Pentachlorophenol	NA	NA	NA
Phenanthrene	NA	NA	NA
Phenol	NA	NA	NA
Pyrene	NA	NA	NA
<b>PCB</b>			
Aroclor-1016 (PCB-1016)	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA
Total PCBs	NA	NA	NA
<b>PCB-Dissolved</b>			
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-83/84-11 06/19/02	RFI-83/84-11 04/01/03	RFI-83/84-11 10/07/04
<b>Inorganic</b>			
Antimony	ND(0.0012)	NA	NA
Arsenic	0.0047	NA	NA
Barium	0.059	NA	NA
Beryllium	ND(0.00040 J)	NA	NA
Cadmium	0.00015 J	NA	NA
Chromium Total	0.0023	NA	NA
Cobalt	0.0022	NA	NA
Copper	0.019 J	NA	NA
Cyanide (total)	0.0048 J	NA	NA
Lead	0.0016	NA	NA
Manganese	0.31	NA	NA
Mercury	0.00026	NA	NA
Nickel	0.0067	NA	NA
Selenium	ND(0.0014)	NA	NA
Silver	ND(0.00040)	NA	NA
Thallium	0.00010 J	NA	NA
Vanadium	0.0029	NA	NA
Zinc	0.021 J	NA	NA
<b>Inorganic-Dissolved</b>			
Antimony (Dissolved)	ND(0.0012)	NA	NA
Arsenic (Dissolved)	0.0034	NA	NA
Barium (Dissolved)	0.045	NA	NA
Beryllium (Dissolved)	ND(0.00040 J)	NA	NA
Cadmium (Dissolved)	ND(0.00020)	NA	NA
Chromium Total (Dissolved)	0.0031	NA	NA
Cobalt (Dissolved)	0.0012	NA	NA
Copper (Dissolved)	0.0013	NA	NA
Cyanide (dissolved)	0.0053	NA	NA
Lead (Dissolved)	ND(0.00040)	NA	NA
Manganese (Dissolved)	0.25 J	NA	NA
Mercury (Dissolved)	ND(0.00020)	NA	NA
Nickel (Dissolved)	0.0039	NA	NA
Selenium (Dissolved)	ND(0.0015)	NA	NA
Silver (Dissolved)	ND(0.00040)	NA	NA
Thallium (Dissolved)	ND(0.00020)	NA	NA
Vanadium (Dissolved)	0.0011	NA	NA
Zinc (Dissolved)	0.0071	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-83/84-20 06/20/02	RFI-83/84-20 04/02/03	RFI-83/84-27 06/18/02	RFI-83/84-27 04/02/03	RFI-83/84-27 10/07/04	RFI-83/84-29 06/18/02	RFI-83/84-29 04/01/03	RFI-83/84-51 09/19/03
<b>VOC</b>								
1,1,1-Trichloroethane	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
1,1,2,2-Tetrachloroethane	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
1,1,2-Trichloroethane	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
1,1-Dichloroethane	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	0.00052 J
1,1-Dichloroethene	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
1,2,4-Trichlorobenzene	NA	NA	NA	ND(0.0050)	ND(0.0020)	NA	NA	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
1,2-Dichlorobenzene	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
1,2-Dichloroethane	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
1,2-Dichloropropane	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
1,3-Dichlorobenzene	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
1,4-Dichlorobenzene	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	NA	NA	NA	ND(0.025)	ND(0.030)	NA	NA	ND(0.025)
2-Hexanone	NA	NA	NA	ND(0.050)	ND(0.050 J)	NA	NA	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	NA	ND(0.050)	ND(0.0010)	NA	NA	ND(0.050)
Acetone	NA	NA	NA	ND(0.025)	0.0090 J	NA	NA	ND(0.025)
Benzene	NA	NA	NA	ND(0.0010)	0.00040 J	NA	NA	ND(0.0010)
Bromodichloromethane	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
Bromoform	NA	NA	NA	ND(0.0010)	ND(0.0010 J)	NA	NA	ND(0.0010)
Bromomethane (Methyl Bromide)	NA	NA	NA	ND(0.0010)	ND(0.0020 J)	NA	NA	ND(0.0010)
Carbon disulfide	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.0050)
Carbon tetrachloride	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
Chlorobenzene	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
Chloroethane	NA	NA	NA	ND(0.0010)	ND(0.0010 J)	NA	NA	ND(0.0010)
Chloroform (Trichloromethane)	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
Chloromethane (Methyl Chloride)	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
cis-1,2-Dichloroethene	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
cis-1,3-Dichloropropene	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
Cyclohexane	NA	NA	NA	ND(0.0050)	ND(0.0010)	NA	NA	ND(0.0050)
Dibromochloromethane	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
Ethylbenzene	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
Isopropylbenzene	NA	NA	NA	ND(0.0050)	0.00020 J	NA	NA	ND(0.0050)
m&p-Xylene	NA	NA	NA	ND(0.0020)	0.00060 J	NA	NA	ND(0.0020)
Methyl acetate	NA	NA	NA	ND(0.0050)	ND(0.010)	NA	NA	ND(0.0050)
Methyl cyclohexane	NA	NA	NA	ND(0.0010)	0.00030 J	NA	NA	ND(0.0010)
Methyl Tert Butyl Ether	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.0050)
Methylene chloride	NA	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.0050)
o-Xylene	NA	NA	NA	ND(0.0010)	0.00060 J	NA	NA	ND(0.0010)
Styrene	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
Tetrachloroethene	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
Toluene	NA	NA	NA	ND(0.0010)	0.00040 J	NA	NA	ND(0.0010)
trans-1,2-Dichloroethene	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
trans-1,3-Dichloropropene	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-83/84-20 06/20/02	RFI-83/84-20 04/02/03	RFI-83/84-27 06/18/02	RFI-83/84-27 04/02/03	RFI-83/84-27 10/07/04	RFI-83/84-29 06/18/02	RFI-83/84-29 04/01/03	RFI-83/84-51 09/19/03
<b>VOC (Cont'd.)</b>								
Trichloroethene	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
Trichlorofluoromethane (CFC-11)	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	NA	NA	NA	ND(0.0010)	ND(0.030)	NA	NA	ND(0.0010)
Vinyl chloride	NA	NA	NA	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)
Xylenes (total)	NA	NA	NA	ND(0.0020)	0.0012 J	NA	NA	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-83/84-20 06/20/02	RFI-83/84-20 04/02/03	RFI-83/84-27 06/18/02	RFI-83/84-27 04/02/03	RFI-83/84-27 10/07/04	RFI-83/84-29 06/18/02	RFI-83/84-29 04/01/03	RFI-83/84-51 09/19/03
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Total PCBs	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-83/84-20 06/20/02	RFI-83/84-20 04/02/03	RFI-83/84-27 06/18/02	RFI-83/84-27 04/02/03	RFI-83/84-27 10/07/04	RFI-83/84-29 06/18/02	RFI-83/84-29 04/01/03	RFI-83/84-51 09/19/03
<b>Inorganic</b>								
Antimony	ND(0.0012)	ND(0.0012)	ND(0.0012)	NA	NA	ND(0.0012)	ND(0.0012)	0.0022 J
Arsenic	0.014	0.023	0.0031	NA	NA	0.0055	0.0061	0.11 J (IDW,RDW)
Barium	0.12	0.13	0.31	NA	NA	0.15	0.21	0.40
Beryllium	ND(0.00040)	ND(0.00040)	ND(0.00040 J)	NA	ND(0.0010)	ND(0.00040 J)	ND(0.00040)	0.14 J (IDW,RDW)
Cadmium	0.00014 J	ND(0.00020)	ND(0.00020)	NA	NA	ND(0.00020)	ND(0.00020)	0.0027 J
Chromium Total	0.00061	0.00029 J	0.0011	NA	NA	0.00071	0.00095	0.016
Cobalt	0.0060	0.0024	0.0037	NA	NA	0.00095	0.00099	0.011 J
Copper	0.0063	0.0046	0.0025 J	NA	NA	0.0036 J	0.0033	0.031 J
Cyanide (total)	ND(0.0050)	ND(0.0050)	0.0074	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)
Lead	0.017 (IDW,RDW)	0.0016	0.00092	NA	NA	0.00030 J	0.00013 J	0.0081 (IDW,RDW)
Manganese	0.61	0.60 J	0.17	NA	NA	1.2 (RDW)	0.57 J	0.36 J
Mercury	ND(0.00020)	ND(0.00020)	0.00021	NA	NA	0.00018 J	ND(0.00020)	ND(0.00020)
Nickel	0.018	0.021	0.0059	NA	NA	0.0068	0.012	0.042 J
Selenium	ND(0.0014)	ND(0.0016)	ND(0.0014)	NA	NA	ND(0.0014)	ND(0.0016)	0.0030 J
Silver	ND(0.00040 J)	ND(0.00040)	ND(0.00040)	NA	NA	ND(0.00040)	ND(0.00040)	0.0019 J
Thallium	0.000073 J	ND(0.00020)	ND(0.00020)	NA	NA	ND(0.00020)	ND(0.00020)	0.0010 J
Vanadium	ND(0.00080)	0.000090 J	0.00054 J	NA	NA	ND(0.00080)	ND(0.00080)	0.010 J (RDW)
Zinc	ND(0.014 J)	0.0093	0.012 J	NA	NA	0.014 J	0.017	0.071 J
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0014 J
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.097 J (IDW,RDW)
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.30
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.027 J (IDW,RDW)
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0016 J
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0025 J
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0050 J
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.011 J
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.0050)
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.00052 J
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.18 J
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00020)
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.024 J
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0019
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.0014 J
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.00060 J
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00080 J)
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	0.040 J

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-83/84-51 10/14/03	RFI-84-03D 07/29/05	RFI-84-03I 07/29/05	RFI-84-03S 07/29/05	RFI-84-04D 07/28/05	RFI-84-04I 07/28/05	RFI-84-05 12/17/02	RFI-84-05 03/24/03
<b>VOC</b>								
1,1,1-Trichloroethane	NA	ND(0.0010)	ND(0.0010)	0.011 [0.011]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	NA	ND(0.0010)	ND(0.0010)	0.0050 [0.0050]	ND(0.0010)	ND(0.0010)	0.018	0.013
1,1-Dichloroethene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	NA	ND(0.0020)	ND(0.0020)	ND(0.0020) [ND(0.0020)]	ND(0.0020)	ND(0.0020)	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	NA	ND(0.030)	ND(0.030)	ND(0.030) [ND(0.030)]	ND(0.030)	ND(0.030)	ND(0.025)	ND(0.025)
2-Hexanone	NA	ND(0.050)	ND(0.050)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.050)	ND(0.050)
Acetone	NA	0.010 J	ND(0.030)	ND(0.030) [ND(0.030)]	ND(0.030)	ND(0.030)	ND(0.025)	ND(0.025)
Benzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	0.00050 J	ND(0.0010)	ND(0.0010)
Bromodichloromethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
Bromomethane (Methyl Bromide)	NA	ND(0.0020)	ND(0.0020)	ND(0.0020) [ND(0.0020)]	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0010)
Carbon disulfide	NA	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)
Carbon tetrachloride	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
Chlorobenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	NA	0.0020	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	NA	0.00050 J	0.0020	0.0010 [0.0020]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	NA	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010 J)	ND(0.0010 J)	ND(0.0050)	ND(0.0050)
Dibromochloromethane	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0050)	ND(0.0050)
m&p-Xylene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0020)
Methyl acetate	NA	ND(0.010)	ND(0.010)	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.010)	ND(0.0050)	ND(0.0050)
Methyl cyclohexane	NA	ND(0.020)	ND(0.020)	ND(0.020) [ND(0.020)]	ND(0.020)	ND(0.020)	ND(0.0010)	ND(0.0010 J)
Methyl Tert Butyl Ether	NA	0.00050 J	0.0010 J	ND(0.0050 J) [ND(0.0050 J)]	0.0020 J	ND(0.0050 J)	ND(0.0050)	ND(0.0050)
Methylene chloride	NA	ND(0.0050)	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	NA	ND(0.0010)	ND(0.0010)	0.00050 J [0.00050 J]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	NA	0.00060 J	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-83/84-51 10/14/03	RFI-84-03D 07/29/05	RFI-84-03I 07/29/05	RFI-84-03S 07/29/05	RFI-84-04D 07/28/05	RFI-84-04I 07/28/05	RFI-84-05 12/17/02	RFI-84-05 03/24/03
<b>VOC (Cont'd.)</b>								
Trichloroethene	NA	ND(0.0010)	ND(0.0010)	0.0010 J [0.0010 J]	ND(0.0010)	ND(0.0010)	0.0039	0.0024
Trichlorofluoromethane (CFC-11)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	NA	ND(0.030)	ND(0.030)	ND(0.030) [ND(0.030)]	ND(0.030)	ND(0.030)	ND(0.0010)	ND(0.0010)
Vinyl chloride	NA	0.0020	0.0050 (IDW,RDW)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether,	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	ND(0.0040) [ND(0.0040)]	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	ND(0.010) [ND(0.010)]	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	ND(0.020) [ND(0.020)]	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	ND(0.020) [ND(0.020)]	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	ND(0.010 J) [ND(0.010 J)]	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	ND(0.020) [ND(0.020)]	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	ND(0.020) [ND(0.020)]	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	ND(0.020) [ND(0.020)]	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	ND(0.020) [ND(0.020)]	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	ND(0.020) [ND(0.020)]	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	ND(0.020) [ND(0.020)]	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Acetophenone	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Anthracene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Atrazine	ND(0.0050 J) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ND(0.0010) [ND(0.0010)]	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	ND(0.0020) [ND(0.0020)]	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	ND(0.0020) [ND(0.0020)]	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Biphenyl	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	ND(0.0015) [ND(0.0015)]	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-83/84-51 10/14/03	RFI-84-03D 07/29/05	RFI-84-03I 07/29/05	RFI-84-03S 07/29/05	RFI-84-04D 07/28/05	RFI-84-04I 07/28/05	RFI-84-05 12/17/02	RFI-84-05 03/24/03
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Caprolactam	ND(0.010) [ND(0.010)]	NA	NA	NA	NA	NA	NA	NA
Carbazole	ND(0.010) [ND(0.010)]	NA	NA	NA	NA	NA	NA	NA
Chrysene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	ND(0.0020) [ND(0.0020)]	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	ND(0.0040) [ND(0.0040)]	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	ND(0.0020) [ND(0.0020)]	NA	NA	NA	NA	NA	NA	NA
Fluorene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	ND(0.0010) [ND(0.0010)]	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	ND(0.0050 J) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ND(0.0020) [ND(0.0020)]	NA	NA	NA	NA	NA	NA	NA
Isophorone	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	ND(0.010) [ND(0.010)]	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.0013 J [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	ND(0.0020) [ND(0.0020)]	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	ND(0.020) [ND(0.020)]	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Phenol	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
Pyrene	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
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(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-83/84-51 10/14/03	RFI-84-03D 07/29/05	RFI-84-03I 07/29/05	RFI-84-03S 07/29/05	RFI-84-04D 07/28/05	RFI-84-04I 07/28/05	RFI-84-05 12/17/02	RFI-84-05 03/24/03
<b>Inorganic</b>								
Antimony	NA	NA	NA	NA	NA	NA	ND(0.0012)	NA
Arsenic	NA	NA	NA	NA	NA	NA	0.0017	NA
Barium	NA	NA	NA	NA	NA	NA	0.11 J	NA
Beryllium	NA	NA	NA	NA	NA	NA	0.00046 J	NA
Cadmium	NA	NA	NA	NA	NA	NA	0.00037 J	NA
Chromium Total	NA	NA	NA	NA	NA	NA	0.0027	NA
Cobalt	NA	NA	NA	NA	NA	NA	0.0018 J	NA
Copper	NA	NA	NA	NA	NA	NA	0.0046 J	NA
Cyanide (total)	NA	NA	NA	NA	NA	NA	ND(0.0050)	NA
Lead	NA	NA	NA	NA	NA	NA	0.0014 J	NA
Manganese	NA	NA	NA	NA	NA	NA	0.41 J	NA
Mercury	NA	NA	NA	NA	NA	NA	ND(0.00020)	NA
Nickel	NA	NA	NA	NA	NA	NA	0.015 J	NA
Selenium	NA	NA	NA	NA	NA	NA	ND(0.0016)	NA
Silver	NA	NA	NA	NA	NA	NA	ND(0.00040 J)	NA
Thallium	NA	NA	NA	NA	NA	NA	0.000065 J	NA
Vanadium	NA	NA	NA	NA	NA	NA	0.0016	NA
Zinc	NA	NA	NA	NA	NA	NA	0.021 J	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-84-05 02/25/05	RFI-84-05 06/08/05	RFI-84-06R 04/02/03	RFI-84-06R 04/03/03	RFI-84-06R 02/25/05	RFI-84-06R 07/22/05	RFI-84-06RD 07/21/05	RFI-84-07d 07/28/05
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
1,1-Dichloroethane	0.0060	0.0050	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
1,2,4-Trichlorobenzene	ND(0.0020)	ND(0.0020)	ND(0.0050)	NA	NA	ND(0.0020)	ND(0.0020)	ND(0.020)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.030)	ND(0.030)	ND(0.025)	NA	NA	ND(0.030)	ND(0.030)	ND(0.30)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	NA	NA	ND(0.050)	ND(0.050)	ND(0.50)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010)	ND(0.0010)	ND(0.050)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010 J)
Acetone	ND(0.030)	ND(0.030)	ND(0.025)	NA	NA	ND(0.030)	ND(0.030)	0.20 J
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	1.4 (IDW,RDW)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Bromomethane (Methyl Bromide)	R	ND(0.0020)	ND(0.0010)	NA	NA	ND(0.0020)	ND(0.0020)	ND(0.020)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Chloromethane (Methyl Chloride)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
cis-1,2-Dichloroethene	0.00030 J	0.00030 J	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Cyclohexane	ND(0.0010 J)	ND(0.0010)	ND(0.0050)	NA	NA	ND(0.0010 J)	ND(0.0010 J)	0.070 J
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Isopropylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0050)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
m&p-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0020)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Methyl acetate	ND(0.010)	ND(0.010)	ND(0.0050)	NA	NA	ND(0.010)	ND(0.010)	ND(0.10 J)
Methyl cyclohexane	ND(0.020)	ND(0.020)	ND(0.0010)	NA	NA	ND(0.020)	ND(0.020)	0.0060 J
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA	0.00030 J	ND(0.0050)	ND(0.050)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Toluene	ND(0.0010)	0.00020 J	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	0.010
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-84-05 02/25/05	RFI-84-05 06/08/05	RFI-84-06R 04/02/03	RFI-84-06R 04/03/03	RFI-84-06R 02/25/05	RFI-84-06R 07/22/05	RFI-84-06RD 07/21/05	RFI-84-07d 07/28/05
<b>VOC (Cont'd.)</b>								
Trichloroethene	0.0090 (IDW,RDW)	0.013 (IDW,RDW)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Trifluorotrchloroethane (Freon 113)	ND(0.030)	ND(0.030)	ND(0.0010)	NA	NA	ND(0.030)	ND(0.030)	ND(0.30)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
Xylenes (total)	ND(0.0010)	ND(0.0010)	ND(0.0020)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.010)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	ND(0.0040) [ND(0.0040)]	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	ND(0.010) [ND(0.010)]	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	ND(0.020) [ND(0.020)]	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	ND(0.020) [ND(0.020)]	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	ND(0.010 J) [ND(0.010 J)]	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	ND(0.020) [ND(0.020)]	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	ND(0.020) [ND(0.020)]	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	ND(0.020) [ND(0.020)]	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	ND(0.020 J) [ND(0.020 J)]	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	ND(0.020) [ND(0.020)]	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	ND(0.020) [ND(0.020)]	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Acetophenone	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Anthracene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Atrazine	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	ND(0.0050 J) [ND(0.0050 J)]	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	ND(0.0010) [ND(0.0010)]	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	ND(0.0020) [ND(0.0020)]	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	ND(0.0020) [ND(0.0020)]	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Biphenyl	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	ND(0.0015) [ND(0.0015)]	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-84-05 02/25/05	RFI-84-05 06/08/05	RFI-84-06R 04/02/03	RFI-84-06R 04/03/03	RFI-84-06R 02/25/05	RFI-84-06R 07/22/05	RFI-84-06RD 07/21/05	RFI-84-07d 07/28/05
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Caprolactam	NA	NA	NA	ND(0.010) [ND(0.010)]	NA	NA	NA	NA
Carbazole	NA	NA	NA	ND(0.010) [ND(0.010)]	NA	NA	NA	NA
Chrysene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	ND(0.0020) [ND(0.0020)]	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	ND(0.0040) [ND(0.0040)]	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	ND(0.0020) [ND(0.0020)]	NA	NA	NA	NA
Fluorene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	ND(0.0010) [ND(0.0010)]	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	ND(0.0020) [ND(0.0020)]	NA	NA	NA	NA
Isophorone	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	ND(0.010) [ND(0.010)]	NA	NA	NA	NA
Naphthalene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	ND(0.0020) [ND(0.0020)]	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	ND(0.020 J) [ND(0.020)]	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
Phenol	NA	NA	NA	ND(0.0050) [0.016]	NA	NA	NA	NA
Pyrene	NA	NA	NA	ND(0.0050) [ND(0.0050)]	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Total PCBs	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	ND(0.00011)	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-84-05 02/25/05	RFI-84-05 06/08/05	RFI-84-06R 04/02/03	RFI-84-06R 04/03/03	RFI-84-06R 02/25/05	RFI-84-06R 07/22/05	RFI-84-06RD 07/21/05	RFI-84-07d 07/28/05
<b>Inorganic</b>								
Antimony	NA	NA	NA	0.00059 J	NA	NA	NA	NA
Arsenic	NA	NA	NA	0.0035 J	NA	NA	NA	NA
Barium	NA	NA	NA	0.070	NA	NA	NA	NA
Beryllium	NA	NA	NA	ND(0.00040)	NA	NA	NA	NA
Cadmium	NA	NA	NA	0.000049 J	NA	NA	NA	NA
Chromium Total	NA	NA	NA	0.0028	NA	NA	NA	NA
Cobalt	NA	NA	NA	0.0018	NA	NA	NA	NA
Copper	NA	NA	NA	0.013	NA	NA	NA	NA
Cyanide (total)	NA	NA	NA	0.061(GSI)	0.062(GSI)	NA	NA	NA
Lead	NA	NA	NA	0.00094	NA	NA	NA	NA
Manganese	NA	NA	NA	0.051 J	NA	NA	NA	NA
Mercury	NA	NA	NA	ND(0.00020)	NA	NA	NA	NA
Nickel	NA	NA	NA	0.0092	NA	NA	NA	NA
Selenium	NA	NA	NA	0.0029 J	NA	NA	NA	NA
Silver	NA	NA	NA	ND(0.00040)	NA	NA	NA	NA
Thallium	NA	NA	NA	0.000048 J	NA	NA	NA	NA
Vanadium	NA	NA	NA	0.0040	NA	NA	NA	NA
Zinc	NA	NA	NA	0.020	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	0.00094 J	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	0.0030	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	0.058	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	ND(0.00040)	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	0.000090 J	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	0.0066	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	0.0010	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	0.013	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	0.071(GSI)	NA	0.058(GSI)	NA	NA	NA
Lead (Dissolved)	NA	NA	0.00017 J	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	0.050	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	ND(0.00020)	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	0.0078	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	0.0040	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	0.00024 J(GSI)	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	0.00017 J	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	0.0016	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	0.0095	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-84-07S 07/01/05	RFI-84-08D 07/06/05	RFI-84-08S 07/22/05	RFI-84-09D 07/22/05	RFI-84-09S 07/22/05	RFI-84-10d 07/21/05	RFI-84-10S 07/22/05	RFI-84-11s 07/28/05
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	0.0010 J	ND(0.0010) [0.00050 J]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	0.00080 J [0.00090 J]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0020)	ND(0.0020) [ND(0.0020)]	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.030)	ND(0.030) [ND(0.030)]	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)
2-Hexanone	ND(0.050)	ND(0.050) [ND(0.050)]	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Acetone	ND(0.030)	ND(0.030) [ND(0.030)]	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030 J)
Benzene	0.13 (IDW,RDW)	0.0020 [0.0020]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0020)	ND(0.0020) [ND(0.0020)]	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
Carbon disulfide	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	0.0020	0.078 (IDW,RDW) [0.084 (IDW,RDW)]	ND(0.0010)	0.0040	ND(0.0010)	0.019	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	0.0090	ND(0.0010) [ND(0.0010)]	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)	ND(0.0010 J)
Dibromochloromethane	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010 J)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
m&p-Xylene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Methyl acetate	ND(0.010)	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010 J)
Methyl cyclohexane	ND(0.020)	ND(0.020) [ND(0.020)]	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)	0.0020 J	ND(0.0050)	0.00060 J	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00050 J
Toluene	0.00050 J	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	0.0060 [0.0070]	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0020	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-84-07S 07/01/05	RFI-84-08D 07/06/05	RFI-84-08S 07/22/05	RFI-84-09D 07/22/05	RFI-84-09S 07/22/05	RFI-84-10d 07/21/05	RFI-84-10S 07/22/05	RFI-84-11s 07/28/05
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00080 J
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.030)	ND(0.030) [ND(0.030)]	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)
Vinyl chloride	ND(0.0010)	0.11 (IDW,RDW) [0.12 (IDW,RDW)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0040 (IDW,RDW)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0010)	ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-84-07S 07/01/05	RFI-84-08D 07/06/05	RFI-84-08S 07/22/05	RFI-84-09D 07/22/05	RFI-84-09S 07/22/05	RFI-84-10d 07/21/05	RFI-84-10S 07/22/05	RFI-84-11s 07/28/05
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-84-07S 07/01/05	RFI-84-08D 07/06/05	RFI-84-08S 07/22/05	RFI-84-09D 07/22/05	RFI-84-09S 07/22/05	RFI-84-10d 07/21/05	RFI-84-10S 07/22/05	RFI-84-11s 07/28/05
<b>Inorganic</b>								
Antimony	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (total)	NA	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA	NA
Silver	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-85-02R 06/14/02	RFI-85-03 06/13/02	RFI-85-04R 06/12/02	RFI-85-06 06/12/02	RFI-85-06 04/02/03	RFI-85-07 06/12/02	RFI-85-07 04/02/03	RFI-85-08 12/18/02
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	NA	NA	0.0027	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	NA	NA	0.00062 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	NA	NA	ND(0.025)	ND(0.025)	0.0030 J	ND(0.025)	ND(0.025)
2-Hexanone	ND(0.050)	NA	NA	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	NA	NA	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
Acetone	ND(0.025)	NA	NA	ND(0.025)	ND(0.025)	0.0046 J	ND(0.025)	0.0015 J
Benzene	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	0.00095 J	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
Carbon disulfide	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	0.0035	0.0014	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
cis-1,2-Dichloroethene	ND(0.0010)	NA	NA	0.0049	0.0017	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	0.0059	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0020)	NA	NA	ND(0.0020)	ND(0.0020)	0.074	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	0.0065	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050 J)	NA	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	0.0039	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	NA	NA	0.0014	0.0013	0.0052 (IDW,RDW)	0.014 (IDW,RDW)	ND(0.0010)
Toluene	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-85-02R 06/14/02	RFI-85-03 06/13/02	RFI-85-04R 06/12/02	RFI-85-06 06/12/02	RFI-85-06 04/02/03	RFI-85-07 06/12/02	RFI-85-07 04/02/03	RFI-85-08 12/18/02
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010 J)	NA	NA	0.093 (IDW,RDW)	0.053 (IDW,RDW)	0.0069 (IDW,RDW)	0.0031	0.00070 J
Trichlorofluoromethane (CFC-11)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010)	NA	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020)	NA	NA	ND(0.0020)	ND(0.0020)	0.078	ND(0.0020)	ND(0.0020)
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	ND(0.0048)
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	ND(0.012)
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	ND(0.024)
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	ND(0.024)
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	ND(0.012 J)
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	ND(0.024)
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	ND(0.024)
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	ND(0.024 J)
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	ND(0.024)
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	ND(0.024 J)
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	ND(0.024)
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Acetophenone	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Anthracene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Atrazine	NA	NA	NA	NA	NA	NA	NA	ND(0.0060 J)
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	ND(0.0060 J)
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	ND(0.0012)
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	ND(0.0024)
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	ND(0.0024)
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Biphenyl	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	ND(0.0018)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-85-02R 06/14/02	RFI-85-03 06/13/02	RFI-85-04R 06/12/02	RFI-85-06 06/12/02	RFI-85-06 04/02/03	RFI-85-07 06/12/02	RFI-85-07 04/02/03	RFI-85-08 12/18/02
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Caprolactam	NA	NA	NA	NA	NA	NA	NA	ND(0.012)
Carbazole	NA	NA	NA	NA	NA	NA	NA	ND(0.012 J)
Chrysene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	ND(0.0024)
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	ND(0.0048)
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	ND(0.0024)
Fluorene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	ND(0.0012)
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	ND(0.0024)
Isophorone	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	ND(0.012)
Naphthalene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	ND(0.0024)
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	ND(0.024)
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Phenol	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
Pyrene	NA	NA	NA	NA	NA	NA	NA	ND(0.0060)
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Total PCBs	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	ND(0.00011)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-85-02R 06/14/02	RFI-85-03 06/13/02	RFI-85-04R 06/12/02	RFI-85-06 06/12/02	RFI-85-06 04/02/03	RFI-85-07 06/12/02	RFI-85-07 04/02/03	RFI-85-08 12/18/02
<b>Inorganic</b>								
Antimony	ND(0.0012)	ND(0.0012)	ND(0.0012)	NA	NA	ND(0.0012)	NA	ND(0.0012)
Arsenic	0.00067 J	ND(0.0010)	0.0023 J	NA	NA	ND(0.0010)	NA	0.0016 J
Barium	0.21	0.72 J	0.15 J	NA	NA	0.17 J	NA	0.20 J
Beryllium	ND(0.00040 J)	ND(0.00040 J)	ND(0.00040 J)	NA	NA	ND(0.00040 J)	NA	ND(0.00040 J)
Cadmium	0.000073 J	0.00020	0.000067 J	NA	NA	ND(0.00020)	NA	0.00023 J
Chromium Total	0.0011	0.0036	0.00068	NA	NA	0.00098	NA	0.0020
Cobalt	0.00033	0.00069	0.00026	NA	NA	0.00058	NA	0.00038 J
Copper	ND(0.0018)	0.0044	0.0022	NA	NA	0.0098	NA	0.0027 J
Cyanide (total)	0.013	NA	NA	NA	NA	NA	NA	0.015
Lead	ND(0.00040)	0.00026 J	0.00013 J	NA	NA	0.00033 J	NA	ND(0.00040 J)
Manganese	0.0020 J	0.0059 J	0.16 J	NA	NA	0.84 J	NA	0.014 J
Mercury	ND(0.00020)	ND(0.00020)	ND(0.00020)	NA	NA	ND(0.00020)	NA	ND(0.00020)
Nickel	0.0040	0.0094	0.0041	NA	NA	0.0047	NA	0.0064 J
Selenium	ND(0.0014)	ND(0.0014)	ND(0.0014)	NA	NA	ND(0.0014)	NA	ND(0.0016)
Silver	ND(0.00040)	0.00045 J	0.00025 J	NA	NA	ND(0.00040 J)	NA	ND(0.00040 J)
Thallium	ND(0.00020)	0.00014 J	0.000053 J	NA	NA	0.000068 J	NA	ND(0.00020 J)
Vanadium	ND(0.00080)	ND(0.00080)	ND(0.00080)	NA	NA	ND(0.00080)	NA	ND(0.00080)
Zinc	0.0068	0.025 J	0.0090 J	NA	NA	0.011 J	NA	0.0079 J
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-86-01R 06/25/02	RFI-86-01R 04/02/03	RFI-86-01R 10/07/04	RFI-86-03 06/17/02	RFI-86-04 06/17/02	RFI-86-05 06/13/02	RFI-86-05 04/02/03	RFI-86-06D 06/18/02	RFI-86-06D 04/03/03
<b>VOC</b>									
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0056	ND(0.0010)	0.0043	0.0036	0.00075 J	0.0014
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0074	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00088 J	0.0014
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00096 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025 J)	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
Acetone	ND(0.025)	ND(0.025)	ND(0.030 J)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	0.0023 J	ND(0.025)
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0035
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00085 J	0.0013
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050)	ND(0.0050)	0.00030 J	ND(0.0050 J)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00054 J	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	0.00065 J	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-86-01R 06/25/02	RFI-86-01R 04/02/03	RFI-86-01R 10/07/04	RFI-86-03 06/17/02	RFI-86-04 06/17/02	RFI-86-05 06/13/02	RFI-86-05 04/02/03	RFI-86-06D 06/18/02	RFI-86-06D 04/03/03
<b>VOC (Cont'd.)</b>									
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0053 (IDW,RDW)	ND(0.0010)	0.0039	0.0086 (IDW,RDW)	0.0069 (IDW,RDW)	0.023 (IDW,RDW)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00067 J	0.0012	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0010)	0.00054 J	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-86-01R 06/25/02	RFI-86-01R 04/02/03	RFI-86-01R 10/07/04	RFI-86-03 06/17/02	RFI-86-04 06/17/02	RFI-86-05 06/13/02	RFI-86-05 04/02/03	RFI-86-06D 06/18/02	RFI-86-06D 04/03/03
<b>SVOC (Cont'd.)</b>									
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-86-01R 06/25/02	RFI-86-01R 04/02/03	RFI-86-01R 10/07/04	RFI-86-03 06/17/02	RFI-86-04 06/17/02	RFI-86-05 06/13/02	RFI-86-05 04/02/03	RFI-86-06D 06/18/02	RFI-86-06D 04/03/03
<b>Inorganic</b>									
Antimony	ND(0.0012)	ND(0.0012)	NA	ND(0.0012)	NA	NA	NA	NA	NA
Arsenic	0.0011	0.0018	NA	0.0041	NA	NA	NA	NA	NA
Barium	0.016	0.061	NA	0.065	NA	NA	NA	NA	NA
Beryllium	ND(0.00040)	ND(0.00040)	NA	ND(0.00040 J)	NA	NA	NA	NA	NA
Cadmium	0.00092	0.00037	NA	ND(0.00020)	NA	NA	NA	NA	NA
Chromium Total	0.00089	0.0017	NA	0.00024 J	NA	NA	NA	NA	NA
Cobalt	0.0048	0.0040	NA	0.0033	NA	NA	NA	NA	NA
Copper	0.0039	0.0050	NA	ND(0.0033)	NA	NA	NA	NA	NA
Cyanide (total)	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)	NA	NA	NA	NA	NA
Lead	0.00075	0.0013	NA	0.00050	NA	NA	NA	NA	NA
Manganese	0.90 (RDW)	0.47 J	NA	0.64 J	NA	NA	NA	NA	NA
Mercury	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)	NA	NA	NA	NA	NA
Nickel	0.015	0.030	NA	0.011	NA	NA	NA	NA	NA
Selenium	0.0023 J	0.0054	NA	ND(0.0014)	NA	NA	NA	NA	NA
Silver	ND(0.00040 J)	ND(0.00040)	NA	ND(0.00040)	NA	NA	NA	NA	NA
Thallium	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)	NA	NA	NA	NA	NA
Vanadium	0.00022 J	0.00021 J	NA	ND(0.00080)	NA	NA	NA	NA	NA
Zinc	0.060	0.22	NA	0.0049 J	NA	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-86-06S 06/17/02	RFI-86-06S 04/03/03	RFI-86-08R 06/20/02	RFI-86-08R 12/18/02	RFI-86-08R 04/03/03	RFI-86-14 06/17/02	RFI-86-15 06/20/02	RFI-86-15 04/03/03	RFI-86-16R 09/16/03
<b>VOC</b>									
1,1,1-Trichloroethane	0.00091 J	0.0015	0.0036	0.0055	0.0084	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	0.00071 J	0.0011	0.13 EJ	0.097	0.10	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	0.0022	0.0015	0.0016	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.025)	0.0028 J	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
Acetone	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)
Benzene	ND(0.0010)	ND(0.0010)	0.0057 (IDW,RDW)	0.0060 (IDW,RDW)	0.0046	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.0060	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	0.0032	14 D (IDW,RDW)	11 D (IDW,RDW)	5.2 D (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	0.00058 J	0.0011	0.0055	0.0044	0.0037	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	0.0032	0.0035	0.0021	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	0.00069 J	0.00054 J	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
m&p-Xylene	ND(0.0020)	ND(0.0020)	0.0064	0.0065	0.0038	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
Methylene chloride	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	0.0059	0.0064	0.0041	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	0.011	0.011	0.0080	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	0.015	0.019	0.020	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-86-06S 06/17/02	RFI-86-06S 04/03/03	RFI-86-08R 06/20/02	RFI-86-08R 12/18/02	RFI-86-08R 04/03/03	RFI-86-14 06/17/02	RFI-86-15 06/20/02	RFI-86-15 04/03/03	RFI-86-16R 09/16/03
<b>VOC (Cont'd.)</b>									
Trichloroethene	0.0098 (IDW,RDW)	0.019 (IDW,RDW)	0.0060 (IDW,RDW)	0.0062 (IDW,RDW)	0.0097 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Vinyl chloride	ND(0.0010)	ND(0.0010)	0.049 (IDW,RDW)	0.0077 (IDW,RDW)	0.011 (IDW,RDW)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020)	0.012	0.013	0.0079	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-86-06S 06/17/02	RFI-86-06S 04/03/03	RFI-86-08R 06/20/02	RFI-86-08R 12/18/02	RFI-86-08R 04/03/03	RFI-86-14 06/17/02	RFI-86-15 06/20/02	RFI-86-15 04/03/03	RFI-86-16R 09/16/03
<b>SVOC (Cont'd.)</b>									
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-86-06S 06/17/02	RFI-86-06S 04/03/03	RFI-86-08R 06/20/02	RFI-86-08R 12/18/02	RFI-86-08R 04/03/03	RFI-86-14 06/17/02	RFI-86-15 06/20/02	RFI-86-15 04/03/03	RFI-86-16R 09/16/03
<b>Inorganic</b>									
Antimony	NA	NA	ND(0.0012)	ND(0.0012)	NA	NA	NA	NA	NA
Arsenic	NA	NA	0.047	0.041	NA	NA	NA	NA	NA
Barium	NA	NA	0.26	0.24 J	NA	NA	NA	NA	NA
Beryllium	NA	NA	ND(0.00040)	ND(0.00040 J)	NA	NA	NA	NA	NA
Cadmium	NA	NA	ND(0.00020)	ND(0.00020 J)	NA	NA	NA	NA	NA
Chromium Total	NA	NA	0.00080	0.0018	NA	NA	NA	NA	NA
Cobalt	NA	NA	0.00056	0.00044 J	NA	NA	NA	NA	NA
Copper	NA	NA	0.0033	0.0036 J	NA	NA	NA	NA	NA
Cyanide (total)	NA	NA	ND(0.0050)	ND(0.0050)	NA	NA	NA	NA	NA
Lead	NA	NA	0.00043	0.00083 J	NA	NA	NA	NA	NA
Manganese	NA	NA	0.25	0.28 J	NA	NA	NA	NA	NA
Mercury	NA	NA	ND(0.00020)	ND(0.00020)	NA	NA	NA	NA	NA
Nickel	NA	NA	0.017	0.014 J	NA	NA	NA	NA	NA
Selenium	NA	NA	ND(0.0014)	ND(0.0016)	NA	NA	NA	NA	NA
Silver	NA	NA	ND(0.00040 J)	ND(0.00040 J)	NA	NA	NA	NA	NA
Thallium	NA	NA	0.00014 J	0.00014 J	NA	NA	NA	NA	NA
Vanadium	NA	NA	0.0013	0.0015	NA	NA	NA	NA	NA
Zinc	NA	NA	ND(0.020 J)	0.018 J	NA	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-86-16R 10/06/04	RFI-94-02R 04/03/03	RFI-94-02R 04/04/03	RFI-94-02R 09/18/03	RFI-94-02R 10/06/04	RFI-94-05 12/17/02	RFI-94-07 12/17/02	RFI-94-07 03/24/03
<b>VOC</b>								
1,1,1-Trichloroethane	ND(0.0010)	NA	0.039	0.033	0.027	ND(0.0010)	NA	NA
1,1,2,2-Tetrachloroethane	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
1,1,2-Trichloroethane	ND(0.0010)	NA	ND(0.0010)	0.00081 J	0.00080 J	ND(0.0010)	NA	NA
1,1-Dichloroethane	ND(0.0010)	NA	0.0010	0.00089 J	0.0010 J	ND(0.0010)	NA	NA
1,1-Dichloroethene	ND(0.0010)	NA	0.0075 (IDW,RDW)	0.0053	0.0020 J	ND(0.0010)	NA	NA
1,2,4-Trichlorobenzene	ND(0.0020)	NA	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
1,2-Dichlorobenzene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
1,2-Dichloroethane	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
1,2-Dichloropropane	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
1,3-Dichlorobenzene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
1,4-Dichlorobenzene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
2-Butanone (Methyl Ethyl Ketone)	ND(0.030)	NA	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.025)	NA	NA
2-Hexanone	ND(0.050)	NA	ND(0.050)	ND(0.050)	ND(0.050 J)	ND(0.050)	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.0010)	NA	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.050)	NA	NA
Acetone	ND(0.030)	NA	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.025)	NA	NA
Benzene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	0.00050 J	ND(0.0010)	NA	NA
Bromodichloromethane	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
Bromoform	ND(0.0010 J)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)	NA	NA
Bromomethane (Methyl Bromide)	ND(0.0020 J)	NA	ND(0.0010)	ND(0.0010)	ND(0.0020 J)	ND(0.0010)	NA	NA
Carbon disulfide	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Carbon tetrachloride	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	NA
Chlorobenzene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
Chloroethane	ND(0.0010 J)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	NA	NA
Chloroform (Trichloromethane)	ND(0.0010)	NA	0.0030	0.0024	0.0020	ND(0.0010)	NA	NA
Chloromethane (Methyl Chloride)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
cis-1,2-Dichloroethene	ND(0.0010)	NA	0.0052	0.0045	0.023	ND(0.0010)	NA	NA
cis-1,3-Dichloropropene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
Cyclohexane	ND(0.0010)	NA	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	NA	NA
Dibromochloromethane	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	NA	NA
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
Ethylbenzene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
Isopropylbenzene	ND(0.0010)	NA	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	NA	NA
m&p-Xylene	ND(0.0010)	NA	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	NA	NA
Methyl acetate	ND(0.010 J)	NA	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	NA	NA
Methyl cyclohexane	ND(0.020)	NA	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.0010)	NA	NA
Methyl Tert Butyl Ether	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
Methylene chloride	ND(0.0050)	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	NA	NA
o-Xylene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
Styrene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
Tetrachloroethene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
Toluene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
trans-1,2-Dichloroethene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	0.00030 J	ND(0.0010)	NA	NA
trans-1,3-Dichloropropene	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-86-16R 10/06/04	RFI-94-02R 04/03/03	RFI-94-02R 04/04/03	RFI-94-02R 09/18/03	RFI-94-02R 10/06/04	RFI-94-05 12/17/02	RFI-94-07 12/17/02	RFI-94-07 03/24/03
<b>VOC (Cont'd.)</b>								
Trichloroethene	ND(0.0010)	NA	0.51 D(GSI,IDW,RDW)	0.56 D(GSI,IDW,RDW)	0.95(GSI,IDW,RDW)	0.00074 J	NA	NA
Trichlorofluoromethane (CFC-11)	ND(0.0010)	NA	ND(0.0010)	0.0011	0.00060 J	ND(0.0010)	NA	NA
Trifluorotrichloroethane (Freon 113)	ND(0.030)	NA	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.0010)	NA	NA
Vinyl chloride	ND(0.0010)	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	NA	NA
Xylenes (total)	ND(0.0010)	NA	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	NA	NA
<b>SVOC</b>								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether,	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
2,4,5-Trichlorophenol	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
2,4,6-Trichlorophenol	NA	NA	ND(0.0040)	NA	NA	ND(0.0042)	ND(0.0044)	ND(0.0040)
2,4-Dichlorophenol	NA	NA	ND(0.010)	NA	NA	ND(0.011)	ND(0.011)	ND(0.010)
2,4-Dimethylphenol	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
2,4-Dinitrophenol	NA	NA	ND(0.020)	NA	NA	ND(0.021)	ND(0.022)	ND(0.020)
2,4-Dinitrotoluene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
2,6-Dinitrotoluene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
2-Chloronaphthalene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
2-Chlorophenol	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
2-Methylnaphthalene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
2-Methylphenol	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
2-Nitroaniline	NA	NA	ND(0.020)	NA	NA	ND(0.021)	ND(0.022)	ND(0.020)
2-Nitrophenol	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
3&4-Methylphenol	NA	NA	ND(0.010 J)	NA	NA	ND(0.011 J)	ND(0.011 J)	ND(0.010 J)
3,3'-Dichlorobenzidine	NA	NA	ND(0.020 J)	NA	NA	ND(0.021)	ND(0.022)	ND(0.020 J)
3-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	ND(0.020)	NA	NA	ND(0.021)	ND(0.022)	ND(0.020)
4,6-Dinitro-2-methylphenol	NA	NA	ND(0.020)	NA	NA	ND(0.021 J)	ND(0.022 J)	ND(0.020)
4-Bromophenyl phenyl ether	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
4-Chloro-3-methylphenol	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
4-Chloroaniline	NA	NA	ND(0.020 J)	NA	NA	ND(0.021)	ND(0.022)	ND(0.020)
4-Chlorophenyl phenyl ether	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
4-Nitroaniline	NA	NA	ND(0.020)	NA	NA	ND(0.021 J)	ND(0.022 J)	ND(0.020)
4-Nitrophenol	NA	NA	ND(0.020)	NA	NA	ND(0.021)	ND(0.022)	ND(0.020)
Acenaphthene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Acenaphthylene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Acetophenone	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Anthracene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Atrazine	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050 J)
Benzaldehyde	NA	NA	ND(0.0050 J)	NA	NA	ND(0.0053 J)	ND(0.0055 J)	ND(0.0050 J)
Benzo(a)anthracene	NA	NA	ND(0.0010)	NA	NA	ND(0.0011)	ND(0.0011)	ND(0.0010)
Benzo(a)pyrene	NA	NA	ND(0.0020)	NA	NA	ND(0.0021)	ND(0.0022)	ND(0.0020)
Benzo(b)fluoranthene	NA	NA	ND(0.0020)	NA	NA	ND(0.0021)	ND(0.0022)	ND(0.0020)
Benzo(g,h,i)perylene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Benzo(k)fluoranthene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Biphenyl	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
bis(2-Chloroethoxy)methane	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
bis(2-Chloroethyl)ether	NA	NA	ND(0.0015)	NA	NA	ND(0.0016)	ND(0.0016)	ND(0.0015)

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-86-16R 10/06/04	RFI-94-02R 04/03/03	RFI-94-02R 04/04/03	RFI-94-02R 09/18/03	RFI-94-02R 10/06/04	RFI-94-05 12/17/02	RFI-94-07 12/17/02	RFI-94-07 03/24/03
<b>SVOC (Cont'd.)</b>								
bis(2-Ethylhexyl)phthalate	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Butyl benzylphthalate	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Caprolactam	NA	NA	ND(0.010)	NA	NA	ND(0.011)	ND(0.011)	ND(0.010)
Carbazole	NA	NA	ND(0.010)	NA	NA	ND(0.011 J)	ND(0.011 J)	ND(0.010)
Chrysene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Dibenz(a,h)anthracene	NA	NA	ND(0.0020)	NA	NA	ND(0.0021)	ND(0.0022)	ND(0.0020 J)
Dibenzofuran	NA	NA	ND(0.0040)	NA	NA	ND(0.0042)	ND(0.0044)	ND(0.0040)
Diethyl phthalate	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Dimethyl phthalate	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Di-n-butylphthalate	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Di-n-octyl phthalate	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Fluoranthene	NA	NA	ND(0.0020)	NA	NA	ND(0.0021)	ND(0.0022)	ND(0.0020)
Fluorene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Hexachlorobenzene	NA	NA	ND(0.0010)	NA	NA	ND(0.0011)	ND(0.0011)	ND(0.0010)
Hexachlorobutadiene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Hexachlorocyclopentadiene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Hexachloroethane	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Indeno(1,2,3-cd)pyrene	NA	NA	ND(0.0020)	NA	NA	ND(0.0021)	ND(0.0022)	ND(0.0020 J)
Isophorone	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Methylphenols, Total	NA	NA	ND(0.010)	NA	NA	ND(0.011)	ND(0.011)	ND(0.010)
Naphthalene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Nitrobenzene	NA	NA	ND(0.0020)	NA	NA	ND(0.0021)	ND(0.0022)	ND(0.0020)
N-Nitrosodi-n-propylamine	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
N-Nitrosodiphenylamine	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Pentachlorophenol	NA	NA	ND(0.020 J)	NA	NA	ND(0.021)	ND(0.022)	ND(0.020)
Phenanthrene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Phenol	NA	NA	0.019	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
Pyrene	NA	NA	ND(0.0050)	NA	NA	ND(0.0053)	ND(0.0055)	ND(0.0050)
<b>PCB</b>								
Aroclor-1016 (PCB-1016)	NA	ND(0.00010)	NA	NA	NA	ND(0.00011)	NA	NA
Aroclor-1221 (PCB-1221)	NA	ND(0.00010)	NA	NA	NA	ND(0.00011)	NA	NA
Aroclor-1232 (PCB-1232)	NA	ND(0.00010)	NA	NA	NA	ND(0.00011)	NA	NA
Aroclor-1242 (PCB-1242)	NA	ND(0.00010)	NA	NA	NA	ND(0.00011)	NA	NA
Aroclor-1248 (PCB-1248)	NA	ND(0.00010)	NA	NA	NA	ND(0.00011)	NA	NA
Aroclor-1254 (PCB-1254)	NA	ND(0.00010)	NA	NA	NA	ND(0.00011)	NA	NA
Aroclor-1260 (PCB-1260)	NA	ND(0.00010)	NA	NA	NA	ND(0.00011)	NA	NA
Total PCBs	NA	ND(0.00010)	NA	NA	NA	ND(0.00011)	NA	NA
<b>PCB-Dissolved</b>								
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00011)	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00011)	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00011)	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00011)	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00011)	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00011)	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	ND(0.00011)	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	ND(0.00011)	NA	NA

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-86-16R 10/06/04	RFI-94-02R 04/03/03	RFI-94-02R 04/04/03	RFI-94-02R 09/18/03	RFI-94-02R 10/06/04	RFI-94-05 12/17/02	RFI-94-07 12/17/02	RFI-94-07 03/24/03
<b>Inorganic</b>								
Antimony	NA	NA	ND(0.0012)	NA	NA	ND(0.0012)	NA	NA
Arsenic	NA	NA	ND(0.0010)	NA	NA	0.0012 J	NA	NA
Barium	NA	NA	0.047	NA	NA	0.045 J	NA	NA
Beryllium	NA	NA	ND(0.00080)	NA	NA	ND(0.00040 J)	NA	NA
Cadmium	NA	NA	0.000075 J	NA	NA	ND(0.00020 J)	NA	NA
Chromium Total	NA	NA	0.00034 J	NA	NA	0.0013	NA	NA
Cobalt	NA	NA	0.0016	NA	NA	0.00091 J	NA	NA
Copper	NA	NA	0.0052	NA	NA	0.0029 J	NA	NA
Cyanide (total)	NA	NA	0.0032 J	NA	NA	ND(0.0050)	NA	NA
Lead	NA	NA	0.00028 J	NA	NA	0.00086 J	NA	NA
Manganese	NA	NA	0.29 J	NA	NA	0.12	NA	NA
Mercury	NA	NA	ND(0.00020)	NA	NA	ND(0.00020)	NA	NA
Nickel	NA	NA	0.016	NA	NA	0.0056 J	NA	NA
Selenium	NA	NA	ND(0.0016)	NA	NA	ND(0.0016)	NA	NA
Silver	NA	NA	ND(0.00040 J)	NA	NA	ND(0.00040 J)	NA	NA
Thallium	NA	NA	ND(0.00020)	NA	NA	0.00015 J	NA	NA
Vanadium	NA	NA	0.00035 J	NA	NA	0.0011	NA	NA
Zinc	NA	NA	0.0089	NA	NA	0.0051 J	NA	NA
<b>Inorganic-Dissolved</b>								
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-94-08 12/16/03	RFI-94-09 12/15/03	RFI-94-09 02/25/05	RFI-94-10 12/15/03	RFI-94-10 10/08/04	RFI-94-11 04/07/05
<b>VOC</b>						
1,1,1-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00030 J	ND(0.0010)
1,1,2,2-Tetrachloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00040 J	ND(0.0010)
1,1-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2,4-Trichlorobenzene	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0020)	ND(0.0020)
1,2-Dibromo-3-chloropropane (DBCP)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)
1,2-Dibromoethane (Ethylene Dibromide)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
1,4-Dichlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
2-Butanone (Methyl Ethyl Ketone)	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.030)	ND(0.030)
2-Hexanone	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND(0.050)	ND(0.050)	ND(0.0010)	ND(0.050)	ND(0.0010)	ND(0.0010)
Acetone	ND(0.025)	ND(0.025)	ND(0.030)	ND(0.025)	ND(0.030)	ND(0.030 J)
Benzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromodichloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Bromoform	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010 J)
Bromomethane (Methyl Bromide)	ND(0.0010)	ND(0.0010)	R	ND(0.0010)	ND(0.0020 J)	R
Carbon disulfide	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)	ND(0.0050)
Carbon tetrachloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chlorobenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloroethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
Chloroform (Trichloromethane)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Chloromethane (Methyl Chloride)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)	ND(0.0010)	ND(0.0010)
cis-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00070 J	ND(0.0010)
cis-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Cyclohexane	ND(0.0050)	ND(0.0050)	ND(0.0010 J)	ND(0.0050)	ND(0.0010)	ND(0.0010 J)
Dibromochloromethane	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane (CFC-12)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010 J)	ND(0.0010)
Ethylbenzene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Isopropylbenzene	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.0010)	ND(0.0010)
m&p-Xylene	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
Methyl acetate	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.010)
Methyl cyclohexane	ND(0.0010)	ND(0.0010)	ND(0.020)	ND(0.0010)	ND(0.020)	ND(0.020)
Methyl Tert Butyl Ether	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050 J)
Methylene chloride	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
o-Xylene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Styrene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Tetrachloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Toluene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

**TABLE C-2  
GROUNDWATER ANALYTICAL DATA  
(in mg/L)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-94-08 12/16/03	RFI-94-09 12/15/03	RFI-94-09 02/25/05	RFI-94-10 12/15/03	RFI-94-10 10/08/04	RFI-94-11 04/07/05
<b>VOC (Cont'd.)</b>						
Trichloroethene	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0025	0.0030	ND(0.0010)
Trichlorofluoromethane (CFC-11)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.00090 J	ND(0.0010)
Trifluorotrchloroethane (Freon 113)	ND(0.0010)	ND(0.0010)	ND(0.030)	ND(0.0010)	ND(0.030)	ND(0.030)
Vinyl chloride	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
Xylenes (total)	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
<b>SVOC</b>						
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA
Biphenyl	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-94-08 12/16/03	RFI-94-09 12/15/03	RFI-94-09 02/25/05	RFI-94-10 12/15/03	RFI-94-10 10/08/04	RFI-94-11 04/07/05
<b>SVOC (Cont'd.)</b>						
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate	NA	NA	NA	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA
Methylphenols, Total	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA
<b>PCB</b>						
Aroclor-1016 (PCB-1016)	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	NA	NA	NA	NA	NA	NA
Total PCBs	NA	NA	NA	NA	NA	NA
<b>PCB-Dissolved</b>						
Aroclor-1016 (PCB-1016) (Dissolved)	NA	NA	NA	NA	NA	NA
Aroclor-1221 (PCB-1221) (Dissolved)	NA	NA	NA	NA	NA	NA
Aroclor-1232 (PCB-1232) (Dissolved)	NA	NA	NA	NA	NA	NA
Aroclor-1242 (PCB-1242) (Dissolved)	NA	NA	NA	NA	NA	NA
Aroclor-1248 (PCB-1248) (Dissolved)	NA	NA	NA	NA	NA	NA
Aroclor-1254 (PCB-1254) (Dissolved)	NA	NA	NA	NA	NA	NA
Aroclor-1260 (PCB-1260) (Dissolved)	NA	NA	NA	NA	NA	NA
Total PCBs (Dissolved)	NA	NA	NA	NA	NA	NA

**TABLE C-2**  
**GROUNDWATER ANALYTICAL DATA**  
(in mg/L)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	RFI-94-08 12/16/03	RFI-94-09 12/15/03	RFI-94-09 02/25/05	RFI-94-10 12/15/03	RFI-94-10 10/08/04	RFI-94-11 04/07/05
<b>Inorganic</b>						
Antimony	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA
Chromium Total	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA
Cyanide (total)	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA
Silver	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA
<b>Inorganic-Dissolved</b>						
Antimony (Dissolved)	NA	NA	NA	NA	NA	NA
Arsenic (Dissolved)	NA	NA	NA	NA	NA	NA
Barium (Dissolved)	NA	NA	NA	NA	NA	NA
Beryllium (Dissolved)	NA	NA	NA	NA	NA	NA
Cadmium (Dissolved)	NA	NA	NA	NA	NA	NA
Chromium Total (Dissolved)	NA	NA	NA	NA	NA	NA
Cobalt (Dissolved)	NA	NA	NA	NA	NA	NA
Copper (Dissolved)	NA	NA	NA	NA	NA	NA
Cyanide (dissolved)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	NA	NA	NA	NA	NA	NA
Manganese (Dissolved)	NA	NA	NA	NA	NA	NA
Mercury (Dissolved)	NA	NA	NA	NA	NA	NA
Nickel (Dissolved)	NA	NA	NA	NA	NA	NA
Selenium (Dissolved)	NA	NA	NA	NA	NA	NA
Silver (Dissolved)	NA	NA	NA	NA	NA	NA
Thallium (Dissolved)	NA	NA	NA	NA	NA	NA
Vanadium (Dissolved)	NA	NA	NA	NA	NA	NA
Zinc (Dissolved)	NA	NA	NA	NA	NA	NA

**TABLE C-3  
MDEQ PART 201 GROUNDWATER CRITERIA**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

(for constituents listed in the Project Analyte List)  
(concentrations presented in milligrams per liter)

	Chemical Abstract Service Number	Residential & Commercial I Drinking Water Criteria (RDW)	Industrial & Commercial II, III & IV Drinking Water Criteria (IDW)	Groundwater Surface Water Interface Criteria (GSI)	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria (RGVIA)	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria (IGVIA)	Groundwater Contact Criteria (GCC)	Flammability and Explosivity Screening Level (FE)	Acute Inhalation Screening Level (GAI)
<b>VOC</b>									
1,1,1-Trichloroethane	71556	0.2 {A}	0.2 {A}	0.2	660	1,300 {S}	1,300 {S}	{ID}	1,300 {S}
1,1,2,2-Tetrachloroethane	79345	0.0085	0.035	0.078 {X}	12	77	4.7	{ID}	{ID}
1,1,2-Trichloroethane	79005	0.005 {A}	0.005 {A}	0.33 {X}	17	110	21	{NA}	{ID}
1,1-Dichloroethane	75343	0.88	2.5	0.74	1,000	2,300	2,400	380	{ID}
1,1-Dichloroethene	75354	0.007 {I,A}	0.007 {I,A}	0.065 {I,X}	0.2 {I}	1.3 {I}	11 {I}	97 {I}	140 {I}
1,2,4-Trichlorobenzene	120821	0.07 {A}	0.07 {A}	0.03	300 {S}	300 {S}	19	{NA}	300 {S}
1,2-Dibromo-3-chloropropane (DBCP)	96128	0.0002 {A}	0.0002 {A}	{NA}	1.2 {S}	1.2 {S}	0.39	{NA}	{ID}
1,2-Dibromoethane (Ethylene Dibromide)	106934	0.00005 {A}	0.00005 {A}	0.0002 {X}	2.4	15	0.025	{ID}	{ID}
1,2-Dichlorobenzene	95501	0.6 {A}	0.6 {A}	0.016	160 {S}	160 {S}	160 {S}	{NA}	160 {S}
1,2-Dichloroethane	107062	0.005 {I,A}	0.005 {I,A}	0.36 {I,X}	9.6 {I}	59 {I}	19 {I}	2,500 {I}	{ID}
1,2-Dichloropropane	78875	0.005 {I,A}	0.005 {I,A}	0.29 {I,X}	16 {I}	36 {I}	16 {I}	550 {I}	2,800 {I,S}
1,3-Dichlorobenzene	541731	0.0066	0.019	0.038	{ID}	{ID}	2	{ID}	{ID}
1,4-Dichlorobenzene	106467	0.075 {A}	0.075 {A}	0.013	16	74 {S}	6.4	{NA}	{ID}
2-Butanone (Methyl Ethyl Ketone)	78933	13 {I}	38 {I}	2.2 {I}	240,000 {I,S}	240,000 {I,S}	240,000 {I,S}	{ID}	240,000 {I,S}
2-Hexanone	591786	1	2.9	{NA}	4,200	8,700	5,200	{NA}	{ID}
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	108101	1.8 {I}	5.2 {I}	{ID}	20,000 {I,S}	20,000 {S}	13,000 {I}	{ID}	20,000 {I,S}
Acetone	67641	0.73 {I}	2.1 {I}	1.7 {I}	1,000,000 {I,D,S}	1,000,000 {I,D,S}	31,000 {I}	15,000 {I}	1,000,000 {I,D}
Benzene	71432	0.005 {I,A}	0.005 {I,A}	0.2 {I,X}	5.6 {I}	35 {I}	11 {I}	68 {I}	67 {I}
Bromodichloromethane	75274	0.08 {AW}	0.08 {A,W}	{ID}	4.8	37	14	{ID}	{ID}
Bromoform	75252	0.08 {AW}	0.08 {A,W}	{ID}	470	3,100 {S}	140	{ID}	{ID}
Bromomethane (Methyl Bromide)	74839	0.01	0.029	0.035	4	9	70	{ID}	{ID}
Carbon disulfide	75150	0.8 {I,R}	2.3 {I,R}	{ID}	250 {I,R}	550 {I,R}	1,200 {I,R,S}	13 {I,R}	{ID}
Carbon tetrachloride	56235	0.005 {A}	0.005 {A}	0.045 {X}	0.37	2.4	4.6	{ID}	96
Chlorobenzene	108907	0.1 {I,A}	0.1 {I,A}	0.047 {I}	210 {I}	470 {I,S}	86 {I}	160 {I}	{ID}
Chloroethane	75003	0.43	1.7	{ID}	5,700 {S}	5,700 {S}	440	110	{ID}
Chloroform (Trichloromethane)	67663	0.08 {A,W}	0.08 {A,W}	0.17 {X}	28	180	150	{ID}	{ID}
Chloromethane (Methyl Chloride)	74873	0.26 {I}	1.1 {I}	{ID}	8.6 {I}	45 {I}	490 {I}	36 {I}	210 {I}
cis-1,2-Dichloroethene	156592	0.07 {A}	0.07 {A}	0.62	93	210	200	530	{ID}
cis-1,3-Dichloropropene	10061015	--	--	--	--	--	--	--	--
Cyclohexane	110827	--	--	--	--	--	--	--	--
Dibromochloromethane	124481	0.08 {A,W}	0.08 {A,W}	{ID}	14	110	18	{ID}	{ID}
Dichlorodifluoromethane (CFC-12)	75718	1.7	4.8	{ID}	220	300 {S}	300 {S}	{ID}	{ID}
Ethylbenzene	100414	0.7 {I,E}	0.7 {I,E}	0.018 {I}	110 {I}	170 {I,S}	170 {I,S}	43 {I}	170 {I,S}
Isopropylbenzene	98828	0.8	2.3	{ID}	56 {S}	56 {S}	56 {S}	29	{ID}
Methyl acetate	79209	--	--	--	--	--	--	--	--
Methyl cyclohexane	108872	--	--	--	--	--	--	--	--
Methyl Tert Butyl Ether	1634044	0.24 {E}	0.69 {E}	0.73 {X}	47,000 {S}	47,000 {S}	610	{ID}	{ID}
Methylene chloride	75092	0.005 {A}	0.005 {A}	0.94 {X}	220	1,400	220	{ID}	{ID}

**TABLE C-3  
MDEQ PART 201 GROUNDWATER CRITERIA**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

(for constituents listed in the Project Analyte List)  
(concentrations presented in milligrams per liter)

	Chemical Abstract Service Number	Residential & Commercial I Drinking Water Criteria (RDW)	Industrial & Commercial II, III & IV Drinking Water Criteria (IDW)	Groundwater Surface Water Interface Criteria (GSI)	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria (RGVIA)	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria (IGVIA)	Groundwater Contact Criteria (GCC)	Flammability and Explosivity Screening Level (FE)	Acute Inhalation Screening Level (GAI)
<b>VOC (Cont'd.)</b>									
o-Xylene	95476	--	--	--	--	--	--	--	--
Styrene	100425	0.1 {A}	0.1 {A}	0.08	170	310 {S}	9.7	140	310 {S}
Tetrachloroethene	127184	0.005 {A}	0.005 {A}	0.045 {X}	25	170	12	{ID}	200 {S}
Toluene	108883	1 {I,E}	1 {I,E}	0.14 {I}	530 {I,S}	530 {I,S}	530 {I,S}	61 {I}	{ID}
trans-1,2-Dichloroethene	156605	0.1 {A}	0.1 {A}	1.5	85	200	220	230	{ID}
trans-1,3-Dichloropropene	10061026	--	--	--	--	--	--	--	--
Trichloroethene	79016	0.005 {A}	0.005 {A}	0.2 {X}	15	97	22	{ID}	1,100 {S}
Trichlorofluoromethane (CFC-11)	75694	2.6	7.3	{NA}	1,100 {S}	1,100 {S}	1,100 {S}	{ID}	1,100 {S}
Trifluorotrchloroethane (Freon 113)	76131	170 {S}	170 {S}	0.032	170 {S}	170 {S}	170 {S}	{ID}	170 {S}
Vinyl chloride	75014	0.002 {A}	0.002 {A}	0.015	1.1	13	1	33	{ID}
Xylenes (total)	1330207	10 {I,E}	10 {I,E}	0.035 {I}	190 {I,S}	190 {I,S}	190 {I,S}	70 {I}	190 {I,S}
<b>SVOC</b>									
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	108601	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	95954	0.73	2.1	{NA}	{NLV}	{NLV}	170	{ID}	{ID}
2,4,6-Trichlorophenol	88062	0.12	0.47	0.0044	{NLV}	{NLV}	10	{ID}	{ID}
2,4-Dichlorophenol	120832	0.073	0.21	0.019	{NLV}	{NLV}	48	{ID}	{ID}
2,4-Dimethylphenol	105679	0.37	1	0.38	{NLV}	{NLV}	520	{ID}	{ID}
2,4-Dinitrophenol	51285	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	121142	0.0077	0.032	{NA}	{NLV}	{NLV}	8.6	{ID}	{ID}
2,6-Dinitrotoluene	606202	--	--	--	--	--	--	--	--
2-Chloronaphthalene	91587	1.8	5.2	{NA}	{ID}	{ID}	6.7 {S}	{ID}	{ID}
2-Chlorophenol	95578	0.045	0.13	0.022	{ID}	{ID}	94	{ID}	{ID}
2-Methylnaphthalene	91576	0.26	0.75	{ID}	{ID}	{ID}	25 {S}	{ID}	{ID}
2-Methylphenol	95487	--	--	--	--	--	--	--	--
2-Nitroaniline	88744	--	--	--	--	--	--	--	--
2-Nitrophenol	88755	0.02	0.058	{ID}	{NLV}	{NLV}	79	{ID}	{ID}
3,3'-Dichlorobenzidine	91941	0.0011	0.0043	0.0003 {X}	{NLV}	{NLV}	0.18	{ID}	{ID}
3-Methylphenol	108394	--	--	--	--	--	--	--	--
3-Nitroaniline	99092	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	534521	0.02 {M}	0.02 {M}	{NA}	{NLV}	{NLV}	9.5	{ID}	{ID}
4-Bromophenyl phenyl ether	101553	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	59507	0.15	0.42	0.0074	{NLV}	{NLV}	79	{ID}	{ID}
4-Chloroaniline	106478	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	7005723	--	--	--	--	--	--	--	--
4-Nitroaniline	100016	--	--	--	--	--	--	--	--
4-Nitrophenol	100027	--	--	--	--	--	--	--	--
Acenaphthene	83329	1.3	3.8	0.019	4.2 {S}	4.2 {S}	4.2 {S}	{ID}	{ID}
Acenaphthylene	208968	0.052	0.15	{ID}	3.9 {S}	3.9 {S}	3.9 {S}	{ID}	{ID}

**TABLE C-3  
MDEQ PART 201 GROUNDWATER CRITERIA**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

(for constituents listed in the Project Analyte List)  
(concentrations presented in milligrams per liter)

	Chemical Abstract Service Number	Residential & Commercial I Drinking Water Criteria (RDW)	Industrial & Commercial II, III & IV Drinking Water Criteria (IDW)	Groundwater Surface Water Interface Criteria (GSI)	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria (RGVIA)	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria (IGVIA)	Groundwater Contact Criteria (GCC)	Flammability and Explosivity Screening Level (FE)	Acute Inhalation Screening Level (GAI)
<b>SVOC (Cont'd.)</b>									
Acetophenone	98862	1.5	4.4	{ID}	6,100 {S}	6,100 {S}	6,100 {S}	{ID}	{ID}
Anthracene	120127	0.043 {S}	0.043 {S}	{ID}	0.043 {S}	0.043 {S}	0.043 {S}	{ID}	{ID}
Atrazine	1912249	0.003 {A}	0.003 {A}	0.0073 {X}	{NLV}	{NLV}	5.4	{ID}	{ID}
Benzaldehyde	100527	--	--	--	--	--	--	--	--
Benzo(a)anthracene	56553	0.0021 {Q}	0.0085 {Q}	{ID}	{NLV}	{NLV}	0.0094 {Q,S,AA}	{ID}	{ID}
Benzo(a)pyrene	50328	0.005 {Q,A}	0.005 {Q,A}	{ID}	{NLV}	{NLV}	0.001 {Q,M,AA}	{ID}	{ID}
Benzo(b)fluoranthene	205992	0.0015 {Q,S,AA}	0.0015 {Q,S,AA}	{ID}	{ID}	{ID}	0.0015 {Q,S,AA}	{ID}	{ID}
Benzo(g,h,i)perylene	191242	0.001 {M}	0.001 {M}	{NA}	{NLV}	{NLV}	0.001 {M,A,A}	{ID}	{ID}
Benzo(k)fluoranthene	207089	0.001 {Q}	0.001 {Q,M}	{NA}	{NLV}	{NLV}	0.001 {Q,M,AA}	{ID}	{ID}
Biphenyl	92524	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	111911	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	111444	0.002 {I}	0.0083 {I}	0.015 {I,X}	38 {I}	210 {I}	5.7 {I}	17,000 {I,S}	17,000 {I,S}
bis(2-Ethylhexyl)phthalate	117817	0.006 {A}	0.006 {A}	0.032	{NLV}	{NLV}	0.32 {AA}	{NA}	0.34 {S}
Butyl benzylphthalate	85687	1.2	2.7 {S}	0.014 {X}	{NLV}	{NLV}	2.7 {S}	{ID}	{ID}
Caprolactam	105602	5.8	17	{NA}	{NLV}	{NLV}	390,000	{NA}	1,000,000 {D}
Carbazole	86748	0.085	0.35	0.01 {M}	{NLV}	{NLV}	7.4	{ID}	{ID}
Chrysene	218019	0.0016 {S,Q}	0.0016 {Q,S}	{ID}	{ID}	{ID}	0.0016 {Q,S,AA}	{ID}	{ID}
Dibenz(a,h)anthracene	53703	0.002 {Q,M}	0.002 {Q,M}	{ID}	{NLV}	{NLV}	0.002 {Q,M,AA}	{ID}	{ID}
Dibenzofuran	132649	{ID}	{ID}	0.004	{ID}	{ID}	{ID}	{ID}	{ID}
Diethyl phthalate	84662	5.5	16	0.11	{NLV}	{NLV}	1,100 {S}	{NA}	{ID}
Dimethyl phthalate	131113	73	210	{NA}	{NLV}	{NLV}	4,200 {S}	{NA}	{ID}
Di-n-butylphthalate	84742	0.88	2.5	0.0097	{NLV}	{NLV}	11 {S}	{NA}	{ID}
Di-n-octyl phthalate	117840	0.13	0.38	{ID}	{NLV}	{NLV}	0.4	{ID}	{ID}
Fluoranthene	206440	0.21 {S}	0.21 {S}	0.0016	0.21 {S}	0.21 {S}	0.21 {S}	{ID}	{ID}
Fluorene	86737	0.88	2 {S}	0.012	2 {S}	2 {S}	2 {S}	{ID}	{ID}
Hexachlorobenzene	118741	0.001 {A}	0.001 {A}	0.0002 {M}	0.44	3	0.0046	{ID}	{ID}
Hexachlorobutadiene	87683	0.015	0.042	0.00005	1.6	3.2 {S}	0.4	{ID}	{ID}
Hexachlorocyclopentadiene	77474	0.05 {A}	0.05 {A}	{ID}	0.13	0.42	1.6	{ID}	{ID}
Hexachloroethane	67721	0.0073	0.021	0.0067 {X}	27	50 {S}	1.9	{ID}	{ID}
Indeno(1,2,3-cd)pyrene	193395	0.002 {Q,M}	0.002 {Q,M}	{ID}	{NLV}	{NLV}	0.002 {Q,M,AA}	{ID}	{ID}
Isophorone	78591	0.77	3.1	0.57 {X}	{NLV}	{NLV}	990	{ID}	12,000 {S}
Methylphenols, Total	1319773	0.37 {J}	1 {J}	0.071 {J}	{NLV}	{NLV}	810 {J}	{NA}	{ID}
Naphthalene	91203	0.52	1.5	0.013	31 {S}	31 {S}	31 {S}	{NA}	31 {S}
Nitrobenzene	98953	0.0034 {I}	0.0096 {I}	0.18 {I,X}	280 {I}	550 {I}	11 {I}	{NA}	{ID}
N-Nitrosodi-n-propylamine	621647	0.005 {M}	0.005 {M}	{NA}	{NLV}	{NLV}	0.36	{ID}	{ID}
N-Nitrosodiphenylamine	86306	0.27	1.1	{NA}	{NLV}	{NLV}	35 {S}	{ID}	{ID}
Pentachlorophenol	87865	0.001 {A}	0.001 {A}	0.0028 {G,X}	{NLV}	{NLV}	0.2	{ID}	{ID}

**TABLE C-3**  
**MDEQ PART 201 GROUNDWATER CRITERIA**  
**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

(for constituents listed in the Project Analyte List)  
(concentrations presented in milligrams per liter)

	Chemical Abstract Service Number	Residential & Commercial I Drinking Water Criteria (RDW)	Industrial & Commercial II, III & IV Drinking Water Criteria (IDW)	Groundwater Surface Water Interface Criteria (GSI)	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria (RGVIA)	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria (IGVIA)	Groundwater Contact Criteria (GCC)	Flammability and Explosivity Screening Level (FE)	Acute Inhalation Screening Level (GAI)
<b>SVOC (Cont'd.)</b>									
Phenanthrene	85018	0.052	0.15	0.0024	1 {S}	1 {S}	1 {S}	{ID}	{ID}
Phenol	108952	4.4	13	0.21	{NLV}	{NLV}	29,000	{NA}	{ID}
Pyrene	129000	0.14 {S}	0.14 {S}	{ID}	0.14 {S}	0.14 {S}	0.14 {S}	{ID}	{ID}
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	12674112	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	11104282	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	11141165	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	53469219	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	12672296	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	11097691	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	11096825	--	--	--	--	--	--	--	--
Total PCBs	1336363	0.0005 {J,T,A}	0.0005 {J,T,A}	0.0002 {J,T,M}	0.045 {J,T,S}	0.045 {J,T,S}	0.0033 {J,T,AA}	{ID}	{ID}
<b>PCB-Dissolved</b>									
Aroclor-1016 (PCB-1016) (Dissolved)	12674112	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221) (Dissolved)	11104282	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232) (Dissolved)	11141165	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242) (Dissolved)	53469219	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248) (Dissolved)	12672296	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254) (Dissolved)	11097691	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260) (Dissolved)	11096825	--	--	--	--	--	--	--	--
Total PCBs (Dissolved)	1336363	0.0005 {J,T,A}	0.0005 {J,T,A}	0.0002 {J,T,M}	0.045 {J,T,S}	0.045 {J,T,S}	0.0033 {J,T,AA}	{ID}	{ID}
<b>Inorganic</b>									
Antimony	7440360	0.006 {A}	0.006 {A}	0.13 {X}	{NLV}	{NLV}	68	{ID}	{ID}
Arsenic	7440382	0.05 {A}	0.05 {A}	0.15 {X}	{NLV}	{NLV}	4.3	{ID}	{ID}
Barium	7440393	2 {B,A}	2 {B,A}	1,308 {B,G,X}	{NLV}	{NLV}	14,000 {B}	{ID}	{ID}
Beryllium	7440417	0.004 {A}	0.004 {A}	0.0323 {G}	{NLV}	{NLV}	290	{ID}	{ID}
Cadmium	7440439	0.005 {B,A}	0.005 {B,A}	0.0048 {B,G,X}	{NLV}	{NLV}	190 {B}	{ID}	{ID}
Chromium Total	7440473	0.1 {A}	0.1 {A}	0.011	{NLV}	{NLV}	460	{ID}	{ID}
Cobalt	7440484	0.04	0.1	0.1	{NLV}	{NLV}	2,400	{ID}	{ID}
Copper	7440508	1.4 {B,E}	4 {B,E}	0.0216 {B,G}	{NLV}	{NLV}	7,400 {B}	{ID}	{ID}
Cyanide (total)	57125	0.2 {P,R,A}	0.2 {P,R,A}	0.0052 {P,R}	{NLV}	{NLV}	57 {P,R}	{ID}	{ID}
Lead	7439921	0.004 {B,L}	0.004 {B,L}	0.0309 {B,G,X}	{NLV}	{NLV}	{ID}	{ID}	{ID}
Manganese	7439965	0.86 {B,E}	2.5 {B,E}	4.767 {B,G,X}	{NLV}	{NLV}	9,100 {B}	{ID}	{ID}
Mercury	7439976	0.002 {B,Z,A}	0.002 {A,B,Z}	0.000013 {B,Z}	0.056 {B,Z,S}	0.056 {B,Z,S}	0.056 {B,Z,S}	{ID}	{ID}
Nickel	7440020	0.1 {B,A}	0.1 {B,A}	0.1243 {B,G}	{NLV}	{NLV}	74,000 {B}	{ID}	{ID}
Selenium	7782492	0.05 {B,A}	0.05 {B,A}	0.005 {B}	{NLV}	{NLV}	970 {B}	{ID}	{ID}
Silver	7440224	0.034 {B}	0.098 {B}	0.0002 {B,M}	{NLV}	{NLV}	1,500 {B}	{ID}	{ID}

**TABLE C-3**  
**MDEQ PART 201 GROUNDWATER CRITERIA**  
**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

(for constituents listed in the Project Analyte List)  
(concentrations presented in milligrams per liter)

	Chemical Abstract Service Number	Residential & Commercial I Drinking Water Criteria (RDW)	Industrial & Commercial II, III & IV Drinking Water Criteria (IDW)	Groundwater Surface Water Interface Criteria (GSI)	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria (RGVIA)	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria (IGVIA)	Groundwater Contact Criteria (GCC)	Flammability and Explosivity Screening Level (FE)	Acute Inhalation Screening Level (GAI)
<b>Inorganic (Cont'd.)</b>									
Thallium	7440280	0.002 {B,A}	0.002 {B,A}	0.0037 {B,I, X}	{NLV}	{NLV}	13 {B}	{ID}	{ID}
Vanadium	7440622	0.0045	0.062	0.012	{NLV}	{NLV}	970	{ID}	{ID}
Zinc	7440666	2.4 {B}	5 {B,E}	0.2827 {B,G}	{NLV}	{NLV}	110,000 {B}	{ID}	{ID}
<b>Inorganic-Dissolved</b>									
Antimony (Dissolved)	7440360	0.006 {A}	0.006 {A}	0.13 {X}	{NLV}	{NLV}	68	{ID}	{ID}
Arsenic (Dissolved)	7440382	0.05 {A}	0.05 {A}	0.15 {X}	{NLV}	{NLV}	4.3	{ID}	{ID}
Barium (Dissolved)	7440393	2 {B,A}	2 {B,A}	1.308 {B,G,X}	{NLV}	{NLV}	14,000 {B}	{ID}	{ID}
Beryllium (Dissolved)	7440417	0.004 {A}	0.004 {A}	0.0323 {G}	{NLV}	{NLV}	290	{ID}	{ID}
Cadmium (Dissolved)	7440439	0.005 {B,A}	0.005 {B,A}	0.0048 {B,G,X}	{NLV}	{NLV}	190 {B}	{ID}	{ID}
Chromium Total (Dissolved)	7440473	0.1 {A}	0.1 {A}	0.011	{NLV}	{NLV}	460	{ID}	{ID}
Cobalt (Dissolved)	7440484	0.04	0.1	0.1	{NLV}	{NLV}	2,400	{ID}	{ID}
Copper (Dissolved)	7440508	1.4 {B,E}	4 {B,E}	0.0216 {B,G}	{NLV}	{NLV}	7,400 {B}	{ID}	{ID}
Cyanide (dissolved)	57125	0.2 {P,R,A}	0.2 {P,R,A}	0.0052 {P,R}	{NLV}	{NLV}	57 {P,R}	{ID}	{ID}
Lead (Dissolved)	7439921	0.004 {B,L}	0.004 {B,L}	0.0309 {B,G,X}	{NLV}	{NLV}	{ID}	{ID}	{ID}
Manganese (Dissolved)	7439965	0.86 {B,E}	2.5 {B,E}	4.767 {B,G,X}	{NLV}	{NLV}	9,100 {B}	{ID}	{ID}
Mercury (Dissolved)	7439976	0.002 {B,Z,A}	0.002 {A,B,Z}	0.0000013 {B,Z}	0.056 {B,Z,S}	0.056 {B,Z,S}	0.056 {B,Z,S}	{ID}	{ID}
Nickel (Dissolved)	7440020	0.1 {B,A}	0.1 {B,A}	0.1243 {B,G}	{NLV}	{NLV}	74,000 {B}	{ID}	{ID}
Selenium (Dissolved)	7782492	0.05 {B,A}	0.05 {B,A}	0.005 {B}	{NLV}	{NLV}	970 {B}	{ID}	{ID}
Silver (Dissolved)	7440224	0.034 {B}	0.098 {B}	0.0002 {B,M}	{NLV}	{NLV}	1,500 {B}	{ID}	{ID}
Thallium (Dissolved)	7440280	0.002 {B,A}	0.002 {B,A}	0.0037 {B,I, X}	{NLV}	{NLV}	13 {B}	{ID}	{ID}
Vanadium (Dissolved)	7440622	0.0045	0.062	0.012	{NLV}	{NLV}	970	{ID}	{ID}
Zinc (Dissolved)	7440666	2.4 {B}	5 {B,E}	0.2827 {B,G}	{NLV}	{NLV}	110,000 {B}	{ID}	{ID}

**TABLE C-4  
NOTES FOR GROUNDWATER ANALYTICAL DATA TABLES**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT MICHIGAN**

**General Notes:**

Samples were collected by Blasland, Bouck & Lee, Inc., and submitted to CT&E Environmental Services, Inc. and Merit Laboratories, for analysis of Project Analyte List (PAL) volatile organic compounds, PAL semivolatile organic compounds, polychlorinated biphenyls (PCBs), and PAL inorganics. Duplicate results are presented in brackets. Groundwater concentrations are presented in milligram per liter (mg/L). Total Methylphenols reported as the sum of 2-methylphenol and 3&4-methylphenol. Total Xylenes reported as the sum of m&p-Xylene and o-Xylene. Total PCBs reported as the sum of PCB aroclors. Highlighted cells represent constituent concentrations that exceed at least one of the listed Michigan Part 201 Criteria:

For Groundwater:

RDW = Residential Drinking Water criteria, updated December 2004.  
IDW = Industrial Drinking Water criteria, updated December 2004.  
GSI = Groundwater/Surface Water Interaction criteria, updated December 2004.  
GCC = Groundwater Contact criteria, updated December 2004.  
GAI = Groundwater Acute Inhalation Screening Level, updated December 2004.  
RGVIA = Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation criteria, updated December 2004.  
IGVIA = Industrial & Commercial II, III, & IV Groundwater Volatilization to Indoor Air Inhalation criteria, updated December 2004.  
FE = Flammability and Explosivity Screening Level, updated December 2004.

**Data Qualifiers:**

ND = Not detected. The value in parentheses represents the associated detection limit.  
NS = Not analyzed for this constituent.  
D = Concentration is based on a diluted sample analysis.  
J = The compound/constituent was positively identified; however, the associated numerical value is an estimated concentration only  
E = Measured concentration exceeded the linear range of the instrument. A diluted sample analysis was run; however, the undiluted result was chosen as representative of the sample concentration.  
R = Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data shall not be used for any qualitative or quantitative purposes.  
ulf = Sample collected using ultra low flow collection methods.

**MDEQ Criteria Qualifiers:**

ID = *Inadequate data* to develop criterion.  
NA = Criterion or value is *not available* or, as is the case for Csat, *not applicable*.  
NLV = Hazardous substance is *not likely to volatilize* under most conditions.

- (A) Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 pa 399, mcl 325.1005.
- (B) Background, as defined in R 299.5701(b), may be substituted if higher than the calculated cleanup criterion.
- (C) Value presented is a screening level based on the chemical-specific generic soil saturation concentrations since the calculated risk-based criterion is greater than Csat. Concentrations greater than Csat are acceptable cleanup criteria for this pathway where a site-specific demonstration indicates that free-phase material containing a hazardous substance is not present.
- (D) Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).
- (E) Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). A notice of aesthetic impact may be employed as an institutional control mechanism if groundwater concentrations exceed the aesthetic drinking water criterion, but do not exceed the applicable health-based drinking water value provided in the following table:

Hazardous Substance	Chemical Abstract Service Number	Residential Health-Based Drinking Water Value (ug/L)	Industrial-Commercial Health-Based Drinking Water Value (ug/L)
Aluminum	7429905	300	4,100
tertiary Amyl methyl ether	994058	910	2,600
Copper	7440508	1,400	4,000
Diethyl ether	60297	3,700	10,000
Ethylbenzene	100414	700	700
Iron	7439896	2,000	5,600
Manganese	7439965	860	2,500
Methyl-tert-butyl ether (MTBE)	1634044	240	690
Toluene	108883	1,000	1,000
1,2,4-Trimethylbenzene	95636	1,000	2,900
1,3,5-Trimethylbenzene	108678	1,000	2,900
Xylenes	1330207	10,000	10,000

**TABLE C-4  
NOTES FOR GROUNDWATER ANALYTICAL DATA TABLES**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT MICHIGAN**

**MDEQ Criteria Qualifiers (continued):**

- (F) Criterion is based on adverse impacts to plant life and phytotoxicity  
 (G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water. Where water hardness exceeds 400 mg CaCO<sub>3</sub>/L, use 400 mg CaCO<sub>3</sub>/L for the FCV calculation. The FCV formula provides values in units of ug/L or ppb. The generic GSI criterion is the lesser of the calculated FCV, the wildlife value (WV), and the surface water human non-drinking water value (HNDV). The soil GSI protection criteria for these hazardous substances are the greater of the 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote.

Hazardous Substance	FCV Formula (ug/L)	FCV Conversion Factor (CF)	WV (ug/L)	HNDV (ug/L)
Acetate	7.0362)	NA	NA	1.30E+06
Barium <sup>Å</sup>	EXP(1.0629*(LnH)+1.1869)	NA	NA	1.60E+05
Beryllium	EXP(2.5279*(LnH)-10.7689)	NA	NA	1,200
Cadmium <sup>Å</sup>	(EXP(0.7852*(LnH)-2.715))*CF	1.101672-((LnH)*(0.041838))	NA	130
Chromium (III) <sup>Å</sup>	(EXP(0.819*(LnH)+0.6848))*CF	0.86	NA	9,400
Copper	(EXP(0.8545*(LnH)-1.702)) *CF	0.96	NA	64,000
Lead <sup>Å</sup>	(EXP(1.273*(LnH)-3.296))*CF	1.46203-((LnH)*(0.14571))	NA	190
Manganese	EXP(0.8784*(LnH)+3.5199)	NA	NA	59,000
Nickel	(EXP(0.846*(LnH)+0.0584))*CF	0.997	NA	2.10E+05
Pentachloropheno <sup>Å</sup>	EXP(1.005*(pH)-5.134)	NA	NA	2.8
Zinc	(EXP(0.8473*(LnH)+0.884))*CF	0.986	NA	22,000

where,

Å =The GSI criterion developed here may not be protective for surface water that is used as a drinking water source.

- (H) Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria. If both Cr III and Cr VI are present in groundwater, the total concentration of both cannot exceed the drinking water criterion of 100 ug/l. If analytical data are provided for total chromium only, they shall be compared to the cleanup criteria for Cr VI. Cr III soil cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future, through an approved land or resource use restriction.
- (I) Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. §261.21 (revised as of July 1, 2001),
- (J) Hazardous substance may be present in several isomer forms. Isomer-specific concentrations shall be added together for comparison to criteria.
- (K) Hazardous substance may be flammable or explosive, or both.
- (L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules. The generic residential drinking water criterion of 4 ug/L is linked to the generic residential soil direct contact criterion of 400 mg/kg. A higher concentration in the drinking water, up to the state action level of 15 ug/L, may be allowed as a site-specific remedy and still allow for drinking water use, under Section 20120a(2) of the NREPA if soil concentrations are appropriately lower than 400 mg/kg. If a site-specific criterion is approved based on this subdivision, a notice shall be filed on the deed for all property where the groundwater concentrations will exceed 4 ug/L to provide notice of the potential for unacceptable risk if soil or groundwater concentrations increase. Acceptable combinations of site-specific soil and drinking water concentrations are presented in the following table:

**Acceptable Combinations of Lead in Drinking Water and Soil**

Drinking Water Concentration (ug/L)	Soil Concentration (mg/kg)
5	386-395
6	376-385
7	376-385
8	366-375
9	356-365
10	346-355
11	336-345
12	336-345
13	326-335
14	316-325
15	306-315

**TABLE C-4  
NOTES FOR GROUNDWATER ANALYTICAL DATA TABLES**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT MICHIGAN**

**MDEQ Criteria Qualifiers (continued):**

- (M) Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.
- (P) Amenable cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with all groundwater criteria. Total cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with soil criteria. Industrial-commercial direct contact criteria may not be protective of the potential for release of hydrogen cyanide gas. Additional land or resource use restrictions may be necessary to protect for the acute inhalation concerns associated with hydrogen cyanide gas.
- (Q) Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.
- (R) Hazardous substance may exhibit the characteristic of reactivity as defined in 40 C.F.R. §261.23 (revised as of July 1, 2001)
- (S) Criterion defaults to the hazardous substance-specific water solubility limit.
- (W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 ug/L. Concentrations of trihalomethanes in soil shall be added together to determine compliance with the drinking water protection criterion of 1,600 ug/kg.
- (X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting waters or discharge in close proximity to a water supply intake in inland surface waters, the generic GSI criterion shall be the surface water human drinking water value (HDV) listed in the table in this footnote, except for those HDV indicated with an asterisk. For HDV with an asterisk, the generic GSI criterion shall be the lowest of the HDV, the WV, and the calculated FCV. see formulas in footnote (G). Soil protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria for compounds with an asterisk shall be the greater of 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote.

Hazardous Substance	Chemical Abstract Service Number	Surface Water Human Drinking Water Values (HDV) (ug/L)	Soil GSI Protection Criteria (HDV) (ug/L)
Acrylonitrile	107131	2.0 (M); 0.87	100 (M); 17
Alachlor	15972608	3.5	91
Antimony	7440360	2	1,400
Arsenic	7440382	50	23,000
Atrazine	1912249	4.3	86
Barium	7440393	1,900*	*
Benzene	71432	12	240
bis(2-Chloroethyl)ether	111444	1 (M); 0.79	100 (M); 20
Bromate	15541454	10 (M); 0.5	200 (M); 10
Butyl benzyl phthalate	85687	6.9	13,000
Cadmium	7440439	2.5*	*
Carbon tetrachloride	56235	5.6	110
Chloride	16887006	50,000	1.00E+06
Chloroform	67663	77	1,500
Chromium (III)	16065831	120*	*
Cyanazine	21725462	2 (M); 0.93	200 (M); 40
3,3'-Dichlorobenzidine	91941	0.3 (M); 0.14	2,000 (M); 7.7
1,2-Dichloroethane	107062	6	120
1,1-Dichloroethylene	75354	24	480
1,2-Dichloropropane	78875	9.1	180
N,N-Dimethylacetamide	127195	700	14,000
1,4-Dioxane	123911	34	680
Ethylene dibromide	106934	0.05 (M); 0.006	20 (M); 1.0
Ethylene glycol	107211	56,000	1.10E+06
Heptachlor	76448	0.01 (M); 0.0017	NLL
beta-Hexachlorocyclohexane	319857	0.024	20 (M)
Hexachloroethane	67721	5.3	310
Isophorone	78591	310	6,200
Isopropyl alcohol	67630	28,000	5.60E+05
Lead	7439921	14*	*
Manganese	7439965	3600	72,000
Methyl-tert-butyl ether (MTBE)	1634044	100	2,000
Methylene chloride	75092	47	940
Mirex	2385855	0.02 (M); 1.6E-5	NLL
Molybdenum	7439987	120	2,400
Nitrobenzene	98953	4.7	330 (M); 94
Pentachlorophenol	87865	1.8*	*
1,2,4,5-Tetrachlorobenzene	95943	2.8	3,300
1,1,1,2-Tetrachloroethane	630206	19	380
1,1,2,2-Tetrachloroethane	79345	3.2	64
Tetrachloroethylene	127184	11	220
Tetrahydrofuran	109999	350	7,000
Thallium	7440280	2.0 (M); 1.2	2,300
1,1,2-Trichloroethane	79005	12	240
Trichloroethylene	79016	29	580

(AA) = Comparison to these criteria may take into account an evaluation of whether the hazardous substances are adsorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater.

**TABLE C-5  
GROUNDWATER GSI CRITERIA DETERMINATION  
(See Criteria Footnotes "G" and "X" in Table C-4)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

Inorganic Constituent	LN (Hardness)	FCV Convers. Fact. (CF)	"G" Footnote Comparison		
			GW FCV (µg/L)	GW WV (µg/L)	GW HNDV (µg/L)
Barium (G, X)	5.63	NA	1308	NA	160,000
Beryllium (G)	5.63	NA	32	NA	1,200
Cadmium (G, X)	5.63	0.856	4.7	NA	130
Chromium (G, X)	5.63	0.86	172	NA	9,400
Copper (G)	5.63	0.96	22	NA	64,000
Lead (G, X)	5.63	0.641	31	NA	190
Manganese (G, X)	5.63	NA	1307	NA	59,000
Nickel (G)	5.63	0.997	124	NA	215,000
Zinc	5.63	0.986	283	NA	22,000

**Notes:**

Final Chronic Value (FCV) calculations and comparison to Wildlife Value (WV), Human Non-Drinking Water Value (HNDV).

Estimated hardness of Flint River:	280 mg/L
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# **Appendix D**

## **LNAPL Analytical Data**

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	20-162 09/17/02	20-162 12/20/02	20-503 09/17/02	20-503 04/02/03	20-503 05/19/03	20-FP8 09/17/02	20-FP8 12/20/02	31-7 09/17/02	31-7 12/20/02	32/66 Tunnel-0 09/12/03
<b>VOC</b>											
1,1,1-Trichloroethane	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
1,1,2,2-Tetrachloroethane	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
1,1,2-Trichloroethane	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
1,1-Dichloroethane	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
1,1-Dichloroethene	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
1,2,4-Trichlorobenzene	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	NA	NA	NA	1.3 UJ	NA	NA	6.3 U	NA	500 U	NA
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
1,2-Dichlorobenzene	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
1,2-Dichloroethane	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
1,2-Dichloroethene (total)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
1,3-Dichlorobenzene	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
1,4-Dichlorobenzene	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
2-Butanone (Methyl Ethyl Ketone)	mg/kg	NA	NA	NA	6.3 UJ	NA	NA	31 U	NA	2,500 U	NA
2-Hexanone	mg/kg	NA	NA	NA	6.3 U	NA	NA	31 U	NA	2,500 U	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	NA	NA	NA	6.3 U	NA	NA	31 U	NA	2,500 U	NA
Acetone	mg/kg	NA	NA	NA	6.3 U	NA	NA	31 U	NA	2,500 U	NA
Benzene	mg/kg	NA	NA	NA	1.3 U	NA	NA	7.9	NA	700	NA
Bromodichloromethane	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Bromoform	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Bromomethane (Methyl Bromide)	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Carbon disulfide	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Carbon tetrachloride	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Chlorobenzene	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Chloroethane	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Chloroform (Trichloromethane)	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Chloromethane (Methyl Chloride)	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
cis-1,2-Dichloroethene	mg/kg	NA	NA	NA	0.89 J	NA	NA	6.3 U	NA	500 U	NA
cis-1,3-Dichloropropene	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Cyclohexane	mg/kg	NA	NA	NA	1.9 J	NA	NA	31 U	NA	10,000	NA
Dibromochloromethane	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Dichlorodifluoromethane (CFC-12)	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Ethylbenzene	mg/kg	NA	NA	NA	12	NA	NA	39	NA	500 U	NA
Isopropylbenzene	mg/kg	NA	NA	NA	4.4	NA	NA	41 J	NA	790 J	NA
m&p-Xylene	mg/kg	NA	NA	NA	35	NA	NA	190	NA	7,000	NA
Methyl acetate	mg/kg	NA	NA	NA	6.3 UJ	NA	NA	31 U	NA	2,500 U	NA
Methyl cyclohexane	mg/kg	NA	NA	NA	7.8	NA	NA	73	NA	26,000	NA
Methyl Tert Butyl Ether	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 UD	NA	500 U	NA
Methylene chloride	mg/kg	NA	NA	NA	1.9 J	NA	NA	31 UD	NA	2,500 U	NA
o-Xylene	mg/kg	NA	NA	NA	15	NA	NA	120 J	NA	3,000 J	NA
Styrene	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Tetrachloroethene	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	20-162 09/17/02	20-162 12/20/02	20-503 09/17/02	20-503 04/02/03	20-503 05/19/03	20-FP8 09/17/02	20-FP8 12/20/02	31-7 09/17/02	31-7 12/20/02	32/66 Tunnel-0 09/12/03
Toluene	mg/kg	NA	NA	NA	0.99 J	NA	NA	22	NA	3,900	NA
trans-1,2-Dichloroethene	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
trans-1,3-Dichloropropene	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Trichloroethene	mg/kg	NA	NA	NA	1.5	NA	NA	6.3 U	NA	500 U	NA
Trichlorofluoromethane (CFC-11)	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Trifluorotrchloroethane (Freon 113)	mg/kg	NA	NA	NA	6.3 U	NA	NA	31 U	NA	2,500 U	NA
Vinyl chloride	mg/kg	NA	NA	NA	1.3 U	NA	NA	6.3 U	NA	500 U	NA
Xylenes (total)	mg/kg	NA	NA	NA	50	NA	NA	310 J	NA	10,000 J	NA
<b>TCLP VOC</b>											
1,1-Dichloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform (Trichloromethane)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>SVOC</b>											
1,2,4-Trichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
2,4,5-Trichlorophenol	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
2,4,6-Trichlorophenol	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
2,4-Dichlorophenol	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
2,4-Dimethylphenol	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
2,4-Dinitrophenol	mg/kg	NA	2,000 U	NA	2,000 U	NA	NA	1,900 U	NA	2,000 U	NA
2,4-Dinitrotoluene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
2,6-Dinitrotoluene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
2-Chloronaphthalene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
2-Chlorophenol	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
2-Methylnaphthalene	mg/kg	NA	500 U	NA	190 J	NA	NA	490 U	NA	500 U	NA
2-Methylphenol	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
2-Nitroaniline	mg/kg	NA	2,000 U	NA	2,000 U	NA	NA	1,900 U	NA	2,000 U	NA
2-Nitrophenol	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
3&4-Methylphenol	mg/kg	NA	990 UJ	NA	990 UJ	NA	NA	970 UJ	NA	1,000 UJ	NA
3,3'-Dichlorobenzidine	mg/kg	NA	2,000 U	NA	2,000 UJ	NA	NA	1,900 U	NA	2,000 U	NA
3-Methylphenol	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	mg/kg	NA	2,000 U	NA	2,000 U	NA	NA	1,900 U	NA	2,000 U	NA
4,6-Dinitro-2-methylphenol	mg/kg	NA	2,000 U	NA	2,000 U	NA	NA	1,900 U	NA	2,000 U	NA

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	20-162 09/17/02	20-162 12/20/02	20-503 09/17/02	20-503 04/02/03	20-503 05/19/03	20-FP8 09/17/02	20-FP8 12/20/02	31-7 09/17/02	31-7 12/20/02	32/66 Tunnel-0 09/12/03
4-Bromophenyl phenyl ether	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
4-Chloro-3-methylphenol	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
4-Chloroaniline	mg/kg	NA	2,000 U	NA	2,000 U	NA	NA	1,900 U	NA	2,000 U	NA
4-Chlorophenyl phenyl ether	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
4-Nitroaniline	mg/kg	NA	2,000 U	NA	2,000 U	NA	NA	1,900 U	NA	2,000 U	NA
4-Nitrophenol	mg/kg	NA	2,000 U	NA	2,000 U	NA	NA	1,900 U	NA	2,000 U	NA
Acenaphthene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Acenaphthylene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Acetophenone	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Anthracene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Atrazine	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Benzaldehyde	mg/kg	NA	500 U	NA	490 UJ	NA	NA	490 UJ	NA	500 UJ	NA
Benzo(a)anthracene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Benzo(a)pyrene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Benzo(b)fluoranthene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Benzo(g,h,i)perylene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Benzo(k)fluoranthene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Biphenyl	mg/kg	NA	500 U	NA	280 J	NA	NA	490 U	NA	500 U	NA
bis(2-Chloroethoxy)methane	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
bis(2-Chloroethyl)ether	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
bis(2-Ethylhexyl)phthalate	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Butyl benzylphthalate	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Caprolactam	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Carbazole	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Chrysene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Dibenz(a,h)anthracene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Dibenzofuran	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Diethyl phthalate	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Dimethyl phthalate	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Di-n-butylphthalate	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Di-n-octyl phthalate	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Fluoranthene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Fluorene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Hexachlorobenzene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Hexachlorobutadiene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Hexachlorocyclopentadiene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Hexachloroethane	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Indeno(1,2,3-cd)pyrene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Isophorone	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Methylphenols, Total	mg/kg	NA	990 U	NA	990 U	NA	NA	970 U	NA	1,000 U	NA
Naphthalene	mg/kg	NA	500 U	NA	490 U	NA	NA	190 J	NA	430 JDM	NA
Nitrobenzene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
N-Nitrosodi-n-propylamine	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
N-Nitrosodiphenylamine	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	20-162 09/17/02	20-162 12/20/02	20-503 09/17/02	20-503 04/02/03	20-503 05/19/03	20-FP8 09/17/02	20-FP8 12/20/02	31-7 09/17/02	31-7 12/20/02	32/66 Tunnel-0 09/12/03
Pentachlorophenol	mg/kg	NA	2,000 U	NA	2,000 U	NA	NA	1,900 U	NA	2,000 U	NA
Phenanthrene	mg/kg	NA	67 JD	NA	500	NA	NA	490 U	NA	500 U	NA
Phenol	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
Pyrene	mg/kg	NA	500 U	NA	490 U	NA	NA	490 U	NA	500 U	NA
<b>TCLP SVOC</b>											
2,4,5-Trichlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyridine	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic</b>											
Antimony	mg/kg	NA	0.39 U	NA	0.37 U	NA	NA	0.16 J	NA	0.29 U	NA
Arsenic	mg/kg	NA	1.6 J	NA	0.13 J	NA	NA	17 J	NA	3.6 J	NA
Barium	mg/kg	NA	5.3	NA	1.2	NA	NA	2.6	NA	0.66 J	NA
Beryllium	mg/kg	NA	0.19 U	NA	0.19 U	NA	NA	0.20 U	NA	0.14 U	NA
Cadmium	mg/kg	NA	0.040 J	NA	0.013 J	NA	NA	0.064 J	NA	0.0070 J	NA
Chromium Total	mg/kg	NA	3.9 J	NA	2.7	NA	NA	29 J	NA	0.64 J	NA
Cobalt	mg/kg	NA	0.067 J	NA	0.37 U	NA	NA	0.073 J	NA	0.29 U	NA
Copper	mg/kg	NA	13 J	NA	0.18 J	NA	NA	4.7 J	NA	0.96 J	NA
Cyanide (total)	mg/kg	NA	NA	NA	NA	0.20 UJ	NA	0.20 U	NA	0.30 U	NA
Lead	mg/kg	NA	32 J	NA	1.6	NA	NA	2.8 J	NA	230 J	NA
Manganese	mg/kg	NA	1.5 J	NA	0.20 J	NA	NA	0.60 J	NA	0.060 J	NA
Mercury	mg/kg	NA	0.019 UJ	NA	NA	0.020 U	NA	0.020 UJ	NA	0.020 UJ	NA
Nickel	mg/kg	NA	1.8	NA	0.37 U	NA	NA	0.84	NA	1.9 J	NA
Selenium	mg/kg	NA	0.16 J	NA	0.19 U	NA	NA	0.23 J	NA	4.1 J	NA
Silver	mg/kg	NA	0.038 J	NA	0.12 J	NA	NA	0.39 U	NA	0.29 U	NA
Thallium	mg/kg	NA	0.39 U	NA	0.37 U	NA	NA	0.39 U	NA	0.29 U	NA
Vanadium	mg/kg	NA	1.5 J	NA	1.2	NA	NA	6.5 J	NA	0.17 J	NA
Zinc	mg/kg	NA	4.3	NA	4.7 J	NA	NA	3.1	NA	0.47 J	NA
<b>TCLP Inorganic</b>											
Arsenic	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	20-162 09/17/02	20-162 12/20/02	20-503 09/17/02	20-503 04/02/03	20-503 05/19/03	20-FP8 09/17/02	20-FP8 12/20/02	31-7 09/17/02	31-7 12/20/02	32/66 Tunnel-0 09/12/03
Selenium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>											
Aroclor-1016 (PCB-1016)	mg/kg	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	0.99 U	1.0 U
Aroclor-1221 (PCB-1221)	mg/kg	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	0.99 U	1.0 U
Aroclor-1232 (PCB-1232)	mg/kg	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	0.99 U	1.0 U
Aroclor-1242 (PCB-1242)	mg/kg	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	0.99 U	1.0 U
Aroclor-1248 (PCB-1248)	mg/kg	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	0.99 U	1.0 U
Aroclor-1254 (PCB-1254)	mg/kg	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	0.99 U	1.0 U
Aroclor-1260 (PCB-1260)	mg/kg	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	0.99 U	1.0 U
Aroclor-1262 (PCB-1262)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268 (PCB-1268)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	mg/kg	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	0.99 U	1.0 U
<b>Miscellaneous</b>											
Asbestos	%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bulk Density	g/cc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ignitability	deg f	>200	NA	>200	NA	NA	150	NA	50	NA	NA
Interfacial Tension	dynes/cm	NA	NA	NA	18	NA	NA	NA	NA	29	NA
pH Corrosivity	s.u.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Reactive Cyanide	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Reactive Sulfide	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Specific gravity	sg	NA	NA	NA	0.87	NA	NA	0.99	NA	0.75	NA
Total Petroleum Hydrocarbons - extractable (DRO)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids	%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Viscosity	cp	NA	NA	NA	5.5	NA	NA	NA	NA	1.4	NA

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	32/66 Tunnel-50 09/12/03	32/66 Tunnel-100 09/12/03	36-FP6 09/17/02	36-FP6 12/20/02	43-162 09/17/02	70-103 09/17/02	Bldg 23 Basemnt 11/13/02	Bldg 23 Trench 11/20/02
<b>VOC</b>									
1,1,1-Trichloroethane	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
1,1,2,2-Tetrachloroethane	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
1,1,2-Trichloroethane	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
1,1-Dichloroethane	mg/kg	NA	NA	NA	0.12 J	NA	NA	0.13 U	0.13 U
1,1-Dichloroethene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
1,2,4-Trichlorobenzene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.82	0.33
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
1,2-Dichlorobenzene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
1,2-Dichloroethane	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
1,2-Dichloroethene (total)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
1,3-Dichlorobenzene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
1,4-Dichlorobenzene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
2-Butanone (Methyl Ethyl Ketone)	mg/kg	NA	NA	NA	0.63 U	NA	NA	0.63 U	0.63 U
2-Hexanone	mg/kg	NA	NA	NA	0.63 U	NA	NA	0.63 U	0.63 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	NA	NA	NA	0.63 U	NA	NA	0.63 U	0.63 U
Acetone	mg/kg	NA	NA	NA	0.89	NA	NA	0.32 J	0.63 U
Benzene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.094 J	0.13 U
Bromodichloromethane	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Bromoform	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Bromomethane (Methyl Bromide)	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Carbon disulfide	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Carbon tetrachloride	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Chlorobenzene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Chloroethane	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Chloroform (Trichloromethane)	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Chloromethane (Methyl Chloride)	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
cis-1,2-Dichloroethene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
cis-1,3-Dichloropropene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Cyclohexane	mg/kg	NA	NA	NA	0.63 U	NA	NA	0.63 U	0.63 U
Dibromochloromethane	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Dichlorodifluoromethane (CFC-12)	mg/kg	NA	NA	NA	2.7	NA	NA	0.13 U	0.13 U
Ethylbenzene	mg/kg	NA	NA	NA	0.15	NA	NA	0.13 U	0.13 U
Isopropylbenzene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
m&p-Xylene	mg/kg	NA	NA	NA	0.36	NA	NA	0.25 U	0.25 U
Methyl acetate	mg/kg	NA	NA	NA	1.7	NA	NA	0.095 J	0.083 J
Methyl cyclohexane	mg/kg	NA	NA	NA	0.24 J	NA	NA	0.63 U	0.63 U
Methyl Tert Butyl Ether	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Methylene chloride	mg/kg	NA	NA	NA	0.63 U	NA	NA	0.63 U	0.63 U
o-Xylene	mg/kg	NA	NA	NA	0.51 J	NA	NA	0.13 U	0.13 U
Styrene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Tetrachloroethene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	32/66 Tunnel-50 09/12/03	32/66 Tunnel-100 09/12/03	36-FP6 09/17/02	36-FP6 12/20/02	43-162 09/17/02	70-103 09/17/02	Bldg 23 Basement 11/13/02	Bldg 23 Trench 11/20/02
Toluene	mg/kg	NA	NA	NA	0.15	NA	NA	0.070 J	0.13 U
trans-1,2-Dichloroethene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
trans-1,3-Dichloropropene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Trichloroethene	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Trichlorofluoromethane (CFC-11)	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Trifluorotrchloroethane (Freon 113)	mg/kg	NA	NA	NA	0.63 U	NA	NA	0.63 U	0.63 U
Vinyl chloride	mg/kg	NA	NA	NA	0.13 U	NA	NA	0.13 U	0.13 U
Xylenes (total)	mg/kg	NA	NA	NA	0.87 J	NA	NA	0.25 U	0.25 U
<b>TCLP VOC</b>									
1,1-Dichloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform (Trichloromethane)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
<b>SVOC</b>									
1,2,4-Trichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
2,4,5-Trichlorophenol	mg/kg	NA	NA	NA	500 U	NA	NA	3,700 U	3,600 U
2,4,6-Trichlorophenol	mg/kg	NA	NA	NA	500 U	NA	NA	2,500 U	2,400 U
2,4-Dichlorophenol	mg/kg	NA	NA	NA	500 U	NA	NA	2,500 U	2,400 U
2,4-Dimethylphenol	mg/kg	NA	NA	NA	500 U	NA	NA	3,700 U	3,600 U
2,4-Dinitrophenol	mg/kg	NA	NA	NA	2,000 U	NA	NA	2,000 U	1,900 U
2,4-Dinitrotoluene	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
2,6-Dinitrotoluene	mg/kg	NA	NA	NA	500 U	NA	NA	2,200 U	2,200 U
2-Chloronaphthalene	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
2-Chlorophenol	mg/kg	NA	NA	NA	500 U	NA	NA	2,500 U	2,400 U
2-Methylnaphthalene	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
2-Methylphenol	mg/kg	NA	NA	NA	500 U	NA	NA	2,500 U	2,400 U
2-Nitroaniline	mg/kg	NA	NA	NA	2,000 U	NA	NA	1,200 U	1,200 U
2-Nitrophenol	mg/kg	NA	NA	NA	500 U	NA	NA	2,500 U	2,400 U
3&4-Methylphenol	mg/kg	NA	NA	NA	1,000 UJ	NA	NA	3,700 U	3,600 UJ
3,3'-Dichlorobenzidine	mg/kg	NA	NA	NA	2,000 U	NA	NA	6,200 U	6,100 U
3-Methylphenol	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	mg/kg	NA	NA	NA	2,000 U	NA	NA	1,200 U	1,200 U
4,6-Dinitro-2-methylphenol	mg/kg	NA	NA	NA	2,000 UJ	NA	NA	1,500 U	1,500 U

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	32/66 Tunnel-50 09/12/03	32/66 Tunnel-100 09/12/03	36-FP6 09/17/02	36-FP6 12/20/02	43-162 09/17/02	70-103 09/17/02	Bldg 23 Basemnt 11/13/02	Bldg 23 Trench 11/20/02
4-Bromophenyl phenyl ether	mg/kg	NA	NA	NA	500 U	NA	NA	1,500 U	1,500 U
4-Chloro-3-methylphenol	mg/kg	NA	NA	NA	500 U	NA	NA	2,500 U	2,400 U
4-Chloroaniline	mg/kg	NA	NA	NA	2,000 U	NA	NA	1,200 U	1,200 U
4-Chlorophenyl phenyl ether	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
4-Nitroaniline	mg/kg	NA	NA	NA	2,000 UJ	NA	NA	1,500 U	1,500 U
4-Nitrophenol	mg/kg	NA	NA	NA	2,000 U	NA	NA	1,700 U	1,700 U
Acenaphthene	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Acenaphthylene	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Acetophenone	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Anthracene	mg/kg	NA	NA	NA	500 U	NA	NA	1,700 U	1,700 U
Atrazine	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Benzaldehyde	mg/kg	NA	NA	NA	500 U	NA	NA	3,700 U	3,600 UJ
Benzo(a)anthracene	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Benzo(a)pyrene	mg/kg	NA	NA	NA	500 U	NA	NA	490 U	490 U
Benzo(b)fluoranthene	mg/kg	NA	NA	NA	500 U	NA	NA	740 U	730 U
Benzo(g,h,i)perylene	mg/kg	NA	NA	NA	500 U	NA	NA	1,500 U	1,500 U
Benzo(k)fluoranthene	mg/kg	NA	NA	NA	500 U	NA	NA	1,500 U	1,500 U
Biphenyl	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
bis(2-Chloroethoxy)methane	mg/kg	NA	NA	NA	500 U	NA	NA	990 U	970 U
bis(2-Chloroethyl)ether	mg/kg	NA	NA	NA	500 U	NA	NA	2,500 U	2,400 U
bis(2-Ethylhexyl)phthalate	mg/kg	NA	NA	NA	500 U	NA	NA	600 J	970 U
Butyl benzylphthalate	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Caprolactam	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Carbazole	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Chrysene	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Dibenz(a,h)anthracene	mg/kg	NA	NA	NA	500 U	NA	NA	990 U	970 U
Dibenzofuran	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Diethyl phthalate	mg/kg	NA	NA	NA	500 U	NA	NA	3,700 U	3,600 U
Dimethyl phthalate	mg/kg	NA	NA	NA	500 U	NA	NA	1,500 U	1,500 U
Di-n-butylphthalate	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Di-n-octyl phthalate	mg/kg	NA	NA	NA	500 U	NA	NA	1,500	880 J
Fluoranthene	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Fluorene	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Hexachlorobenzene	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Hexachlorobutadiene	mg/kg	NA	NA	NA	500 U	NA	NA	990 U	970 U
Hexachlorocyclopentadiene	mg/kg	NA	NA	NA	500 U	NA	NA	740 U	730 U
Hexachloroethane	mg/kg	NA	NA	NA	500 U	NA	NA	990 U	970 U
Indeno(1,2,3-cd)pyrene	mg/kg	NA	NA	NA	500 U	NA	NA	990 U	970 U
Isophorone	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Methylphenols, Total	mg/kg	NA	NA	NA	1,000 U	NA	NA	3,700 U	3,600 U
Naphthalene	mg/kg	NA	NA	NA	500 U	NA	NA	2,500 U	2,400 U
Nitrobenzene	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
N-Nitrosodi-n-propylamine	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
N-Nitrosodiphenylamine	mg/kg	NA	NA	NA	500 U	NA	NA	1,500 U	1,500 U

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	32/66 Tunnel-50 09/12/03	32/66 Tunnel-100 09/12/03	36-FP6 09/17/02	36-FP6 12/20/02	43-162 09/17/02	70-103 09/17/02	Bldg 23 Basement 11/13/02	Bldg 23 Trench 11/20/02
Pentachlorophenol	mg/kg	NA	NA	NA	2,000 U	NA	NA	2,500 U	2,400 U
Phenanthrene	mg/kg	NA	NA	NA	100 JDM	NA	NA	1,500 U	1,500 U
Phenol	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
Pyrene	mg/kg	NA	NA	NA	500 U	NA	NA	1,200 U	1,200 U
<b>TCLP SVOC</b>									
2,4,5-Trichlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Pyridine	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic</b>									
Antimony	mg/kg	NA	NA	NA	0.39 U	NA	NA	4.1	2.1 J
Arsenic	mg/kg	NA	NA	NA	2.6 J	NA	NA	1.1	0.37 J
Barium	mg/kg	NA	NA	NA	0.35 J	NA	NA	18	10 J
Beryllium	mg/kg	NA	NA	NA	0.19 U	NA	NA	0.24 U	NA
Cadmium	mg/kg	NA	NA	NA	0.016 J	NA	NA	1.4	0.77 J
Chromium Total	mg/kg	NA	NA	NA	3.2 J	NA	NA	7.8	4.4 J
Cobalt	mg/kg	NA	NA	NA	0.39 U	NA	NA	0.78	0.45 J
Copper	mg/kg	NA	NA	NA	8.7 J	NA	NA	40	16 J
Cyanide (total)	mg/kg	NA	NA	NA	0.20 U	NA	NA	0.20 U	0.20 U
Lead	mg/kg	NA	NA	NA	1.2 J	NA	NA	21	24 J
Manganese	mg/kg	NA	NA	NA	0.19 J	NA	NA	9.3	7.6 J
Mercury	mg/kg	NA	NA	NA	0.020 UJ	NA	NA	0.13	0.059 J
Nickel	mg/kg	NA	NA	NA	1.9	NA	NA	2.7	1.6 J
Selenium	mg/kg	NA	NA	NA	0.11 J	NA	NA	0.73	0.090 J
Silver	mg/kg	NA	NA	NA	0.39 U	NA	NA	0.53 J	0.14 J
Thallium	mg/kg	NA	NA	NA	0.39 U	NA	NA	0.60 U	0.12 U
Vanadium	mg/kg	NA	NA	NA	8.9 J	NA	NA	0.76 J	0.38 J
Zinc	mg/kg	NA	NA	NA	1.6	NA	NA	220	78
<b>TCLP Inorganic</b>									
Arsenic	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/L	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE D-1**  
**LNAPL ANALYTICAL DATA**  
(in mg/kg, unless noted)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	32/66 Tunnel-50 09/12/03	32/66 Tunnel-100 09/12/03	36-FP6 09/17/02	36-FP6 12/20/02	43-162 09/17/02	70-103 09/17/02	Bldg 23 Basement 11/13/02	Bldg 23 Trench 11/20/02
Selenium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>									
Aroclor-1016 (PCB-1016)	mg/kg	0.98 U	0.98 U	NA	1.0 U	NA	NA	0.97 U	0.98 U
Aroclor-1221 (PCB-1221)	mg/kg	0.98 U	0.98 U	NA	1.0 U	NA	NA	0.97 U	0.98 U
Aroclor-1232 (PCB-1232)	mg/kg	0.98 U	0.98 U	NA	1.0 U	NA	NA	0.97 U	0.98 U
Aroclor-1242 (PCB-1242)	mg/kg	0.98 U	0.98 U	NA	1.0 U	NA	NA	0.97 U	0.98 U
Aroclor-1248 (PCB-1248)	mg/kg	0.98 U	0.98 U	NA	1.0 U	NA	NA	0.97 U	0.98 U
Aroclor-1254 (PCB-1254)	mg/kg	0.98 U	0.98 U	NA	1.0 U	NA	NA	0.97 U	0.98 U
Aroclor-1260 (PCB-1260)	mg/kg	0.98 U	0.98 U	NA	1.0 U	NA	NA	0.97 U	0.98 U
Aroclor-1262 (PCB-1262)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268 (PCB-1268)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	mg/kg	0.98 U	0.98 U	NA	1.0 U	NA	NA	0.97 U	0.98 U
<b>Miscellaneous</b>									
Asbestos	%	NA	NA	NA	NA	NA	NA	NA	NA
Bulk Density	g/cc	NA	NA	NA	NA	NA	NA	NA	NA
Ignitability	deg f	NA	NA	>200	NA	>200	>200	NA	NA
Interfacial Tension	dynes/cm	NA	NA	NA	24	NA	NA	NA	270
pH Corrosivity	s.u.	NA	NA	NA	NA	NA	NA	NA	NA
Reactive Cyanide	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Reactive Sulfide	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA
Specific gravity	sg	NA	NA	NA	0.90	NA	NA	NA	0.99
Total Petroleum Hydrocarbons - extractable (DRO)	mg/kg	NA	NA	NA	NA	NA	NA	240,000	270,000
Total Solids	%	NA	NA	NA	NA	NA	NA	NA	NA
Viscosity	cp	NA	NA	NA	24	NA	NA	NA	NA

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	Bldg 32 Basement 12/12/02	MH 6-24 11/13/02	Outfall 004 05/21/03	Outfall 004 12/30/03	RFI-02-14 03/22/05	RFI-09-47 04/02/03	RFI-12-22 09/15/03	RFI-12-23 04/02/03	RFI-12-23 05/19/03	RFI-12-38 04/21/04
<b>VOC</b>											
1,1,1-Trichloroethane	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
1,1,2,2-Tetrachloroethane	mg/kg	NA	0.13 U	0.12 U	0.069 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
1,1,2-Trichloroethane	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
1,1-Dichloroethane	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
1,1-Dichloroethene	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
1,2,4-Trichlorobenzene	mg/kg	NA	0.13 U	0.12 U	0.15 U	1.0 U	13 U	0.12 U	1.2 U	NA	0.12 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	NA	0.13 U	0.12 U	0.15 U	0.50 U	13 UJ	0.12 U	1.2 UJ	NA	0.12 U
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	NA	0.13 U	0.12 U	0.15 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
1,2-Dichlorobenzene	mg/kg	NA	0.13 U	0.12 U	0.069 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
1,2-Dichloroethane	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
1,2-Dichloroethene (total)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
1,3-Dichlorobenzene	mg/kg	NA	0.13 U	0.12 U	0.069 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
1,4-Dichlorobenzene	mg/kg	NA	0.13 U	0.12 U	0.069 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
2-Butanone (Methyl Ethyl Ketone)	mg/kg	NA	0.63 U	0.28 J	0.33 J	8.0 UJ	63 UJ	0.62 UJ	6.2 UJ	NA	0.62 UJ
2-Hexanone	mg/kg	NA	0.63 U	0.62 U	0.069 U	30 UJ	63 U	0.62 U	6.2 U	NA	0.62 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	NA	0.63 U	0.62 U	0.36 J	30 U	63 U	0.62 U	6.2 U	NA	0.62 U
Acetone	mg/kg	NA	0.63 U	0.62 U	1.4	8.0 UJ	63 U	0.62 UJ	6.2 U	NA	0.62 U
Benzene	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	930	0.12 U	1.2 U	NA	0.31
Bromodichloromethane	mg/kg	NA	0.13 U	0.12 U	0.069 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
Bromoform	mg/kg	NA	0.13 U	0.12 U	0.069 U	0.50 UJ	13 U	0.12 U	1.2 U	NA	0.12 U
Bromomethane (Methyl Bromide)	mg/kg	NA	0.13 U	0.12 UJ	0.15 U	R	13 U	0.12 UJ	1.2 U	NA	0.12 UJ
Carbon disulfide	mg/kg	NA	0.13 U	0.12 U	0.15 U	3.0 U	13 U	0.12 UJ	1.2 U	NA	0.12 U
Carbon tetrachloride	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
Chlorobenzene	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
Chloroethane	mg/kg	NA	0.13 U	0.12 U	0.15 U	3.0 U	13 U	0.12 U	1.2 U	NA	0.12 U
Chloroform (Trichloromethane)	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
Chloromethane (Methyl Chloride)	mg/kg	NA	0.13 U	0.077 J	0.15 U	3.0 U	13 U	0.12 UJ	1.2 U	NA	0.12 U
cis-1,2-Dichloroethene	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
cis-1,3-Dichloropropene	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
Cyclohexane	mg/kg	NA	0.63 U	0.62 U	0.15 U	0.50 UJ	5,500 D	0.62 U	5.5 J	NA	5.6
Dibromochloromethane	mg/kg	NA	0.13 U	0.12 U	0.069 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
Dichlorodifluoromethane (CFC-12)	mg/kg	NA	0.13 U	0.12 U	0.069 U	0.50 UJ	13 U	0.12 U	1.2 U	NA	0.12 U
Ethylbenzene	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	2,200 D	0.12 U	0.93 J	NA	0.45
Isopropylbenzene	mg/kg	NA	0.13 U	0.13 U	0.60	0.50 U	470	3.3 J	3.6	NA	0.50
m&p-Xylene	mg/kg	NA	0.25 U	0.25 U	0.069 U	0.50 U	7,200 D	0.25 U	1.3 J	NA	0.25 U
Methyl acetate	mg/kg	NA	0.11 J	0.12 J	2.5	30 U	63 U	0.62 UJ	6.2 UJ	NA	0.62 UJ
Methyl cyclohexane	mg/kg	NA	0.63 U	0.62 U	0.30	0.50 U	13,000 D	9.7	24	NA	12 D
Methyl Tert Butyl Ether	mg/kg	NA	0.13 U	0.12 U	0.15 U	3.0 U	13 U	0.12 UJ	1.2 U	NA	0.12 U
Methylene chloride	mg/kg	NA	0.63 U	0.064 J	0.15 U	3.0 U	63 U	0.22 J	1.8 J	NA	0.62 U
o-Xylene	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	3,000 D	0.12 U	0.92 J	NA	0.13
Styrene	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
Tetrachloroethene	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	Bldg 32 Basement 12/12/02	MH 6-24 11/13/02	Outfall 004 05/21/03	Outfall 004 12/30/03	RFI-02-14 03/22/05	RFI-09-47 04/02/03	RFI-12-22 09/15/03	RFI-12-23 04/02/03	RFI-12-23 05/19/03	RFI-12-38 04/21/04
Toluene	mg/kg	NA	0.13 U	0.12 U	0.11	0.50 U	4,200 D	0.12 U	1.2 U	NA	0.12 U
trans-1,2-Dichloroethene	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
trans-1,3-Dichloropropene	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
Trichloroethene	mg/kg	NA	0.13 U	0.12 U	0.035 U	0.50 U	13 U	0.12 U	1.2 U	NA	0.12 U
Trichlorofluoromethane (CFC-11)	mg/kg	NA	0.13 U	0.12 U	0.069 U	1.0 U	13 U	0.12 U	1.2 U	NA	0.12 U
Trifluorotrchloroethane (Freon 113)	mg/kg	NA	0.63 U	0.62 U	0.15 U	1.0 U	63 U	0.62 U	6.2 U	NA	0.62 U
Vinyl chloride	mg/kg	NA	0.13 U	0.12 U	0.035 U	1.0 U	13 U	0.12 U	1.2 U	NA	0.12 U
Xylenes (total)	mg/kg	NA	0.25 U	0.25 U	0.069 U	0.50 U	10,000	0.25 U	2.2 J	NA	0.13
<b>TCLP VOC</b>											
1,1-Dichloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform (Trichloromethane)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>SVOC</b>											
1,2,4-Trichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
2,4,5-Trichlorophenol	mg/kg	NA	3,700 U	740 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
2,4,6-Trichlorophenol	mg/kg	NA	2,500 U	490 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
2,4-Dichlorophenol	mg/kg	NA	2,500 U	490 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
2,4-Dimethylphenol	mg/kg	NA	3,700 U	740 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
2,4-Dinitrophenol	mg/kg	NA	2,000 U	390 U	2,000 U	100 UJ	2,000 U	2,000 U	1,900 U	NA	200 U
2,4-Dinitrotoluene	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
2,6-Dinitrotoluene	mg/kg	NA	2,200 U	440 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
2-Chloronaphthalene	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
2-Chlorophenol	mg/kg	NA	2,500 U	490 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
2-Methylnaphthalene	mg/kg	NA	1,200 U	250 U	1,400	60 U	560	360 J	420 J	NA	49 U
2-Methylphenol	mg/kg	NA	2,500 U	490 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
2-Nitroaniline	mg/kg	NA	1,200 U	250 U	2,000 U	100 U	2,000 U	2,000 U	1,900 U	NA	200 U
2-Nitrophenol	mg/kg	NA	2,500 U	490 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
3&4-Methylphenol	mg/kg	NA	3,700 U	740 UJ	990 U	NA	990 UJ	990 UJ	960 UJ	NA	99 U
3,3'-Dichlorobenzidine	mg/kg	NA	6,100 U	1,200 U	2,000 U	100 U	2,000 UJ	2,000 U	1,900 U	NA	2,000 U
3-Methylphenol	mg/kg	NA	NA	NA	NA	60 U	NA	NA	NA	NA	NA
3-Nitroaniline	mg/kg	NA	1,200 U	250 U	2,000 U	100 U	2,000 U	2,000 U	1,900 U	NA	200 U
4,6-Dinitro-2-methylphenol	mg/kg	NA	1,500 U	300 U	2,000 U	100 UJ	2,000 U	2,000 U	1,900 U	NA	2,000 U

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	Bldg 32 Basement 12/12/02	MH 6-24 11/13/02	Outfall 004 05/21/03	Outfall 004 12/30/03	RFI-02-14 03/22/05	RFI-09-47 04/02/03	RFI-12-22 09/15/03	RFI-12-23 04/02/03	RFI-12-23 05/19/03	RFI-12-38 04/21/04
4-Bromophenyl phenyl ether	mg/kg	NA	1,500 U	300 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
4-Chloro-3-methylphenol	mg/kg	NA	2,500 U	490 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
4-Chloroaniline	mg/kg	NA	1,200 U	250 U	2,000 U	100 U	2,000 U	2,000 U	1,900 U	NA	200 U
4-Chlorophenyl phenyl ether	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
4-Nitroaniline	mg/kg	NA	1,500 U	300 U	2,000 U	100 U	2,000 U	2,000 U	1,900 U	NA	200 U
4-Nitrophenol	mg/kg	NA	1,700 U	340 U	2,000 U	100 U	2,000 U	2,000 U	1,900 U	NA	200 U
Acenaphthene	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	58 J	480 U	NA	49 U
Acenaphthylene	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
Acetophenone	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
Anthracene	mg/kg	NA	1,700 U	340 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Atrazine	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Benzaldehyde	mg/kg	NA	3,700 U	740 U	490 U	60 U	500 UJ	500 U	480 UJ	NA	49 UJ
Benzo(a)anthracene	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Benzo(a)pyrene	mg/kg	NA	490 U	98 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Benzo(b)fluoranthene	mg/kg	NA	740 U	150 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Benzo(g,h,i)perylene	mg/kg	NA	1,500 U	300 U	490 U	60 U	500 U	500 UJ	480 U	NA	490 U
Benzo(k)fluoranthene	mg/kg	NA	1,500 U	300 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Biphenyl	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	65 J	NA	49 U
bis(2-Chloroethoxy)methane	mg/kg	NA	980 U	200 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
bis(2-Chloroethyl)ether	mg/kg	NA	2,500 U	490 UJ	490 U	60 U	500 U	500 U	480 U	NA	49 U
bis(2-Ethylhexyl)phthalate	mg/kg	NA	980 U	200 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Butyl benzylphthalate	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Caprolactam	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
Carbazole	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Chrysene	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Dibenz(a,h)anthracene	mg/kg	NA	980 U	200 U	490 U	60 U	500 U	500 UJ	480 U	NA	490 U
Dibenzofuran	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
Diethyl phthalate	mg/kg	NA	3,700 U	740 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
Dimethyl phthalate	mg/kg	NA	1,500 U	300 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
Di-n-butylphthalate	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Di-n-octyl phthalate	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Fluoranthene	mg/kg	NA	1,200 U	250 U	490 U	30 J	500 U	500 U	480 U	NA	490 U
Fluorene	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	100 J	81 J	NA	49 U
Hexachlorobenzene	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Hexachlorobutadiene	mg/kg	NA	980 U	200 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
Hexachlorocyclopentadiene	mg/kg	NA	740 U	150 U	490 U	60 UJ	500 U	500 U	480 U	NA	49 U
Hexachloroethane	mg/kg	NA	980 U	200 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
Indeno(1,2,3-cd)pyrene	mg/kg	NA	980 U	200 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
Isophorone	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
Methylphenols, Total	mg/kg	NA	3,700 U	740 U	990 U	60 U	990 U	990 U	960 U	NA	99 U
Naphthalene	mg/kg	NA	2,500 U	490 U	490 U	60 U	830	500 U	480 U	NA	49 U
Nitrobenzene	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
N-Nitrosodi-n-propylamine	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	490 U
N-Nitrosodiphenylamine	mg/kg	NA	1,500 U	300 U	490 U	60 U	500 U	500 U	480 U	NA	49 U

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	Bldg 32 Basement 12/12/02	MH 6-24 11/13/02	Outfall 004 05/21/03	Outfall 004 12/30/03	RFI-02-14 03/22/05	RFI-09-47 04/02/03	RFI-12-22 09/15/03	RFI-12-23 04/02/03	RFI-12-23 05/19/03	RFI-12-38 04/21/04
Pentachlorophenol	mg/kg	NA	2,500 U	490 U	2,000 U	100 U	2,000 U	2,000 U	1,900 U	NA	2,000 U
Phenanthrene	mg/kg	NA	1,500 U	300 U	740	33 J	500 U	280 J	180 J	NA	490 U
Phenol	mg/kg	NA	1,200 U	250 U	490 U	60 U	500 U	500 U	480 U	NA	49 U
Pyrene	mg/kg	NA	1,200 U	250 U	490 U	26 J	500 U	91 J	480 U	NA	490 U
<b>TCLP SVOC</b>											
2,4,5-Trichlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyridine	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic</b>											
Antimony	mg/kg	NA	0.44 J	0.18 J	0.19 J	0.30 U	0.37 U	1.8 U	0.14 J	NA	0.089 J
Arsenic	mg/kg	NA	0.090 U	0.33	10	0.10 U	0.71	8.0	2.8	NA	0.80
Barium	mg/kg	NA	2.2	1.8	1.7	1.0 U	0.93 U	0.75 J	1.9	NA	2.0
Beryllium	mg/kg	NA	0.18 U	0.23 U	0.20 U	0.50 U	0.19 U	0.47 J	0.19 U	NA	0.49 U
Cadmium	mg/kg	NA	0.087	0.048 J	0.075 J	0.20 U	0.093 U	0.062 J	0.028 J	NA	0.033 J
Chromium Total	mg/kg	NA	3.7	2.3	2.1	2.0 U	0.58	2.0	1.9	NA	4.0
Cobalt	mg/kg	NA	0.098 J	0.077 J	0.045 J	0.50 U	0.37 U	1.8 U	0.15 J	NA	0.39 U
Copper	mg/kg	NA	3.9	14	94	1.0 U	0.13 J	18	21	NA	0.34 J
Cyanide (total)	mg/kg	NA	0.20 U	0.20 UJ	0.20 U	10 U	NA	0.20 UJ	NA	0.20 UJ	0.20 U
Lead	mg/kg	NA	4.3	1.4	13	1.0 U	120	15	4.4	NA	0.51 J
Manganese	mg/kg	NA	4.0	0.48 J	1.4	1.0 U	0.37 U	1.8 U	1.0	NA	0.98 J
Mercury	mg/kg	NA	0.019 U	0.020 U	0.20	0.050 U	NA	0.019 UJ	NA	0.020 U	0.018 U
Nickel	mg/kg	NA	0.36 J	0.15 J	1.1	1.0 U	0.37 U	1.8	1.6	NA	0.084 J
Selenium	mg/kg	NA	0.18 U	0.23 U	0.29 U	0.20 U	0.43	0.57 J	0.23	NA	0.20 U
Silver	mg/kg	NA	0.051 J	0.13 J	0.22 J	0.10 U	0.37 U	1.8 U	0.38 U	NA	0.12 J
Thallium	mg/kg	NA	0.45 U	0.58 U	0.020 J	0.50 U	0.37 U	1.8 U	0.38 U	NA	0.022 J
Vanadium	mg/kg	NA	1.0	0.59 J	1.7	1.0 U	0.13 J	2.7	2.3	NA	2.2
Zinc	mg/kg	NA	9.2	15	5.0	1.0 U	0.93 UJ	2.8 J	3.5 UJ	NA	0.98 U
<b>TCLP Inorganic</b>											
Arsenic	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE D-1**  
**LNAPL ANALYTICAL DATA**  
(in mg/kg, unless noted)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	Bldg 32 Basement 12/12/02	MH 6-24 11/13/02	Outfall 004 05/21/03	Outfall 004 12/30/03	RFI-02-14 03/22/05	RFI-09-47 04/02/03	RFI-12-22 09/15/03	RFI-12-23 04/02/03	RFI-12-23 05/19/03	RFI-12-38 04/21/04
Selenium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>											
Aroclor-1016 (PCB-1016)	mg/kg	1.0 U	0.99 U	0.98 U	0.96 U	1.0 U	0.99 U	1.0 U	0.97 U	NA	1.0 U
Aroclor-1221 (PCB-1221)	mg/kg	1.0 U	0.99 U	0.98 U	0.96 U	1.0 U	0.99 U	1.0 U	0.97 U	NA	1.0 U
Aroclor-1232 (PCB-1232)	mg/kg	1.0 U	0.99 U	0.98 U	0.96 U	1.0 U	0.99 U	1.0 U	0.97 U	NA	1.0 U
Aroclor-1242 (PCB-1242)	mg/kg	1.0 U	0.99 U	0.98 U	0.96 U	1.0 U	0.99 U	1.0 U	0.97 U	NA	1.0 U
Aroclor-1248 (PCB-1248)	mg/kg	1.0 U	0.99 U	0.98 U	0.96 U	1.0 U	0.99 U	1.0 U	0.97 U	NA	1.0 U
Aroclor-1254 (PCB-1254)	mg/kg	1.0 U	0.99 U	0.98 U	0.96 U	1.0 U	0.99 U	1.0 U	0.97 U	NA	1.0 U
Aroclor-1260 (PCB-1260)	mg/kg	1.0 U	0.99 U	0.98 U	0.96 U	1.0 U	0.99 U	1.0 U	0.97 U	NA	8.6
Aroclor-1262 (PCB-1262)	mg/kg	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268 (PCB-1268)	mg/kg	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	mg/kg	1.0 U	0.99 U	0.98 U	0.96 U	1.0 U	0.99 U	1.0 U	0.97 U	NA	8.6
<b>Miscellaneous</b>											
Asbestos	%	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bulk Density	g/cc	NA	NA	NA	NA	0.95	NA	NA	NA	NA	NA
Ignitability	deg f	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Interfacial Tension	dynes/cm	NA	NA	12	8.8	NA	29	22	21	NA	NA
pH Corrosivity	s.u.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Reactive Cyanide	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Reactive Sulfide	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Specific gravity	sg	NA	NA	0.88	0.93	NA	0.75	0.88	0.89	NA	NA
Total Petroleum Hydrocarbons - extractable (DRO)	mg/kg	NA	250,000	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids	%	NA	NA	NA	NA	49	NA	NA	NA	NA	NA
Viscosity	cp	NA	NA	34	27	NA	1.3	50	14	NA	NA

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	RFI-16-08 09/17/02	RFI-36-07 09/17/02	RFI-36-07 01/16/03	RFI-36-07 03/17/03	RFI-36-16 09/17/02	RFI-40-14R 10/06/04	RFI-83/84-06 09/17/02	RFI-83/84-07 09/17/02	RFI-83/84-07 09/18/03
<b>VOC</b>										
1,1,1-Trichloroethane	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
1,1,2,2-Tetrachloroethane	mg/kg	NA	NA	50 U	250 UJ	NA	5.0 U	NA	NA	0.12 UJ
1,1,2-Trichloroethane	mg/kg	NA	NA	250 UJ	250 U	NA	5.0 U	NA	NA	0.12 U
1,1-Dichloroethane	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
1,1-Dichloroethene	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
1,2,4-Trichlorobenzene	mg/kg	NA	NA	50 U	250 U	NA	10 U	NA	NA	0.12 UJ
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 UJ
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
1,2-Dichlorobenzene	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 UJ
1,2-Dichloroethane	mg/kg	NA	NA	50 UJ	250 U	NA	5.0 U	NA	NA	0.12 U
1,2-Dichloroethene (total)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
1,3-Dichlorobenzene	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
1,4-Dichlorobenzene	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 UJ
2-Butanone (Methyl Ethyl Ketone)	mg/kg	NA	NA	250 UJ	1,300 UJ	NA	80 U	NA	NA	0.62 UJ
2-Hexanone	mg/kg	NA	NA	250 U	1,300 UJ	NA	300 U	NA	NA	0.62 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	NA	NA	250 U	1,300 UJ	NA	300 U	NA	NA	0.62 U
Acetone	mg/kg	NA	NA	250 UJ	1,300 UJ	NA	80 U	NA	NA	0.20 J
Benzene	mg/kg	NA	NA	2,900	2,900	NA	13	NA	NA	0.12 U
Bromodichloromethane	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
Bromoform	mg/kg	NA	NA	50 U	250 U	NA	5.0 UJ	NA	NA	0.12 U
Bromomethane (Methyl Bromide)	mg/kg	NA	NA	50 UJ	250 U	NA	30 UJ	NA	NA	0.12 UJ
Carbon disulfide	mg/kg	NA	NA	50 U	250 UJ	NA	30 UJ	NA	NA	0.12 U
Carbon tetrachloride	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
Chlorobenzene	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
Chloroethane	mg/kg	NA	NA	50 U	250 U	NA	30 UJ	NA	NA	0.12 U
Chloroform (Trichloromethane)	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
Chloromethane (Methyl Chloride)	mg/kg	NA	NA	50 U	250 U	NA	30 U	NA	NA	0.12 U
cis-1,2-Dichloroethene	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.43
cis-1,3-Dichloropropene	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
Cyclohexane	mg/kg	NA	NA	250 U	1,300 UJ	NA	20 J	NA	NA	0.62 U
Dibromochloromethane	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
Dichlorodifluoromethane (CFC-12)	mg/kg	NA	NA	50 U	250 U	NA	5.0 UJ	NA	NA	0.12 U
Ethylbenzene	mg/kg	NA	NA	8,600 D	6,800	NA	5.0 U	NA	NA	0.12 U
Isopropylbenzene	mg/kg	NA	NA	610	540	NA	5.0 U	NA	NA	0.13 U
m&p-Xylene	mg/kg	NA	NA	23,000 D	18,000	NA	5.0 U	NA	NA	0.11 J
Methyl acetate	mg/kg	NA	NA	250 U	1,300 UJ	NA	300 U	NA	NA	0.62 U
Methyl cyclohexane	mg/kg	NA	NA	390	390 J	NA	10	NA	NA	0.62 U
Methyl Tert Butyl Ether	mg/kg	NA	NA	50 U	250 UJ	NA	30 U	NA	NA	0.12 U
Methylene chloride	mg/kg	NA	NA	250 U	180 J	NA	30 U	NA	NA	0.35 J
o-Xylene	mg/kg	NA	NA	8,800 D	6,500	NA	5.0 U	NA	NA	0.056 J
Styrene	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
Tetrachloroethene	mg/kg	NA	NA	50 UJ	250 U	NA	5.0 U	NA	NA	0.12 U

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	RFI-16-08 09/17/02	RFI-36-07 09/17/02	RFI-36-07 01/16/03	RFI-36-07 03/17/03	RFI-36-16 09/17/02	RFI-40-14R 10/06/04	RFI-83/84-06 09/17/02	RFI-83/84-07 09/17/02	RFI-83/84-07 09/18/03
Toluene	mg/kg	NA	NA	52,000 D	42,000 D	NA	5.0 U	NA	NA	0.14
trans-1,2-Dichloroethene	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
trans-1,3-Dichloropropene	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
Trichloroethene	mg/kg	NA	NA	50 U	250 U	NA	5.0 U	NA	NA	0.12 U
Trichlorofluoromethane (CFC-11)	mg/kg	NA	NA	50 U	250 U	NA	10 U	NA	NA	0.12 U
Trifluorotrichloroethane (Freon 113)	mg/kg	NA	NA	250 U	1,300 U	NA	10 U	NA	NA	1.8
Vinyl chloride	mg/kg	NA	NA	50 U	250 U	NA	10 U	NA	NA	0.12 J
Xylenes (total)	mg/kg	NA	NA	32,000	25,000	NA	5.0 U	NA	NA	0.17 J
<b>TCLP VOC</b>										
1,1-Dichloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform (Trichloromethane)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>SVOC</b>										
1,2,4-Trichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
2,4,5-Trichlorophenol	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
2,4,6-Trichlorophenol	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
2,4-Dichlorophenol	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
2,4-Dimethylphenol	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
2,4-Dinitrophenol	mg/kg	NA	NA	2,000 U	9,700 U	NA	20,000 U	NA	NA	2,000 U
2,4-Dinitrotoluene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
2,6-Dinitrotoluene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
2-Chloronaphthalene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
2-Chlorophenol	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
2-Methylnaphthalene	mg/kg	NA	NA	570	880 J	NA	10,000 U	NA	NA	500 U
2-Methylphenol	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
2-Nitroaniline	mg/kg	NA	NA	2,000 U	9,700 U	NA	20,000 U	NA	NA	2,000 U
2-Nitrophenol	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
3&4-Methylphenol	mg/kg	NA	NA	990 UJ	4,800 UJ	NA	NA	NA	NA	990 UJ
3,3'-Dichlorobenzidine	mg/kg	NA	NA	2,000 U	9,700 U	NA	20,000 U	NA	NA	2,000 U
3-Methylphenol	mg/kg	NA	NA	NA	NA	NA	10,000 U	NA	NA	NA
3-Nitroaniline	mg/kg	NA	NA	2,000 U	9,700 U	NA	20,000 U	NA	NA	2,000 U
4,6-Dinitro-2-methylphenol	mg/kg	NA	NA	2,000 U	9,700 U	NA	20,000 U	NA	NA	2,000 U

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

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GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	RFI-16-08 09/17/02	RFI-36-07 09/17/02	RFI-36-07 01/16/03	RFI-36-07 03/17/03	RFI-36-16 09/17/02	RFI-40-14R 10/06/04	RFI-83/84-06 09/17/02	RFI-83/84-07 09/17/02	RFI-83/84-07 09/18/03
4-Bromophenyl phenyl ether	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
4-Chloro-3-methylphenol	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
4-Chloroaniline	mg/kg	NA	NA	2,000 U	9,700 U	NA	20,000 U	NA	NA	2,000 U
4-Chlorophenyl phenyl ether	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
4-Nitroaniline	mg/kg	NA	NA	2,000 U	9,700 U	NA	20,000 U	NA	NA	2,000 U
4-Nitrophenol	mg/kg	NA	NA	2,000 U	9,700 U	NA	20,000 U	NA	NA	2,000 U
Acenaphthene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Acenaphthylene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Acetophenone	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Anthracene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Atrazine	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Benzaldehyde	mg/kg	NA	NA	490 UJ	2,400 UJ	NA	10,000 U	NA	NA	500 U
Benzo(a)anthracene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Benzo(a)pyrene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Benzo(b)fluoranthene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Benzo(g,h,i)perylene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Benzo(k)fluoranthene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Biphenyl	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
bis(2-Chloroethoxy)methane	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
bis(2-Chloroethyl)ether	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
bis(2-Ethylhexyl)phthalate	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Butyl benzylphthalate	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Caprolactam	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Carbazole	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Chrysene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Dibenz(a,h)anthracene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 UJ
Dibenzofuran	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Diethyl phthalate	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Dimethyl phthalate	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Di-n-butylphthalate	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Di-n-octyl phthalate	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Fluoranthene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Fluorene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Hexachlorobenzene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Hexachlorobutadiene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Hexachlorocyclopentadiene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Hexachloroethane	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Indeno(1,2,3-cd)pyrene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Isophorone	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Methylphenols, Total	mg/kg	NA	NA	990 U	4,800 U	NA	10,000 U	NA	NA	990 U
Naphthalene	mg/kg	NA	NA	780	1,400 J	NA	10,000 U	NA	NA	500 U
Nitrobenzene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
N-Nitrosodi-n-propylamine	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
N-Nitrosodiphenylamine	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	RFI-16-08 09/17/02	RFI-36-07 09/17/02	RFI-36-07 01/16/03	RFI-36-07 03/17/03	RFI-36-16 09/17/02	RFI-40-14R 10/06/04	RFI-83/84-06 09/17/02	RFI-83/84-07 09/17/02	RFI-83/84-07 09/18/03
Pentachlorophenol	mg/kg	NA	NA	2,000 U	9,700 U	NA	20,000 U	NA	NA	2,000 U
Phenanthrene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Phenol	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
Pyrene	mg/kg	NA	NA	490 U	2,400 U	NA	10,000 U	NA	NA	500 U
<b>TCLP SVOC</b>										
2,4,5-Trichlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyridine	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic</b>										
Antimony	mg/kg	NA	NA	0.37 UJ	0.38 U	NA	0.50 U	NA	NA	1.9 U
Arsenic	mg/kg	NA	NA	0.92 U	1.5	NA	0.10 U	NA	NA	2.2
Barium	mg/kg	NA	NA	0.72 J	1.3	NA	1.0 U	NA	NA	0.98 J
Beryllium	mg/kg	NA	NA	0.18 U	0.19 U	NA	0.10 U	NA	NA	1.4 J
Cadmium	mg/kg	NA	NA	0.053 J	0.19	NA	0.050 U	NA	NA	0.22 J
Chromium Total	mg/kg	NA	NA	3.7 J	3.9	NA	0.50 U	NA	NA	2.6 J
Cobalt	mg/kg	NA	NA	0.37 U	0.057 J	NA	0.50 U	NA	NA	1.9 U
Copper	mg/kg	NA	NA	0.80 J	1.6	NA	3.2	NA	NA	230
Cyanide (total)	mg/kg	NA	NA	0.20 U	0.20 U	NA	10 U	NA	NA	0.20 UJ
Lead	mg/kg	NA	NA	0.94 U	3.4	NA	0.50 U	NA	NA	75
Manganese	mg/kg	NA	NA	0.12 J	1.1	NA	0.50 U	NA	NA	0.59 J
Mercury	mg/kg	NA	NA	0.019 UJ	0.020 U	NA	0.050 U	NA	NA	0.020 UJ
Nickel	mg/kg	NA	NA	0.21 J	0.48	NA	0.50 U	NA	NA	4.2 J
Selenium	mg/kg	NA	NA	0.65 U	0.19 U	NA	0.50 U	NA	NA	0.83 J
Silver	mg/kg	NA	NA	0.37 U	0.38 U	NA	0.20 U	NA	NA	1.9 U
Thallium	mg/kg	NA	NA	0.37 U	0.38 U	NA	0.10 U	NA	NA	1.9 U
Vanadium	mg/kg	NA	NA	0.86 J	0.89	NA	0.50 U	NA	NA	1.4
Zinc	mg/kg	NA	NA	1.2 J	2.1	NA	1.0 U	NA	NA	5.9 J
<b>TCLP Inorganic</b>										
Arsenic	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	RFI-16-08 09/17/02	RFI-36-07 09/17/02	RFI-36-07 01/16/03	RFI-36-07 03/17/03	RFI-36-16 09/17/02	RFI-40-14R 10/06/04	RFI-83/84-06 09/17/02	RFI-83/84-07 09/17/02	RFI-83/84-07 09/18/03
Selenium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>										
Aroclor-1016 (PCB-1016)	mg/kg	NA	NA	0.98 U	0.99 U	NA	1.0 U	NA	NA	0.98 U
Aroclor-1221 (PCB-1221)	mg/kg	NA	NA	0.98 U	0.99 U	NA	1.0 U	NA	NA	0.98 U
Aroclor-1232 (PCB-1232)	mg/kg	NA	NA	0.98 U	0.99 U	NA	1.0 U	NA	NA	0.98 U
Aroclor-1242 (PCB-1242)	mg/kg	NA	NA	0.98 U	0.99 U	NA	1.0 U	NA	NA	0.98 U
Aroclor-1248 (PCB-1248)	mg/kg	NA	NA	0.98 U	0.99 U	NA	1.0 U	NA	NA	0.98 U
Aroclor-1254 (PCB-1254)	mg/kg	NA	NA	0.98 U	0.99 U	NA	1.0 U	NA	NA	0.98 U
Aroclor-1260 (PCB-1260)	mg/kg	NA	NA	0.98 U	0.99 U	NA	1.0 U	NA	NA	0.98 U
Aroclor-1262 (PCB-1262)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268 (PCB-1268)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	mg/kg	NA	NA	0.98 U	0.99 U	NA	1.0 U	NA	NA	0.98 U
<b>Miscellaneous</b>										
Asbestos	%	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bulk Density	g/cc	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ignitability	deg f	110	50	NA	NA	>200	NA	>200	>200	NA
Interfacial Tension	dynes/cm	NA	NA	NA	0.54	NA	NA	NA	NA	19
pH Corrosivity	s.u.	NA	NA	NA	NA	NA	NA	NA	NA	NA
Reactive Cyanide	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Reactive Sulfide	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Specific gravity	sg	NA	NA	NA	0.83	NA	NA	NA	NA	0.88
Total Petroleum Hydrocarbons - extractable (DRO)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids	%	NA	NA	NA	NA	NA	93	NA	NA	NA
Viscosity	cp	NA	NA	NA	2.2	NA	NA	NA	NA	68

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	RFI-83/84-45 06/19/03	RFI-83/84-49 06/19/03	RFI-86-02 06/19/03	RFI-86-02 09/15/03	RFI-86-03 12/20/02	RW1-P2 09/17/02	RW-05-EAST 09/17/02	RW-05-East 04/01/03	RW-05-North 04/01/03
<b>VOC</b>										
1,1,1-Trichloroethane	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	11	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
1,1,2-Trichloroethane	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
1,1-Dichloroethane	mg/kg	0.12 U	0.056 J	0.12 U	0.12 U	4.5	NA	NA	NA	NA
1,1-Dichloroethene	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
1,2,4-Trichlorobenzene	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
1,2-Dichlorobenzene	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
1,2-Dichloroethane	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
1,2-Dichloroethene (total)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
1,3-Dichlorobenzene	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
1,4-Dichlorobenzene	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	mg/kg	0.62 U	0.62 U	0.62 U	0.62 UJ	3.1 U	NA	NA	NA	NA
2-Hexanone	mg/kg	0.62 U	0.62 U	0.62 U	0.62 U	3.1 U	NA	NA	NA	NA
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	0.62 U	0.62 U	0.62 U	0.62 U	3.1 U	NA	NA	NA	NA
Acetone	mg/kg	0.62 U	0.62 U	0.62 U	0.62 UJ	3.1 U	NA	NA	NA	NA
Benzene	mg/kg	0.12 U	0.17	0.089 J	0.070 J	0.63 U	NA	NA	NA	NA
Bromodichloromethane	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Bromoform	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Bromomethane (Methyl Bromide)	mg/kg	0.12 U	0.12 U	0.12 U	0.12 UJ	0.63 U	NA	NA	NA	NA
Carbon disulfide	mg/kg	0.12 U	0.12 U	0.12 U	0.12 UJ	0.63 U	NA	NA	NA	NA
Carbon tetrachloride	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Chlorobenzene	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Chloroethane	mg/kg	0.12 U	0.23	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Chloroform (Trichloromethane)	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Chloromethane (Methyl Chloride)	mg/kg	0.051 J	0.12 U	0.12 U	0.12 UJ	0.63 U	NA	NA	NA	NA
cis-1,2-Dichloroethene	mg/kg	0.14	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
cis-1,3-Dichloropropene	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Cyclohexane	mg/kg	0.62 U	0.92	0.089 J	0.62 U	3.1 U	NA	NA	NA	NA
Dibromochloromethane	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Ethylbenzene	mg/kg	0.063 J	0.10 J	0.53	0.45	1.1	NA	NA	NA	NA
Isopropylbenzene	mg/kg	0.053 J	1.3	0.61	0.51	1.6 J	NA	NA	NA	NA
m&p-Xylene	mg/kg	0.19 J	0.44	0.46	0.39	2.3	NA	NA	NA	NA
Methyl acetate	mg/kg	0.62 U	0.62 U	0.62 U	0.62 UJ	0.46 J	NA	NA	NA	NA
Methyl cyclohexane	mg/kg	0.066 J	12 D	0.75	0.62 J	7.0	NA	NA	NA	NA
Methyl Tert Butyl Ether	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Methylene chloride	mg/kg	0.62 U	0.62 U	0.62 U	0.25 J	3.1 U	NA	NA	NA	NA
o-Xylene	mg/kg	0.091 J	0.73	0.75	0.59	5.3 J	NA	NA	NA	NA
Styrene	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Tetrachloroethene	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.36 J	NA	NA	NA	NA

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	RFI-83/84-45 06/19/03	RFI-83/84-49 06/19/03	RFI-86-02 06/19/03	RFI-86-02 09/15/03	RFI-86-03 12/20/02	RW1-P2 09/17/02	RW-05-EAST 09/17/02	RW-05-East 04/01/03	RW-05-North 04/01/03
Toluene	mg/kg	0.13	0.10 J	0.11 J	0.072 J	0.32 J	NA	NA	NA	NA
trans-1,2-Dichloroethene	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
trans-1,3-Dichloropropene	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Trichloroethene	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.32 J	NA	NA	NA	NA
Trichlorofluoromethane (CFC-11)	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Trifluorotrchloroethane (Freon 113)	mg/kg	0.57 J	0.62 U	0.62 U	0.62 U	3.1 U	NA	NA	NA	NA
Vinyl chloride	mg/kg	0.12 U	0.12 U	0.12 U	0.12 U	0.63 U	NA	NA	NA	NA
Xylenes (total)	mg/kg	0.28 J	1.2	1.2	0.98	7.6 J	NA	NA	NA	NA
<b>TCLP VOC</b>										
1,1-Dichloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform (Trichloromethane)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>SVOC</b>										
1,2,4-Trichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
2,4,5-Trichlorophenol	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
2,4,6-Trichlorophenol	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
2,4-Dichlorophenol	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
2,4-Dimethylphenol	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
2,4-Dinitrophenol	mg/kg	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	NA	NA	NA	NA
2,4-Dinitrotoluene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
2,6-Dinitrotoluene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
2-Chloronaphthalene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
2-Chlorophenol	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
2-Methylnaphthalene	mg/kg	490 U	500 U	110 J	260 J	190 J	NA	NA	NA	NA
2-Methylphenol	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
2-Nitroaniline	mg/kg	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	NA	NA	NA	NA
2-Nitrophenol	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
3&4-Methylphenol	mg/kg	980 UJ	990 UJ	980 UJ	1,000 UJ	1,000 UJ	NA	NA	NA	NA
3,3'-Dichlorobenzidine	mg/kg	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	NA	NA	NA	NA
3-Methylphenol	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	mg/kg	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	mg/kg	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	NA	NA	NA	NA

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	RFI-83/84-45 06/19/03	RFI-83/84-49 06/19/03	RFI-86-02 06/19/03	RFI-86-02 09/15/03	RFI-86-03 12/20/02	RW1-P2 09/17/02	RW-05-EAST 09/17/02	RW-05-East 04/01/03	RW-05-North 04/01/03
4-Bromophenyl phenyl ether	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
4-Chloro-3-methylphenol	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
4-Chloroaniline	mg/kg	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
4-Nitroaniline	mg/kg	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	NA	NA	NA	NA
4-Nitrophenol	mg/kg	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	NA	NA	NA	NA
Acenaphthene	mg/kg	490 U	500 U	490 U	50 J	500 U	NA	NA	NA	NA
Acenaphthylene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Acetophenone	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Anthracene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Atrazine	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Benzaldehyde	mg/kg	490 UJ	500 UJ	490 UJ	500 U	500 UJ	NA	NA	NA	NA
Benzo(a)anthracene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Benzo(a)pyrene	mg/kg	2,400 U	2,500 U	2,500 U	500 U	500 U	NA	NA	NA	NA
Benzo(b)fluoranthene	mg/kg	2,400 U	2,500 U	2,500 U	500 U	500 U	NA	NA	NA	NA
Benzo(g,h,i)perylene	mg/kg	2,400 U	2,500 U	2,500 U	500 UJ	500 U	NA	NA	NA	NA
Benzo(k)fluoranthene	mg/kg	2,400 U	2,500 U	2,500 U	500 U	500 U	NA	NA	NA	NA
Biphenyl	mg/kg	490 U	500 U	490 U	68 J	500 U	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	mg/kg	490 U	500 U	490 U	36 J	500 U	NA	NA	NA	NA
bis(2-Chloroethyl)ether	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Butyl benzylphthalate	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Caprolactam	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Carbazole	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Chrysene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Dibenz(a,h)anthracene	mg/kg	2,400 U	2,500 U	2,500 U	500 UJ	500 U	NA	NA	NA	NA
Dibenzofuran	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Diethyl phthalate	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Dimethyl phthalate	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Di-n-butylphthalate	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Di-n-octyl phthalate	mg/kg	2,400 U	2,500 U	2,500 U	500 U	500 U	NA	NA	NA	NA
Fluoranthene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Fluorene	mg/kg	490 U	500 U	490 U	100 J	500 U	NA	NA	NA	NA
Hexachlorobenzene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Hexachlorobutadiene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Hexachlorocyclopentadiene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Hexachloroethane	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	mg/kg	2,400 U	2,500 U	2,500 U	500 U	500 U	NA	NA	NA	NA
Isophorone	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Methylphenols, Total	mg/kg	980 U	990 U	980 U	1,000 U	1,000 U	NA	NA	NA	NA
Naphthalene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Nitrobenzene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
N-Nitrosodiphenylamine	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA

**TABLE D-1  
LNAPL ANALYTICAL DATA  
(in mg/kg, unless noted)**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	RFI-83/84-45 06/19/03	RFI-83/84-49 06/19/03	RFI-86-02 06/19/03	RFI-86-02 09/15/03	RFI-86-03 12/20/02	RW1-P2 09/17/02	RW-05-EAST 09/17/02	RW-05-East 04/01/03	RW-05-North 04/01/03
Pentachlorophenol	mg/kg	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	NA	NA	NA	NA
Phenanthrene	mg/kg	490 U	81 J	81 J	250 J	500 U	NA	NA	NA	NA
Phenol	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
Pyrene	mg/kg	490 U	500 U	490 U	500 U	500 U	NA	NA	NA	NA
<b>TCLP SVOC</b>										
2,4,5-Trichlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenols, Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyridine	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic</b>										
Antimony	mg/kg	0.90 U	0.95 U	0.95 U	1.8 U	4.6 J	NA	NA	NA	NA
Arsenic	mg/kg	5.0 J	1.2 J	0.71 J	1.4	2.7 J	NA	NA	NA	NA
Barium	mg/kg	1.0 J	0.50 J	0.36 J	0.46 J	0.46 J	NA	NA	NA	NA
Beryllium	mg/kg	0.25 J	0.48 U	0.48 U	0.28 J	0.19 U	NA	NA	NA	NA
Cadmium	mg/kg	0.11 J	0.24 U	0.24 U	0.45 U	0.024 J	NA	NA	NA	NA
Chromium Total	mg/kg	3.0 J	2.6 J	2.6 J	2.8	7.2 J	NA	NA	NA	NA
Cobalt	mg/kg	0.14 J	0.95 U	0.95 U	0.19 J	0.083 J	NA	NA	NA	NA
Copper	mg/kg	13 J	2.3 J	0.69 J	4.2	3.9 J	NA	NA	NA	NA
Cyanide (total)	mg/kg	0.20 U	0.20 U	0.20 U	0.20 UJ	0.89 J	NA	NA	NA	NA
Lead	mg/kg	100 J	0.30 J	0.18 J	0.42 J	1.6 J	NA	NA	NA	NA
Manganese	mg/kg	1.0	0.17 J	0.24 J	0.23 J	0.22 J	NA	NA	NA	NA
Mercury	mg/kg	0.020 U	0.019 U	0.019 U	0.019 UJ	0.019 UJ	NA	NA	NA	NA
Nickel	mg/kg	1.4	0.95 U	0.25 J	1.8 U	0.72	NA	NA	NA	NA
Selenium	mg/kg	0.45 U	0.48 U	0.48 U	0.89 J	0.60 J	NA	NA	NA	NA
Silver	mg/kg	0.095 J	0.95 U	0.094 J	1.8 U	0.063 J	NA	NA	NA	NA
Thallium	mg/kg	0.90 U	0.95 U	0.95 U	1.8 U	0.38 U	NA	NA	NA	NA
Vanadium	mg/kg	2.1	0.81	1.4	2.6	1.2 J	NA	NA	NA	NA
Zinc	mg/kg	8.8	1.6 J	2.2 J	4.2 J	2.0	NA	NA	NA	NA
<b>TCLP Inorganic</b>										
Arsenic	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE D-1**  
**LNAPL ANALYTICAL DATA**  
(in mg/kg, unless noted)

**RFI PHASE II REPORT**  
**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE**

Sample ID: Date Collected:	Units	RFI-83/84-45 06/19/03	RFI-83/84-49 06/19/03	RFI-86-02 06/19/03	RFI-86-02 09/15/03	RFI-86-03 12/20/02	RW1-P2 09/17/02	RW-05-EAST 09/17/02	RW-05-East 04/01/03	RW-05-North 04/01/03
Selenium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>PCB</b>										
Aroclor-1016 (PCB-1016)	mg/kg	0.98 U	0.96 U	0.99 U	0.97 U	1.0 U	NA	NA	0.99 U	0.99 U
Aroclor-1221 (PCB-1221)	mg/kg	0.98 U	0.96 U	0.99 U	0.97 U	1.0 U	NA	NA	0.99 U	0.99 U
Aroclor-1232 (PCB-1232)	mg/kg	0.98 U	0.96 U	0.99 U	0.97 U	1.0 U	NA	NA	0.99 U	0.99 U
Aroclor-1242 (PCB-1242)	mg/kg	0.98 U	0.96 U	0.99 U	0.97 U	1.0 U	NA	NA	0.99 U	0.99 U
Aroclor-1248 (PCB-1248)	mg/kg	0.98 U	55	0.99 U	0.97 U	1.0 U	NA	NA	120 D	0.99 U
Aroclor-1254 (PCB-1254)	mg/kg	0.98 U	0.96 U	0.56 J	0.56 J	4.6	NA	NA	0.99 U	0.99 U
Aroclor-1260 (PCB-1260)	mg/kg	0.98 U	7.4	0.99 U	0.97 U	1.0 U	NA	NA	14	0.99 U
Aroclor-1262 (PCB-1262)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268 (PCB-1268)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	mg/kg	0.98 U	62	0.56 J	0.56 J	4.6	NA	NA	130	0.99 U
<b>Miscellaneous</b>										
Asbestos	%	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bulk Density	g/cc	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ignitability	deg f	NA	NA	NA	NA	NA	>200	>200	NA	NA
Interfacial Tension	dynes/cm	18	23	23	21	16	NA	NA	NA	NA
pH Corrosivity	s.u.	NA	NA	NA	NA	NA	NA	NA	NA	NA
Reactive Cyanide	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Reactive Sulfide	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Specific gravity	sg	0.88	0.90	0.90	0.90	0.87	NA	NA	NA	NA
Total Petroleum Hydrocarbons - extractable (DRO)	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids	%	NA	NA	NA	NA	NA	NA	NA	NA	NA
Viscosity	cp	62	46	60	18	NA	NA	NA	NA	NA

**TABLE D-2  
NOTES FOR LNAPL ANALYTICAL DATA TABLES**

**RFI PHASE II REPORT  
GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

**General Notes:**

Samples were collected by Blasland, Bouck & Lee, Inc., and submitted to CT&E Environmental Services, Inc. and Merit Laboratories, Inc. for analysis of Project Analyte List (PAL) volatile organic compounds, PAL semivolatle organic compounds, polychlorinated biphenyls (PCBs), and PAL inorganics.  
Duplicate results are presented in brackets.  
LNAPL concentrations are presented in milligrams per kilogram (mg/kg), unless otherwise noted.  
Total Methylphenols reported as the sum of 2-methylphenol and 3&4-methylphenol.  
Total Xylenes reported as the sum of m&p-Xylene and o-Xylene.  
Total PCBs reported as the sum of PCB aroclors.

**Data Qualifiers:**

ND = Not detected. The value in parentheses represents the associated detection limit.  
NS = Not analyzed for this constituent.  
D = Concentration is based on a diluted sample analysis.  
J = The compound/constituent was positively identified; however, the associated numerical value is an estimated concentration only.  
E = Measured concentration exceeded the linear range of the instrument. A diluted sample analysis was run; however, the undiluted result was chosen as representative of the sample concentration.  
R = Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data shall not be used for any qualitative or quantitative purposes.

# **Appendix E**

## **Analytical Data Review and Validation Report Summaries**

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3022872

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3022872 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MIL
4-8(062702)	3022872001	Water	6/27/2002	X		X		
4-13(062702)	3022872002	Water	6/27/2002	X		X		
4-17(062702)	3022872003	Water	6/27/2002	X		X		
4-20(062702)	3022872004	Water	6/27/2002	X		X		
4-23(062702)	3022872005	Water	6/27/2002	X		X		
5-4(062702)	3022872006	Water	6/27/2002	X		X		
5-5(062702)	3022872007	Water	6/27/2002	X		X		
5-10(062702)	3022872008	Water	6/27/2002	X		X		
5-13A(062702)	3022872009	Water	6/27/2002	X		X		
3-15(062702)	3022872010	Water	6/27/2002	X		X		
3-20(062702)	3022872011	Water	6/27/2002	X		X		
3-22-1(062702)	3022872012	Water	6/27/2002	X		X		
3-23(062702)	3022872013	Water	6/27/2002	X		X		
3-65(062802)	3022872014	Water	6/28/2002	X		X		
3-76-8(062802)	3022872015	Water	6/28/2002	X		X		
2-29(062802)	3022872016	Water	6/28/2002	X		X		
2-20(062802)	3022872017	Water	6/28/2002	X		X		
2-20(062802)RE	3022872019	Water	6/28/2002	X		X		
3-26(062702)	3022872018	Water	6/27/2002	X		X		

## Sample Analysis: Volatiles

### Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. Properly maintained equipment	<u>      </u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>      </u>	<u>X</u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

The continuing calibration %D was above the acceptable limit due to a increase in response by Methyl acetate, Tetrachloroethene, Acetone, Cyclohexane, Dichlorodifluoromethane (CFC-12), Methyl Cyclohexane, Bromomethane, and Tetrachloroethene. Detected compounds in the associated sample were qualified as estimated due to these deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by Acetone and 2-Butanone. These compounds were qualified as estimated due to these deviations.

Samples -20(062702), 4-23(062702), 5-4(062702), 5-5(062702), 5-10(062702), 3-15(062702), 3-20(062702), 3-22-1(062702), and 3-65(062802) exhibited surrogate recoveries above the control limit. Detected sample results were qualified as estimated.

Sample 2-20(062802) exhibited low internal standard recover of 1,4-Dichlorobenzene-d4. All associated sample results were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	CT&E, Inc. Luddington, Michigan
Date of Report:	7/22/02
Validation performed by:	(Dennis Capria)
Date of Validation:	12/24/2002

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3023019

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3023019 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
4-8(070902)	3023019001	Water	7/9/2002	X		X		
4-23(070902)	3023019002	Water	7/9/2002	X		X		
4-13(070902)	3023019003	Water	7/9/2002	X		X		
3-65(070902)	3023019004	Water	7/9/2002	X		X		
3-20(070902)	3023019005	Water	7/9/2002	X		X		
3-15(070902)	3023019006	Water	7/9/2002	X		X		
3-22-1(070902)	3023019007	Water	7/9/2002	X		X		
3-23(070902)	3023019008	Water	7/9/2002	X		X		
3-26(070902)	3023019009	Water	7/9/2002	X		X		
5-4(070902)	3023019010	Water	7/9/2002	X		X		
5-5(070902)	3023019011	Water	7/9/2002	X		X		
5-10(070902)	3023019012	Water	7/9/2002	X		X		
5-13A(070902)	3023019013	Water	7/9/2002	X		X		
11-3(070902)	3023019014	Water	7/9/2002	X				
11-6(070902)	3023019015	Water	7/9/2002	X				

<sup>1</sup> DUP for sample RFI-83/84-02(04-06)

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The continuing calibration %D was above the acceptable limit due to a increase in response by Dichlorodifluoromethane (CFC-12), Bromomethane, 4-Methyl-2-pentanone, Tetrachloroethene, and Acetone. Associated sample detected results were qualified due to these deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by Chloromethane associated samples data have been qualified as estimated for the compounds based on these deviations.

MEK was detected in the method blanks. All samples results less than the blank action level were qualified as non-detected.

Sample 4-8(070902) exhibited MS recoveries of a Methylene chloride, 1,2,4-Trichlorobenzene, Carbon tetrachloride, Ethylbenzene, Methyl cyclohexane, and m&p-Xylene below the control limit. Sample results were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The continuing calibration %D for aroclor-1016 above the acceptable limit due to a increase in response. None of the associated sample contained detected results of the lighter aroclors therefore none of the data were qualified due to these deviations.

MS recovery of sample 3-65(070902) was less than ten percent. Non-detected sample results were qualified as rejected and detected sample results were qualified as estimated.

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	CT&E, Inc. Luddington, Michigan
Date of Report:	July 31 2002
Validation performed by:	(Dennis Capria)
Date of Validation:	12/26/2002

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3023410

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3023701 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
4-23(072902)	3023410001	Water	7/29/2002					
4-13(072902)	3023410002	Water	7/29/2002					
3-65(072902)	3023410003	Water	7/29/2002					
3-20(072902)	3023410004	Water	7/29/2002					
3-15(072902)	3023410005	Water	7/29/2002					
3-22-1(072902)	3023410006	Water	7/29/2002					
3-23(072902)	3023410007	Water	7/29/2002					
3-26(072902)	3023410008	Water	7/29/2002					
5-4(072902)	3023410009	Water	7/29/2002					
5-5(072902)	3023410010	Water	7/29/2002					
5-10(072902)	3023410011	Water	7/29/2002					
5-13A(072902)	3023410012	Water	7/29/2002					
11-3(072902)	3023410013	Water	7/29/2002					
11-6(072902)	3023410014	Water	7/29/2002					
2-41-4(072902)	3023410015	Water	7/29/2002					
2-41(072902)	3023410016	Water	7/29/2002					
2-39(072902)	3023410017	Water	7/29/2002					
2-38(072902)	3023410018	Water	7/29/2002					
2-35(072902)	3023410019	Water	7/29/2002					
2-31(072902)	3023410020	Water	7/29/2002					
2-22(072902)	3023410021	Water	7/29/2002					
2-20(072902)	3023410022	Water	7/29/2002					
2-33(072902)	3023410023	Water	7/29/2002					
3-69(072902)	3023410024	Water	7/29/2002					
4-17(072902)	3023410025	Water	7/29/2002					
3-76-8(072902)	3023410026	Water	7/29/2002					

<sup>1</sup> DUP for sample RFI-83/84-02(04-06)

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The continuing calibration %D was above the acceptable limit due to a increase in response by Methyl acetate, Tetrachloroethene, Acetone, 2-Hexanone, and trans-1,3-Dichloropropene. None of these compounds were detected in the associated sample therefore there was no data were qualified due to these deviations.

Sample RFI-09-41(4.7-6.6) exhibited surrogate recoveries above the control limit. Detected sample results were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
Surrogate (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>  X  </u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>  X  </u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>  X  </u>	<u>      </u>
Field duplicate (RPD)	<u>      </u>	<u>  X  </u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>  X  </u>	<u>      </u>

### Notes

The initial calibration %RSD was above the acceptable limit for Benzaldehyde, Biphenyl, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Benzo(g,h,i)perylene associated sample RFI-81-18(00-02); Benzaldehyde; associated sample data have been qualified as estimated based on these deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol associated samples data have been qualified as estimated for the compounds based on these deviations.

Responses for internal standards were reported outside of acceptable limits in Perylene-d12 and Chrysene-d12. reanalysis of these samples was performed to demonstrate matrix inference. Samples RFI-09-41(4.7-6.6)RE, RFI--09-41(4.7-6.6)RE, RFI-09-42(0.7-2.7)REDL, RFI-09-43(0.7-2.7)RE, RFI-09-44(0.7-2.7)RE, RFI-09-40(0.7-1.9)RE replaced the original analysis due superior internal standard recovery. Compounds associated with deficient internal standard recoveries have been qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>  X  </u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>  X  </u>	<u>      </u>	<u>      </u>

Notes

The MS/MSD RPD of sample RFI-09-44(2.7-4.7) was greater than the control limits. All aroclor results for this sample were non-detected therefore the data was not qualified.

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	_____	_____
Continuing calibration (%D)	_____	<u>X</u>	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
CRDL standard (%R)	_____	_____	<u>X</u>
Serial dilution (%D)	<u>X</u>	_____	_____
Internal standard (Response)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	<u>X</u>	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	<u>X</u>	_____
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The MS/MSD %Rs were below the acceptable limit for Barium, and Beryllium. All soil sample data have been qualified as estimated.

The MS/MSD %Rs were below the acceptable limit for Antimony. All soil sample data have been qualified as rejected.

The laboratory duplicate percent difference was above the acceptable limit for Chromium. All soil sample data have been qualified as estimated.

The serial percent difference was above the acceptable limit for Arsenic, Nickel, Manganese, and Zinc. All soil sample data have been qualified as estimated.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>July 18, 2001</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>August 22, 2001</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3023510

VOLATILE ANALYSIS

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3023510 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
11-3(080202)	3203510001	Water	8/2/2002	X				
11-6-2(080202)	3203510002	Water	8/2/2002	X				

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

The continuing calibration %D was above the acceptable limit due to a increase in response by Dichlorodifluoromethane and Acetone. None of these compounds were detected in the associated sample therefore there was no data were qualified due to these deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by bromomethane and carbon disulfide. The associated samples have been qualified as estimated for the compounds based on these deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>August 20, 2002</u>
Validation performed by:	<u>(Dennis Capria)</u>
Date of Validation:	<u>December 24, 2002</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3023701

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3023701 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-09-40(0.7-1.9)	3023701001	Soil	8/15/2002	X	X	X	X	
RFI-09-40(0.7-1.9)RE	3023701008	Soil	8/15/2002		X			
RFI-09-41(0.7-2.7)	3023679005	Soil	8/16/2002	X	X	X	X	
RFI-09-41(2.7-4.7)	3023679006	Soil	8/16/2002	X	X	X	X	
RFI-09-41(2.7-4.7)RE	3023701005	Soil	8/16/2002		X			
RFI-09-41(4.7-6.6)	3023679007	Soil	8/16/2002	X	X	X	X	
RFI-09-41(4.7-6.6)DL	3023701002	Soil	8/16/2002	X				
RFI-09-41(4.7-6.6)RE	3023701007	Soil	8/16/2002		X			
RFI-09-42(0.7-2.7)	3023679008	Soil	8/16/2002	X	X	X	X	
RFI-09-42(0.7-2.7)REDL	3023701006	Soil	8/16/2002		X			
RFI-09-42(2.7-4.7)	3023679009	Soil	8/16/2002	X	X	X	X	
RFI-09-42(4.7-6.7)	3023679010	Soil	8/16/2002	X	X	X	X	
RFI-09-43(0.7-2.7)	3023679011	Soil	8/16/2002	X	X	X	X	
RFI-09-43(0.7-2.7)RE	3023701003	Soil	8/16/2002		X			
RFI-09-43(2.7-4.7)	3023679012	Soil	8/16/2002	X	X	X	X	
RFI-09-43(4.7-6.7)	3023679013	Soil	8/16/2002	X	X	X	X	
RFI-09-44(0.7-2.7)	3023679014	Soil	8/16/2002	X	X	X	X	
RFI-09-44(0.7-2.7)RE	3023701004	Soil	8/16/2002		X			
RFI-09-44(2.7-4.7)	3023679015	Soil	8/16/2002	X	X	X	X	
RFI-09-DUP-411	3023679016	Soil	8/16/2002	X	X	X	X	

<sup>1</sup> DUP for sample RFI-83/84-02(04-06)

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The continuing calibration %D was above the acceptable limit due to a increase in response by Methyl acetate, Tetrachloroethene, Acetone, 2-Hexanone, and trans-1,3-Dichloropropene. None of these compounds were detected in the associated sample therefore there was no data were qualified due to these deviations.

Sample RFI-09-41(4.7-6.6) exhibited surrogate recoveries above the control limit. Detected sample results were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
Field duplicate (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The initial calibration %RSD was above the acceptable limit for Benzaldehyde, Biphenyl, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Benzo(g,h,i)perylene associated sample RFI-81-18(00-02); Benzaldehyde; associated sample data have been qualified as estimated based on these deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol associated samples data have been qualified as estimated for the compounds based on these deviations.

Responses for internal standards were reported outside of acceptable limits in Perylene-d12 and Chrysene-d12. reanalysis of these samples was performed to demonstrate matrix inference. Samples RFI-09-41(4.7-6.6)RE, RFI--09-41(4.7-6.6)RE, RFI-09-42(0.7-2.7)REDL, RFI-09-43(0.7-2.7)RE, RFI-09-44(0.7-2.7)RE, RFI-09-40(0.7-1.9)RE replaced the original analysis due superior internal standard recovery. Compounds associated with deficient internal standard recoveries have been qualified as estimated.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The MS/MSD RPD of sample RFI-09-44(2.7-4.7) was greater than the control limits. All aroclor results for this sample were non-detected therefore the data was not qualified.

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D)	<u>      </u>	<u>X</u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

The MS/MSD %Rs were below the acceptable limit for Barium, and Beryllium. All soil sample data have been qualified as estimated.

The MS/MSD %Rs were below the acceptable limit for Antimony. All soil sample data have been qualified as rejected.

The laboratory duplicate percent difference was above the acceptable limit for Chromium. All soil sample data have been qualified as estimated.

The serial percent difference was above the acceptable limit for Arsenic, Nickel, Manganese, and Zinc. All soil sample data have been qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>July 18, 2001</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>August 22, 2001</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3023726

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3023726 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-09-RB-211	3023726001	Water	8/19/2002	X	X	X	X	
RFI-09-TB-411	3023726002	Water	8/19/2002	X				
RFI-09-39(0.5-2.5)	3023726003	Soil	8/20/2002				X	
RFI-09-39(2.5-4.5)	3023726004	Soil	8/20/2002				X	
RFI-09-33(0.5-2.0)	3023726005	Soil	8/20/2002				X	
RFI-09-33(03-05)	3023726006	Soil	8/20/2002				X	
RFI-09-36R(0.3-2.3)	3023726007	Soil	8/20/2002	X	X	X	X	
RFI-09-36R(0.3-2.3)RE	3023726032	Soil	8/20/2002		X			
RFI-09-36R(2.3-4.3)	3023726008	Soil	8/20/2002	X	X	X	X	
RFI-09-36R(2.3-4.3)RE	3023726031	Soil	8/20/2002		X			
RFI-09-45(0.5-2.5)	3023726009	Soil	8/20/2002	X	X	X	X	
RFI-09-45(0.5-2.5)RE	3023726030	Soil	8/20/2002		X			
RFI-09-45(2.5-4.5)	3023726010	Soil	8/20/2002	X	X	X	X	
RFI-09-33(05-6.8)	3023726011	Soil	8/20/2002				X	
RFI-09-34(00-02)	3023726012	Soil	8/20/2002				X	
RFI-09-34(02-04)	3023726013	Soil	8/20/2002				X	
RFI-09-35(00-02)	3023726014	Soil	8/20/2002				X	
RFI-09-35(02-04)	3023726015	Soil	8/20/2002				X	
RFI-94-EP-RB-212	3023726016	Water	8/21/2002	X	X	X	X	
RFI-TB-412	3023726017	Water	8/21/2002	X				
RFI-09-46(03-05)	3023726018	Soil	8/21/2002	X	X	X	X	
RFI-09-46(05-07)	3023726019	Soil	8/21/2002	X	X	X	X	
RFI-09-46(00-0.5)	3023726020	Soil	8/21/2002	X	X	X	X	
RFI-09-38(0.7-2.7)	3023726021	Soil	8/21/2002				X	
RFI-09-38(2.7-4.7)	3023726022	Soil	8/21/2002				X	
RFI-09-DUP-412 <sup>1</sup>	3023726023	Soil	8/21/2002	X	X	X	X	
RFI-94-EP-02D(0.5-2.5)	3023726024	Soil	8/21/2002			X		
RFI-94-EP-02D(2.5-4.5)	3023726025	Soil	8/21/2002			X		
RFI-94-EP-02C(0.5-2.5)	3023726026	Soil	8/21/2002			X		
RFI-94-EP-02C(2.5-4.5)	3023726027	Soil	8/21/2002			X		
RFI-94-07(02-04)	3023726028	Soil	8/21/2002	X	X	X	X	
RFI-94-07(04-06)	3023726029	Soil	8/21/2002	X	X	X	X	

<sup>1</sup> DUP for sample RFI-09-46(03-05)

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

### Notes

The continuing calibration %D was above the acceptable limit due to a increase in response by, Acetone, and Bromomethane. Associated sample detected results were qualified due to these deviations.

Samples RFI-09-46(03-05), RFI-09-46(05-07), RFI-09-46(00-0.5), RFI-09-DUP-412, RFI-94-07(02-04), and RFI-94-07(04-06) exhibited surrogate recoveries above the control limit. Detected sample results were qualified as estimated.

Methyl acetate was detected in the method blank. Associated sample results less than the blank action level were qualified as non-detected.

Sample RFI-09-46(05-07) exhibited MS/MSD recoveries for Tetrachloroethene above the control limits. Tetrachloroethene was not detected in the sample therefore no sample data were qualified.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Field duplicate (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The initial calibration coefficient was below the acceptable limit for Benzaldehyde and Biphenyl associated sample results have been qualified as estimated based on these deviations.

The continuing calibration %D was below the acceptable limit due to a decrease in response by Benzaldehyde, 4,6-Dinitro-2-methylphenol, and 3&4-Methylphenol associated samples data have been qualified as estimated for the compounds based on these deviations.

The continuing calibration %D was above the acceptable limit due to an increase in response by 4-Chloroaniline, 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Benzo(g,h,i)perylene detected associated sample results have been qualified as estimated for the compounds based on these deviations

Responses for internal standard was reported outside of acceptable limits in Perylene-d12 for samples RFI-09-36R(2.3-4.3) and RFI-09-45(0.5-2.5). Reanalysis of these samples was performed to demonstrate matrix inference. The original analysis due of these samples were reported. Compounds

associated with deficient internal standard recoveries have been qualified as estimated.

Responses for internal standard was reported outside of acceptable limits in Perylene-d12 for sample RFI-09-36R(0.3-2.3). Reanalysis of these samples was performed to demonstrate matrix inference. The reanalysis of this sample was reported. Compounds associated with deficient internal standard recoveries have been qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Serial dilution (%D)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>  X  </u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>      </u>	<u>  X  </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>  X  </u>	<u>      </u>

Notes

The MS/MSD %Rs for RFI-09-46(05-07) were above the acceptable limit for Barium, Cadmium, Chromium, Lead, Thallium, Vanadium, and Zinc. All positive soil sample data have been qualified as estimated.

The MS/MSD %Rs for RFI-94-07(04-06) were below the acceptable limit for Barium and Zinc. All soil sample data have been qualified as estimated.

The MS/MSD %Rs were above the acceptable limit for Arsenic, Cadmium, Chromium, Manganese, Selenium, Thallium, Vanadium, and Zinc. All positive water sample data have been qualified as estimated.

The MS/MSD %Rs were less than 10 percent the acceptable limit for Antimony. All non-detected

sample results were qualified as rejected. Detected sample results were qualified as estimated.

The laboratory duplicate percent difference was above the acceptable limit for Barium, Chromium, and Manganese. All detected soil sample data have been qualified as estimated.

The serial percent difference was above the acceptable limit for Lead. All soil sample data have been qualified as estimated.

The LCSs for Cyanide were below the acceptable limit. All associated soil cyanide data has been qualified as estimated.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>July 18, 2001</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>August 22, 2001</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3023819

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	_____	<u>X</u>	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	<u>X</u>	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	<u>X</u>	_____
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

The continuing calibration %D was above the acceptable limit due to a increase in response by Acetone, 2-Butanone, 2-Hexanone, Methyl acetate, Tetrachloroethene, and Styrene. Associated sample detected results were qualified due to these deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by Chloromethane associated samples data have been qualified as estimated for the compounds based on these deviations.

Samples RFI-85-08(6.5-8.5) and RFI-85-08(0.5-2.5) were received and preserved more than 48 hours after collection of the VOC samples. Sample results were qualified as estimated.

Samples RFI-09-47(2.7-4.7) and RFI-09-47(4.7-6.7) exhibited surrogate recoveries above the control limit. Detected sample results were qualified as estimated.

Sample RFI-09-47(4.7-6.7) exhibited MS recoveries of a Ethylbenzene, o-Xylene, and Toluene above

the control limit. Sample results were qualified as estimated.

Field duplicate RPD between samples RFI-09-47(2.7-4.7) and RFI-09-DUP-413 were greater than the control limit for Methyl cylohexane. Sample results for these sample have been qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	_____	<u>X</u>	_____
Matrix spike (%Recovery)	<u>X</u>	_____	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	<u>X</u>	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

The initial calibration coefficient was below the acceptable limit for Benzaldehyde and Biphenyl associated sample results have been qualified as estimated based on these deviations.

The continuing calibration %D was below the acceptable limit due to a decrease in response by N-Nitrosodi-n-propylamine, Benzaldehyde, and 3&4-Methylphenol associated samples data have been qualified as estimated for the compounds based on these deviations.

The continuing calibration %D was above the acceptable limit due to a increase in response by 4-Chloroaniline, 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Benzo(g,h,i)perylene detected associated sample results have been qualified as estimated for the compounds based on these deviations

Responses for internal standards were reported outside of acceptable limits in Perylene-d12 and Chrysene-d12 for samples RFI-09-47(0.7-2.7) and RFI-09-DUP-413. Reanalysis of these samples was performed to demonstrate matrix inference. The original analysis of these samples was reported.

Compounds associated with deficient internal standard recoveries have been qualified as estimated.

Samples RFI-85-08(0.5-2.5), RFI-09-47(0.7-2.7), RFI-09-47(0.7-2.7)RE, and RFI-09-47(2.7-4.7) demonstrated surrogate recoveries which were greater than the control limits. Any positive data associated with these samples were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The surrogate recoveries for sample RFI-09-47(0.7-2.7) were both above control limits. No aroclor were detected therefore no data were qualified.

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
Serial dilution (%D)	<u>      </u>	<u>X</u>	<u>      </u>
Internal standard (Response)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The MS/MSD %Rs for RFI-85-08(6.5-8.5) were above the acceptable limit for Barium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Vanadium, and Zinc. All positive soil sample data have been qualified as estimated.

The MS/MSD %Rs were less than 10 percent the acceptable limit for Antimony. All soil sample data have been qualified as rejected.

The laboratory duplicate percent difference was above the acceptable limit for Arsenic. All soil sample data have been qualified as estimated.

The Cyanide LSC associated with sample RFI-85-08(6.5-8.5) was below the control limits. This sample result was qualified as estimated.

Field duplicate RPD between samples RFI-09-47(2.7-4.7) and RFI-09-DUP-413 were greater than the control limit for Barium, Copper, Lead, Manganese, and Zinc. Sample results for these analytes have been qualified as estimated.

The serial percent difference was above the acceptable limit for Zinc. All soil sample data have been qualified as estimated.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>September 19, 02</u>
Validation performed by:	<u>(Dennis Capria)</u>
Date of Validation:	<u>December 30, 2002</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3023924

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3023924 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-BG-01(00-02)	3023924001	Soil	8/29/2002				X	
RFI-BG-02(00-02)	3023924002	Soil	8/29/2002				X	
RFI-BG-03(00-02)	3023924003	Soil	8/29/2002				X	
RFI-BG-04(00-02)	3023924004	Soil	8/29/2002				X	
RFI-BG-05(00-02)	3023924005	Soil	8/29/2002				X	
RFI-BG-06(00-02)	3023924006	Soil	8/29/2002				X	
RFI-BG-07(00-02)	3023924007	Soil	8/29/2002				X	
RFI-BG-08(00-02)	3023924008	Soil	8/29/2002				X	
RFI-BG-09(00-02)	3023924009	Soil	8/29/2002				X	
RFI-BG-10(00-02)	3023924010	Soil	8/29/2002				X	
RFI-BG-DUP-414	3023924011	Soil	8/29/2002				X	

<sup>1</sup> DUP for sample RFI-BG-06(00-02)

## Sample Analysis: Metals

### Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
Field duplicate (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

The MSD %Rs were above the acceptable limit for Arsenic, Barium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc. All detected sample results have been qualified as estimated.

The MS/MSD %Rs were below the acceptable limit for Antimony. All soil sample data have been qualified as rejected.

The laboratory duplicate percent difference was above the acceptable limit for Arsenic. All soil sample data have been qualified as estimated.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>July 18, 2001</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>August 22, 2001</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3024032

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3024032 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-83/84-31(07-09)	3024032001	Soil	9/4/2002				X	
RFI-83/84-31(01-03)	3024032002	Soil	9/4/2002				X	
RFI-83/84-30(8.7-10.7)	3024032003	Soil	9/4/2002				X	
RFI-83/84-30(0.7-2.7)	3024032004	Soil	9/4/2002				X	
RFI-83/84-DUP-415 <sup>1</sup>	3024032005	Soil	9/4/2002				X	
RFI-83/84-33(7.2-9.2)	3024032006	Soil	9/4/2002				X	
RFI-83/84-36(0.7-2.7)	3024032007	Soil	9/4/2002				X	
RFI-83/84-34(0.7-2.7)	3024032008	Soil	9/4/2002				X	
RFI-83/84-35(0.7-2.7)	3024032009	Soil	9/4/2002				X	
RFI-83/84-37(0.7-2.7)	3024032010	Soil	9/4/2002				X	
RFI-83/84-33(1.2-3.2)	3024032011	Soil	9/4/2002				X	
RFI-83/84-32(0.7-1.5)	3024032012	Soil	9/4/2002				X	

<sup>1</sup> DUP for sample RFI-83/84-33(1.2-3.2)

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
Serial dilution (%D)	<u>      </u>	<u>X</u>	<u>      </u>
Internal standard (Response)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
Laboratory duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Field duplicate (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The MS/MSD %Rs were below the acceptable limit for Chromium and Zinc. All soil sample data have been qualified as estimated.

The MS/MSD %Rs were below the acceptable limit for Antimony. All non-detected soil sample data have been qualified as rejected. All detected soil sample data has been qualified an estimate.

The serial dilution percent difference was above the acceptable limit for Selenium. All soil sample data have been qualified as estimated.

The field duplicate percent difference was above the acceptable limit for Manganese. All soil sample data have been qualified as estimated.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>July 18, 2001</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>August 22, 2001</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3024763

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3024763 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
Composite-36 RFI-36-49-52	3024763001	Soil	10/11/2002					X
Composite-05 RFI-05-29-31	3024763002	Soil	10/11/2002					X
RFI-09-37(0.5-2.5)	3024763003	Soil	10/11/2002				X	
RFI-09-37(2.5-4.5)	3024763004	Soil	10/11/2002				X	
RFI-10-29(00-02)	3024763005	Soil	10/14/2002	X				
RFI-10-29(06-08)	3024763006	Soil	10/14/2002	X				
RFI-10-28(00-02)	3024763007	Soil	10/14/2002	X				
RFI-10-28(08-10)	3024763008	Soil	10/14/2002	X				
RFI-DUP-416 <sup>1</sup>	3024763009	Soil	10/14/2002	X				
RFI-36-48(00-02)	3024763010	Soil	10/15/2002	X			X	
RFI-36-48(06-08)	3024763011	Soil	10/15/2002	X			X	
RFI-36-48(08-10)	3024763012	Soil	10/15/2002	X			X	
RFI-36-48(14-16)	3024763013	Soil	10/15/2002	X			X	
RFI-36-47(00-02)	3024763014	Soil	10/15/2002	X			X	
RFI-36-47(08-10)	3024763015	Soil	10/15/2002	X			X	
RFI-36-47(10-12)	3024763016	Soil	10/15/2002	X			X	
RFI-81-13R(00-02)	3024763017	Soil	10/16/2002					X
RFI-02-13(0.5-2.5)	3024763018	Soil	10/16/2002	X	X	X	X	

<sup>1</sup> DUP for sample RFI-10-28(08-10).

**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The continuing calibration %D was above the acceptable limit due to a increase in response by Bromomethane, Acetone, 2-Hexanone, and Trichlorofluoromethane (CFC-11). None of these compounds were detected in the associated sample therefore there was no data were qualified due to these deviations.

Samples RFI-DUP-416, RFI-36-48(00-02), RFI-36-48(06-08), RFI-36-48(08-10), RFI-36-48(14-16), and RFI-36-47(00-02) exhibited surrogate recoveries above the control limit. Detected sample results were qualified as estimated.

Sample RFI-10-29(00-02) exhibited MS recoveries of Acetone, 2-Hexanone, Bromomethane, and 2-Butanone above the control limit. All sample results for these compounds were non-detected therefore none of the data was qualified due to these deviations.

The LCSs recoveries were below limits for Ethylbenzene, Methylene chloride, and Carbon disulfide

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	<u>X</u>	_____	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	<u>X</u>	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The continuing calibration %D was below the acceptable limit due to a decrease in response by 3&4-Methylphenol associated samples data have been qualified as estimated for the compounds based on these deviations.

The continuing calibration %D was above the acceptable limit due to a increase in response by bis(2-Chloroethyl)ether detected associated sample results have been qualified as estimated for the compounds based on these deviations

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>      </u>	<u>X</u>	<u>      </u>
	Internal standard (Response)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The MS/MSD %Rs were below the acceptable limit for Barium, Arsenic, Chromium, Copper, Lead, Nickel, Vanadium, and Zinc . All soil sample data have been qualified as estimated.

The MS/MSD %Rs were below the acceptable limit for Antimony. All soil sample data have been qualified as rejected.

The laboratory duplicate percent difference was above the acceptable limit for Beryllium. All soil sample data have been qualified as estimated.

The serial percent difference was above the acceptable limit for Copper, Vanadium, Silver, Nickel, Chromium, Lead, Barium, Arsenic, and Zinc. All soil sample data have been qualified as estimated.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	CT&E, Inc. Luddington, Michigan
Date of Report:	11/14/03
Validation performed by:	(Dennis Capria)
Date of Validation:	1/8/2003

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3025393

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3025393 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
Build 23 Basement NE Corner	3025393001	NAPL	11/13/2002	X	X	X	X	X
MH 6-24	3025393002	NAPL	11/13/2002	X	X	X	X	X

<sup>1</sup> DUP for sample RFI-10-28(08-10).

**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The continuing calibration %D was above the acceptable limit due to a increase in response by, Acetone and 2-Hexanone. Associated sample detected results were qualified due to these deviations

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The initial calibration %RSD was above the acceptable limit for Benzaldehyde. Associated sample associated sample data have been qualified as estimated based on these deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol, Benzaldehyde, and 4-Bromophenyl phenyl ether associated samples data have been qualified as estimated for the compounds based on these deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs and DRO**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>X</u>	<u>      </u>
	Internal standard (Response)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The MS/MSD %Rs were below the acceptable limit for Barium, and Beryllium. All soil sample data have been qualified as estimated.

The serial dilution RPDs were above the acceptable limit for Manganese, Barium, Copper, Vanadium, Lead, Zinc, and Chromium. All soil sample data have been qualified as estimated.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	CT&E, Inc. Luddington, Michigan
Date of Report:	12/13/02
Validation performed by:	(Dennis Capria)
Date of Validation:	1/8/2003

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3025518

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3025518 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC <sup>2</sup>
02-20 (111902)	3025518001	Water	11/19/02	X				
Build 23 Trench (112002)	3025518002	NAPL	11/20/02	X	X	X	X	X

- 1 DUP for sample RFI-10-28(08-10)
- 2 Miscellaneous parameters include: TPH (Diesel Range Organics)

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The continuing calibration %D was above the acceptable limit due to an increase in response by Acetone. Associated sample 02-20 (111902) has been qualified as estimated for acetone based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Surrogate (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Internal standard (Response, RT)	<u>  X  </u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>  X  </u>	<u>      </u>	<u>      </u>

### Notes

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol and benzaldehyde. Sample Build 23 Trench (112002) has been qualified as estimated for the listed compounds based on these deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>      </u>	<u>      </u>	<u>X</u>
	Internal standard (Response)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The MS/MSD %Rs were below acceptable limits for antimony and lead. All soil sample data have been qualified as estimated for the listed analytes based on the deviations.

The MS/MSD %Rs were above acceptable limits for barium, copper and manganese. All positive data for the listed analytes have been qualified as estimated based on the deviations.

The MS/MSD relative percent difference between recoveries were above the acceptable limit for all analytes with the exception of zinc. All positive data have been qualified as estimated based on the deviations.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>January 6, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>March 11, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3025519

VOLATILE ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The continuing calibration %D was above the acceptable limit due to an increase in response by acetone. Associated samples 4-8 (112002), 4-17 (112002) and 4-20 (112002) have been qualified as estimate based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>January 20, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>March 10, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3025578

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3025578 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
4-8 (112102)	3025578001	Water	11/21/02	X				
4-11 (112102)	3025578002	Water	11/21/02	X				
4-13 (112102)	3025578003	Water	11/21/02	X				
4-17 (112102)	3025578004	Water	11/21/02	X				
4-20 (112102)	3025578005	Water	11/21/02	X				
Build 23 Basement	3025578006	Water	11/22/02	X	X	X	X	

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The continuing calibration %D was above the acceptable limit due to an increase in response by acetone and 2-butanone. All samples have been qualified as estimated for acetone and 2-butanone based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Surrogate (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>      </u>	<u>  X  </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>  X  </u>	<u>      </u>	<u>      </u>

### Notes

The initial calibration was above control limits for benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene and dibenzo(a,h)anthracene. Data for the listed compounds have been qualified as estimated in the sample based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol, benzaldehyde, 3-nitroaniline, atrazine, carbazole and 3,3'-dichlorobenzidine. Data for the listed compounds have been qualified as estimated in the sample based on the %D.

One or more internal standard responses were below control limits in sample Build 23 Basement. Data have been qualified as estimated for all compounds associated with the deviant internal standard.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The MS/MSD %Rs were below acceptable limits for silver, manganese and zinc. Data have been qualified as estimated for the listed analytes based on the deviations.

Arsenic was detected in the instrument blank. Based on the blank content, data for arsenic has been qualified as undetected.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>January 6, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>March 11, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3025933

VOLATILE AND PCB ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3025933 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI10-28 (121202)	3025933001	Water	12/12/02	X				
RFI10-29 (121202)	3025933002	Water	12/12/02	X				
RFI36-47 (121202)	3025933003	Water	12/13/02	X				
RFI36-48 (121202)	3025933004	Water	12/13/02	X				
BD01-02R (121302)	3025933005	Water	12/13/02	X				
ACSP-B2AR (121302)	3025933006	Water	12/13/02	X				
Build 32-Oil	3025933007	Oil	12/13/02			X		X
Build 32-Pipe	3025933008	Solid	12/13/02					X

<sup>1</sup> Miscellaneous parameters include: Asbestos

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

### Notes

The continuing calibration %D was above the acceptable limit due to an increase in response by acetone, all samples were associated, 2-butanone, associated samples RFI10-29 (121202) and BD01-02R (121302), 4-methyl-2-pentanone, associated sample BD01-02R (121302); a decrease in response by bromomethane, all samples were associated, chloromethane, associated samples RFI36-47 (121202), RFI36-48 (121202), BD01-02R (121302) and ACSP-B2AR (121302). Samples were qualified as estimate based on the deviations.

Sample RFI10-28 (121202) contained acetone above the linear range. Data for acetone has been replaced with data from the dilution analysis. Sample BD01-02R (121302) contained benzene above the linear range. Data for benzene has been replaced with data from the dilution analysis.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>January 20, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>March 10, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3025985

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3025985 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-02-05 (121602)	3025985006	Water	12/16/02				X	
RFI-12-15 (121602)	3025985007	Water	12/16/02	X				
40-304 (121702)	3025985001	Water	12/17/02	X				
40-3 (121702)	3025985002	Water	12/17/02	X			X	
RFI-84-05 (121702)	3025985003	Water	12/17/02	X			X	
40-2 (121702)	3025985004	Water	12/17/02	X				
43-168 (121702)	3025985005	Water	12/17/02				X	
RFI-94-7 (121702)	3025985008	Water	12/17/02		X			
RFI-94-05 (121702)	3025985009	Water	12/17/02	X	X	X	X	
RFI-94-05d (121702)	3025985010	Water	12/17/02			X		

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

The continuing calibration %D was above the acceptable limit due to a increase in response by 2-butanone. Data for 2-butanone have been qualified as estimated in samples 40-304 (121702), 40-3 (121702) and RFI-12-15 (121602) based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by carbon tetrachloride, dibromochloromethane, bromoform and 1,2-dibromo-3-chloropropane. Data for the listed compounds have been qualified as estimated in all samples based on the deviations.

Sample RFI-12-15 (121602) contained acetone above the linear range. Data for acetone in sample RFI-12-15 (121602) has been replaced with data from the dilution analysis.

Acetone and methylene chloride were detected in the method blanks. Based on the blank content data for acetone and methylene chloride have been qualified as undetected in samples 40-304 (121702), 40-3 (121702), RFI-84-05 (121702), 40-2 (121702) and RFI-94-05 (121702) and data for

methylene chloride has been qualified as undetected in sample RFI-12-15 (121602).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The initial calibration %RSD was above the acceptable limit for 4,6-dinitro-2-methylphenol. Data have been qualified as estimated for the listed compound based on the deviation.

The continuing calibration %D was above the acceptable limit due to a decrease in response by benzaldehyde, 3&4-Methylphenol, 4-nitroaniline and carbazole. Data have been qualified as estimated for the listed compounds based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>      </u>	<u>X</u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The MS/MSD %Rs were below the acceptable limit for barium, beryllium, cadmium, cobalt, copper, lead, nickel, silver, thallium and zinc. Data have been qualified as estimated for the listed analytes based on the deviations.

The continuing calibration %R was above control limits for manganese. Positive data for manganese have been qualified as estimated in samples 40-3 (121702), RFI-84-05 (121702) and 43-168 (121702) based on the deviation.

Antimony was detected in the instrument blank. Based on the blank content, data for antimony has been qualified as undetected in samples RFI-02-05 (121602) and RFI-94-05 (121702).

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>January 29, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>March 18, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3026005

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3026005 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
36-105 (121802)	3026005005	Water	12/16/02	X			X	
36-FP-5	3026005006	Water	12/16/02	X				
RFI 83/84-02 (121802)	3026005001	Water	12/18/02				X	
37-01 (121802)	3026005002	Water	12/18/02				X	
RFI 85-08 (121802) <sup>1</sup>	3026005003	Water	12/18/02	X	X	X	X	
RFI 85-08d (121802)	3026005004	Water	12/18/02			X		
RFI 10-12 (121802)	3026005007	Water	12/18/02				X	
RFI 10-12d (121802)	3026005008	Water	12/18/02				X	
RFI 86-08R (121802)	3026005009	Water	12/18/02	X			X	
RFI 05-19DR (121802) <sup>1</sup>	3026005010	Water	12/18/02	X			X	

1 MS/MSD analyses performed on sample.

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

The continuing calibration %D was above the acceptable limit due to an increase in response by 2-butanone. Data for 2-butanone has been qualified as estimated in sample RFI 86-08R (121802) based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by chloromethane, bromomethane, carbon tetrachloride, dibromochloromethane, bromoform and 1,2-dibromo-3-chloropropane. Based on the deviations, data have been qualified as estimated for the following: chloromethane and bromomethane in sample RFI 85-08 (121802); carbon tetrachloride, dibromochloromethane, bromoform and 1,2-dibromo-3-chloropropane in samples 36-105 (121802), RFI 86-08R (121802) and RFI 05-19DR (121802); bromomethane and carbon tetrachloride in sample 36-FP-5.

Sample 36-105 (121802) contained 1,1,1-trichloroethane and 1,1-dichloroethane above the linear range and sample RFI 86-08R (121802) contained chloroethene above the linear range. Data for the

listed compounds have been replaced with data from the dilution analyses.

The MS/MSD %R were below control limits for carbon tetrachloride. Data for carbon tetrachloride has been qualified as estimated in associated sample RFI 05-19DR (121802) based on the deviation.

Acetone and methylene chloride were detected in the method blanks. Based on the blank content data for acetone have been qualified as non-detect in samples 36-105 (121802), 36-FP-5 and RFI 05-19DR (121802) and data for methylene chloride have been qualified as non-detect in samples 36-105 (121802), RFI-86-08R (121802) and RFI 05-19DR (121802).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Laboratory duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

### Notes

The initial calibration %RSD was above the acceptable limit for 4,6-dinitro-2-methylphenol. Data have been qualified as estimated for the listed compound based on the deviation.

The continuing calibration %D was above the acceptable limit due to a decrease in response by benzaldehyde, 3&4-Methylphenol, 4-nitroaniline and carbazole. Data have been qualified as estimated for the listed compounds based on the deviations.

The MS %R was below control limits for atrazine. Data for atrazine has been qualified as estimated absed on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>      </u>	<u>X</u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The MS/MSD %Rs were below the acceptable limit for barium, beryllium, cadmium, cobalt, copper, lead, nickel, silver, thallium and zinc. Based on the deviations, data have been qualified as estimated for the listed analytes in samples RFI 83/84-02 (121802), 37-01 (121802), RFI 85-08 (121802), 36-105 (121802), RFI 10-12 (121802) and RFI 86-08R (121802).

The MS %R were below control limits for nickel and silver. Data for nickel and silver have been qualified as estimated in sample RFI 05-19DR (121802) based on the deviation.

The MS/MSD RPD were above control limits for antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, silver, thallium, vanadium and zinc. Positive data for the listed analytes have been qualified as estimated in sample RFI 05-19DR (121802) based on the deviations.

The MS %R were below 30% for all analytes except mercury. Positive data have been qualified as

estimated and undetected data have been rejected for all analytes except mercury in sample RFI 10-12d(121802)

The continuing calibration %R was above control limits for manganese and thallium. Positive data for manganese have been qualified as estimated in samples RFI 85-08 (121802), 36-105 (121802), RFI 10-12 (121802) and RFI 86-08R (121802) and positive data for thallium has been qualified as estimated in sample RFI-05-19DR (121802) based on the deviation.

Antimony was detected in the instrument blank. Based on the blank content, data for antimony has been qualified as undetected in sample RFI 10-12d (121802).

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>January 30, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>March 19, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3026017

VOLATILE AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3026017 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI 36-32 (121902)	3026017001	Water	12/19/02				X	
RFI 02-17 (121902)	3026017002	Water	12/19/02				X	
86-3 (121902)	3026017003	Water	12/19/02				X	
RFI 40-04	3026017004	Water	12/18/02	X				
RFI 09-46 (121902) <sup>1</sup>	3026017005	Water	12/19/02	X			X	
DUP-1 (121902)	3026017006	Water	12/19/02	X			X	

1 Original sample of DUP-1 (121902)

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

The continuing calibration %D was above the acceptable limit due to an increase in response by acetone. Data for acetone has been qualified as estimated in sample DUP-1 (121902) based on the deviation.

The continuing calibration %D was above the acceptable limit due to a decrease in response by bromomethane, carbon tetrachloride, dibromochloromethane, bromoform and 1,2-dibromo-3-chloropropane. Data for bromomethane and carbon tetrachloride have been qualified as estimated in sample RFI 40-04 (121802), and data for carbon tetrachloride, dibromochloromethane, bromoform and 1,2-dibromo-3-chloropropane have been qualified as estimated in samples RFI 09-46 (121902) and DUP-1 (121902) based on the deviations.

Samples RFI 09-46 (121902) and DUP-1 (121902) contained benzene and cyclohexane above the linear range. Data for benzene and cyclohexane have been replaced with data from the dilution analyses for the listed samples.

Acetone was detected in the method blanks. Based on the blank content data for acetone has been qualified as undetected in sample RFI 40-04 (121802).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

The MS/MSD %Rs were above the acceptable limit for barium and manganese and below the acceptable limit for nickel and silver. Positive data for barium and manganese and all data for nickel and silver have been qualified as estimated for the based on the deviations.

The MS/MSD RPD was above control limits for antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, silver, thallium, vanadium and zinc. Based on the deviations data have been qualified as estimated for the following: all listed analytes in sample RFI 36-32 (121902); arsenic, barium, cobalt, copper, nickel and zinc in samples RFI 02-17 (121902), 86-3 (121902), RFI 09-46 (121902) and DUP-1 (121902); cadmium and chromium in samples RFI 02-17 (121902) and 86-3 (121902); lead, thallium and vanadium in sample RFI 02-17 (121902); lead in sample RFI 09-46 (121902).

Lead and thallium were detected in the instrument blanks. Based on the blank content, data for lead

has been qualified as undetected in sample 86-3 (121902) and data for thallium have been qualified as undetected in samples 86-3 (121902),RFI 09-46 (121902) and DUP-1 (121902).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>January 30, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>March 18, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3026048

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3026048 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
31-FP6	3026048001	Oil	12/20/02	X	X	X	X	
20-162	3026048002	Oil	12/20/02		X	X	X	
31-7	3026048003	Oil	12/20/02	X	X	X	X	
20-FP8	3026048004	Oil	12/20/02	X	X	X	X	
86-03	3026078005	Oil	12/20/02	X	X	X	X	
DUP2 (122002)	3026048006	Water	12/20/02			X		
Diss. DUP2	3026048007	Water	12/20/02			X		
RFI 44-04 (122002)	3026048008	Water	12/20/02			X	X	
RFI 44-04d (122002)	3026048009	Water	12/20/02			X		
RFI 44-05 (122002)	3026048010	Water	12/20/02			X	X	
RFI 44-05d (122002)	3026048011	Water	12/20/02			X	X	
DUP3 (122002)	3026048012	Water	12/20/02	X			X	
RFI 09-45 (122002)	3026048013	Water	12/20/02	X			X	

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The initial calibration %RSD was above control limits for o-xylene. Data for o-xylene have been qualified as estimated in samples 31-FP6, 31-7, 20-FP8 and 86-03 based on the deviation.

The continuing calibration %D was above the acceptable limit due to a decrease in response by bromomethane and carbon tetrachloride. Data for the listed compounds have been qualified as estimated in samples DUP3 (122002) and RFI-09-45 (122002) based on the deviations.

The LCS %R was above control limits for isopropylbenzene. Data for isopropylbenzene have been qualified as estimated in samples 31-7, 20-FP8 and 86-03 based on the deviation.

Acetone was detected in the method blank. Based on the blank content, data for acetone have been qualified as undetected in samples DUP3 (122002) and RFI-09-45 (122002).

Other than for the deviations noted in this review, all data quality parameters were within method-

specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u> X </u>	_____	_____
2. Proper methods for analysis used	<u> X </u>	_____	_____
3. All documentation supplied	<u> X </u>	_____	_____
4. Samples analyzed within specified holding times	<u> X </u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u> X </u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u> X </u>	_____
Continuing calibration (%D, RF)	_____	<u> X </u>	_____
Surrogate (%Recovery)	<u> X </u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u> X </u>
Blank spike (%Recovery)	_____	_____	<u> X </u>
Control sample (%Recovery)	_____	_____	<u> X </u>
Internal standard (Response, RT)	<u> X </u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u> X </u>
Laboratory duplicate (RPD)	_____	_____	<u> X </u>
Field duplicate (RPD)	_____	_____	<u> X </u>
8. Target analyte concentrations below detection limit in all blank samples	<u> X </u>	_____	_____

Notes

The initial calibration %RSD was above control limits for 4,6-dinitro-2-methylphenol and benzaldehyde. Data for 4,6-dinitro-2-methylphenol has been qualified as estimated in sample 36-FP6 and data for benzaldehyde have been qualified as estimated in samples 20-162, 31-7, 20-FP8 and 86-03 based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol and 4-nitroaniline. Data have been qualified as estimated for 3&4-methylphenol in samples 36-FP6, 20-162, 31-7, 20-FP8 and 86-03 and data for 4-nitroaniline has been qualified as estimated in sample 36-FP6 based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

### Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	_____	_____
Continuing calibration (%D)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	_____	<u>X</u>	_____
CRDL standard (%R)	_____	_____	<u>X</u>
Serial dilution (%D)	<u>X</u>	_____	_____
Internal standard (Response)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	<u>X</u>	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

The MS/MSD %Rs were below the acceptable limit for mercury and silver. Data for mercury have been qualified as estimated in samples 31-FP6, 20-162, 31-7, 20-FP8 and 86-03 and data for silver have been qualified as estimated in samples RFI 44-04 (122002), RFI 44-05 (122002), DUP3 (122002) and RFI 09-45 (122002) based on the deviations.

The MS %R were above control limits for antimony, arsenic, chromium, copper and selenium. Data for antimony have been qualified as estimated in samples 20-FP8 and 86-03 and data for arsenic, chromium, copper and selenium have been qualified as estimated in samples 31-FP6, 20-162, 31-7, 20-FP8 and 86-03 based on the deviation.

The MS/MSD RPD was above control limits for antimony, arsenic, chromium, cobalt, copper, lead, manganese, selenium and vanadium. Positive data for the listed analytes have been qualified as estimated in samples 31-FP6, 20-162, 31-7, 20-FP8 and 86-03 based on the deviations.

The MS/MSD RPD was above control limits for antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, silver, thallium, vanadium and zinc. Positive data for the listed analytes have been qualified as estimated in samples RFI 44-04 (122002), RFI 44-05 (122002), DUP3 (122002) and RFI 09-45 (122002) based on the deviations.

The MS %R were below 30% for all analytes associated with sample RFI 44-05d (122002). All positive data have been qualified as estimated and all undetected data have been rejected in the listed sample based on the deviations.

The LCS %R was above control limits for cyanide. Data for cyanide has been qualified as estimated in sample 86-03 based on the deviations.

Silver and thallium were detected in the method blank. Based on the blank content data for silver and thallium have been qualified as undetected in sample RFI 44-05d (122002).

Thallium was detected in the instrument blank. Based on the blank content, data for thallium have been qualified as undetected in samples RFI 44-04 (122002), RFI 44-05 (122002), DUP3 (122002) and RFI 09-45 (122002)

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	CT&E, Inc. Luddington, Michigan
Date of Report:	February 3, 2003
Validation performed by:	(Melissa Cash)
Date of Validation:	March 21, 2003

# **Appendix E**

## **Analytical Data Review and Validation Report Summaries**

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3030261

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

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**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

Summary

The following is an assessment of data package 3030261 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
36-07 (011603)NL <sup>1</sup>	3030261001	NAPL	1/16/03	X	X	X	X	

1 MS/MSD analyses performed on sample.

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The continuing calibration %D was above the acceptable limit due to a decrease in response by bromomethane, 1,1,2-trichloro-1,2,2-trifluoroethane, acetone, 2-butanone, 1,2-dichloroethane, tetrachloroethene and styrene. Data for the listed compounds have been qualified as estimated based on the deviations.

The LCS %R was below control limits for 1,1,2-trichloro-1,2,2-trifluoroethane. Data for the listed compound has been qualified as estimated based on the deviation.

Sample 36-07 (011603)NL contained ethylbenzene, o-xylene, p&m-xylene and toluene above the linear range. Data for the listed compounds have been replaced with data from the dilution analysis.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The continuing calibration %D was above the acceptable limit due to a decrease in response by benzaldehyde and 3&4-Methylphenol. Data have been qualified as estimated for the listed compounds based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The MS/MSD %Rs were below the acceptable limit for antimony and mercury. Data have been qualified as estimated for antimony and mercury based on the deviations.

The MS %R were above control limits for arsenic, beryllium, chromium, manganese, selenium and vanadium. Data for the listed analytes have been qualified as estimated based on the deviation.

The MS/MSD RPD was above control limits for all analytes except mercury. Positive data for all listed analytes except mercury have been qualified as estimated based on the deviations.

Arsenic, lead, chromium and selenium were detected in the method blank. Based on the blank content data for the arsenic, lead and selenium have been qualified as undetected.

Other than for the deviation noted in this review, all data quality parameters were within method-

specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>January 30, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>March 19, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3030673

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3030673 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-40-11 (0.9-2.9)	3030673001	Soil	02/17/03	X				
RFI-40-11 (4.9-6.9)	3030673002	Soil	02/17/03	X				
RFI-16-24 (1.0-3.0)	3030673003	Soil	02/18/03	X				
RFI-16-24 (05-07)	3030673004	Soil	02/18/03	X				
RFI-16-25 (01-03)	3030673005	Soil	02/18/03	X				
RFI-16-25 (08-10)	3030673006	Soil	02/18/03	X				
RFI-12-23 (0.9-1.4)	3030673007	Soil	02/19/03	X	X	X	X	
RFI-12-23 (2.5-4.5)	3030673008	Soil	02/19/03	X	X	X	X	
RFI-12-23 (8.5-10.5)	3030673009	Soil	02/19/03	X	X	X	X	
RFI-12-23 (12.5-14.5)	3030673010	Soil	02/19/03	X	X	X	X	
RFI-16-RB-214	3030673011	Soil	02/19/03	X	X	X	X	
12- 23 (10.5-12.5)	3030673012	Soil	02/19/03	X	X	X	X	
Trip Blank	3030673013	Water	--	X				

**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The initial calibration RRF was below control limits for bromomethane. Data for bromomethane have been qualified as estimated in samples RFI-40-11 (0.9-2.9), RFI-40-11 (4.9-6.9), RFI-16-24 (01-03), RFI-16-24 (05-07), RFI-16-25 (01-03), RFI-16-25 (08-10), RFI-12-23 (0.9-1.4), RFI-12-23 (2.5-4.5), RFI-12-23 (8.5-10.5), RFI-12-23 (12.5-14.5) and RFI-12-23 (10.5-12.5) based on the deviations.

The initial calibration %RSD was above control limits for methyl acetate and 2-butanone. Data for methyl acetate has been qualified as estimated in sample RFI-16-25 (08-10), and data for 2-butanone have been qualified as estimated in samples RFI-40-11 (0.9-2.9), RFI-40-11 (4.9-6.9), RFI-16-24 (01-03), RFI-16-24 (05-07) and RFI-16-25 (01-03) based on the deviation.

The continuing calibration %D was above the acceptable limit due to a decrease in response by carbon disulfide, cyclohexane, 2-butanone and 1,2-dichloroethane. Data for the carbon disulfide and cyclohexane have been qualified as estimated in samples RFI-16-RB-214 and Trip Blank, and data for 2-butanone and 1,2-dichloroethane have been qualified as estimated in samples RFI-40-11 (0.9-2.9), RFI-40-11 (4.9-6.9), RFI-16-24 (01-03), RFI-16-24 (05-07), RFI-16-25 (01-03), RFI-16-25 (08-10), RFI-

12-23 (0.9-1.4), RFI-12-23 (2.5-4.5), RFI-12-23 (8.5-10.5), RFI-12-23 (12.5-14.5) and RFI-12-23 (10.5-12.5) based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Internal standard (Response, RT)	<u>      </u>	<u>X</u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The initial calibration %RSD was above control limits for benzaldehyde and benzo(b)fluoranthene. Data for benzaldehyde have been qualified as estimated in samples RFI-12-23 (2.5-4.5), RFI-12-23 (8.5-10.5) and RFI-12-23 (10.5-12.5) and data for benzo(b)fluoranthene has been qualified as estimated in sample RFI-12-23 (2.5-4.5) based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by benzaldehyde, 3&4-Methylphenol, butylbenzylphthalate and bis(2-ethylhexyl)phthalate. Data have been qualified as estimated for 3&4-methylphenol and benzaldehyde in samples RFI-12-23 (0.9-1.4), RFI-12-23 (2.5-4.5), RFI-12-23 (8.5-10.5), RFI-12-23 (12.5-14.5), RFI-16-RB-214 and RFI-12-23 (10.5-12.5), and data for butylbenzylphthalate and bis(2-ethylhexyl)phthalate have been qualified as estimated in samples RFI-12-23 (2.5-4.5), RFI-12-23 (8.5-10.5) and RFI-12-23 (10.5-12.5) based on the deviations.

The response for one internal standard, perylene-d12, was below control limits in sample RFI-12-23 (10.5-12.5). Data have been qualified as estimated for all compounds associated with the deviant

internal standard.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D)	<u>      </u>	<u>X</u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
Serial dilution (%D)	<u>      </u>	<u>X</u>	<u>      </u>
Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The continuing calibration %R was above control limits for beryllium. Data for beryllium have been qualified as estimated in samples RFI-12-23 (0.9-1.4), RFI-12-23 (2.5-4.5), RFI-12-23 (8.5-10.5), RFI-12-23 (12.5-14.5) and RFI-12-23 (10.5-12.5) based on the deviations.

The MS/MSD %Rs were below the acceptable limit for antimony arsenic, barium, chromium, cobalt, copper, lead, nickel, vanadium, zinc, beryllium, mercury and cyanide. Data for the listed analytes have been qualified as estimated in samples RFI-12-23 (0.9-1.4), RFI-12-23 (2.5-4.5), RFI-12-23 (8.5-10.5), RFI-12-23 (12.5-14.5) and RFI-12-23 (10.5-12.5) and data for cobalt and cyanide have been qualified as estimated in sample RFI-16-RB-214 based on the deviations.

Antimony and cobalt were detected in the instrument blank. Based on the blank content data for antimony and cobalt have been qualified as undetected in sample RFI-16-RB-214.

The serial dilution results were above control limits for nickel, copper, chromium, lead and zinc. Data for the listed analytes have been qualified as estimated in sample RFI-16-RB-214 based on the deviations.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by: CT&E, Inc. Luddington, Michigan

Date of Report: March 14, 2003

Validation performed by: (Melissa Cash)

Date of Validation: March 24, 2003

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3030774

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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## Summary

The following is an assessment of data package 3030774 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-86-TB(022703)	--	Water	2/27/2003					
RFI-02-12(1.2-3.2)	3030774001	Soil	2/24/2003	X	X	X	X	
RFI-02-12(07-09)	3030774002	Soil	2/24/2003	X	X	X	X	
RFI-02-DUP-417 <sup>1</sup>	3030774003	Soil	2/24/2003	X	X	X	X	
RFI-09-49(00-02)	3030774004	Soil	2/25/2003	X	X	X	X	
RFI-09-49(04-06)	3030774005	Soil	2/25/2003	X	X	X	X	
RFI-09-03R(0.5-2.5)	3030774006	Soil	2/26/2003		X			
RFI-09-01R(04-06)	3030774007	Soil	2/26/2003				X	
RFI-09-01R(06-08)	3030774008	Soil	2/26/2003				X	
RFI-09-01R(08-10)	3030774009	Soil	2/26/2003				X	
RFI-09-50(0.5-2.5)	3030774010	Soil	2/26/2003				X	
RFI-09-50(2.5-4.5)	3030774011	Soil	2/26/2003	X			X	
RFI-09-45R(0.3-2.3)	3030774012	Soil	2/26/2003		X			
RFI-86-16(0.8-2.8)	3030774013	Soil	2/27/2003	X	X	X	X	
RFI-86-16(7.8-9.8)	3030774014	Soil	2/27/2003	X	X	X	X	
RFI-86-16(9.8-11.8)	3030774015	Soil	2/27/2003	X	X	X	X	
RFI-86-RB-215	3030774016	Water	2/27/2003	X	X	X	X	
RFI-09-03R(0.5-2.5)RE	3030774017	Soil	2/26/2003		X			
RFI-09-45R(0.3-2.3)DL	3030774018	Soil	2/26/2003		X			

<sup>1</sup> Duplicate of sample RFI-02-12(07-09).

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The initial calibration RRF was below control limits for bromomethane. Data for bromomethane have been qualified as estimated in samples RFI-02-12(1.2-3.2), RFI-02-12(07-09), RFI-02-DUP-417, RFI-09-49(00-02), RFI-09-49(04-06), RFI-09-50(2.5-4.5), RFI-86-16(0.8-2.8), RFI-86-16(7.8-9.8) and RFI-86-16(9.8-11.8) based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by carbon disulfide, bromomethane, 1,1,1-trichloroethane, and 1,2-dichloroethane. Data for the bromomethane, 1,1,1-trichloroethane and 1,2-dichloroethane have been qualified as estimated in samples RFI-02-12(1.2-3.2), RFI-02-12(07-09), RFI-02-DUP-417, RFI-09-49(00-02), RFI-09-49(04-06), RFI-09-50(2.5-4.5), RFI-86-16(0.8-2.8), RFI-86-16(7.8-9.8) and RFI-86-16(9.8-11.8), and data for bromomethane and carbon disulfide have been qualified as estimated in sample RFI-86-RB-215 based on the deviations.

Acetone, 2-butanone (MEK) and methylene chloride were detected in a method blank. Based on the blank content data for acetone have been qualified as non-detect in samples RFI-02-12(07-09), RFI-

02-DUP-417, RFI-09-50(2.5-4.5), RFI-86-16(0.8-2.8), RFI-86-16(7.8-9.8) and RFI-86-16(9.8-11.8); data for 2-butanone (MEK) have been qualified as non-detect in samples RFI-09-49(00-02), RFI-09-49(04-06), RFI-09-50(2.5-4.5) and data for methylene chloride have been qualified as non-detect in samples RFI-02-12(07-09), RFI-02-DUP-417 and RFI-86-16(0.8-2.8) based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Internal standard (Response, RT)	<u>      </u>	<u>X</u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The initial calibration %RSD was above control limits for benzaldehyde. Data for benzaldehyde have been qualified as estimated in samples RFI-02-12(1.2-3.2), RFI-02-12(07-09), RFI-02-DUP-417, RFI-09-49(00-02), RFI-09-49(04-06), RFI-09-50(2.5-4.5), RFI-86-16(0.8-2.8), RFI-86-16(7.8-9.8), RFI-86-16(9.8-11.8) and RFI-86-RB-215 based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by benzaldehyde, 3&4-Methylphenol, butylbenzylphthalate and bis(2-ethylhexyl)phthalate. Data have been qualified as estimated for 3&4-methylphenol and benzaldehyde in samples RFI-02-12(1.2-3.2), RFI-02-12(07-09), RFI-02-DUP-417, RFI-09-49(00-02), RFI-09-49(04-06), RFI-09-50(2.5-4.5), RFI-86-16(0.8-2.8), RFI-86-16(7.8-9.8), and RFI-86-16(9.8-11.8), and data for 3&4-Methylphenol, butylbenzylphthalate and bis(2-ethylhexyl)phthalate have been qualified as estimated in sample RFI-86-RB-215 based on the deviations.

The response for one internal standard, perylene-d12, was below control limits in sample RFI-09-03R(0.5-2.5). Data have been qualified as estimated for all compounds associated with the deviant

internal standard.

The MS/MSD %R for sample RFI-86-16(0.8-2.8) for compounds 2,4-Dinitrophenol and Pentachlorophenol were below the lower control limits. The data for these two compounds have been qualified as rejected for sample RFI-86-16(0.8-2.8).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	_____	<u>X</u>	_____
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

The serial dilution RPD result was above control limits for beryllium. Data for the listed analyte have been qualified as estimated in samples RFI-02-12(1.2-3.2), RFI-02-12(07-09), RFI-02-DUP-417, RFI-09-49(00-02), RFI-09-49(04-06), RFI-09-50(2.5-4.5), RFI-86-16(0.8-2.8) and RFI-86-16(7.8-9.8) based on the deviations.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>April 30, 2003</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>April 30, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
V8 FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3030941

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3030941 for sampling in support of the RCRA Facility Investigation at the GM-V8 Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-83/84-43(1.5-3.5)	3030941001	Soil	03/05/03				X	
RFI-83/84-42(01-03)	3030941002	Soil	03/05/03				X	
RFI-83/84-41(01-02)	3030941003	Soil	03/05/03				X	
RFI-83/84-17R(01-03)	3030941004	Soil	03/06/03				X	
RFI-83/84-45(0.9-2.9)	3030941005	Soil	03/06/03	X	X	X	X	
RFI-83/84-45(7.9-9.9)	3030941006	Soil	03/06/03	X	X	X	X	
RFI-83/84-DUP-418	3030941007	Soil	03/06/03	X	X	X	X	
RFI-83/84-40(1.0-2.5)	3030941008	Soil	03/06/03				X	
Trip Blank(030603)	3030941009	Water	--	X				
DACDG31502 AML@1041	3030941010	Water	--	X	X	X	X	
DACDG31002 AML@0750	3030941011	Water	--	X	X	X	X	
83/84-39(0.9-2.9)	3030941012	Soil	03/07/03	X	X	X	X	
RFI-03-11(00-02)	3030941013	Soil	03/07/03				X	
TB(030703)	3030941014	Water	03/07/03	X				
RFI-83/84-TB(031003)	3030941015	Water	03/10/03	X				
83/84-44(01-03)	3030941016	Soil	03/10/03	X	X	X	X	
RFI-83/84-44(07-09)	3030941017	Soil	03/10/03	X	X	X	X	
83/84-39(0.9-2.9)RE	3030941018	Soil	03/07/03		X			
83/84-44(01-03)DL	3030941019	Soil	03/10/03		X			
83/84-44(01-03)RE	3030941020	Soil	03/10/03		X			

**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The initial calibration RRF was below control limits for bromomethane. Data for bromomethane have been qualified as estimated in samples Trip Blank(030603), DACDG31502 AML@1041, DACDG31002 AML@0750, TB(030703) and RFI-83/84-TB(031003) based on the deviations

The continuing calibration %D was above the acceptable limit due to a decrease in response by carbon disulfide, bromomethane, acetone, tetrachloroethene and 2-butanone. Data for carbon disulfide have been qualified as estimated in samples Trip Blank(030603), DACDG31502 AML@1041, DACDG31002 AML@0750, TB(030703) and RFI-83/84-TB(031003) and data for bromomethane, acetone, tetrachloroethene and 2-butanone have been qualified as estimated in samples RFI-83/84-45(0.9-2.9), RFI-83/84-45(7.9-9.9), RFI-83/84-DUP-418, 83/84-39(0.9-2.9), 83/84-44(01-03) and RFI-83/84-44(07-09) based on the deviations.

The LCS %R for methyl acetate was below control limits. Data for methyl acetate has been qualified as estimated for samples Trip Blank(030603), DACDG31502 AML@1041, DACDG31002 AML@0750, TB(030703) and RFI-83/84-TB(031003) based on this deviations.

The LCS %R for 1,1,2-Trichloroethane, 1,2-Dibromo-3-chloropropene, 1,2-Dibromoethane, 1,2-Dichloropropane, Chloroethane, cis-1,2-Dichloroethene, methyl acetate and Methyl Tertiary butyl ether was below control limits. Data for these analytes have been qualified as estimated for samples RFI-83/84-45(0.9-2.9), RFI-83/84-45(7.9-9.9), RFI-83/84-DUP-418, 83/84-39(0.9-2.9), 83/84-44(01-03) and RFI-83/84-44(07-09) based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	_____	_____	<u>X</u>
	Internal standard (Response, RT)	_____	<u>X</u>	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The initial calibration %RSD was above control limits for benzaldehyde, atrazine, indeno[1,2,3-cd]pyrene, dibenz[a,h]anthracene and benzo[g,h,i]perylene. Data for benzaldehyde, atrazine, indeno[1,2,3-cd]pyrene, dibenz[a,h]anthracene and benzo[g,h,i]perylene have been qualified as estimated in samples DACDG31502 AML@1041 and DACDG31002 AML@0750 and data for benzaldehyde has been qualified as estimated in samples RFI-83/84-45(0.9-2.9), RFI-83/84-45(7.9-9.9), RFI-83/84-DUP-418, 83/84-39(0.9-2.9), RFI-83/84-44(07-09) and 83/84-44(01-03) based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by benzaldehyde and 3&4-Methylphenol. Data have been qualified as estimated for benzaldehyde in samples DACDG31502 AML@1041 and DACDG31002 AML@0750, and data for benzaldehyde and 3&4-Methylphenol have been qualified as estimated in samples RFI-83/84-45(0.9-2.9), RFI-83/84-45(7.9-9.9), RFI-83/84-DUP-418, 83/84-39(0.9-2.9), RFI-83/84-44(07-09) and 83/84-44(01-03) based on the deviations.

The response for the internal standard perylene-d12, was below control limits in sample 83/84-39(0.9-2.9) and 83/84-44(01-03). Data have been qualified as estimated for all compounds associated with the deviant internal standard for sample 83/84-39(0.9-2.9) and 83/84-44(01-03).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The ICP Interference check sample % recovery for Copper, Silver and Zinc were below the acceptable limits. Data for the Silver and Zinc have been qualified as estimated in samples DACDG31502 AML@1041 and DACDG31002 AML@0750 and data for Copper, Silver and Zinc have been qualified as estimated in sample RFI-83/84-45(0.9-2.9), RFI-83/84-45(7.9-9.9), RFI-83/84-DUP-418, 83/84-39(0.9-2.9), 83/84-44(01-03) and RFI-83/84-44(07-09) based on the deviations.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>April 29, 2003</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>April 29, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
OPERATIONS SITE

FLINT, MICHIGAN

TIFR II  
DATA VALIDATION REPORT

SDG# 3031005

VOLATILE, SEMIVOLATILE, PCB  
AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3031005 for sampling in support of the RCRA Facility Investigation at the Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
TB(031203)								
RFI-03-12(0.8-2.8)	3031005001	Soil	3/11/2003				X	
RFI-03-14(0.8-2.8)	3031005002	Soil	3/11/2003				X	
RFI-03-13(0.8-2.8)	3031005003	Soil	3/11/2003				X	
RFI-05-31(07-09)	3031005004	Soil	3/11/2003				X	
RFI-81-38(01-03)	3031005005	Soil	3/12/2003	X	X	X	X	
RFI-81-40(00-02)	3031005006	Soil	3/12/2003				X	
RFI-86-18(01-03)	3031005007	Soil	3/12/2003				X	
RFI-86-17(01-03)	3031005008	Soil	3/12/2003				X	
RFI-81-41(00-02)	3031005009	Soil	3/12/2003				X	
RFI-83/84-38(05-07)	3031005010	Soil	3/12/2003				X	
RFI-81-36(08-10)	3031005011	Soil	3/12/2003				X	
RFI-81-37(08-10)	3031005012	Soil	3/12/2003				X	
RFI-83/84-RB-216	3031005013	Water	3/12/2003	X	X	X	X	
RFI-07-13(0.3-2.3)	3031005014	Soil	3/17/2003	X	X	X	X	
RFI-07-13(8.3-10.3)	3031005015	Soil	3/17/2003	X	X	X	X	
RFI-07-13(14.3-16.3)	3031005016	Soil	3/17/2003	X	X	X	X	
RFI-07-TB(031703)	3031005017	Water	3/17/2003	X	X	X	X	
RFI-07-12(0.3-2.3)	3031005018	Soil	3/17/2003	X	X	X	X	
RFI-81-38(01-03)RE	3031005019	Soil	3/12/2003		X			
RFI-81-38(01-03)RE	3031005020	Soil	3/12/2003		X			
RFI-81-38(01-03)DL	3031005022	Soil	3/12/2003	X	X			
RFI-07-13(0.3-2.3)RE	3031005023	Soil	3/17/2003		X			
RFI-07-12(0.3-2.3)RE	3031005024	Soil	3/17/2003		X			

**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	_____	<u>X</u>	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The continuing calibration %D was above the acceptable limit due to a decrease in response by carbon disulfide, Dichlorodifluoromethane, Acetone, methyl acetate, 2-Butanone, bromomethane, Methyl-tert-butyl Ether, methyl cyclohexane, 4-methyl-2-pentanone, 2-hexanone and 1,1,2,2-tetrachloroethane. Data have been qualified as estimated for the associated samples based on the deviations.

The LCS %R was above the upper control limits for methyl acetate. The associated sample was non-detect for this compound and therefore for the listed compound was not qualified based on the deviation.

The result for 1,1-Dichloroethene was above the linear range for sample RFI-81-38(01-03). The subsequent dilution result was non-detect. The result was qualified as estimated (J).

Other than for the deviations noted in this review, all data quality parameters were within method-

specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>      </u>	<u>X</u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

### Notes

The initial calibration RRF was below control limits for benzaldehyde, atrazine, indeno[1,2,3-cd]pyrene, dibenz[a,h]anthracene and benzo[g,h,i]perylene. The initial calibration %RSD was above acceptable control limits for Di-n-octylphthalate. The associated samples were qualified as estimated based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol, Carbazole, and 3,3-Dichlorobenzidine. The associated samples were qualified as estimated based on the deviations.

The response for all but one internal standard %R and the surrogate recoveries were below control limits in the undiluted sample RFI-81-38(01-03). The sample was reanalyzed at a 25X dilution (RFI-81-38(01-03)RE) with one internal standard %R, 1,4 dichlorobezene-d4, below acceptable limits and the surrogate recovery of 0% for both 2-Fluorophenol and Phenol-d5. Data have been qualified as estimated for all compounds associated with the deviant internal standard. Data have been qualified as Rejected for the acid portion of the sample based on the deviations.

The response for one internal standard, perylene-d12, was below acceptable limits for samples RFI-07-13(0.3-2.3) and RFI-07-12(0.3-2.3). Data have been qualified as estimated for all compounds associated with the deviant internal standard.

The LCS % Recovery for benzaldehyde was above acceptable limits. The associated sample RFI-83/84-RB-216 was non-detect for this compound and therefore no qualification was necessary.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	<u>X</u>	_____	_____
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	<u>X</u>	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The MS/MSD RPD was above the acceptable limit for antimony. Data for the analyte has been qualified as estimated in samples RFI-81-38(01-03), RFI-07-13(0.3-2.3), RFI-07-13(8.3-10.3), RFI-07-13(14.3-16.3) and RFI-07-12(0.3-2.3) .

Cadmium was detected in the instrument blank. Based on the blank content data for cadmium has been qualified as undetected in samples RFI-07-13(8.3-10.3) and RFI-07-13(14.3-16.3).

The serial dilution results were above control limits for manganese, lead, zinc, barium and arsenic. Data for the listed analytes have been qualified as estimated in the associated samples based on the deviations.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by: CT&E, Inc. Luddington, Michigan  
Date of Report: \_\_\_\_\_  
Validation performed by: \_\_\_\_\_ (Douglas Fische)  
Date of Validation: April 23, 2003

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031081

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3031081 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
36-07 (031703)NL	3031081001	NL	03/17/03	X	X	X	X	

NL- Non-Aqueous Liquid

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

### Notes

The initial calibration was above control limits for methyl cyclohexane. Data for methyl cyclohexane have been qualified as estimated based on the deviation.

The continuing calibration %D were above control limits due to a decrease in response by several compounds. Data have been qualified as estimated for 1,1,2-trichloro-1,2,2-flourethane, acetone, carbon disulfide, methyl acetate, methyl-tert-butyl ether, 2-butanone, cyclohexane, methyl cyclohexane, 4-methyl-2-pentanone, 2-hexanone and 1,1,2,2-tetrachloroethane based on the %D.

Toluene was detected above the linear range in sample 36-07 (031703)NL. Data for toluene have been replaced with data for the dilution analyses based on the results.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	_____	_____	<u>X</u>
Matrix spike (%Recovery)	<u>X</u>	_____	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	_____	_____	<u>X</u>
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The continuing calibration %D were above the acceptable limit due to a decrease in response by 3&4-methylphenol and benzaldehyde. Data have been qualified as estimated for 3&4-Methylphenol and benzaldehyde based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>      </u>	<u>X</u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The MS/MSD RPD was above control limits for cyanide. Since the sample was non-detect for cyanide, no data have been qualified based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	CT&E, Inc. Luddington, Michigan
Date of Report:	April 14, 2003
Validation performed by:	(Melissa Cash)
Date of Validation:	January 5, 2004

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031102

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3031102 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-07-12(8.3-10.3)	3031102001	Soil	3/17/2003	X	X	X	X	
RFI-07-12(14.3-16.3)	3031102002	Soil	3/17/2003	X	X	X	X	
RFI-07-RB-217	3031102003	Water	3/17/2003	X	X	X	X	
RFI-07-TB(031803)	3031102004	Water	3/17/2003	X				
RFI-07-DUP-419 <sup>1</sup>	3031102005	Soil	3/17/2003	X	X	X	X	
RFI-07-11(00-02)	3031102006	Soil	3/17/2003	X	X	X	X	
RFI-83/84-46(1.5-3.5)	3031102007	Soil	3/17/2003	X	X	X	X	
RFI-83/84-46(7.5-9.5)	3031102008	Soil	3/17/2003	X	X	X	X	
RFI-83/84-46(9.5-11.5)	3031102009	Soil	3/17/2003	X	X	X	X	
RFI-07-10(00-02)	3031102010	Soil	3/19/2003	X	X	X	X	
RFI-07-10(06-08)	3031102011	Soil	3/19/2003	X	X	X	X	
RFI-07-14(00-02)	3031102012	Soil	3/19/2003	X	X	X	X	
RFI-83/84-39(1.1-3.1)	3031102013	Soil	3/19/2003	X	X	X	X	
RFI-83/84-39(5.1-7.1)	3031102014	Soil	3/19/2003	X	X	X	X	
RFI-83/84-TB(031903)	3031102015	Water	3/19/2003	X				
RFI-83/84-46(7.5-9.5)RE	3031102016	Soil	3/17/2003		X			

<sup>1</sup> Field duplicate of sample RFI-07-12(8.3-10.3)

**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	<u>X</u>	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The continuing calibration %D was above the acceptable limit due to a decrease in response by carbon disulfide, methyl acetate, 2-butanone (MEK), acetone methyl-tert-butyl ether, methyl cyclohexane, 4-methyl-2-pentanone (MIBK), 2-hexanone and 1,1,2,2-tetrachloroethane. Data for compounds methyl acetate and 2-butanone (MEK) have been qualified as estimated in samples RFI-07-12(8.3-10.3), RFI-07-12(14.3-16.3) and RFI-07-DUP-419 based on the deviations. Data for compounds carbon disulfide, methyl acetate, 2-butanone (MEK), acetone, methyl-tert-butyl ether, methyl cyclohexane, 4-methyl-2-pentanone (MIBK), 2-hexanone and 1,1,2,2-tetrachloroethane have been qualified as estimated in samples RFI-07-11(00-02), RFI-83/84-46(1.5-3.5), RFI-83/84-46(7.5-9.5), RFI-83/84-46(9.5-11.5), RFI-07-10(00-02), RFI-07-10(06-08), RFI-07-14(00-02), RFI-83/84-39(1.1-3.1) and RFI-83/84-39(5.1-7.1).

The MS/MSD %Rs were below the acceptable limit for bromomethane, dichlorodifluoromethane, methyl cyclohexane and tetrachloroethane. Data for these compounds have been qualified as estimated in RFI-07-11(00-02) based on the deviations. The RPD for bromomethane was also above acceptable limits.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	_____	<u>X</u>	_____
	Internal standard (Response, RT)	_____	<u>X</u>	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	<u>X</u>	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The initial calibration %RSD was above control limits for Indeno[1,2,3-cd] pyrene, Dibenz[a,h] anthracene and benzaldehyde. Data for these compounds have been qualified as estimated in those samples affected based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol and Benzaldehyde. Data have been qualified as estimated for 3&4-methylphenol in samples RFI-07-12(8.3-10.3), RFI-07-12(14.3-16.3), RFI-07-DUP-419 , RFI-83/84-46(1.5-3.5), RFI-83/84-46(7.5-9.5), RFI-83/84-46(9.5-11.5), RFI-07-10(00-02), RFI-07-10(06-08), RFI-07-14(00-02), and RFI-83/84-39(1.1-3.1) and data for Benzaldehyde has been qualified as estimated in sample RFI-83/84-39(5.1-7.1) and RFI-07-RB-217 and based on the deviations.

The response for the internal standard perylene-d12, was below control limits in RFI-83/84-46(7.5-9.5). Data have been qualified as estimated for all compounds associated with the deviant internal standard for sample RFI-83/84-46(7.5-9.5).

The MS/MSD %R for sample RFI-07-11(00-02) for compound Benzaldehyde were below the lower control limits. The data for this compound has been qualified as rejected for sample RFI-07-11(00-02).

The LCS %R for Benzaldehyde was below control limits. Data for these analytes have been qualified as rejected in the associated samples based on the deviations.

The LCS %R for Benzaldehyde and bis(2-ethylhexyl) pthalate were below control limits. Data for these analytes have been qualified as rejected for Benzaldehyde and estimated for bis(2-ethylhexyl) pthalate in the associated sample RFI-07-RB-217 based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	<u>X</u>	_____	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	<u>X</u>	_____	_____
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	_____	<u>X</u>	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	<u>X</u>	_____	_____
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	<u>X</u>	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

Cadmium was detected in the instrument blank. Based on the blank content data for cadmium has been qualified as undetected in all samples except RFI-07-RB-217.

Copper, Manganese and Zinc were detected in the instrument blank. Based on the blank content data for Manganese and Zinc have been qualified as undetected in sample RFI-07-RB-217.

The MS/MSD %Rs were below the acceptable limit for manganese. Data for manganese have been qualified as estimated in sample RFI-07-11(00-02).

The MS/MSD %Rs was below the acceptable limit for lead. Data for lead has been qualified as estimated in the associated samples.

The MS/MSD RPD was above control limits for manganese. Data for manganese has been qualified as estimated in all associated samples based on the deviations.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>May 5, 2003</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>May 5, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIFR II  
DATA VALIDATION REPORT

SDG# 3031142

VOLATILE AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3031142 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
55-1(032003)	3031142001	Water	3/20/2003	X				
55-2(032003)	3031142002	Water	3/20/2003	X				
MW-22(032003)	3031142003	Water	3/20/2003	X				
MW-23(032003)	3031142004	Water	3/20/2003	X				
MW-24(032003)	3031142005	Water	3/20/2003	X				
MW-21(032003)	3031142006	Water	3/20/2003	X				
55-5(032003)	3031142007	Water	3/20/2003	X				
Trip Blank(032003)	3031142008	Water	3/20/2003	X				
DUP-420 <sup>1</sup>	3031142009	Water	3/20/2003	X				
Trip Blank(032103)	3031142010	Water	3/21/2003	X				
MW-25(032103)	3031142011	Water	3/21/2003	X				
55-3(032103)	3031142012	Water	3/21/2003				X	
55-4(032103)	3031142013	Water	3/21/2003	X			X	
40-305(032103)	3031142014	Water	3/21/2003	X			X	
40-304(032103)	3031142015	Water	3/21/2003	X				
RFI-09-11(032103)	3031142016	Water	3/21/2003	X				
RFI-09-08(032103)	3031142017	Water	3/21/2003	X				
RFI-09-09(032103)	3031142018	Water	3/21/2003	X				
RFI-09-12(032103)	3031142019	Water	3/21/2003	X			X	
RFI-09-44(032103)	3031142020	Water	3/21/2003	X			X	
RFI-09-11(032103)DL	3031142021	Water	3/21/2003	X				
RFI-09-08(032103)DL	3031142022	Water	3/21/2003	X				

<sup>1</sup> Field duplicate of sample 55-1(032003)

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The continuing calibration %D was above the acceptable limit due to a decrease in response by chloromethane, 1,1,2,-Trichloro-1,2,2-fluoroethane, carbon disulfide and bromomethane. Data for chloromethane, 1,1,2,-Trichloro-1,2,2-fluoroethane and carbon disulfide have been qualified as estimated in samples 55-1(032003), 55-2(032003), MW-22(032003), MW-23(032003), MW-24(032003), MW-21(032003), 55-5(032003), Trip Blank(032003), and DUP-420 based on the deviations. Data for chloromethane, bromomethane and carbon disulfide have been qualified as estimated in samples Trip Blank(032103), MW-25(032103), 55-4(032103), 40-305(032103), 40-304(032103), RFI-09-11(032103), RFI-09-08(032103), RFI-09-09(032103), RFI-09-12(032103), and RFI-09-44(032103) based on the deviations.

The LCS %R was above control limits for methyl acetate. Data for methyl acetate has been qualified as estimated in samples Trip Blank(032103), MW-25(032103), 55-4(032103), 40-305(032103), 40-304(032103), RFI-09-11(032103), RFI-09-08(032103), RFI-09-09(032103), RFI-09-12(032103), and RFI-09-44(032103) based on the deviation.

The MS %R was below control limits for carbon disulfide. Data for carbon disulfide have been qualified as estimated in sample 55-5(032003) based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	<u>X</u>	_____	_____
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by: CT&E, Inc. Luddington, Michigan  
Date of Report: May 6, 2003  
Validation performed by: (Douglas Fische)  
Date of Validation: May 6, 2003

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031193

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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## Summary

The following is an assessment of data package 3031193 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-07-11(08-10)	3031193001	Soil	3/24/2003	X	X	X	X	
RFI-07-11(12-14)	3031193002	Soil	3/24/2003	X	X	X	X	
RFI-40-12(00-02)	3031193003	Soil	3/24/2003	X	X	X	X	
RFI-40-12(08-10)	3031193004	Soil	3/24/2003	X	X	X	X	
RFI-40-12(12-14)	3031193005	Soil	3/24/2003	X	X	X	X	
RFI-07-TB(032403)	3031193006	Water	3/24/2003	X				
RFI-40-13(0.5-2.5)	3031193007	Soil	3/25/2003	X	X	X	X	
RFI-40-13(8.5-10.5)	3031193008	Soil	3/25/2003	X	X	X	X	
RFI-40-13(12.5-14.5)	3031193009	Soil	3/25/2003	X	X	X	X	
RFI-40-14(0.5-2.5)	3031193010	Soil	3/25/2003	X	X	X	X	
RFI-40-14(4.5-6.5)	3031193011	Soil	3/25/2003	X	X	X	X	
RFI-40-TB(032503)	3031193012	Water	3/25/2003	X				
RFI-40-DUP-422 <sup>2</sup>	3031193013	Soil	3/25/2003	X	X	X	X	
RFI-40-RB-218	3031193014	Water	3/26/2003	X	X	X	X	
RFI-36-50(02-04)	3031193015	Soil	3/26/2003	X	X	X	X	
RFI-36-50(08-10)	3031193016	Soil	3/26/2003	X	X	X	X	
RFI-36-50(10-12) <sup>1</sup>	3031193017	Soil	3/26/2003	X	X	X	X	
RFI-36-51(00-02)	3031193018	Soil	3/26/2003	X	X	X	X	
RFI-36-51(08-10)	3031193019	Soil	3/26/2003	X	X	X	X	
RFI-36-51(10-12)	3031193020	Soil	3/26/2003	X	X	X	X	
RFI-36-TB(032603)	3031193021	Water	3/26/2003	X				
RFI-40-12(00-02)RE	3031193022	Soil	3/24/2003	X				
RFI-40-12(00-02)DL	3031193023	Soil	3/24/2003	X				

<sup>1</sup> MS/MSD analysis performed on sample  
<sup>2</sup> Field duplicate of sample RFI-40-13(8.5-10.5)

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

The continuing calibration %D was above the acceptable limit due to a decrease in response by 1,1,2-Trichloro-1,2,2-fluoroethane, acetone, carbon disulfide, methyl acetate, 2-butanone (MEK), methyl cyclohexane, 4-methyl-2-pentanone (MIBK), 2-hexanone, 1,1,2,2-tetrachloroethane, bromomethane and chloromethane. Data for 1,1,2-Trichloro-1,2,2-fluoroethane, acetone, carbon disulfide, methyl acetate, 2-butanone (MEK), methyl cyclohexane, 4-methyl-2-pentanone (MIBK), 2-hexanone, and 1,1,2,2-tetrachloroethane have been qualified as estimated in samples RFI-07-11(12-14), RFI-40-12(08-10), RFI-40-12(12-14), RFI-40-13(0.5-2.5), RFI-40-13(8.5-10.5), RFI-40-13(12.5-14.5), RFI-40-14(0.5-2.5), RFI-40-14(4.5-6.5), and RFI-40-DUP-422 based on the deviations. Data for bromomethane and chloromethane have been qualified as estimated in samples RFI-07-TB(032403), RFI-36-TB(032603), RFI-40-TB(032503) and RFI-40-RB-218 based on the deviations.

Methylene chloride was detected in the method blank. Associated sample results below the blank action limit were qualified as non-detect.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	<u>X</u>	_____	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	_____	<u>X</u>	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The initial calibration %RSD was above control limits for Indeno[1,2,3-cd] pyrene, dibenz[a,h] anthracene and benzaldehyde. Data for these compounds have been qualified as estimated in the associated samples based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by benzaldehyde, 3&4-Methylphenol and atrazine. Data have been qualified as estimated for benzaldehyde and 3&4-methylphenol in samples RFI-07-11(08-10), RFI-07-11(12-14), RFI-40-12(08-10), RFI-40-12(12-14), RFI-40-13(8.5-10.5), RFI-40-13(12.5-14.5), RFI-40-14(4.5-6.5), RFI-40-DUP-422 , RFI-36-50(02-04), RFI-36-50(08-10), RFI-40-13(0.5-2.5), RFI-40-14(0.5-2.5), RFI-40-12(00-02), RFI-36-50(10-12), RFI-36-51(08-10), RFI-36-51(10-12) and RFI-36-51(00-02) based on the deviations.

The response for one internal standard, perylene-d12, was below control limits in sample RFI-40-12(00-02). Data have been qualified as estimated for all compounds associated with the deviant internal standard.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	_____	<u>X</u>	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	_____	<u>X</u>	_____
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The MS/MSD %Rs were below the acceptable limit of 30% for antimony. Data for antimony have been qualified as estimated in samples RFI-07-11(08-10), RFI-07-11(12-14), RFI-40-12(00-02), RFI-40-12(08-10), RFI-40-13(0.5-2.5), RFI-40-13(8.5-10.5), RFI-40-13(12.5-14.5), RFI-40-14(0.5-2.5), RFI-40-14(4.5-6.5), RFI-40-DUP-422, RFI-36-50(02-04), RFI-36-50(08-10), RFI-36-50(10-12), RFI-36-51(00-02), RFI-36-51(08-10), RFI-36-51(10-12) and rejected in sample RFI-40-12(12-14) based on the deviations.

The serial dilution RPD was below control limits for manganese and zinc. Data for the manganese and zinc have been qualified as estimated in samples RFI-07-11(08-10), RFI-07-11(12-14), RFI-40-12(00-02), RFI-40-12(08-10), RFI-40-12(12-14), RFI-40-13(0.5-2.5), RFI-40-13(8.5-10.5), RFI-40-13(12.5-14.5), RFI-40-14(0.5-2.5), RFI-40-14(4.5-6.5), RFI-40-DUP-422, RFI-36-50(02-04), RFI-36-50(08-10), RFI-36-50(10-12), RFI-36-51(00-02), RFI-36-51(08-10) and RFI-36-51(10-12) based on the deviations.

Cadmium and Selenium were detected in the method blank. Associated sample results below the blank action limit were qualified as non-detect.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>May 12, 2003</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>May 12, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031194

VOLATILE, SEMIVOLATILE, PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3031194 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
Trip Blank(032403)GW	3031194001	Water	3/25/2003	X				
RFI-09-04R(032403)	3031194002	Water	3/24/2003	X				
MW-26(032403)	3031194003	Water	3/24/2003	X				
RFI-09-01(032403)	3031194004	Water	3/24/2003	X				
RFI-94-07(032403) <sup>2</sup>	3031194005	Water	3/24/2003	X	X			
40-2(032403)	3031194006	Water	3/24/2003	X				
40-3(032403)	3031194007	Water	3/24/2003	X				
RFI-44-05(032403)	3031194008	Water	3/24/2003			X	X	
RFI-84-05(032403)	3031194009	Water	3/24/2003	X				
DUP-421 <sup>1</sup>	3031194010	Water	3/24/2003			X		
40-4R(032403)	3031194011	Water	3/24/2003	X			X	
RFI-09-36R(032403)	3031194012	Water	3/24/2003	X				
36-FP8(032503)	3031194013	Water	3/25/2003	X			X	
RFI-36-47(032503)	3031194014	Water	3/25/2003	X				
RFI-36-45(032503)	3031194015	Water	3/25/2003	X				
RFI-36-44(032503) <sup>3</sup>	3031194016	Water	3/25/2003	X				
RFI-36-03(032503)	3031194017	Water	3/25/2003	X			X	
RFI-36-46(032503)	3031194018	Water	3/25/2003	X			X	
RFI-36-09(032503)	3031194019	Water	3/25/2003				X	
RFI-38-06(032503)	3031194020	Water	3/25/2003				X	
RFI-38-04(032503)	3031194021	Water	3/25/2003				X	
RFI-36-02(032503)	3031194022	Water	3/25/2003				X	
RFI-DUP-423	3031194023	Water	3/25/2003	X				
Trip Blank(032403)S	3031194024	Water	3/24/2003	X				
RFI-36-08(032503)	3031194025	Water	3/25/2003	X			X	
36-100(032503)	3031194026	Water	3/25/2003	X			X	
36-FP2(032503)	3031194027	Water	3/25/2003	X			X	
40-305(032503)	3031194028	Water	3/25/2003	X			X	
40-2(032403)DL	3031194029	Water	3/24/2003	X				
40-4R(032403)DL	3031194030	Water	3/24/2003	X				
RFI-36-45(032503)DL	3031194032	Water	3/25/2003	X				
RFI-36-03(032503)DL	3031194033	Water	3/25/2003	X				
RFI-DUP-423DL	3031194034	Water	3/25/2003	X				
RFI-36-08(032503)DL	3031194035	Water	3/25/2003	X				
36-100(032503)DL	3031194036	Water	3/25/2003	X				
36-FP2(032503)DL	3031194037	Water	3/25/2003	X				

<sup>1</sup> Field duplicate of sample RFI-44-05(032403)

<sup>2</sup> Field duplicate of sample RFI-36-45(032503)

<sup>3</sup> MS/MSD analysis performed on sample

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

### Notes

The continuing calibration %D was above the acceptable limit due to a decrease in response by bromomethane, chloromethane, carbon disulfide and methyl cyclohexane. Data for bromomethane, chloromethane and carbon disulfide have been qualified as estimated in Trip Blank(032403)GW, Trip Blank(032403)S, RFI-36-44(032503), RFI-09-04R(032403), MW-26(032403), RFI-09-01(032403) and 40-2(032403) based on the deviations. Data for bromomethane chloromethane, carbon disulfide and methyl cyclohexane have been qualified as estimated in 40-3(032403), RFI-84-05(032403), 40-4R(032403), 36-FP8(032503), RFI-36-47(032503), RFI-36-45(032503), RFI-36-46(032503), RFI-DUP-423, 36-100(032503), 36-FP2(032503), RFI-09-36R(032403), RFI-36-03(032503) and RFI-36-08(032503).

The MS %R was below control limits for 1,1-Dichloroethane, carbon disulfide and methyl cyclohexane. Data for these compounds have been qualified as estimated in sample RFI-36-44(032503) based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The initial calibration %RSD was above control limits for Indeno[1,2,3-cd] pyrene, Dibenz[a,h] anthracene and benzaldehyde. Data for Indeno[1,2,3-cd] pyrene, Dibenz[a,h] anthracene and benzaldehyde have been qualified as estimated in sample RFI-94-07(032403) based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol, Atrazine and 3,3'-Dichlorobenzidine. Data have been qualified as estimated for 3&4-Methylphenol, Atrazine and 3,3'-Dichlorobenzidine in sample RFI-94-07(032403) based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>      </u>	<u>  X  </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Serial dilution (%D)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>  X  </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>  X  </u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>  X  </u>	<u>      </u>

### Notes

The MSD %Rs were below the acceptable limit for barium and zinc. Data for barium and zinc have been qualified as estimated in the associated based on the deviations.

Zinc was detected in the method blank. Based on the blank content data for zinc have been qualified as undetected in all samples except for RFI-36-03(032502).

The ICP interference check sample %R for Zinc was above control limits. Data for sample RFI-36-03(032502) has been qualified as estimated based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	CT&E, Inc. Luddington, Michigan
Date of Report:	May 8, 2003
Validation performed by:	(Douglas Fischi)
Date of Validation:	May 8, 2003

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031233

VOLATILE, PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3031233 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-10-03(032503)	3031233001	Water	3/25/2003	X			X	
RFI-36-14(032503) <sup>4</sup>	3031233002	Water	3/25/2003				X	
RFI-55-01(032603)	3031233003	Water	3/26/2003	X				
20-121(032603)	3031233004	Water	3/26/2003	X				
RFI-55-09(032603)	3031233005	Water	3/26/2003	X				
RFI-10-04(032603)	3031233006	Water	3/26/2003				X	
RFI-10-05(032603)	3031233007	Water	3/26/2003	X			X	
RFI-10-24(032603)	3031233008	Water	3/26/2003	X				
RFI-10-25(032603) <sup>1</sup>	3031233009	Water	3/26/2003	X				
RFI-10-07(032603)	3031233010	Water	3/26/2003	X				
RFI-09-13(032603)	3031233011	Water	3/26/2003	X				
RFI-DUP-424	3031233012	Water	3/25/2003				X	
Trip Blank(032503)	3031233013	Water	3/25/2003	X				
RFI-55-02(032503)	3031233014	Water	3/25/2003				X	
20-500(032603)	3031233015	Water	3/26/2003	X				
20-105R(032603)	3031233016	Water	3/26/2003	X				
RFI-10-06(032603)	3031233017	Water	3/26/2003	X				
70-109(032603)	3031233018	Water	3/26/2003	X				
RFI-16-11(032603)	3031233019	Water	3/26/2003	X				
RFI-02-12(032603)	3031233020	Water	3/26/2003				X	
RFI-40-09(032603)	3031233021	Water	3/26/2003	X				
RFI-10-01(032603)	3031233022	Water	3/26/2003				X	
RFI-10-11(032603) <sup>2,3</sup>	3031233023	Water	3/26/2003				X	
70-100(032603)	3031233024	Water	3/26/2003	X				
04-04(032703) <sup>1</sup>	3031233025	Water	3/27/2003			X		
20-FP6(032703)	3031233026	Water	3/27/2003	X				
20-101RD(032703)	3031233027	Water	3/27/2003	X				
40-303R(032703)	3031233028	Water	3/27/2003	X			X	
20-101RD(032703)DL	3031233029	Water	3/27/2003	X				
RFI-10-03(032503)DL	3031233030	Water	3/25/2003	X				
20-121(032603)DL	3031233031	Water	3/26/2003	X				
RFI-10-05(032603)DL	3031233032	Water	3/26/2003	X				
20-105R(032603)DL	3031233033	Water	3/26/2003	X				
RFI-10-06(032603)DL	3031233034	Water	3/26/2003	X				
RFI-40-09(032603)DL	3031233035	Water	3/26/2003	X				
RFI-09-13(032603)DL	3031233036	Water	3/26/2003	X				

<sup>1</sup> MS/MSD analysis performed on sample (8260 and 8082 only)

<sup>2</sup> MS/MSD analysis performed on sample (metals only)

<sup>3</sup> MS/MSD analysis performed on sample (Cyanide only)

<sup>4</sup> Field duplicate of sample RFI-36-14(032503)

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The continuing calibration %D was above the acceptable limit due to a decrease in response by carbon disulfide. Data for carbon disulfide has been qualified as estimated in samples Trip Blank(032503), 70-100(032603), 70-109(032603), and 40-303R(032703) based on the deviations.

The MS/MSD %R was below control limits for carbon disulfide, methyl acetate and methyl cyclohexane. Data for carbon disulfide, methyl acetate and methyl cyclohexane have been qualified as estimated in sample RFI-10-25(032603) based on the deviation.

The LCS %R was above control limits for methyl acetate. Data for methyl acetate have been qualified as estimated in samples Trip Blank(032503), 70-109(032603), 70-100(032603), and 40-303R(032703) based on the deviations.

Methylene Chloride was detected in the method blanks. All data associated with the method blanks (except for sample RFI-10-05(032603)) were non-detects for methylene chloride and therefore no

qualification was necessary. Sample RFI-10-05(032603) contained methylene chloride at a level higher than the blank action limit and therefore no qualification was necessary.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The MS %R was below the acceptable limit for silver. Data for silver have been qualified as estimated in samples RFI-10-03(032503), RFI-36-14(032503), RFI-10-04(032603), RFI-10-5(032603), RFI-DUP-424, RFI-55-02(032503), 20-500(032603), 20-105R(032603), RFI-10-06(032603), RFI-02-12(032603), RFI-10-01(032603), RFI-10-11(032603) and 40-303R(032703) based on the deviations.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	CT&E, Inc. Luddington, Michigan
Date of Report:	May 13, 2003
Validation performed by:	(Douglas Fische)
Date of Validation:	May 13, 2003

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031269

VOLATILE AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3031269 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-40-03(032703)	3031269001	Water	3/27/2003	X				
RFI-36-10(032703)	3031269002	Water	3/27/2003				X	
TRIPBLANK(032603)	3031269003	Water	3/26/2003	X				
RFI-DUP-427 <sup>5</sup>	3031269004	Water	3/27/2003				X	
20-102(032703)	3031269005	Water	3/27/2003	X			X	
RFI-10-26(032703)	3031269006	Water	3/27/2003				X	
RFI-05-21(032703)	3031269007	Water	3/27/2003				X	
RFI-81-03(032703)	3031269008	Water	3/27/2003				X	
RFI-02-07(032703)	3031269009	Water	3/27/2003				X	
RFI-05-08R(032703)	3031269010	Water	3/27/2003				X	
RFI-10-02(032703)	3031269011	Water	3/27/2003	X			X	
RFI-10-02d(032703)	3031269012	Water	3/27/2003	X			X	
RFI-DUP-428 <sup>6</sup>	3031269013	Water	3/27/2003				X	
36-FP1(032703)	3031269014	Water	3/27/2003	X			X	
30-140(032703)	3031269015	Water	3/27/2003	X			X	
70-165(032803) <sup>3</sup>	3031269016	Water	3/28/2003				X	
70-163(032803)	3031269017	Water	3/28/2003				X	
70-160(032803)	3031269018	Water	3/28/2003				X	
RFI-DUP-429 <sup>7</sup>	3031269019	Water	3/28/2003				X	
RFI-05-19S(032803) <sup>1,2</sup>	3031269020	Water	3/28/2003	X			X	
RFI-DUP-426 <sup>4</sup>	3031269021	Water	3/28/2003	X				
RFI-81-13(032703)	3031269022	Water	3/27/2003				X	
Trip Blank(032803)	3031269023	Water	3/28/2003	X				
RFI-40-03(032703)DL	3031269024	Water	3/27/2003	X				
RFI-10-02(032703)DL	3031269026	Water	3/27/2003	X				
36-FP1(032703)DL	3031269027	Water	3/27/2003	X				

- 1 MS/MSD analysis performed on sample (8260)
- 2 MS/MSD analysis performed on sample (metals only)
- 3 MS/MSD analysis performed on sample (Cyanide only)
- 4 Field duplicate of sample RFI-05-19S(032803)
- 5 Field duplicate of sample RFI-36-10(032703)
- 6 Field duplicate of sample RFI-10-02(032703)
- 7 Field duplicate of sample 70-160(032803))

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

The LCS %R was below control limits for methyl acetate and 1,2-dibromo-3-chloropropane. Data for methyl acetate has been qualified as estimated in samples RFI-40-03(032703), 20-102(032703), 36-FP1(032703) and 30-140(032703) based on the deviation. Data for 1,2-dibromo-3-chloropropane has been qualified as estimated in sample 20-102(032703) based on the deviation.

The MS/MSD %R was above control limits for vinyl chloride. Data for vinyl chloride has been qualified as estimated in sample RFI-05-19S(032803) based on the deviation.

Methylene chloride was detected in the method blank. Methylene chloride was not detected in any of the associated samples.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The MS %R was below the acceptable limit for cyanide. Data for cyanide has been qualified as estimated in the associated samples based on the deviations.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>July 1, 2003</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>July 1, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031245

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3031245 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-36-RB-219	3031245001	Water	3/27/2003	X				
RFI-10-31(01-03) <sup>1</sup>	3031245002	Soil	3/27/2003	X	X	X	X	
RFI-10-30(00-02)	3031245003	Soil	3/27/2003	X	X	X	X	
RFI-10-30(02-04)	3031245004	Soil	3/27/2003	X	X	X	X	
RFI-10-TB(032703)	3031245005	Water	3/27/2003	X				
RFI-10-DUP-425 <sup>2</sup>	3031245006	Soil	3/27/2003	X	X	X	X	
RFI-12-24(01-03)	3031245007	Soil	3/28/2003	X	X	X	X	
RFI-12-24(05-07)	3031245008	Soil	3/28/2003	X	X	X	X	
RFI-12-25(01-03)	3031245009	Soil	3/28/2003	X	X	X	X	
RFI-12-TB(032803)	3031245010	Water	3/28/2003	X				
RFI-12-26(01-03)	3031245011	Soil	3/31/2003	X	X	X	X	
RFI-12-26(06-08)	3031245012	Soil	3/31/2003	X	X	X	X	
RFI-12-26(09-11)	3031245013	Soil	3/31/2003	X	X	X	X	
RFI-12-26(11-13)	3031245014	Soil	3/31/2003	X	X	X	X	
RFI-12-TB(033103)	3031245015	Water	3/31/2003	X				
RFI-12-26(06-08)RE	3031245016	Soil	3/31/2003	X				
RFI-12-26(09-11)RE	3031245017	Soil	3/31/2003	X				
RFI-12-26(11-13)RE	3031245018	Soil	3/31/2003	X				

<sup>1</sup> MS/MSD analysis performed on sample (metals, 8082, 8260 and 8270)  
<sup>2</sup> Field duplicate of sample RFI-10-30(00-02)

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

The MS/MSD %R was above control limits for dichlorodifluoromethane. Data for dichlorodifluoromethane has been qualified as estimated in sample RFI-12-24(01-03) based on the deviation.

Methylene chloride was detected in the method blank. Based on the blank content, data for methylene chloride have been qualified as undetected in samples RFI-10-30(00-02), RFI-10-30(02-04), RFI-10-DUP-425, RFI-12-24(01-03), RFI-12-24(05-07), RFI-12-26(01-03), RFI-12-26(06-08), RFI-12-26(09-11) and RFI-12-26(11-13).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

### Notes

The initial calibration %RSD was above control limits for Indeno[1,2,3-cd] pyrene, Dibenz[a,h] anthracene and benzaldehyde. Data for Indeno[1,2,3-cd] pyrene, Dibenz[a,h] anthracene and benzaldehyde have been qualified as estimated in the associated samples based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by benzaldehyde, 3&4-Methylphenol and atrazine. Data have been qualified as estimated for benzaldehyde, 3&4-methylphenol and atrazine in the associated samples based on the deviations.

Data have been qualified as estimated for benzaldehyde, 3&4-methylphenol and 4-nitroaniline in the associated samples based on the deviations. Data have been qualified as estimated in the associated samples based on the deviations.

The response for two internal standards, chrysene-d12 and perylene-d12, were below control limits in samples RFI-12-26(06-08), RFI-12-26(09-11) and RFI-12-26(11-13). Data have been qualified as estimated for all compounds associated with the deviant internal standard.

The MS %R was below lower control limits for 2,4-Dinitrophenol (0%), 2-Methyl-4,6-dinitrophenol (0%), 3,3'-dichlorobenzidine(0%), 4-chloroaniline(0%), 4-nitrophenol(0%). Data for these compounds have been qualified as rejected in sample RFI-10-31(01-03) based on the deviations.

The MS %R was below control limits for benzaldehyde, 2,6-dinitrotoluene, 2-nitrophenol and pentachlorophenol. Data for these compounds have been qualified as estimated in sample RFI-10-31(01-03) based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	<u>X</u>	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

The RPD was above the control limit for Aroclor 1260. Data for Aroclor 1260 have been qualified as estimated in sample RFI-10-31(01-03) based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The MS %R were above control limits for beryllium, copper, mercury and zinc. Data for beryllium, copper, mercury and zinc have been qualified as estimated in the associated samples based on the deviation.

Zinc was detected in the method blank. The associated samples contained zinc amounts greater than 10 times the level of the blank therefore no qualification was necessary.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>June 24, 2003</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>June 24, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031291

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

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**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

### Summary

The following is an assessment of data package 3031291 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
Trip Blank(033103)	3031291001	Water	3/31/2003	X				
RFI-05-01(033103)	3031291002	Water	3/31/2003	X				
03-114R(033103)	3031291003	Water	3/31/2003	X				
RFI-09-14(033103)	3031291004	Water	3/31/2003	X				
RFI-09-32(033103)	3031291005	Water	3/31/2003	X			X	
Trip Blank(033103)gw	3031291006	Water	3/31/2003	X				
RFI-83/84-11(040103)	3031291007	Water	4/1/2003	X				
RFI-65-01(040103)	3031291008	Water	4/1/2003	X				
20-140(033103) <sup>1,2</sup>	3031291009	Water	3/31/2003	X			X	
36-100(040103)	3031291010	Water	4/1/2003	X			X	
RFI-81-09(040103)	3031291011	Water	4/1/2003	X				
88-9(040103)	3031291012	Water	4/1/2003	X				
RFI-44-06R(040103)A	3031291013	Water	4/1/2003			X		
RFI-44-06R(040103)B	3031291014	Water	4/1/2003	X	X			
RFI-DUP-432 <sup>4</sup>	3031291015	Water	4/1/2003	X				
RFI-81-08(040103)	3031291016	Water	4/1/2003	X			X	
RFI-81-11(040103) <sup>3</sup>	3031291017	Water	4/1/2003	X			X	
88-9(040103)DL	3031291018	Water	4/1/2003	X				
RFI-DUP-432DL	3031291019	Water	4/1/2003	X				

- <sup>1</sup> MS/MSD analysis performed on sample (8260 only)
- <sup>2</sup> MS/MSD analysis performed on sample (metals only)
- <sup>3</sup> MS/MSD analysis performed on sample (Cyanide only)
- <sup>4</sup> Field duplicate of sample 88-9(040103)

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The LCS %R was below control limits for 1,2-Dibromo-3-chloropropane. Data for 1,2-Dibromo-3-chloropropane have been qualified as estimated in the associated samples based on the deviation.

The MS %R was above control limits for Vinyl chloride. Positive data for vinyl chloride has been qualified in sample 20-140(033103) based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Surrogate (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>  X  </u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>  X  </u>	<u>      </u>	<u>      </u>

Notes

The initial calibration %RSD was above control limits for benzaldehyde and 4-chloroaniline. Data for benzaldehyde and 4-chloroaniline have been qualified as estimated in sample RFI-44-06R(040103)B based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol and benzaldehyde. Data have been qualified as estimated for by 3&4-Methylphenol and benzaldehyde in sample RFI-44-06R(040103)B based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The MS %R was above control limits for manganese. Positive data for manganese has been qualified as estimated in the associated samples based on the deviations.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	CT&E, Inc. Luddington, Michigan
Date of Report:	May 14, 2003
Validation performed by:	(Douglas Fischi)
Date of Validation:	May 14, 2003

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031340

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

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**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

## Summary

The following is an assessment of data package 3031340 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
05-North (040103)NL	3031340001	NL	04/01/2003			X		
05-East (040103)NL	3031340002	NL	04/01/2003			X		
RFI-12-12 (040203)NL	3031340003	NL	04/02/2003	X	X	X	X	X
09-47 (040203)NL	3031340004	NL	04/02/2003	X	X	X	X	X
20-503 (040203)NL	3031340005	NL	04/02/2003	X	X	X	X	X

NL- Non-Aqueous Liquid

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

### Notes

The laboratory control sample recoveries were above control limits for chloromethane and dichlorodifluoromethane. Since all samples were non-detect for the listed compounds, no data have been qualified based on the deviations.

The continuing calibration %D were above control limits due to a decrease in response by several compounds. Based on the %D, data have been qualified as estimated for methyl acetate, 2-butanone and 1,2-dibromo-3-chloropropane.

Sample 09-47 (040203)NL contained cyclohexane, ethylbenzene, methyl cyclohexane, o-xylene, p&m-xylene and toluene above the linear range. Data for the listed compounds have been replaced with data from the dilution analysis.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The initial calibration was above control limits for several compounds. Data for benzaldehyde have been qualified as estimated in all samples, positive data for 4-chloroaniline, hexachlorocyclopentadiene, 2,4-dinitrophenol and pentachlorophenol have been qualified as estimated in sample RFI-12-23 (040203)NL and positive data for 2,4-dinitrophenol, pentachlorophenol and di-n-octylphthalate have been qualified as estimated in samples 09-47 (040203)NL and 20-503 (040203)NL based on the deviations.

The continuing calibration %D were above the control limits due to a decrease in response by 3&4-methylphenol, benzaldehyde and 3,3'-dichlorobenzidine. Data have been qualified as estimated for benzaldehyde, 3&4-Methylphenol and 3,3'-dichlorobenzidine in samples 09-47 (040203) NL and 20-503 (040203)NL and benzaldehyde and 3&4-methylphenol in sample RFI-12-23 (040203)NL based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method

specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

Zinc was detected in the method blank. Based on the blank content data for zinc have been qualified as non-detect in samples RFI-12-23 (040203)NL and 09-47 (040203)NL.

The MS/MSD %R were below the acceptable limit for zinc. Data have been qualified as estimated for zinc based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>May 19, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>January 5, 2004</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031345

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3031345 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-81-35(040103)	3031345001	Water	4/1/2003				X	
RFI-83/84-29(040103)	3031345002	Water	4/1/2003				X	
RFI-09-46(040103)	3031345003	Water	4/1/2003	X				
Trip Blank(040103)	3031345004	Water	4/1/2003	X				
88-8(040103) <sup>1</sup>	3031345005	Water	4/1/2003	X				
RFI-85-06(040203)	3031345006	Water	4/2/2003	X				
36-FP5(040203)	3031345007	Water	4/2/2003	X				
RFI-36-05(040203)	3031345008	Water	4/2/2003	X				
RFI-36-32(040203)	3031345009	Water	4/2/2003				X	
RFI-36-04(040203)	3031345010	Water	4/2/2003				X	
RFI-86-06R(040203)	3031345011	Water	4/2/2003	X		X		
RFI-84-06R(040203)a	3031345012	Water	4/2/2003			X		
RFI-85-07(040203)	3031345013	Water	4/2/2003	X				
RFI-83/84-27(040203)	3031345014	Water	4/2/2003	X				
RFI-81-02(040203)	3031345015	Water	4/2/2003	X				
RFI-05-10(040203)	3031345016	Water	4/2/2003				X	
RFI-12-02(040203)	3031345017	Water	4/2/2003				X	
Trip Blank(040203)	3031345018	Water	4/2/2003	X				
07-02(040203)	3031345019	Water	4/2/2003	X				
RFI-86-05(040203)	3031345020	Water	4/2/2003	X				
RFI-86-01R(040203)	3031345021	Water	4/2/2003	X			X	
RFI-83/84-20(040203)	3031345022	Water	4/2/2003				X	
RFI-84-06R(040303) <sup>2,3</sup>	3031345023	Water	4/3/2003		X		X	
RFI-DUP-433 <sup>4</sup>	3031345024	Water	4/3/2003		X			
RFI-36-29R(040303)	3031345025	Water	4/3/2003	X			X	
RFI-36-29Rd(040303)	3031345026	Water	4/3/2003				X	
43-140(040303)	3031345027	Water	4/3/2003	X				
RFI-05-20(040303)	3031345028	Water	4/3/2003	X				
RFI-86-15(040303)	3031345029	Water	4/3/2003	X				
RFI-86-06D(040303)	3031345030	Water	4/3/2003	X				
RFI-86-06S(040303)	3031345031	Water	4/3/2003	X				
RFI-09-46(040103)DL	3031345032	Water	4/1/2003	X				
RFI-36-05(040203)DL	3031345033	Water	4/2/2003	X				
RFI-36-29R(040303)DL	3031345034	Water	4/3/2003	X				
43-140(040303)DL	3031345035	Water	4/3/2003	X				
RFI-05-20(040303)DL	3031345036	Water	4/3/2003	X				

<sup>1</sup> MS/MSD analysis performed on sample (8260 and 8082 only)

<sup>2</sup> MS/MSD analysis performed on sample (metals only)

<sup>3</sup> MS/MSD analysis performed on sample (Cyanide only)

<sup>4</sup> Field duplicate of sample RFI-84-06R(040303)

**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The MS/MSD %R was above control limits for Vinyl Chloride. Data for Vinyl Chloride has been qualified as estimated in sample 88-8(040103) based on the deviation.

Acetone, Methylene Chloride and 1,2,4-trichlorobenzene were detected in the method blanks. All data associated with the method blanks were non-detects for these compounds and therefore no qualification was necessary.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	<u>X</u>	_____	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The initial calibration %RSD was above control limits for Pentachlorophenol. The initial calibration linear R<sup>2</sup> was below the acceptable control limit for 4-chloroaniline and benzaldehyde. Data for Pentachlorophenol has been qualified as estimated in samples RFI-84-06R(040303) and RFI-DUP-433 and data for 4-chloroaniline and benzaldehyde have been qualified as estimated in samples RFI-84-06R(040303) and RFI-DUP-433 based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol. Data have been qualified as estimated for 3&4-methylphenol in samples RFI-84-06R(040303) and RFI-DUP-433 based on the deviations.

Di-n-butylphthalate was detected in the method blank. Associated sample results below the blank action limit were qualified as non-detect.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	<u>X</u>	_____	_____
	Internal standard (Response)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The MS %R was above the acceptable limit for manganese. Data for manganese have been qualified as estimated in all associated positive samples based on the deviations.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>May 16, 2003</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>May 16, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031356

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3031356 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
BD01-04(0.3-2.3)	3031356001	Soil	4/2/2003	x	x	x	x	
BD01-04(6.3-8.3)	3031356002	Soil	4/2/2003	x	x	x	x	
BD01-04-DUP-431 <sup>2</sup>	3031356006	Soil	4/2/2003	x	x	x	x	
RFI-09-48(0.5-2.5) <sup>1</sup>	3031356003	Soil	4/2/2003	x	x	x	x	
RFI-09-48(8.5-10.5)	3031356004	Soil	4/2/2003	x	x	x	x	
RFI-09-RB-220	3031356005	Water	4/2/2003	x	x	x	x	
RFI-09-TB(040203) <sup>3</sup>		Water	4/2/2003					
RFI-12-25(07-09)	3031356007	Soil	4/3/2003	x	x	x	x	
RFI-12-25(11-13)	3031356008	Soil	4/3/2003	x	x	x	x	
RFI-40-15(02-04)	3031356009	Soil	4/3/2003	x	x	x	x	
RFI-40-15(08-10)	3031356010	Soil	4/3/2003	x	x	x	x	
RFI-40-15(14-16)	3031356012	Soil	4/3/2003	x	x	x	x	
RFI-40-RB(040303)	3031356011	Water	4/3/2003	x				
RFI-36-49(01-03)	3031356013	Soil	4/5/2003	x	x	x	x	
RFI-36-49(07-09)	3031356014	Soil	4/5/2003	x	x	x	x	
RFI-36-49(17-19)	3031356015	Soil	4/5/2003	x	x	x	x	
RFI-36-TB(040503)	3031326016	Water	4/5/2003	x				
RFI-81-39R(1.7-3.7)	3031356018	Soil	4/5/2003	x	x	x	x	
RFI-81-39R(7.7-9.7)	3031356019	Soil	4/5/2003	x	x	x	x	
RFI-81-42(0.7-2.0)	3031356017	Soil	4/5/2003	x	x	x	x	

1 MS/MSD analysis performed on sample  
 2 Field duplicate of sample BD01-04(6.3-8.3)  
 3 Sample was received at the lab in a broken bottle. No analysis was therefore performed on the sample

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

The initial calibration %RSD was above control limits for acetone. Data for acetone have been qualified as estimated in samples RFI-12-25 (07-09), RFI-40-15 (14-16) and RFI-36-49 (07-09) based on the deviation.

The continuing calibration %D was above the acceptable limit due to a decrease in response by several compounds. Based on the deviations data for the following have been qualified as estimated: methyl acetate and 2-butanone in all soil samples; 1,2-dibromo-3-chloropropane in samples RFI-36-49 (17-19) and RFI-81-39R (7.7-9.7); bromomethane in samples BD01-04 (0.3-2.3), BD01-04 (6.3-8.3), RFI-09-48 (0.5-2.5), RFI-36-49 (07-09), RFI-81-42 (0.7-2.0), RFI-81-39R (1.7-3.7), RFI-12-25 (07-09), RFI-12-25 (11-13) and RFI-40-15 (14-16); carbon disulfide in samples RFI-12-25 (07-09), RFI-12-25 (11-13) and RFI-40-15 (14-16); cyclohexane and methyl cyclohexane in all water samples.

Recovery for one surrogate was above control limits in sample RFI-81-39R (7.7-9.7). Positive data in the listed sample has been qualified as estimated based on the recoveries.

Acetone and methylene chloride were detected in the method blanks. Associated sample result was either undetected for these compounds or less than the blank action limit, therefore no data have been qualified based on the blank content.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Surrogate (%Recovery)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Internal standard (Response, RT)	<u>      </u>	<u>  X  </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>  X  </u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>  X  </u>	<u>      </u>	<u>      </u>

### Notes

The initial calibration %RSD was above control limits for benzaldehyde. Data for benzaldehyde have been qualified as estimated in samples BD01-04 (0.3-2.3), BD01-04 (6.3-8.3), BD01-04-DUIP-431, RFI-36-49 (01-03), RFI-36-49 (17-19), RFI-81-42 (0.7-2.0) and RFI-81-39R (7.7-9.7) based on the deviation.

The continuing calibration %D was above the acceptable limit due to a decrease in response by several compounds. Data for the following have been qualified as estimated based on the deviations: 3&4-Methylphenol in all samples; 4-nitroaniline in samples RFI-12-25 (11-13), RFI-40-15 (02-04), RFI-40-15 (08-10), RFI-40-15 (14-16) and RFI-36-49 (07-09); benzaldehyde in samples RFI-09-RB-220, RFI-12-25 (07-09), RFI-81-39R (1.7-3.7), RFI-09-48 (0.5-2.5), RFI-09-48 (8.5-10.5), BD01-04-DUP-431, BD01-04 (6.3-8.3), BD01-04 (0.3-2.3), RFI-36-49 (17-19), RFI-81-39R (7.7-9.7) and RFI-36-49 (01-03); carbazole in samples RFI-09-48 (0.5-2.5) and RFI-09-48 (8.5-10.5).

The continuing calibration %D was above the acceptable limit due to an increase in response by indeno (1,2,3-cd) pyrene, dibenz(a,h)anthracene and benzo(g,h,i)perylene. Data have been qualified

as estimated for the listed compounds in sample RFI-81-42 (0.7-2.0) based on the deviations.

Recoveries for three acid surrogates were below control limits and less than 10% in sample RFI-81-42 (0.7-2.0). Positive data have been qualified as estimated and undetected data have been rejected for all acid compounds in sample RFI-81-42 (0.7-2.0) based on the recoveries.

The matrix spike recovery for 3,3'-dichlorobenzidine was below control limits. Data for 3,3'-dichlorobenzidine have been qualified as estimated in sample RFI-09-48 (0.5-2.5) based on the deviation.

The laboratory control sample recovery for bis(2-ethylhexyl)phthalate was above control limits. Data for the listed compound has been qualified as estimated in sample RFI-09-RB-220 based on the deviation.

Internal standard responses were below the acceptable limit in several samples. Based on the deviations data have been qualified as estimated for all compounds associated with the deviant internal standards in the associated samples: Perylene-d12 in samples RFI-12-25 (11-13), RFI-81-39R (7.7-9.7), BD01-04 (0.3-2.3), RFI-12-25 (07-09), RFI-09-48 (0.5-2.5), RFI-36-49 (01-03), RFI-36-49 (17-19) and RFI-81-42 (0.7-2.0) and Chrysene-d12 in sample RFI-36-49 (17-19).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	<u>X</u>	_____	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	<u>X</u>	_____	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	<u>X</u>	_____	_____
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The MS/MSD %Rs were below the acceptable limit for manganese and silver. Data for manganese and silver have been qualified as estimated in sample RFI-09-RB-220 based on the deviations.

The MS/MSD %Rs were below control limits for antimony, arsenic, beryllium, cobalt, copper, lead, nickel, selenium, vanadium and zinc. Positive data for the listed compounds have been qualified as estimated in all soil samples based on the deviations.

Cadmium, zinc and copper were detected in the method blank. Based on the blank content data for copper have been qualified as undetected in sample RFI-09-RB-220 and data for cadmium have been qualified as undetected in samples BD01-04 (0.3-2.3), RFI-40-15 (02-04), RFI-40-15 (08-10), RFI-40-15 (14-16), RFI-36-49 (01-03), RFI-36-49 (17-19) and RFI-81-39R (7.7-9.7).

Other than for the deviation noted in this review, all data quality parameters were within method-

specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>May 14, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>May 21, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031381

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3031381 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-81-33(040303)	3031381001	Water	4/3/2003	X			X	
RFI-44-04(040303)	3031381002	Water	4/3/2003			X		
RFI-09-49R(040303)	3031381003	Water	4/3/2003	X				
BD01-02R(040303)	3031381004	Water	4/3/2003	X				
RFI-05-02(040303)	3031381005	Water	4/3/2003				X	
RFI-05-05(040303) <sup>1,2</sup>	3031381006	Water	4/3/2003	X			X	
RFI-86-08R(040303)	3031381007	Water	4/3/2003	X				
RFI-84-06R(040203)b	3031381008	Water	4/3/2003				X	
RFI-DUP-435 <sup>4</sup>	3031381009	Water	4/3/2003	X				
Trip Blank(040303)	3031381010	Water	4/3/2003	X				
87-FP5(040303)	3031381011	Water	4/3/2003	X				
40-1R(040303)	3031381012	Water	4/3/2003	X			X	
RFI-16-25(040303)	3031381013	Water	4/3/2003	X				
RFI-16-24(040303)	3031381014	Water	4/3/2003	X				
RFI-40-11(040303)	3031381015	Water	4/3/2003	X				
RFI-94-02R(040303)	3031381016	Water	4/3/2003			X		
RFI-94-02R(040403)	3031381017	Water	4/4/2003	X	X		X	
87-FP3(040403)	3031381018	Water	4/4/2003	X				
RFI-12-24(040403)	3031381019	Water	4/4/2003	X	X	X	X	
RFI-DUP-434 <sup>3</sup>	3031381020	Water	4/3/2003	X				
RFI-86-08R(040303)DL	3031381021	Water	4/3/2003	X				
RFI-94-02R(040403)DL	3031381022	Water	4/4/2003	X				
87-FP3(040403)DL	3031381023	Water	4/4/2003	X				

1 MS/MSD analysis performed on sample (metals only)  
2 MS/MSD analysis performed on sample (Cyanide only)  
3 Field duplicate of sample RFI-16-25(040303)  
4 Field duplicate of sample RFI-05-02(040303)

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

Acetone, Methylene Chloride and 1,2,4-trichlorobenzene were detected in the method blanks. All data associated with the method blanks were non-detects for these compounds and therefore no qualification was necessary.

The LCS %R was below control limits for methyl acetate. Data for methyl acetate have been qualified as estimated in the associated samples based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The initial calibration %RSD was above control limits for Pentachlorophenol. The initial calibration linear R<sup>2</sup> was below the acceptable control limit for 4-chloroaniline and benzaldehyde. Data for Pentachlorophenol, 4-chloroaniline and benzaldehyde have been qualified as estimated in samples RFI-94-02R(040403) and RFI-12-24(040403) based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol, benzaldehyde and 3,3'-Dichlorobenzidine. Data have been qualified as estimated for 3&4-Methylphenol, benzaldehyde and 3,3'-Dichlorobenzidine in samples RFI-94-02R(040403) and RFI-12-24(040403) based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	<u>X</u>	_____	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	<u>X</u>	_____	_____
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	<u>X</u>	_____	_____
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

Copper was detected in the method blank. Based on the blank content data for copper has been qualified as undetected in sample RFI-81-33(040303).

The MS/MSD %Rs were below the acceptable limit for manganese and silver. Data for manganese and silver have been qualified as estimated in the associated samples based on the deviations.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	CT&E, Inc. Luddington, Michigan
Date of Report:	June 18, 2003
Validation performed by:	(Douglas Fische)
Date of Validation:	June 18, 2003

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031405

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3031405 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-83/84-DUP-436 <sup>4</sup>	3031405001	Soil	4/7/2003	X	X	X	X	
RFI-83/84-47(01-03)	3031405002	Soil	4/7/2003	X	X	X	X	
RFI-83/84-47(08-10)	3031405003	Soil	4/7/2003	X	X	X	X	
RFI-83/84-48(01-03) <sup>1,2,3</sup>	3031405004	Soil	4/7/2003	X	X	X	X	
RFI-83/84-48(07-09)	3031405005	Soil	4/7/2003	X	X	X	X	
RFI-83/84-TB(040703)	3031405006	Water	4/7/2003	X				
RFI-40-RB-221	3031405007	Water	4/9/2003	X	X	X	X	
RFI-83/84-49(0.9-2.9)	3031405008	Soil	4/9/2003	X	X	X	X	
RFI-83/84-49(4.5-6.5)	3031405009	Soil	4/9/2003	X	X	X	X	
RFI-83/84-49(8.5-10.5)	3031405010	Soil	4/9/2003	X	X	X	X	
RFI-83/84-DUP-437 <sup>5</sup>	3031405011	Soil	4/9/2003	X	X	X	X	
RFI-83/84-TB(040903)	3031405012	Water	4/9/2003	X				
RFI-09-51(01-03)	3031405013	Soil	4/7/2003				X	
RFI-09-17(01-03)	3031405014	Soil	4/7/2003				X	
RFI-83/84-DUP-436RE	3031405015	Soil	4/7/2003		X			
RFI-83/84-47(08-10)RE	3031405016	Soil	4/7/2003		X			
RFI-83/84-48(01-03)RE	3031405017	Soil	4/7/2003		X			
RFI-83/84-48(07-09)RE	3031405018	Soil	4/7/2003		X			
RFI-83/84-49(4.5-6.5)RE	3031405019	Soil	4/9/2003		X			
RFI-83/84-49(8.5-10.5)RE	3031405020	Soil	4/9/2003		X			
RFI-83/84-DUP-437RE	3031405021	Soil	4/9/2003		X			
RFI-83/84-47(01-03)RE	3031405022	Soil	4/7/2003		X			
RFI-83/84-49(0.9-2.9)RE	3031405023	Soil	4/9/2003		X			

- 1 MS/MSD analysis performed on sample (8260 and 8082 only)
- 2 MS/MSD analysis performed on sample (metals only)
- 3 MS/MSD analysis performed on sample (Cyanide only)
- 4 Field duplicate of sample RFI-83/84-47(01-03)
- 5 Field duplicate of sample RFI-83/84-49(8.5-10.5)

**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The continuing calibration %D was above the acceptable limit due to a decrease in response by 2-butanone (MEK). Data for the listed compound has been qualified as estimated in the associated samples based on the deviation.

Methylene chloride was detected in the method blank. Based on the blank content, data for methylene chloride has been qualified as undetected in the associated samples.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>      </u>	<u>X</u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The initial calibration %RSD was above control limits for Indeno[1,2,3-cd] pyrene, Dibenz[a,h] anthracene and benzaldehyde. Data for Indeno[1,2,3-cd] pyrene, Dibenz[a,h] anthracene and benzaldehyde have been qualified as estimated in the associated samples based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by benzaldehyde, 3&4-Methylphenol and carbazole. Data have been qualified as estimated for benzaldehyde, 3&4-methylphenol and carbazole in the associated samples based on the deviations.

The response for one internal standard, perylene-d12, was below control limits in several samples. The response for two internal standards, chrysene-d12 and perylene-d12, were below control limits in sample RFI-83/84-DUP-436. Data have been qualified as estimated for all compounds associated with the deviant internal standard.

The MS %R was below control limits for 2,4-Dinitrophenol (8%) and 2-Methyl-4,6-dinitrophenol (7%). Data for these compounds have been qualified as rejected in sample 83/84-48(01-03) based on the

deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The MS/MSD %R was above the acceptable limit for barium. Data for barium has been qualified as estimated in the positive associated samples based on the deviations.

The MS/MSD RPD was above control limits for cyanide. Positive data for cyanide has been qualified as estimated in the associated samples based on the deviations.

Cadmium was detected in the method blank. Based on the blank content data for cadmium has been qualified as undetected in the associated samples.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>June 19, 2003</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>June 19, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031483

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3031483 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-83/84-50(03-05) <sup>1, 2, 3</sup>	3031483001	Soil	4/10/2003	X	X	X	X	
RFI-83/84-50(05-07)	3031483002	Soil	4/10/2003	X	X	X	X	
RFI-83/84-51(03-05)	3031483003	Soil	4/10/2003	X	X	X	X	
RFI-83/84-51(05-07)	3031483004	Soil	4/10/2003	X	X	X	X	
RFI-83/84-DUP-438 <sup>5</sup>	3031483005	Soil	4/10/2003	X	X	X	X	
RFI-83/84-DUP-439 <sup>6</sup>	3031483006	Soil	4/10/2003	X	X	X	X	
RFI-83/84-TB(041003)	3031483007	Water	4/10/2003	X				
RFI-83/84-RB-222	3031483008	Soil	4/10/2003	X	X	X	X	
RFI-03-15(0.9-2.9)	3031483009	Soil	4/10/2003	X	X	X	X	
RFI-03-15(6.9-8.9)	3031483010	Soil	4/10/2003	X	X	X	X	
RFI-03-DUP-440 <sup>4</sup>	3031483011	Soil	4/10/2003	X	X	X	X	
RFI-83/84-RB-223	3031483012	Water	4/11/2003	X	X	X	X	
RFI-83/84-52(0.9-2.9)	3031483013	Soil	4/11/2003	X	X	X	X	
RFI-83/84-52(2.9-4.9)	3031483014	Soil	4/11/2003	X	X	X	X	
RFI-83/84-52(6.9-8.9)	3031483015	Soil	4/11/2003	X	X	X	X	
RFI-83/84-53(0.9-2.9)	3031483016	Soil	4/11/2003	X	X	X	X	
RFI-83/84-53(6.9-8.9)	3031483017	Soil	4/11/2003	X	X	X	X	
RFI-83/84-53(6.9-8.9)RE	3031483017	Soil	4/11/2003	X	X	X	X	
RFI-83/84-53(8.9-10.9)	3031483018	Soil	4/11/2003	X	X	X	X	
RFI-83/84-54(0.6-2.6)	3031483019	Soil	4/11/2003	X	X	X	X	
RFI-83/84-DUP-441 <sup>7</sup>	3031483020	Soil	4/11/2003	X	X	X	X	
Trip Blank(041103)	3031483021	Water	4/11/2003	X	X			
RFI-83/84-DUP-439DL	3031483022	Soil	4/10/2003		X			
RFI-03-15(0.9-2.9)DL	3031483023	Soil	4/10/2003		X			
RFI-03-15(6.9-8.9)RE	3031483024	Soil	4/10/2003		X			
RFI-03-DUP-440RE	3031483025	Soil	4/10/2003		X			
RFI-83/84-54(0.6-2.6)RE	3031483026	Soil	4/11/2003		X			
RFI-03-15(6.9-8.9)DL	3031483027	Soil	4/10/2003		X			
RFI-03-DUP-440DL	3031483028	Soil	4/10/2003		X			
RFI-83/84-52(2.9-4.9)RE	3031483029	Soil	4/11/2003		X			
RFI-83/84-53(6.9-8.9)RE	3031483030	Soil	4/11/2003		X			
RFI-83/84-53(8.9-10.9)RE	3031483031	Soil	4/11/2003		X			
RFI-83/84-DUP-441DL	3031483032	Soil	4/11/2003		X			
RFI-83/84-52(6.9-8.9)RE	3031483033	Soil	4/11/2003		X			
RFI-83/84-52(0.9-2.9)RE	3031483034	Soil	4/11/2003		X			
RFI-83/84-53(0.9-2.9)RE	3031483035	Soil	4/11/2003		X			

<sup>1</sup> MS/MSD analysis performed on sample (8260)

- 2 MS/MSD analysis performed on sample (metals only)
- 3 MS/MSD analysis performed on sample (Cyanide only)
- 4 Field duplicate of sample RFI-03-15(6.9-8.9)
- 5 Field duplicate of sample RFI-83/84-50(05-07)
- 6 Field duplicate of sample RFI-83/84-51(05-07)
- 7 Field duplicate of sample RFI-83/84-52(2.9-4.9)

**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The continuing calibration %D was above the acceptable limit due to a decrease in response by bromomethane and methyl acetate. Data for the listed compounds have been qualified as estimated in the associated samples based on the deviations.

The MS %R was below control limits for bromomethane. Data for bromomethane has been qualified as estimated in sample RFI-83/84-50(03-05) based on the deviations.

Methylene chloride was detected in the method blank. Associated sample results below the blank action limit were qualified as non-detect.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	_____	_____	<u>X</u>
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The initial calibration %RSD was above control limits for Di-n-octylphthalate, benzo[g,h,i] perylene, 4-chloroaniline, Indeno[1,2,3-cd] pyrene, Dibenz[a,h] anthracene and benzaldehyde. Data for Di-n-octylphthalate, benzo[g,h,i] perylene, 4-chloroaniline, Indeno[1,2,3-cd] pyrene, Dibenz[a,h] anthracene and benzaldehyde have been qualified as estimated in the associated samples based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol. Data have been qualified as estimated for 3&4-methylphenol in the associated samples based on the deviations.

The response for two internal standards, chrysene-d12 and perylene-d12, were below control limits in sample RFI-83/84-52(0.9-2.9). Data have been qualified as estimated for all compounds associated with the deviant internal standard.

Other than for the deviations noted in this review, all data quality parameters were within method-

specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The MS %R was below the acceptable limit for mercury. All positive data for mercury has been qualified as estimated and all undetected associated samples have been qualified as rejected based on the deviation.

The MS/MSD RPD was above control limits for cyanide. Positive data for cyanide has been qualified as estimated in the associated samples based on the deviations.

Cadmium was detected in the method blank. Associated sample results below the blank action limit were qualified as non-detect.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>July 2, 2003</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>July 2, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031634

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3031634 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-40-14R(042203) <sup>2</sup>	3031634001	Water	4/22/2003	X			X	
RFI-40-15(042203)	3031634002	Water	4/22/2003	X			X	
RFI-DUP-442 <sup>4</sup>	3031634003	Water	4/22/2003	X				
RFI-12-24(042303)	3031634004	Water	4/23/2003	X	X	X	X	
RFI-12-25(042303) <sup>1</sup>	3031634005	Water	4/23/2003	X	X	X	X	
40-6R(042303) <sup>2,3</sup>	3031634006	Water	4/23/2003	X			X	
RFI-10-31(042403)	3031634007	Water	4/24/2003	X			X	
RFI-10-30(042403)	3031634008	Water	4/24/2003	X			X	
RFI-40-10R(042303)	3031634009	Water	4/24/2003	X				
BD01-04(042403)	3031634010	Water	4/24/2003	X				
RFI-09-48(042403)	3031634011	Water	4/24/2003	X			X	
RFI-40-15(042203)DL	3031634012	Water	4/22/2003	X				

- <sup>1</sup> MS/MSD analysis performed on sample (8260 only)
- <sup>2</sup> MS/MSD analysis performed on sample (metals only)
- <sup>3</sup> MS/MSD analysis performed on sample (Cyanide only)
- <sup>4</sup> Field duplicate of sample RFI-40-14R(042203)

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The surrogate recovery for 1,2-Dichloroethane-d4 was below control limits for sample RFI-40-15(042203). Associated compounds have been qualified as estimated based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Surrogate (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>  X  </u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>  X  </u>	<u>      </u>	<u>      </u>

Notes

The initial calibration %RSD was above control limits for di-n-octylphthalate. The initial calibration RRF was below control limits for benzaldehyde, indeno[1,2,3-cd]pyrene, dibenz[a,h]anthracene and benzo[g,h,i]perylene. Data for di-n-octylphthalate, benzaldehyde, indeno[1,2,3-cd]pyrene, dibenz[a,h]anthracene and benzo[g,h,i]perylene have been qualified as estimated in samples RFI-12-24(042303) and RFI-12-25(042303) based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by 3&4-Methylphenol, 3-nitroaniline, 3,3'-dichlorobenzidine and 4-nitroaniline. Data have been qualified as estimated for 3&4-Methylphenol, 3-nitroaniline, 3,3'-dichlorobenzidine and 4-nitroaniline in samples RFI-12-24(042303) and RFI-12-25(042303) based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The MS/MSD %Rs was below the acceptable limit for silver. Data for silver have been qualified as estimated in the associated samples based on the deviations.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>June 23, 2003</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>June 23, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3031713

VOLATILE AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3031713 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-36-51(042803)	3031713001	Water	4/28/2003	X			X	
RFI-36-51(042803)DL	3031713002	Water	4/28/2003	X				

**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>June 23, 2003</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>June 22, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3032044

INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3032044 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL <sup>1</sup>	MISC
RFI-12-23 (051903)NL	3032044001	NL	05/19/03				X	
20-503 (051903)NL	3032044002	NL	05/19/03				X	

1 Inorganic analyses include mercury and cyanide only.  
 NL- Non-Aqueous Liquid

**Sample analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
Serial dilution (%D)	<u>      </u>	<u>      </u>	<u>X</u>
Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The matrix spike recovery was below control limits for cyanide and the relative percent difference between recoveries was above control limits for cyanide. Data for cyanide have been qualified as estimated based on the deviations.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>June 2, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>January 5, 2004</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3032117

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3032117 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
Outfall 004(052103)NL	3032117	NAPL	5/21/2003	x	x	x	x	

**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The continuing calibration was outside control limits due to a decrease in response by bromomethane. Data for bromomethane have been qualified as estimated in sample Outfall004 (052103)NL based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Surrogate (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Internal standard (Response, RT)	<u>  X  </u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>  X  </u>	<u>      </u>	<u>      </u>

### Notes

The continuing calibration %D was above the acceptable limit due to a decrease in response by bis (2-chloroethyl)ether and 3&4-methylphenol. Data have been qualified as estimated for the listed compounds based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	<u>X</u>	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The laboratory control sample and laboratory control sample duplicate RPD for Aroclor 1260 was above control limits. Since the sample was non-detect for Aroclor 1260, no data have been qualified based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	<u>X</u>	_____	_____
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	<u>X</u>	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The MS %R was below the acceptable limit for cyanide. Data for cyanide have been qualified as estimated based on the deviations.

Selenium was detected above the CRDL in the method blank. Since no selenium was detected in the sample, no data have been qualified based on the blank content.

Other than for the deviation noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	CT&E, Inc. Luddington, Michigan
Date of Report:	June 19, 2003
Validation performed by:	(Melissa Cash)
Date of Validation:	September 29, 2003

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3033041

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3033041 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-12-28(01-03)	3033041001	Soil	7/23/2003	X	X	X	X	
RFI-12-28(08-10)	3033041002	Soil	7/23/2003	X	X	X	X	
RFI-12-28(11-13)	3033041003	Soil	7/23/2003	X	X	X	X	
RFI-12-DUP-443 <sup>2</sup>	3033041004	Soil	7/23/2003	X	X	X	X	
RFI-12-29(0.7-2.7)	3033041005	Soil	7/24/2003	X	X	X	X	
RFI-12-29(4.7-6.7)	3033041006	Soil	7/24/2003	X	X	X	X	
RFI-12-30(0.7-2.7)	3033041007	Soil	7/24/2003	X	X	X	X	
RFI-12-27(01-03) <sup>1</sup>	3033041008	Soil	7/24/2003	X	X	X	X	
RFI-12-27(03-05)	3033041009	Soil	7/24/2003	X	X	X	X	
Trip Blank(072403)	3033041010	Water	7/24/2003	X				
RFI-12-RB-224	3033041011	Water	7/24/2003	X	X	X	X	
EQ Blank	3033041012	Water	7/24/2003	X	X	X	X	
RFI-12-31(0.7-2.7)	3033041013	Soil	7/25/2003	X	X	X	X	
RFI-07-01R(04-06)	3033041014	Soil	7/25/2003	X	X	X	X	

1 MS/MSD analysis performed on sample.  
2 Field duplicate of sample RFI-12-28 (01-03)

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

The initial calibration RSD was above control limits for methylene chloride. Data for methylene chloride have been qualified as estimated in samples RFI-12-29 (0.7-2.7), RFI-12-29 (4.7-6.7), RFI-12-30 (0.7-2.7), RFI-12-27 (01-03), RFI-12-27 (03-05), RFI-12-31 (0.7-2.7) and RFI-07-01R (04-06) based on the deviation.

The continuing calibrations %D were above control limits due to a decrease in response by several compounds. Data have been qualified as estimated for bromomethane in samples RFI-12-28 (01-03), RFI-12-28 (08-10), RFI-12-28 (11-13) and RFI-12-DUP-443 and acetone, carbon disulfide, methyl acetate and 2-butanone in samples RFI-12-29 (0.7-2.7), RFI-12-29 (4.7-6.7), RFI-12-30 (0.7-2.7), RFI-12-27 (01-03), RFI-12-27 (03-05), RFI-12-31 (0.7-2.7) and RFI-0701R (04-06) based on the %D.

The MS/MSD recoveries were above control limits for several compounds. Based on the deviations, data have been qualified as estimated for 2-butanone and acetone in sample RFI-12-RB-224.

Several compounds were detected in the method blank, rinse blank and equipment blank. Since none

of the compounds detected in the blanks were detected in the samples, no data have been qualified based on the blank content.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	_____	<u>X</u>	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	_____	<u>X</u>	_____
Internal standard (Response, RT)	_____	<u>X</u>	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	<u>X</u>	_____	_____
Field duplicate (RPD)	_____	<u>X</u>	_____
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The initial calibration %RSD was above control limits for benzaldehyde. Data for benzaldehyde have been qualified as estimated in samples RFI-12-28(01-03), RFI-12-28 (08-10), RFI-12-28 (11-13), RFI-12-RB-224 and EQ Blank based on the deviations.

The continuing calibration %D was above the acceptable limit due to a decrease in response by benzaldehyde, 3&4-Methylphenol, 2-nitroaniline, biphenyl, atrazine, diethylphthalate, 4-chlorophenyl phenylether, carbazole and benzo(k)fluoranthene. Data have been qualified as estimated for benzaldehyde and 3&4-Methylphenol in samples RFI-12-28(01-03), RFI-12-28 (08-10), RFI-12-28 (11-13), RFI-12-RB-224, RFI-12-27 (01-03) and EQ Blank, atrazine in sample RFI-12-27 (01-03), benzaldehyde, 3&4-methylphenol, biphenyl, 2-nitroaniline and atrazine in samples RFI-12-DUP-443, RFI-12-29 (0.7-2.7), RFI-12-29 (4.7-6.7), and RFI-12-30 (0.7-2.7), 3&4-methylphenol, biphenyl, diethylphthalate, 4-chlorophenyl phenylether, atrazine, carbazole and benzo(k)fluoranthene in samples RFI-12-27 (03-05), RFI-12-31 (0.7-2.7)RE and RFI-07-01 (04-06)RE based on the deviations.

The matrix spike recovery was below control limits for 2,4-dinitrophenol and the matrix spike and

matrix spike duplicate recoveries were above control limits for di-n-octylphthalate. Data for 2,4-dinitrophenol have been qualified as estimated in sample RFI-12-27 (01-03) based on the recoveries.

The laboratory control sample and laboratory control sample duplicate recoveries were above control limits for benzaldehyde. Since associated samples were non-detect for benzaldehyde, no data have been qualified based on the deviations.

Recovery for one surrogate was outside control limits in samples RFI-12-28 (01-03), RFI-12-DUP-443, RFI-12-31 (0.7-2.7) and RFI-07-01 (04-06). Since recovery for the remaining surrogates were within control limits, no data have been qualified based on the deviations.

The response for one or more internal standards were below control limits in samples RFI-12-28 (01-03), RFI-12-28 (11-13), RFI-12-30 (0.7-2.7), RFI-12-31 (0.7-2.7)RE, RFI-07-01 (04-06)RE, RFI-12-27 (01-03) and RFI-12-27 (03-05). Data have been qualified as estimated for all compounds quantitated under the non-compliant internal standards.

The RPD between original sample RFI-12-28 (01-03) and field duplicate RFI-12-DUP-443 were above control limits for several compounds. Data have been qualified as estimated in the listed samples for acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, carbazole, chrysene, dibenzo(a,h)anthracene, dibenzofuran, fluorene, indeno (1,2,3-cd)pyrene and phenanthrene based on the RPD.

Pyrene was detected above the linear range in sample RFI-07-01 (04-06) RE. Data for pyrene have been replaced with data from the dilution analysis.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	_____	<u>X</u>	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	_____	<u>X</u>	_____
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	<u>X</u>	_____
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The continuing calibration recoveries were above control limits for beryllium. Data for beryllium have been qualified as estimated in all soil samples based on the deviations.

Several analytes were detected above the CRDL in the blanks. Based on the blank content, data have been qualified as non-detect for cadmium in samples RFI-12-28 (01-03), RFI-12-28 (08-10), RFI-12-28 (11-13), RFI-12-27 (01-03), RFI-12-27 (03-05) and RFI-07-01 (04-06)

The MS/MSD %R were below the acceptable limit for antimony and above the acceptable limit for lead and zinc. Data for antimony and positive data for lead and zinc have been qualified as estimated in all soil samples based on the deviations.

The MS was below control limits for mercury. Data for mercury have been qualified as estimated in samples RFI-12-28 (08-10) and RFI-12-28 (11-13) based on the deviation.

The serial dilution results were above control limits for zinc, barium, copper, manganese and vanadium. Data for zinc have been qualified as estimated in all samples and data for barium, copper, manganese and vanadium have been qualified as estimated in water samples.

The RPD between original sample RFI-12-28 (01-03) and duplicate samples RFI-12-DUP-443 was above control limits for lead. Data for lead in the listed samples have been qualified as estimated based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>September 2, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>September 30, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3033141

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3033141 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-12-RB-225	3033141001	Water	7/28/2003	X	X	X	X	
RFI-09-52(0.5-2.5)	3033141002	Soil	7/28/2003	X	X	X	X	
RFI-09-52(2.5-4.5)	3033141003	Soil	7/28/2003	X	X	X	X	
RFI-09-52 (4.5-6.5)	3033141004	Soil	7/28/2003	X	X	X	X	
RFI-12-32 (00-02)	3033141005	Soil	7/28/2003	X	X	X	X	
RFI-12-DUP-444 <sup>1</sup>	3033141006	Soil	7/28/2003	X	X	X	X	
TB (072803)	3033141007	Soil	7/28/2003	X				

1 Field duplicate of sample RFI-12-32 (00-02)

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

The initial calibration RSD was above control limits for bromomethane. Data for bromomethane have been qualified as estimated in samples RFI-09-52 (0.5-2.5), RFI-09-52 (2.5-4.5), RFI-09-52 (4.5-6.5), RFI-12-32 (00-02) and RFI-12-DUP-444 based on the deviation.

The continuing calibrations %D were above control limits due to a decrease in response by several compounds. Data have been qualified as estimated for bromomethane in samples RFI-09-52 (0.5-2.5), RFI-09-52 (2.5-4.5), RFI-09-52 (4.5-6.5), RFI-12-32 (00-02) and RFI-12-DUP-444, acetone, carbon disulfide, methyl acetate and methylene chloride in samples RFI-12-RB-225 and TB (072803) based on the %D.

The MS/MSD was performed on a non-site sample therefore no data have been qualified based on the MS/MSD results.

Several compounds were detected in the method blanks and rinse blank. Since all associated samples were either non-detect for compounds found in the blank or at a concentration greater than

that in the blank, no data have been qualified based on the blank content.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	_____	<u>X</u>	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	<u>X</u>	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

The initial calibration %RSD was above control limits for several compounds. Since associated samples were non-detect for all deviant compounds, no data have been qualified based on the deviations.

The continuing calibration %D were above the acceptable limit due to a decrease in response by 3&4-methylphenol, atrazine, 2,4-dinitrophenol, di-n-butylphthalate, butylbenzylphthalate and bis(2-ethylhexyl)phthalate. Data have been qualified as estimated for 3&4-Methylphenol in all samples, atrazine in samples RFI-12-RB-225, RFI-09-52 (0.5-2.5), RFI-09-52 (2.5-4.5), RFI-09-52 (4.5-6.5) and RFI-12-DUP-444, 2,4-dinitrophenol, di-n-butylphthalate, butylbenzylphthalate and bis(2-ethylhexyl)phthalate in sample RFI-12-RBN-225 based on the deviations.

The MS/MSD was performed on a non-site sample, therefore, no data have been qualified based on the MS/MSD results.

The laboratory control sample duplicate recovery was above control limits for 4-nitroaniline. Since

associated samples were non-detect for 4-nitroaniline, no data have been qualified based on the deviation.

The responses for two internal standards were below control limits in sample RFI-09-52 (0.5-2.5). Data have been qualified as estimated for all compounds quantitated under the non-compliant internal standards.

The RPD between original sample RFI-12-32 (00-02) and field duplicate RFI-12-DUP-444 were above control limits for several compounds. Data have been qualified as estimated in the listed samples for anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, carbazole, chrysene, fluoranthene, pyrene and phenanthrene based on the RPD.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	<u>X</u>	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

The RPD between original sample RFI-12-32 (00-02) and duplicate sample RFI-12-DUP-444 was above control limits for Aroclor 1254. Data for Aroclor 1254 have been qualified as estimated in the listed samples based on the deviation.

Other than for the deviations mentioned in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**-Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	_____	<u>X</u>	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	_____	<u>X</u>	_____
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	<u>X</u>	_____
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The continuing calibration recoveries were above control limits for beryllium. Data for beryllium have been qualified as estimated in sample RFI-12-RB-225 based on the deviations.

Several analytes were detected the blanks. Based on the blank content, data have been qualified as non-detect for cadmium in samples RFI-09-52 (2.5-4.5), RFI-09-52 (4.5-6.5) and RFI-12-DUP-444

The MS/MSD %R were below the acceptable limit for antimony, beryllium, cobalt, nickel, selenium and zinc and above the acceptable limit for copper. Data for antimony, beryllium, cobalt, nickel, selenium and zinc and positive data for copper have been qualified as estimated in all soil samples based on the deviations.

The serial dilution results were above control limits for several compounds. Based on the serial dilution results, data have been qualified as estimated for cobalt, copper, manganese, vanadium and

zinc in sample RFI-12-RB-225 and silver and selenium in all soil samples.

The RPD between original sample RFI-12-32 (00-02) and duplicate samples RFI-12-DUP-444 was above control limits for selenium. Data for selenium in the listed samples have been qualified as estimated based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>September 5, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>October 02, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3033699

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3033699 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-12-34 (4.8-6.8)	3033699001	Soil	8/28/2003	X	X	X	X	
RFI-12-34 (2.8-4.8)	3033699002	Soil	8/28/2003	X	X	X	X	
RFI-12-34 (0.8-2.8)	3033699003	Soil	8/28/2003	X	X	X	X	
RFI-12-33 (01-02)	3033699004	Soil	8/28/2003	X	X	X	X	
RFI-12-33 (2.5-4.5)	3033699005	Soil	8/28/2003	X	X	X	X	
RFI-12-35 (03-04)	3033699006	Soil	8/29/2003	X	X	X	X	
RFI-12-DUP-445	3033699007	Soil	8/29/2003	X	X	X	X	
RFI-12-RB-226	3033699008	Water	8/29/2003	X	X	X	X	
TB	3033699009	Water	8/29/2003	X				

1 Field duplicate of sample RFI-12-35 (03-04)

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The initial calibration RSD was above control limits for bromomethane. Data for bromomethane have been qualified as estimated in all soil samples based on the deviation.

The continuing calibrations %D were above control limits due to a decrease in response by several compounds. Data have been qualified as estimated for bromomethane and methylene chloride in all soil samples and methylene chloride, tetrachloroethene and 1,2-dibromo-3-chloropropane in all water samples based on the %D.

The MSD recovery was below control limits for carbon disulfide. Data for carbon disulfide have been qualified as estimated in all water samples based on the deviations.

Several compounds were detected in the rinse blank. Since associated samples were either non-detect for compounds found in the blank or at a concentration greater than the blank action level, no data have been qualified based on the blank content.

The RPD between sample RFI-12-35 (03-04) and duplicate RFI-12-DUP-445 were above control limits for cyclohexane, methyl cyclohexane, o-xylene and p&m-xylene. Data have been qualified as estimated for the listed compounds in samples RFI-12-35 (03-04) and RFI-12-DUP-445 based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Surrogate (%Recovery)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>      </u>	<u>  X  </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Field duplicate (RPD)	<u>  X  </u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>  X  </u>	<u>      </u>

### Notes

The initial calibration %RSD was above control limits for several compounds. Since associated samples were non-detect for all non-compliant compounds, no data have been qualified based on the deviations.

The continuing calibration %D were above the acceptable limit due to a decrease in response by 3&4-methylphenol, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, bis(2-ethylhexyl)phthalate, 3-nitroaniline, 4-nitroaniline and carbazole. Data have been qualified as estimated for 3&4-Methylphenol in all samples, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene in samples RFI-12-33 (01-02), RFI-12-33 (2.5-4.5) and RFI-12-RB-226, bis(2-ethylhexyl)phthalate in sample RFI-12-RB-226, 3-nitroaniline, 4-nitroaniline and carbazole in samples RFI-12-34 (4.8-6.8), RFI-12-34 (2.8-4.8), RFI-12-34 (0.8-2.8), RFI-12-35 (03-04) and RFI-12-DUP-445 based on the deviations.

The LCS/LCSD RPD was above control limits for benzaldehyde and hexachloroethane. Since associated samples were non-detect for the listed compounds, no data have been qualified based on

the deviations.

The response for one internal standard was below control limits in samples RFI-12-33 (01-02), RFI-12-33 (2.5-4.5) and RFI-12-35 (03-04). Data have been qualified as estimated for all compounds quantitated under the non-compliant internal standards.

Several compounds were detected in the method blanks. Since all samples were non-detect for the compounds, no data have been qualified based on the blank content.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	<u>X</u>	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

The MS/MSD RPD was above control limits for Aroclor 1260. Since the associated sample was non-detect for Aroclor 1260 no data have been qualified based on the deviation.

Other than for the deviations mentioned in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	_____	<u>X</u>	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	_____	<u>X</u>	_____
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	<u>X</u>	_____
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

Several analytes were detected the blanks. Based on the blank content, data have been qualified as non-detect for cadmium in samples RFI-12-35 (03-04).

The MS/MSD %R were below the acceptable limit for antimony, arsenic, beryllium, chromium, cobalt, copper, nickel, vanadium and zinc. Data for the listed compounds have been qualified as estimated in all soil samples based on the deviations.

The LCS recovery was above control limits for zinc. Data for zinc have been qualified as estimated in the water sample, based on the deviation.

The serial dilution results were above control limits for arsenic. Based on the results, data have been qualified as estimated for arsenic in sample RFI-12-DUP-445.

The RPD between original sample RFI-12-35 (03-04) and duplicate samples RFI-12-DUP-445 was above control limits for mercury, selenium and zinc. Data have been qualified as estimated for the listed compounds in the listed samples based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>September 24, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>October 08, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3033958

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 3033958 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-55-RB-277	3033958001	Water	9/12/2003	X	X	X	X	
TB (091203)	3033958002	Water	9/12/2003	X				
RFI-55-11 (01-03)	3033958003	Soil	9/12/2003	X	X	X	X	
RFI-55-11 (03-05)	3033958004	Soil	9/12/2003	X	X	X	X	
RFI-55-11 (05-07)	3033958005	Soil	9/12/2003	X	X	X	X	
RFI-55-12 (01-03)	3033958006	Soil	9/12/2003	X	X	X	X	
RFI-55-12 (03-05)	3033958007	Soil	9/12/2003	X	X	X	X	
RFI-55-12 (05-07)	3033958008	Soil	9/12/2003	X	X	X	X	

**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The continuing calibration %D were above control limits due to a decrease in response by several compounds. Data have been qualified as estimated for bromomethane, acetone, carbon disulfide and 2-butanone in samples RFI-55-11 (01-03), RFI-55-11 (03-05), RFI-55-12 (01-03), RFI-55-12 (03-05) and RFI-55-12 (05-07) and acetone, methylene chloride and 2-butanone in sample RFI-55-11 (05-07) based on the %D.

Several compounds were detected in the rinse blank and in the method blanks. Since associated samples were either non-detect for compounds found in the blanks or at a concentration greater than the blank action level, no data have been qualified based on the blank content.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	_____	<u>X</u>	_____
Matrix spike (%Recovery)	<u>X</u>	_____	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	_____	<u>X</u>	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	_____	<u>X</u>	_____
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The initial calibration %RSD was above control limits for several compounds. Data have been qualified as estimated for indeno(1,2,3-cd)pyrene and benzo(g,h,i)perylene in associated samples RFI-55-11 (01-03)RE and RFI-55-12 (01-03)RE based on the deviations.

The continuing calibration %D were above the acceptable limit due to a decrease in response by 3&4-methylphenol, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene. Data have been qualified as estimated for 3&4-Methylphenol in all samples and indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene in samples RFI-55-11 (01-03)RE, RFI-55-12 (01-03)RE and RFI-55-12 (03-05)RE based on the deviations.

The recovery for one base surrogate was above control limits in several samples. Since the recoveries for the remaining surrogates were within control limits, no data have been qualified based on the deviations.

The LCS/LCSD RPD were above control limits for several compounds. Since associated samples

were non-detect for the non-compliant compounds, no data have been qualified based on the deviations.

The response for one or more internal standards were below control limits in samples RFI-55-11 (01-03), RFI-55-11 (03-05), RFI-55-11 (05-07), RFI-55-12 (01-03), RFI-55-12 (03-05), RFI-55-11 (01-03)RE, RFI-55-11 (03-05)RE, RFI-55-11 (05-07)RE, RFI-55-12 (01-03) RE and RFI-55-12 (03-05)RE. Data have been qualified as estimated or rejected, depending on the severity of the deviation, for all compounds quantitated under the non-compliant internal standards.

Several compounds were detected in the method and rinse blanks. Since associated samples were either non-detect or at a concentration greater than that in the blank for the compounds, no data have been qualified based on the blank content.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	_____	<u>X</u>	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	_____	_____
Continuing calibration (%D)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
CRDL standard (%R)	_____	_____	<u>X</u>
Serial dilution (%D)	_____	<u>X</u>	_____
Internal standard (Response)	_____	_____	<u>X</u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	<u>X</u>	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

Cyanide was analyzed past the holding time in sample RFI-55-RB-227. Data for cyanide have been qualified as estimated in the listed sample based on the deviations.

Several analytes were detected the blanks. Based on the blank content, data have been qualified as non-detect for silver in samples RFI-55-11 (01-03), RFI-55-11 (03-05), RFI-55-11 (05-07), RFI-55-12 (01-03), RFI-55-12 (03-05) and RFI-55-12 (05-07).

The MS/MSD %R were below the acceptable limit for antimony, silver and zinc and above the acceptable limit for barium, lead and cyanide. The MS/MSD RPD was above control limits for antimony, silver and cyanide. Data have been qualified as estimated for silver and zinc in sample RFI-55-RB-227 based on the deviations. Positive data for barium, lead and cyanide and all data for antimony and silver have been qualified as estimated in all soil samples based on the deviations.

The serial dilution results were above control limits for manganese, selenium, antimony, cadmium and beryllium. Based on the results, data have been qualified as estimated for the listed analytes in all soil samples.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by: CT&E, Inc. Luddington, Michigan  
Date of Report: October 16, 2003  
Validation performed by: (Melissa Cash)  
Date of Validation: October 23, 2003

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3033961

PCB ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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## Summary

The following is an assessment of data package 3033961 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
32/66 Tunnel-0(091203)NL	3033961003	NL	9/12/2003			X		
32/66 Tunnel-50(091203)NL	3033961004	NL	9/12/2003			X		
32/66 Tunnel-100(091203)NL	3033961005	NL	9/12/2003			X		

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by: CT&E, Inc. Luddington, Michigan  
Date of Report: October 2, 2003  
Validation performed by: (Melissa Cash)  
Date of Validation: October 08, 2003

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3034026

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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### Summary

The following is an assessment of data package 3034026 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
84-6R2 (091503)	3034026001	Water	9/15/03				X	
84-6R2 (091503)	3034026002	Water	9/15/03				X <sup>1</sup>	
RFI-07-01R (091503)	3034026003	Water	9/15/03	X				
RFI-09-52 (091503)	3034026004	Water	9/15/03	X				
RFI-86-02 (091503) NL	3034026005	NL	9/15/03	X	X	X	X	
RFI-12-22 (091503) NL	3034026006	NL	9/15/03	X	X	X	X	
TB-1 (091503)	3034026007	Water	9/15/03	X				

1 Metals analysis is for dissolved metals.

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

### Notes

The initial calibration RSD was above control limits for methylene chloride. Data for methylene chloride have been qualified as estimated in samples RFI-86-02 (091503) NL and RFI-12-22 (091503) NL based on the deviation.

The continuing calibration %D were above control limits due to a decrease in response by several compounds. Based on the %D, data have been qualified as estimated for chloromethane, bromomethane, acetone, carbon disulfide, methyl acetate and 2-butanone.

Recovery for one surrogate was above control limits in sample RFI-12-22 (091503) NL. Positive data have been qualified as estimated in the listed sample based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	_____	<u>X</u>	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	_____	_____	<u>X</u>
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The continuing calibration %D were above the acceptable limit due to a decrease in response by 3&4-methylphenol, dibenzo(a,h)anthracene and benzo (g,h,i)perylene. Data have been qualified as estimated for the listed compounds in samples RFI-86-02 (091503) NL and RFI-12-22 (091503) NL based on the deviations.

Recovery for two surrogates were above control limits in sample RFI-12-22 (091503) NL. Positive data for all base compounds have been qualified as estimated in the listed sample based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

Several analytes were detected the blanks. Since all samples were at a concentration greater than that in the blank, no data have been qualified based on the blank content.

The MS/MSD %R were outside the acceptable limit for silver, zinc, nickel, mercury and cyanide. Data have been qualified as estimated for total silver and total zinc in sample 84-6R2 (091503), dissolved nickel, dissolved silver and dissolved zinc in sample 84-6R2 (091503) and zinc, mercury and cyanide in samples RFI-86-02 (091503)NL and RFI-12-2 (091503) NL based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>October 17, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>October 27, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3034049

VOLATILE, PCB AND  
INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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## Summary

The following is an assessment of data package 3034049 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-40-13 (091603)	3034049001	Water	9/16/03	x		x	x	
DUP-1 (091603) <sup>1</sup>	3034049003	Water	9/16/03	x		x	x	
RFI-86-16R (091603)	3034049005	Water	9/16/03	x				
TB-2 (091603)	3034049006	Water	9/16/03	x				

1 Duplicate analysis of sample RFI-40-13 (091603)

## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

The continuing calibration %D were above control limits due to a decrease in response by several compounds. Since all samples were non-detect for the deviant compounds, no data have been qualified based on the %D.

Methylene chloride was detected in the method blank. Since associated samples were non-detect for methylene chloride, no data have been qualified based on the blank content.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	_____	_____
Continuing calibration (%D)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
CRDL standard (%R)	_____	_____	<u>X</u>
Serial dilution (%D)	<u>X</u>	_____	_____
Internal standard (Response)	_____	_____	<u>X</u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

Several analytes were detected the blanks. Based on the blank content, data have been qualified as non-detect for zinc in samples RFI-40-13 (091603) and DUP-1 (091603).

The MS/MSD %R were below the acceptable limit for silver and zinc. Data have been qualified as estimated for silver and zinc in samples RFI-40-13 (091603) and DUP-1 (091603) based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>October 16, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>October 23, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3034070

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

### Notes

The initial calibration RSD was above control limits for acetone. Data for acetone have been qualified as estimated in associated samples RFI-12-35 (091703) and 83/84-07 (091803)NL based on the deviation.

The continuing calibration %D were above control limits due to a decrease in response by several compounds. Based on the %D, data have been qualified as estimated for chloromethane, acetone, carbon disulfide, methyl acetate, methylene chloride, methyl-tert butyl-ether, 2-butanone, tetrachloroethene and bromoform in sample RFI-12-35 (091703), and bromomethane, acetone, 2-butanone, 1,1,2,2-tetrachloroethane, 1,4-dichlorobenzene, 1,2-dichlorobenzene, 1,2-dibromo-3-chloropropane and 1,2,4-trichlorobenzene in sample 83/84-07 (091803)NL.

Sample RFI-94/02 (091803) contained trichloroethene above the linear range. Data for trichloroethene have been replaced with data from the dilution analysis.

Other than for the deviations noted in this review, all data quality parameters were within method-

specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	_____	_____	<u>X</u>
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The continuing calibration %D were above the acceptable limit due to a decrease in response by 3&4-methylphenol and dibenzo(a,h)anthracene. Data have been qualified as estimated for 3&4-Methylphenol and dibenzo(a,h)anthracene in sample 83/84-07 (09/18/03)NL based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>      </u>	<u>X</u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

### Notes

Several analytes were detected the blanks. Since all samples were at a concentration greater than that in the blank, no data have been qualified based on the blank content.

The MS/MSD %R were below the acceptable limit for silver, zinc, nickel, mercury and cyanide. The MS/MSD RPD was above control limits for mercury. Data have been qualified as estimated for silver and zinc in samples RFI-12-35 (091703) and RFI-12-35d (091703), nickel in sample RFI-12-35d (091703) and zinc, mercury and cyanide in sample 83/84-07 (091803)NL based on the deviations.

The serial dilution recoveries were above control limits for several analytes. Based on the deviations, data have been qualified as estimated for cadmium, thallium, vanadium and beryllium in sample RFI-12-35d (091703) and zinc, selenium, barium, beryllium, cadmium, chromium and nickel in sample 83/84-07 (091803)NL.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>October 20, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>October 24, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3034086

VOLATILE, PCB  
AND INORGANIC ANALYSES

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**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*



**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The continuing calibration %D were above control limits due to an increase in response by several compounds. Since all samples were non-detect for the deviant compounds and since the responses were increasing, no data have been qualified based on the %D.

The MSD recovery for vinyl chloride was above control limits. Since the associated sample was non-detect for vinyl chloride, no data have been qualified based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	_____	<u>X</u>	_____
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

Several analytes were detected the blanks. Since all samples were at a concentration greater than the blank action level, no data have been qualified based on the blank contamination.

The MS/MSD %R were below the acceptable limit for silver, zinc and nickel. Data have been qualified as estimated for total silver and total zinc in sample RFI-83/84-51 (091903) and dissolved nickel, dissolved silver and dissolved zinc in sample RFI-83/84-51d (091903) based on the deviations.

The serial dilution recoveries were above control limits for several analytes. Based on the deviations, data have been qualified as estimated for arsenic, cadmium, cobalt, copper, manganese, nickel, thallium, vanadium and beryllium in samples RFI-83/84-51 (091903) and RFI-83/84-51d (091903).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	CT&E, Inc. Luddington, Michigan
Date of Report:	October 21, 2003
Validation performed by:	(Melissa Cash)
Date of Validation:	October 28, 2003

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3034201

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The continuing calibration %D were above control limits due to a decrease in response by methyl acetate. Based on the %D, data have been qualified as estimated for methyl acetate in samples RFI-55-11 (092603), RFI-55-12 (092603) and TB.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The continuing calibration %D were above the acceptable limit due to a decrease in response by 3&4-methylphenol and an increase in response by bis(2-chloroisopropyl)ether. Data have been qualified as estimated for the 3&4-methylphenol in samples RFI-55-11 (092603) and RFI-55-12 (092603) and bis(2-chloroisopropyl)ether in sample RFI-55-11 (092603) based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	<u>X</u>	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

The LCS/LCSD RPD were above control limits for Aroclors 1248 and 1260. Since all samples were non-detect for these Aroclors, no data have been qualified based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	_____	<u>X</u>	_____
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

Several analytes were detected the blanks. Based on the blank content data have been qualified as non-detect for zinc in sample RFI-55-12 (092603).

The MS/MSD %R were outside the acceptable limit for antimony, beryllium, copper, manganese, silver, zinc, vanadium and nickel. Data have been qualified as estimated for total antimony, copper, beryllium, manganese, nickel, silver and zinc in samples RFI-55-11 (092603) and RFI-55-12 (092603) based on the deviations. Data have been qualified as estimated for dissolved vanadium in sample RFI-55-11d (092603) based on the deviations.

The serial dilution results were above control limits for several analytes. Based on the deviations, data have been qualified as estimated for antimony, arsenic, cadmium, cobalt, copper, lead, nickel, silver, thallium, zinc and beryllium in sample RFI-55-12 (092603).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>October 27, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>October 30, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3034507

SEMIVOLATILE ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Semivolatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The continuing calibration %D were above the acceptable limit due to a decrease in response by 3&4-methylphenol. Data have been qualified as estimated for 3&4-Methylphenol in all samples based on the deviations.

Di-n-butylphthalate was detected in the method blank. Based on the blank content, data have been qualified as non-detect for di-n-butylphthalate in sample RFI-DUP-01 (101403).

The MSD recoveries for atrazine and hexachlorocyclopentadiene were below control limits. Data for the listed compounds have been qualified as estimated in sample RFI-83/84-51 (101403) based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>October 23, 2003</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>October 27, 2003</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3035292

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The continuing calibrations %D were above control limits due to a decrease in response by several compounds. Data have been qualified as estimated for dichlorodifluoromethane, chloromethane, trichlorofluoromethane, carbon disulfide, methylene chloride in the associated samples based on the %D.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The initial calibration %RSD was above control limits for di-n-octylphthalate. Since associated samples were non-detect for this compound, no data has been qualified based on the deviations.

The continuing calibration %D were above the acceptable limit due to a decrease in response by 3&4-methylphenol and benzo(g,h,i)perylene. Data have been qualified as estimated for these compounds in the associated samples based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	<u>X</u>	_____
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

The MS/MSD RPD was above control limits for Aroclor 1248 and Aroclor 1260. Since the associated sample was non-detect for PCBs none of the data have been qualified based on this deviation.

Other than for the deviations mentioned in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

Cadmium was detected the method blank. Based on the blank content, data have been qualified as non-detect for cadmium in samples RFI-94-08 (08-10) and RFI-94-08(21-23).

The RPD between original sample RFI-94-08 (21-23) and duplicate samples DUP-01 (120103) was above control limits for barium. All soil data have been qualified as estimated for the barium metals.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>January 6, 2004</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>January 14, 2004</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3035565

VOLATILE ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>January 8, 2004</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>January 14, 2004</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3035565

VOLATILE ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>CT&amp;E, Inc. Luddington, Michigan</u>
Date of Report:	<u>January 8, 2004</u>
Validation performed by:	<u>(Douglas Fische)</u>
Date of Validation:	<u>January 14, 2004</u>

# **Appendix E**

## **Analytical Data Review and Validation Report Summaries**

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3040442

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The initial calibration RSD was above control limits for acetone and bromomethane. Data for acetone and bromomethane have been qualified as estimated based on the deviation.

The continuing calibration %D were above control limits due to a decrease in response by several compounds. Based on the %D, data have been qualified as estimated for acetone, methyl acetate, methylene chloride, 2-butanone, bromomethane and 4-methyl-2-pentanone.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The continuing calibration %D were above the acceptable limit due to a decrease in response by 3&4-methylphenol, hexachlorocyclopentadiene, 2,4-dinitrophenol, 4-nitrophenol and atrazine. Data have been qualified as estimated for the listed compounds based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	_____	_____
Continuing calibration (%D)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
CRDL standard (%R)	_____	_____	<u>X</u>
Serial dilution (%D)	<u>X</u>	_____	_____
Internal standard (Response)	_____	_____	<u>X</u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The MS/MSD %R were below the acceptable limit for arsenic, mercury and cyanide. Data have been qualified as estimated for the listed analytes based on the deviations.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>SGS, Inc. Luddington, Michigan</u>
Date of Report:	<u>February 27, 2004</u>
Validation performed by:	<u>(Melissa Cash)</u>
Date of Validation:	<u>April 13, 2004</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 3041603

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The continuing calibration %D were above control limits due to a decrease in response by several compounds. Based on the %D, data have been qualified as estimated for bromomethane, methyl acetate and 2-butanone.

The result for methyl cyclohexane exceeded the linear range in sample 12-38 (042104)NL. Data for methyl cyclohexane have been reported from the dilution analysis.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	_____	_____	<u>X</u>
Internal standard (Response, RT)	_____	<u>X</u>	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The continuing calibration %D were above the acceptable limit due to a decrease in response by benzaldehyde. Data have been qualified as estimated for benzaldehyde based on the deviations.

The internal standard responses were below control limits for three internal standards and below 25% for one of the internal standards. Based on the deviations, data have been reported from the dilution analyses.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	_____	_____
Continuing calibration (%D)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	<u>X</u>	_____	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
CRDL standard (%R)	_____	_____	<u>X</u>
Serial dilution (%D)	<u>X</u>	_____	_____
Internal standard (Response)	_____	_____	<u>X</u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

Zinc was detected in the method blank. Based on the blank content, data for zinc have been qualified as non-detect in sample 12-38 (042104)NL.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	SGS, Inc. Luddington, Michigan
Date of Report:	May 12, 2004
Validation performed by:	(Melissa Cash)
Date of Validation:	June 11, 2004

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 18519

SVOC AND MISC ANALYSES



**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	<u>X</u>	_____	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	<u>X</u>	_____	_____
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>October 1, 2004</u>
Validation performed by:	<u>(Todd A Church)</u>
Date of Validation:	<u>February 4, 2005</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 19168

VOLATILE, SEMIVOLATILE  
AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>X</u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The compound di-n-butyl phthalate was detected in the method blank. Associated sample data results have been qualified as non-detect for di-n-butyl phthalate.

The initial calibration was outside control limit for several compounds. Associated sample results have been qualified as estimated based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The compound Di-n-butyl-phthalate was detected in the method blank. Sample locations RFI-23-02R (100404) and RFI-23-01R (100404) have been qualified as non-detect for Di-n-butyl-phthalate.

The initial calibration %RSD were above control limits for 3-, 4-Methylphenol and Pentachlorophenol. Based on the deviations, all associated positive sample data for these compounds have been qualified as estimated in sample locations RFI-23-02R (100404) and RFI-23-01R (100404).

The continuing calibration %D was outside control limits due to a decrease in response by 4-Chloroaniline. Data for compounds with decreasing responses have been qualified as estimated based on the %D in sample locations RFI-23-02R (100404) and RFI-23-01R (100404).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	_____	_____
Continuing calibration (%D)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	<u>X</u>	_____	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
CRDL standard (%R)	_____	_____	<u>X</u>
Serial dilution (%D)	_____	_____	<u>X</u>
Internal standard (Response)	_____	_____	<u>X</u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>October 26, 2004</u>
Validation performed by:	<u>(Todd A Church)</u>
Date of Validation:	<u>December 16, 2004</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 19200

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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Summary

The following is an assessment of data package 19200 for sampling in support of the RCRA Facility Investigation at the GM-NAO Flint Operations Site in Flint, Michigan. Included in this assessment are checklists used in the review of the samples and a summary of non-conformances and their impact on the reported data. Analyses were performed on the following samples:

Sample ID	Laboratory ID	Matrix	Sample Date	Analyses				
				VOC	SVOC	PCB	TAL	MISC
RFI-02-12 (100504) <sup>1</sup>	S19200.01	Water	10/05/04	X				
RFI-09-07 (100504)	S19200.02	Water	10/05/04	X				
DUPE-01 (100504)	S19200.03	Water	10/05/04	X				
RFI-09-44 (100504)	S19200.04	Water	10/05/04	X			X	
RFI-09-14 (100404)	S19200.05	Water	10/04/04	X			X	
RFI-09-49R (100504)	S19200.06	Water	10/05/04	X			X	
BD01-2R (100504)	S19200.07	Water	10/05/04	X				
40-303R (100504)	S19200.08	Water	10/05/04	X			X	
GM-11 (100604) <sup>2</sup>	S19200.09	Water	10/06/04	X	X	X	X	
RFI-09-48R (100604)	S19200.10	Water	10/06/04	X			X	
MW-26 (100504)	S19200.11	Water	10/05/04	X				
MW-25 (100504)	S19200.12	Water	10/05/04	X				
TB-2 (100604)	S19200.13	Water	10/06/04	X				

1 Sample location RFI-02-12 (100504) is the parent sample for field duplicate sample ID# DUPE-01 (100504).  
2 MS performed on sample

**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The compounds methyl cyclohexane and methylene chloride were detected in the method blank. Several associated sample data results have been qualified as non-detect based on deviations.

The initial calibration was outside control limit for several compounds. Associated sample results have been qualified as estimated based on the deviation.

The continuing calibrations %D were outside control limits due to a decreasing response by Methyl acetate and Dichlorodifluoromethane and an increase in response by Isopropylbenzene, o-Xylene and p,m-Xylene. Positive data for compounds with increasing responses and all data for compounds with decreasing responses have been qualified as estimated based on the %D.

The sample data result for Acetone in sample location DUP-01 (100504) was above the calibration range in the initial and re-analysis result. Acetone was qualified as estimated due to concentration outside calibration range in sample location DUP-01 (100504).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The initial calibration %RSD was above control limits for Acenaphthene, Phenanthrene and Pyrene for low level polynuclear aromatics. Based on the deviations, all associated sample data for these compounds have been qualified as estimated in sample location GM-11 (100604).

The continuing calibration %D was above the acceptable limit due to a decrease in response by 4-chloroaniline in sample location GM-11 (100604). Data has been qualified as estimated for 4-chloroaniline in sample location GM-11 (100604) based on the deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Serial dilution (%D)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Internal standard (Response)	<u>      </u>	<u>      </u>	<u>  X  </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Laboratory duplicate (RPD)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>  X  </u>	<u>      </u>	<u>      </u>

### Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>October 26, 2004</u>
Validation performed by:	<u>(Todd A Church)</u>
Date of Validation:	<u>December 16, 2004</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 19226

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

The initial calibration was outside control limit for several compounds. Associated sample results have been qualified as estimated based on the deviation.

The continuing calibrations %D were outside control limits due to a decreasing response by Bromomethane and Dichlorodifluoromethane. All data for compounds with decreasing responses have been qualified as estimated based on the %D.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	_____	_____
Continuing calibration (%D)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
CRDL standard (%R)	_____	_____	<u>X</u>
Serial dilution (%D)	_____	_____	<u>X</u>
Internal standard (Response)	_____	_____	<u>X</u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	<u>X</u>	_____	_____
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>October 26, 2004</u>
Validation performed by:	<u>(Todd A Church)</u>
Date of Validation:	<u>December 17, 2004</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 19227

VOLATILE, SEMIVOLATILE,  
PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The compound methylene chloride was detected in the method blanks. Several samples have been qualified as non-detect for methylene chloride.

The initial calibration was outside control limit for several compounds. Associated sample results have been qualified as estimated based on the deviation.

The continuing calibrations %D were outside control limits due to a decrease in response by methyl acetate and 2-hexanone and an increase in response by Tetrachloroethene. Positive data for compounds with increasing responses and all associated data for compounds with decreasing responses have been qualified as estimated based on the %D.

The MS/MSD recoveries were below control limits for methyl acetate and Trichlorofluoromethane for sample location GM-1(100604). Data sample results for sample location GM-1(100604) have been qualified as estimated based on the MS/MSD recoveries.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The initial calibrations %RSD were above control limits for acenaphthene, phenanthrene and pyrene in sample location GM-1(100604) for TCL low-level polynuclear aromatics. Based on the deviations, all associated sample data for these compounds have been qualified as estimated in sample location GM-1(100604).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	_____	_____	<u>X</u>
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>October 26, 2004</u>
Validation performed by:	<u>(Todd A Church)</u>
Date of Validation:	<u>December 17, 2004</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 19250

VOLATILE, SEMIVOLATILE  
AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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## Sample Analysis: Volatiles

### Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>X</u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>      </u>	<u>X</u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>X</u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

### Notes

The initial calibration was outside control limit for cyclohexane. Associated sample results have been qualified as estimated based on the deviation.

The continuing calibrations %D were outside control limits due to a decrease in response by 1,2-dibromo-3-chloropropane, acetone, methyl acetate, bromomethane, chloroethane and dichlorodifluoromethane. Associated data results for compounds with decreasing responses have been qualified as estimated based on the %D.

The MS/MSD %RPD was above control limits for bromomethane and chloroethane in sample location 55-3 (100804). Associated sample result for sample location 55-3 (100804) has been qualified as estimated based on %RPD.

The MS/MSD recovery was below control limits for methyl acetate for sample location 55-3 (100804). Data sample result for sample location 55-3 (100804) have been qualified as estimated based on the MS/MSD recoveries.

The internal standards for sample location RFI-21-04 (100704) was below control limits for 1,4-Dichlorobenzene. All associated data results have been qualified as estimated based on internal standard deviation for sample location RFI-21-04 (100704).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

The initial calibration %RSD was above control limits for bis(2-chloroisoprpyl)ether. Based on the deviations, all associated sample data for bis(2-chloroisoprpyl)ether has been qualified as estimated in sample locations RFI-55-11 (100804) and 55-4 (100804).

The continuing calibrations %D were outside control limits due to a decrease in response by 4-chloroaniline. Associated data results for 4-chloroaniline have been qualified as estimated based on the %D in sample locations RFI-55-11 (100804) and 55-4 (100804).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	_____	_____	<u>X</u>
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>October 26, 2004</u>
Validation performed by:	<u>(Todd A Church)</u>
Date of Validation:	<u>December 17, 2004</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 19298

VOLATILE AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	<u>X</u>	_____	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	<u>X</u>	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The initial calibration was outside control limit for several compounds. Associated sample results have been qualified as estimated based on the deviation.

The continuing calibrations %D were outside control limits due to an increase in response by acetone and isopropylbenzene. Positive data for compounds with increasing responses have been qualified as estimated based on the %D.

The MS/MSD %RPD was above control limits for methyl acetate in sample location RFI-36-02 (101304). Methyl acetate has been qualified as estimated in sample location RFI-36-02 (101304).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	_____	_____	<u>X</u>
	Internal standard (Response)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>October 26, 2004</u>
Validation performed by:	<u>(Todd A Church)</u>
Date of Validation:	<u>December 20, 2004</u>

# **Appendix E**

## **Analytical Data Review and Validation Report Summaries**

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 21141

VOLATILES ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

Bromomethane exhibited an initial calibration relative response factor (RRF) less than required control limit. All non-detect data results for bromomethane were qualified as rejected (R).

The continuing calibrations %D was outside control limits due to a decrease in response by 2-hexanone. All sample data results for compounds with decreasing responses were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>March 10, 2005</u>
Validation performed by:	<u>(Todd A Church)</u>
Date of Validation:	<u>April 8, 2005</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 21140

VOLATILES AND METALS ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	_____	<u>X</u>	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The initial calibrations %RSD were outside control limits for chloromethane and cyclohexane. All associated sample data results were qualified as estimated.

Bromomethane exhibited an initial calibration relative response factor (RRF) less than required control limit. All non-detect data results for bromomethane were qualified as rejected (R).

The continuing calibrations %D was outside control limits due to an increase in response by acetone. All associated detected sample data results for compounds with increasing responses were qualified as estimated.

The laboratory control spike % recovery was above control limits for vinyl chloride. All associated detected sample data results were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u> X </u>	<u>     </u>	<u>     </u>
2.	Proper methods for analysis used	<u> X </u>	<u>     </u>	<u>     </u>
3.	All documentation supplied	<u> X </u>	<u>     </u>	<u>     </u>
4.	Samples analyzed within specified holding times	<u> X </u>	<u>     </u>	<u>     </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u> X </u>	<u>     </u>	<u>     </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u> X </u>	<u>     </u>	<u>     </u>
	Continuing calibration (%D)	<u> X </u>	<u>     </u>	<u>     </u>
	Matrix spike (%Recovery)	<u>     </u>	<u>     </u>	<u> X </u>
	Blank spike (%Recovery)	<u>     </u>	<u>     </u>	<u> X </u>
	Control sample (%Recovery)	<u> X </u>	<u>     </u>	<u>     </u>
	CRDL standard (%R)	<u>     </u>	<u>     </u>	<u> X </u>
	Serial dilution (%D)	<u>     </u>	<u>     </u>	<u> X </u>
	Internal standard (Response)	<u> X </u>	<u>     </u>	<u>     </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>     </u>	<u>     </u>	<u> X </u>
	Laboratory duplicate (RPD)	<u>     </u>	<u>     </u>	<u> X </u>
	Field duplicate (RPD)	<u>     </u>	<u>     </u>	<u> X </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u> X </u>	<u>     </u>	<u>     </u>

Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>March 10, 2005</u>
Validation performed by:	<u>(Todd A Church)</u>
Date of Validation:	<u>April 8, 2005</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# 21163

VOLATILES AND METALS ANALYSES

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**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*



**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

Several compounds were detected in the associated blanks. Based on the blank content, data have been qualified as non-detect for chloroform in sample location RFI-36-17 (022805).

Bromomethane exhibited an initial calibration relative response factor (RRF) less than required control limit. All non-detect data results for bromomethane were qualified as rejected (R).

The continuing calibrations %D was outside control limits due to a decrease in response by 2-hexanone. All associated sample data results for compounds with decreasing responses were qualified as estimated.

The MS/MSD exhibited % recoveries below control limits for methyl acetate and trans-1,3-dichloropropene and above control limits for 1,1-dichloroethane, 1,1-dichloroethene and vinyl chloride,. All associated detected sample data results which exhibited recoveries above control limits and all associated data results which exhibited recoveries below control limits in sample location RFI-36-17 (022805) were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
Serial dilution (%D)	<u>      </u>	<u>      </u>	<u>X</u>
Internal standard (Response)	<u>X</u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
Laboratory duplicate (RPD)	<u>X</u>	<u>      </u>	<u>      </u>
Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>March 10, 2005</u>
Validation performed by:	<u>(Todd A Church)</u>
Date of Validation:	<u>April 8, 2005</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# S21243

VOLATILE, SEMIVOLATILE,PCB AND METAL ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Surrogate (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Internal standard (Response, RT)	<u>  X  </u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>  X  </u>	<u>      </u>

### Notes

Acetone, benzene and toluene were detected in the associated blanks. Associated sample results less than the blank action level were qualified as non-detect for these compounds.

Bromoform and cyclohexane exhibited an initial calibration percent relative standard deviation (%RSD) outside control limits. All associated data sample results were qualified as estimated. Toluene and m,p-xylene exhibited %RSD above control limits but less than 30%, therefore, all associated detect data sample results were qualified as estimated for toluene and m,p-xylene.

Bromomethane exhibited an initial calibration relative response factor (RRF) less than required control limit. All associated non-detect data results were qualified as rejected (R).

The continuing calibrations %D were above control limits due to a decrease in response by several compounds. Data have been qualified as estimated for dichlorodifluoromethane, 2-hexanone, acetone, trans-1,3-dichloropropene, dibromochloromethane, bromoform and 1,2,4-trichlorobenzene in the associated samples based on the %D.

1,2-Dibromo-3-chloropropane exhibited a continuing calibration relative response factor (RRF) less than required control limit. All non-detect data results for 1,2-dibromo-3-chloropropane were qualified as rejected (R).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

The compound di-n-butyl phthalate was detected in the associated blanks. Sample results less than the blank action level were qualified as non-detect for di-n-butyl phthalate.

The initial calibrations %RSD were above control limits for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol. All associated sample data results for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol and associated detect data sample results for anthracene, acenaphthene, carbazole, dibenzofuran and Phenanthrene were qualified as estimated.

The MS/MSD exhibited % recoveries less than control limits for several compounds. All associated sample results (with the exception of pentachlorophenol which had a % recovery below 10%) with the deviant MS/MSD were qualified as estimated. The associated non-detect sample data result for pentachlorophenol in sample location RFI-09-53 (0-2) was qualified as rejected (R).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	<u>X</u>	_____	_____
	Internal standard (Response)	_____	_____	<u>X</u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>March 25, 2005</u>
Validation performed by:	<u>(Joseph C. Houser)</u>
Date of Validation:	<u>April 28, 2005</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# S21260

VOLATILE, SEMIVOLATILE, PCB AND METAL ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>      </u>	<u>X</u>	<u>      </u>
	Surrogate (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>X</u>	<u>      </u>

Notes

Acetone and toluene were detected in the associated blanks. Associated sample results less than the blank action level were qualified as non-detect for these compounds.

Bromoform and cyclohexane exhibited an initial calibration percent relative standard deviation (%RSD) outside control limits. All associated data sample results were qualified as estimated. Toluene exhibited %RSD above control limits but less than 30%, therefore, all associated detect data sample results were qualified as estimated for toluene.

Bromomethane exhibited an initial calibration relative response factor (RRF) less than required control limit. All associated non-detect data results were qualified as rejected (R).

The continuing calibrations %D were above control limits due to a decrease in response by several compounds. Data have been qualified as estimated for dichlorodifluoromethane, 2-hexanone, acetone, trans-1,3-dichloropropene, dibromochloromethane, bromoform and 1,2,4-trichlorobenzene in the associated samples based on the %D.

1,2-Dibromo-3-chloropropane exhibited a continuing calibration relative response factor (RRF) less than required control limit. All non-detect data results for 1,2-dibromo-3-chloropropane were qualified as rejected (R).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>  X  </u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>  X  </u>	<u>      </u>

### Notes

The compound di-n-butyl phthalate was detected in the associated blanks. Sample results less than the blank action level were qualified as non-detect for di-n-butyl phthalate.

The initial calibrations %RSD were above control limits for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol. All associated sample data results for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol and associated detect data sample results for anthracene, acenaphthene, dibenzofuran, carbazole and phenanthrene were qualified as estimated in samples RFI-84-07 (0-2) and RFI-84-07 (15-17). All associated sample data results for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol and associated detect data sample results for anthracene, 1,1-biphenyl, fluorene and phenanthrene were qualified as estimated in sample RFI-84-07 (8-10).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>  X  </u>	<u>      </u>	<u>      </u>

### Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	_____	_____
Continuing calibration (%D)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
CRDL standard (%R)	_____	_____	<u>X</u>
Serial dilution (%D)	_____	_____	<u>X</u>
Internal standard (Response)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	<u>X</u>	_____	_____
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The MS/MSD exhibited % recoveries less than control limits for soil hexavalent chromium. All associated sample results were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>March 25, 2005</u>
Validation performed by:	<u>(Joseph C Houser)</u>
Date of Validation:	<u>April 29, 2005</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# S21299

VOLATILE, SEMIVOLATILE, PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	_____	<u>X</u>	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

Bromoform and cyclohexane exhibited an initial calibration percent relative standard deviation (%RSD) outside control limits. All associated data sample results were qualified as estimated. Benzene, toluene and p,m-xylene exhibited %RSD above control limits but less than 30%, therefore, all associated detect data sample results were qualified as estimated for toluene.

Bromomethane exhibited an initial calibration relative response factor (RRF) less than required control limit. All associated non-detect data results were qualified as rejected (R).

The continuing calibrations %D were above control limits due to a decrease in response by several compounds. Data have been qualified as estimated for dichlorodifluoromethane, 2-hexanone, acetone, trans-1,3-dichloropropene, dibromochloromethane, bromoform and 1,2,4-trichlorobenzene in the associated samples based on the %D.

1,2-Dibromo-3-chloropropane exhibited a continuing calibration relative response factor (RRF) less than required control limit. All non-detect data results for 1,2-dibromo-3-chloropropane were qualified

as rejected (R).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>      </u>	<u>  X  </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>  X  </u>	<u>      </u>

### Notes

The compound di-n-butyl phthalate was detected in the associated blanks. Sample results less than the blank action level were qualified as non-detect for di-n-butyl phthalate.

The initial calibrations %RSD were above control limits for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol. All associated sample data results for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol and associated detect data sample results for anthracene, 1,1-biphenyl, dibenzofuran, carbazole and phenanthrene were qualified as estimated. All associated sample data results for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol and associated detect data sample results for anthracene, 1,1-biphenyl, fluorene and phenanthrene were qualified as estimated in sample RFI-02-14 (8-10).

The recovery for one of the acid surrogates (2,4,6-Tribromophenol) was less than control limits and less than 10% for associated sample RFI-02-14 (8-10). The non-detect sample data results for RFI-02-14 (8-10) were qualified as rejected (R) for compounds associated with the deviant surrogate.

The response for the internal standard Perylene-d12 were less than control limits for associated sample RFI-02-14 (8-10). The results for sample RFI-02-14 (8-10) have been qualified as estimated for compounds associated with the deviant internal standard.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	<u>X</u>	_____	_____
Surrogate (%Recovery)	_____	<u>X</u>	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	<u>X</u>	_____	_____
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The surrogate recoveries were less than control limits for decachlorobiphenyl for samples RFI-81-51 (0-2) and RFI-94-11 (1.5-3.5). Since the surrogate recoveries for tetrachloro-m-xylene met criteria for these samples none of the data have been qualified based on this deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	_____	_____
Continuing calibration (%D)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
CRDL standard (%R)	_____	_____	<u>X</u>
Serial dilution (%D)	_____	<u>X</u>	_____
Internal standard (Response)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The serial dilutions exhibited %D above control limits for arsenic, barium and zinc. All associated sample data results were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>March 25, 2005</u>
Validation performed by:	<u>(Joseph C Houser)</u>
Date of Validation:	<u>April 29, 2005</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

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TIER II  
DATA VALIDATION REPORT

SDG# S21335

VOLATILE, SEMIVOLATILE, PCB AND INORGANIC ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	_____	<u>X</u>	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

Acetone, methylene chloride and toluene were detected in the associated blanks. Associated sample results less than the blank action level were qualified as non-detect for these compounds.

Bromoform, 1,2-dibromo-3-chloropropane and cyclohexane exhibited an initial calibration percent relative standard deviation (%RSD) outside control limits. All associated soil data sample results were qualified as estimated. The compound p,m-xylene exhibited an %RSD above control limits but less than 30%, therefore, all associated detect data sample results were qualified as estimated for p,m-xylene.

Bromoform and cyclohexane exhibited an initial calibration percent relative standard deviation (%RSD) outside control limits. All associated data sample results for RB2 (030905) were qualified as estimated for these compounds. Toluene exhibited %RSD above control limits but less than 30%, therefore; the associated detect data sample result for sample RB2 (030905) was qualified as estimated for toluene.

Bromomethane exhibited an initial calibration relative response factor (RRF) less than required control limit. All associated non-detect data results for bromomethane were qualified as rejected (R).

The continuing calibrations %D were above control limits due to a decrease in response by acetone and 2-hexanone. All associated soil data have been qualified as estimated for acetone and 2-hexanone based on the %D.

The continuing calibrations %D were above control limits due to a decrease in response by several compounds. Associated data have been qualified as estimated for dichlorodifluoromethane, 2-hexanone, acetone, trans-1,3-dichloropropene, dibromochloromethane, bromoform and 1,2,4-trichlorobenzene in sample RB2 (030905) based on the %D.

1,2-Dibromo-3-chloropropane exhibited a continuing calibration relative response factor (RRF) less than required control limit. The associated non-detect data result for 1,2-dibromo-3-chloropropane in sample RB2 (030905) was qualified as rejected (R).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	<u>X</u>	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	_____	<u>X</u>	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	<u>X</u>	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

The compounds di-n-butyl phthalate and 1,1-biphenyl were detected in the associated blanks. Sample results less than the blank action level were qualified as non-detect for di-n-butyl phthalate and 1,1-biphenyl.

The initial calibrations %RSD were above control limits for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol. All associated sample data results for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol and associated detect data sample results for anthracene, 1,1-biphenyl, benzo(a)anthracene, flourene and phenanthrene were qualified as estimated.

The laboratory control sample exhibited percent recoveries less than control limits for 4-chloroaniline. All associated sample results were qualified as estimated for 4-chloroaniline.

The MS/MSD performed on sample location RFI-36-52 (12-14) exhibited percent recoveries less than control limits for several compounds. The MS/MSD concentrations were diluted below the linear

analytical range therefore; no data were qualified due to this deviation.

The MS/MSD performed on sample location Duplicate2 (030905) exhibited percent recoveries less than control limits for several compounds. All associated sample results with the deviant MS/MSD were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	_____	<u>X</u>	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	<u>X</u>	_____	_____
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The surrogate recovery was less than control limits for decachlorobiphenyl for sample RFI-10-32 (0-2). Since the surrogate recovery for tetrachloro-m-xylene met criteria for this sample none of the data have been qualified based on this deviation.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2. Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3. All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4. Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5. The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>  X  </u>	<u>      </u>	<u>      </u>
Continuing calibration (%D)	<u>  X  </u>	<u>      </u>	<u>      </u>
Matrix spike (%Recovery)	<u>      </u>	<u>  X  </u>	<u>      </u>
Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>  X  </u>
Serial dilution (%D)	<u>      </u>	<u>  X  </u>	<u>      </u>
Internal standard (Response)	<u>  X  </u>	<u>      </u>	<u>      </u>
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>  X  </u>	<u>      </u>	<u>      </u>
Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
Field duplicate (RPD)	<u>      </u>	<u>  X  </u>	<u>      </u>
8. Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>  X  </u>	<u>      </u>

### Notes

Cadmium was detected in the associated blanks. Associated sample results less than the blank action level were qualified as non-detect for cadmium.

The serial dilutions exhibited %D above control limits for arsenic, barium and zinc. All associated sample data results were qualified as estimated.

The RPDs between original sample RFI-81-50 (4-6) and duplicate sample Duplicate 2 (030905) were above control limits for cobalt and manganese. All soil data have been qualified as estimated for the cobalt and manganese metals.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>March 25, 2005</u>
Validation performed by:	<u>(Joseph C Houser)</u>
Date of Validation:	<u>May 2, 2005</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# S21493

VOLATILE, SEMIVOLATILE, PCB AND METAL ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The initial calibrations %RSD were outside control limits for acetone and cyclohexane. All associated data sample results were qualified as estimated.

Bromomethane exhibited an initial calibration relative response factor (RRF) less than required control limit. All non-detect data results for bromomethane were qualified as rejected (R).

The continuing calibrations %D were outside control limits due to a decrease in response by 2-butanone, 2-hexanone, acetone, bromoform and dichlorodifluoromethane. All associated sample data results for compounds with decreasing responses were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

The initial calibrations %RSD were above control limits for 2,4-dinitrophenol and 4,6-dinitro-2-methyl. All associated sample data results for 2,4-dinitrophenol and 4,6-dinitro-2-methyl were qualified as estimated.

The continuing calibrations %D were outside control limits due to a decrease in response by hexachlorocyclopentadiene, 2,4-dinitrophenol and 4,6-dinitro-2-methyl. All associated sample data results for compounds with decreasing responses were qualified as estimated

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>  X  </u>	<u>      </u>	<u>      </u>

### Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>X</u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>X</u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>X</u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	<u>      </u>	<u>      </u>
	Continuing calibration (%D)	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Blank spike (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	Control sample (%Recovery)	<u>X</u>	<u>      </u>	<u>      </u>
	CRDL standard (%R)	<u>      </u>	<u>      </u>	<u>X</u>
	Serial dilution (%D)	<u>      </u>	<u>      </u>	<u>X</u>
	Internal standard (Response)	<u>X</u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
	Field duplicate (RPD)	<u>      </u>	<u>      </u>	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	<u>      </u>	<u>      </u>

### Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>April 15, 2005</u>
Validation performed by:	<u>(Todd A Church)</u>
Date of Validation:	<u>April 26, 2005</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# S21511

VOLATILE, SEMIVOLATILE AND METAL ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

The compound toluene was detected in the associated blanks. Sample results less than the blank action level were qualified as non-detect for toluene in sample location RFI-2-19 (1.7-4).

The initial calibrations %RSD were outside control limits for acetone and cyclohexane. All sample data results for acetone and cyclohexane and associated data result for methyl cyclohexane in sample location RFI-2-19 (1.7-4) were qualified as estimated.

Bromomethane exhibited an initial calibration relative response factor (RRF) less than required control limit. All non-detect data results for bromomethane were qualified as rejected (R).

The continuing calibrations %D were outside control limits due to a decrease in response by acetone, 2-butanone, 4-methyl-2-pentanone, 2-hexanone, trans-1,3-dichloropropene, dibromochloromethane, bromoform, 1,1,2,2-tetrachloroethane, 1,3-dichlorobenzene, 1,2-dibromo-3-chloropropane and 1,2,4-trichlorobenzene. All associated sample data results for compounds with decreasing responses were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	_____	<u>X</u>	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

The compounds 2-methylnaphthalene and di-n-butyl phthalate were detected in the associated blanks. Sample results less than the blank action level were qualified as non-detect for 2-methylnaphthalene and di-n-butyl phthalate.

The initial calibrations %RSD were above control limits for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol. All associated sample data results for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol and associated detect data sample results for anthracene, benzo(a)anthracene, fluorene and Phenanthrene were qualified as estimated.

The laboratory control sample exhibited % recovery below the control limit for 4-chloroaniline. Associated sample data results were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	_____	_____
Continuing calibration (%D)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
CRDL standard (%R)	_____	_____	<u>X</u>
Serial dilution (%D)	_____	_____	<u>X</u>
Internal standard (Response)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	<u>X</u>	_____	_____
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>April 15, 2005</u>
Validation performed by:	<u>(Todd A Church)</u>
Date of Validation:	<u>April 26, 2005</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# S21520

VOLATILE, SEMIVOLATILE, PCB AND METAL ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	_____	<u>X</u>
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The compound toluene was detected in the associated blanks. Sample results less than the blank action level were qualified as non-detect for toluene.

The initial calibrations %RSD were outside control limits for acetone and cyclohexane. All sample data results for acetone and cyclohexane and associated detect data results for benzene, ethylbenzene, methyl cyclohexane, p,m-xylene and o-xylene were qualified as estimated.

Bromomethane exhibited an initial calibration relative response factor (RRF) less than required control limit. All non-detect data results for bromomethane were qualified as rejected (R).

The continuing calibrations %D were outside control limits due to a decrease in response by acetone, 2-butanone, 4-methyl-2-pentanone, 2-hexanone, trans-1,3-dichloropropene, dibromochloromethane, dichlorodifluoromethane, bromoform, 1,1,2,2-tetrachloroethane, 1,3-dichlorobenzene, 1,2-dibromo-3-chloropropane and 1,2,4-trichlorobenzene. All associated sample data results for compounds with decreasing responses were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	_____	<u>X</u>	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	<u>X</u>	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

The compounds bis(2-ethylhexyl) phthalate and di-n-butyl phthalate were detected in the associated blanks. Sample results less than the blank action level were qualified as non-detect for bis(2-ethylhexyl) phthalate and di-n-butyl phthalate.

The initial calibrations %RSD were above control limits for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol. All associated sample data results for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol and associated detect data sample results for anthracene, benzo(a)anthracene, fluorene and Phenanthrene were qualified as estimated.

The internal standard perylene-D12 was below control limit for sample location RFI-2-23 (8-10), RFI-2-24 (1.3-3.3) and RFI-2-24 (8-10). All associated data results have been qualified as estimated based on internal standard deviation for sample location RFI-2-23 (8-10), RFI-2-24 (1.3-3.3) and RFI-2-24 (8-10).

The MS/MSD %RPD exhibited %RPD above control limit for 4-chloroaniline. Associated sample data result for 4-chloroaniline was qualified as estimated in sample location RFI-2-22 (11-13).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: PCBs

### Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
Continuing calibration (%D, RF)	<u>X</u>	_____	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	<u>X</u>	_____	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	_____	_____	<u>X</u>
	Internal standard (Response)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	<u>X</u>	_____	_____
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by: Merit Laboratories, Inc. East Lansing, MI  
Date of Report: April 15, 2005  
Validation performed by: (Todd A Church)  
Date of Validation: April 26, 2005

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# S21636

VOLATILE, SEMIVOLATILE AND METAL ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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**Sample Analysis: Volatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	<u>X</u>	_____	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The compound methylene chloride was detected in the associated blanks. Sample results less than the blank action level were qualified as non-detect for methylene chloride in all sample locations.

The initial calibrations %RSD were outside control limits for 1,2-dibromo-3-chloropropane, bromoform and cyclohexane. All associated data sample results were qualified as estimated. Chloroethane and toluene exhibited %RSD above control limits. All associated detect sample data results were qualified as estimated.

Bromomethane exhibited an initial calibration relative response factor (RRF) less than required control limit. All non-detect data results for bromomethane were qualified as rejected (R).

The continuing calibrations %D were outside control limits due to a decrease in response by carbon disulfide, dichlorodifluoromethane methyl cyclohexane and tert-methyl butyl ether (MTBE). All associated sample data results for compounds with decreasing responses were qualified as estimated.

The MS/MSD exhibited % recoveries above control limit for isopropylbenzene and below control limit for trans-1,3-dichloropropene. Associated detect data sample result for isopropylbenzene and associated non-detect sample data result for trans-1,3-dichloropropene were qualified as estimated in sample location RFI-36-53(040405).

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Semivolatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>  X  </u>	<u>      </u>	<u>      </u>
2.	Proper methods for analysis used	<u>  X  </u>	<u>      </u>	<u>      </u>
3.	All documentation supplied	<u>  X  </u>	<u>      </u>	<u>      </u>
4.	Samples analyzed within specified holding times	<u>  X  </u>	<u>      </u>	<u>      </u>
5.	The minimum number of field and laboratory QC samples analyzed	<u>  X  </u>	<u>      </u>	<u>      </u>
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>      </u>	<u>  X  </u>	<u>      </u>
	Continuing calibration (%D, RF)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Surrogate (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Matrix spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Blank spike (%Recovery)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Control sample (%Recovery)	<u>  X  </u>	<u>      </u>	<u>      </u>
	Internal standard (Response, RT)	<u>  X  </u>	<u>      </u>	<u>      </u>
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Laboratory duplicate (RPD)	<u>      </u>	<u>      </u>	<u>  X  </u>
	Field duplicate (RPD)	<u>  X  </u>	<u>      </u>	<u>      </u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>      </u>	<u>  X  </u>	<u>      </u>

### Notes

The compounds bis(2-ethylhexyl) phthalate and di-n-butyl phthalate was detected in the associated blanks. Sample results less than the blank action level were qualified as non-detect for bis(2-ethylhexyl) phthalate and di-n-butyl phthalate.

The initial calibrations %RSD were above control limits for 2,4-dinitrophenol and 4,6-dinitro-2-methyl. All associated sample data results for 2,4-dinitrophenol and 4,6-dinitro-2-methyl were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

## Sample Analysis: Metals

### Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%R, R2)	<u>X</u>	_____	_____
Continuing calibration (%D)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	<u>X</u>	_____	_____
Blank spike (%Recovery)	<u>X</u>	_____	_____
Control sample (%Recovery)	<u>X</u>	_____	_____
CRDL standard (%R)	_____	_____	<u>X</u>
Serial dilution (%D)	_____	_____	<u>X</u>
Internal standard (Response)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	_____	<u>X</u>
Laboratory duplicate (RPD)	<u>X</u>	_____	_____
Field duplicate (RPD)	<u>X</u>	_____	_____
8. Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by:	<u>Merit Laboratories, Inc. East Lansing, MI</u>
Date of Report:	<u>April 15, 2005</u>
Validation performed by:	<u>(Todd A Church)</u>
Date of Validation:	<u>April 25, 2005</u>

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# S21663

VOLATILE AND SEMIVOLATILE ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

### Notes

The initial calibrations %RSD were outside control limits for 1,2-dibromo-3-chloropropene, bromoform, cyclohexane, p,m-xylene and toluene. All associated data results for 1,2-dibromo-3-chloropropene, bromoform and cyclohexane and all associated detect sample data results for p,m-xylene and toluene were qualified as estimated.

Bromomethane exhibited an initial calibration relative response factor (RRF) less than required control limit. All non-detect data results for bromomethane were qualified as rejected (R).

The continuing calibrations %D were outside control limits due to a decrease in response by acetone and tert-methyl butyl ether (MTBE). All associated sample data results for compounds with decreasing responses were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	<u>X</u>	_____	_____
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	<u>X</u>	_____	_____
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The compounds bis(2-ethylhexyl) phthalate and di-n-butyl phthalate was detected in the associated blanks. Sample results less than the blank action level were qualified as non-detect for bis(2-ethylhexyl) phthalate and di-n-butyl phthalate.

The initial calibrations %RSD were above control limits for 2,4-dinitrophenol, 4-nitrophenol, 4,6-dinitro-2-methylphenol, caprolactam and hexachlorocyclopentadiene. All associated sample data results for 2,4-dinitrophenol, 4-nitrophenol, 4,6-dinitro-2-methylphenol, caprolactam and hexachlorocyclopentadiene were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by: Merit Laboratories, Inc. East Lansing, MI  
Date of Report: April 15, 2005  
Validation performed by: \_\_\_\_\_ (Todd A Church)  
Date of Validation: April 25, 2005

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GENERAL MOTORS CORPORATION  
NORTH AMERICAN OPERATIONS  
FLINT OPERATIONS SITE

FLINT, MICHIGAN

TIER II  
DATA VALIDATION REPORT

SDG# S22025

VOLATILE AND SEMIVOLATILE ANALYSES

**BBL**  
BLASLAND, BOUCK & LEE, INC.  
*engineers & scientists*

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## Sample Analysis: Volatiles

### Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
	Continuing calibration (%D, RF)	_____	<u>X</u>	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	Internal standard (Response, RT)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

### Notes

The compound methylene chloride was detected in the associated blanks. Sample results less than the blank action level were qualified as non-detect for methylene chloride in all sample locations.

The initial calibrations %RSD were outside control limits for cyclohexane. All associated data results for cyclohexane were qualified as estimated.

The continuing calibrations %D were outside control limits due to a decrease in response by 1,2,4-trichlorobenzene, 1,2-dibromo-3-chloropropene and bromoform. All associated sample data results for compounds with decreasing responses were qualified as estimated.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Semivolatiles**

Quality Control Checks

	YES	NO	NA
1. Field Chain-of-Custody complete	<u>X</u>	_____	_____
2. Proper methods for analysis used	<u>X</u>	_____	_____
3. All documentation supplied	<u>X</u>	_____	_____
4. Samples analyzed within specified holding times	<u>X</u>	_____	_____
5. The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6. Accuracy maintained within established ranges for the following:			
Initial calibration (%RSD, R2, RF)	_____	<u>X</u>	_____
Continuing calibration (%D, RF)	_____	<u>X</u>	_____
Surrogate (%Recovery)	<u>X</u>	_____	_____
Matrix spike (%Recovery)	_____	<u>X</u>	_____
Blank spike (%Recovery)	_____	_____	<u>X</u>
Control sample (%Recovery)	<u>X</u>	_____	_____
Internal standard (Response, RT)	<u>X</u>	_____	_____
7. Precision maintained within established ranges for the following:			
Matrix spike (RPD)	_____	<u>X</u>	_____
Laboratory duplicate (RPD)	_____	_____	<u>X</u>
Field duplicate (RPD)	_____	_____	<u>X</u>
8. Target analyte concentrations below detection limit in all blank samples	_____	<u>X</u>	_____

Notes

The compound di-n-butyl phthalate was detected in the associated blanks. Sample results less than the blank action level were qualified as non-detect for di-n-butyl phthalate.

The initial calibrations %RSD were above control limits for 2,4-dinitrophenol, 4-chloroaniline, benzo(ghi)perylene, dibenzo(ah)anthracene, hexachlorocyclopentadiene and indeno(1,2,3-cd)pyrene. All associated sample data results were qualified as estimated.

The continuing calibrations %D were outside control limits due to a decrease in response by 4-chloroaniline. All associated sample results for compounds with decreasing responses were qualified as estimated.

The MS/MSD RPD was above control limits for 2,4-dinitrophenol. The associated sample result was qualified as estimated in sample location Outfall 005 (042805).

The MS/MSD recoveries were below control limits in sample location Outfall 005 (042805) for 2,4-dinitrophenol, hexachloroethane and hexachlorocyclopentadiene all associated sample results were qualified as estimated with the exception of hexachlorocyclopentadiene, which exhibited a MS/MSD recovery of less than 10%; therefore, the associated non-detect sample result was qualified as rejected.

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: PCBs**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%RSD, R2, RF)	<u>X</u>	_____	_____
	Continuing calibration (%D, RF)	<u>X</u>	_____	_____
	Surrogate (%Recovery)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

All data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

**Sample Analysis: Metals**

Quality Control Checks

		YES	NO	NA
1.	Field Chain-of-Custody complete	<u>X</u>	_____	_____
2.	Proper methods for analysis used	<u>X</u>	_____	_____
3.	All documentation supplied	<u>X</u>	_____	_____
4.	Samples analyzed within specified holding times	<u>X</u>	_____	_____
5.	The minimum number of field and laboratory QC samples analyzed	<u>X</u>	_____	_____
6.	Accuracy maintained within established ranges for the following:			
	Initial calibration (%R, R2)	<u>X</u>	_____	_____
	Continuing calibration (%D)	<u>X</u>	_____	_____
	Matrix spike (%Recovery)	_____	_____	<u>X</u>
	Blank spike (%Recovery)	_____	_____	<u>X</u>
	Control sample (%Recovery)	<u>X</u>	_____	_____
	CRDL standard (%R)	_____	_____	<u>X</u>
	Serial dilution (%D)	_____	_____	<u>X</u>
	Internal standard (Response)	<u>X</u>	_____	_____
7.	Precision maintained within established ranges for the following:			
	Matrix spike (RPD)	_____	_____	<u>X</u>
	Laboratory duplicate (RPD)	_____	_____	<u>X</u>
	Field duplicate (RPD)	_____	_____	<u>X</u>
8.	Target analyte concentrations below detection limit in all blank samples	<u>X</u>	_____	_____

Notes

Other than for the deviations noted in this review, all data quality parameters were within method-specified limits and the data is acceptable for use as reported by the laboratory.

Analyses performed by: Merit Laboratories, Inc. East Lansing, MI  
Date of Report: May 23, 2005  
Validation performed by: (Todd A Church)  
Date of Validation: June 2, 2005



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## MEMORANDUM

TO: Lisa Coffey

FROM: Paul McMahon/cs/2 *pm*

C.C.: JoAnn Robertson

RE: **Data Quality Assessment and Validation  
Site Investigation  
General Motors - NAO Flint Operations  
Flint, Michigan**

REF. NO.: 17307-195004

DATE: July 7, 2005

E-Mail and U.S. Mail

The following details a quality assessment and validation of the analytical data resulting from the collection of 21 water, two trip blank, two equipment blank, and two field duplicate samples from the General Motors Site (Site) in Flint, Michigan in June 2005. The sample summary detailing sample identification, sample location, quality control (QC) samples, and analytical parameters is presented in Table 1. Sample analysis was completed at Merit Laboratories, Inc. in East Lansing, Michigan, in accordance with the methodology presented in Table 2. The QC criteria used to assess the data were established by the method and following documents:

- i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", USEPA 540/R-99/008, October 1999; and
- ii) "Innovative Approaches to Data Validation", USEPA Region III, June 1995.

Full Contract Laboratory Program (CLP)-equivalent raw data deliverables were provided by the laboratory. The data quality assessment and validation presented in the following subsections were performed based on the sample results and supporting quality assurance/quality control (QA/QC) provided.

### Holding Time Period and Sample Analysis

The holding time period is presented in the analytical method. All samples were prepared and analyzed within the method-required holding time. All samples were properly cooled after collection and upon receipt at the laboratory.

### Gas Chromatography/Mass Spectrometer (GC/MS) Mass Calibration

Prior to analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the volatile organic compound (VOC) method requires the analysis of the specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 12 hours throughout sample analysis to ensure the continued optimization of the instrument.

Instrument tuning data were reviewed. Tuning compounds were analyzed at the required frequency throughout the VOC analysis periods. All tuning criteria were met for the analyses, indicating proper optimization of the instrumentation.

#### Initial Calibration - Organic Analyses, GC/MS

To quantify compounds of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a minimum of a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range.

Calibration data were reviewed for all samples. Linearity of the calibration curve and instrument sensitivity were evaluated against the following criteria:

- i) all relative response factors (RRFs) must be greater than or equal to 0.05; and
- ii) percent relative standard deviation (%RSD) values must not exceed 30 percent or if quadratic/linear regression is used, the correlation coefficient ( $R^2$ ) value must be at least 0.990.

Initial calibration standards were analyzed as required and all data showed acceptable sensitivity and linearity.

#### Continuing Calibration - Organics, GC/MS

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 12 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) all Relative Response Factors (RRFs) values must be greater than or equal to 0.05; and
- ii) percent difference (%D) values must not exceed 25 percent.

Calibration standards were analyzed at the required frequency and all results met the above criteria for instrument sensitivity. Some VOCs exhibited variability in instrument response. Associated sample data for these compounds were qualified as estimated (see Table 3).

#### Method Blank Samples

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch. The blank results were non-detect for the analytes of interest, demonstrating that laboratory contamination was not a factor for this program.

### Surrogate Compound Percent Recoveries (Surrogate Recoveries)

In accordance with the method employed, all samples, blanks, and QA/QC standards analyzed for VOCs were spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against laboratory control limits. All sample surrogate recoveries were within the laboratory specified control limits, demonstrating acceptable analytical accuracy.

### Laboratory Control Sample (LCS) Analysis

The LCS serves as a measure of overall analytical performance. LCSs are prepared with all analytes of interest and analyzed with each sample batch.

LCSs were prepared and analyzed for all VOCs. The LCS recoveries were within the laboratory specified control limits for all analytes of interest except some high VOC recoveries. Associated non-detect VOC results were not impacted by the indicated high bias in the LCS. One detected VOC sample result was associated with a high LCS recovery, and was qualified as estimated (see Table 4).

### Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

MS/MSD samples are prepared and analyzed with each sample batch. The recoveries of spike analyses are used to assess the analytical accuracy achieved on individual sample matrices. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as shown in Table 1. Most MS/MSD recoveries were within laboratory control limits demonstrating acceptable overall analytical accuracy and precision. High recoveries were reported for some VOCs. The non-detect results associated with high MS/MSD recoveries were not impacted, and no qualification was performed.

### Internal Standard (IS) Summaries

To correct for changes in GC/MS response and sensitivity, IS compounds are added to investigative samples and QC samples prior to VOC analyses. All results are calculated as a ratio of the IS response. The criteria by which the IS results are assessed are as follows:

- i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard; and
- ii) the retention time of the IS must not vary more than  $\pm 30$  seconds from the associated calibration standard.

All sample IS results met the above criteria and all were correctly used to calculate sample results.

### Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to identification criteria

established by the methods. The samples identified in Table 1 were reviewed. The organics reported adhered to the specified identification criteria.

#### Trip Blanks - VOCs

Trip blanks are transported, stored, and analyzed with the investigative samples to identify potential cross-contamination of VOCs. Trip blanks were collected at the proper frequency, and all results were non-detect for the analytes of interest.

#### Field Duplicates

Two samples were collected in duplicate as summarized in Table 1 and submitted to the laboratory for analysis. All sample results showed acceptable sampling and analytical precision.

#### Equipment Blanks

To assess contamination from field equipment cleaning activities, two equipment blanks were collected as identified in Table 1. Most sample results were non-detect for the analytes of interest. Chloroform was detected in the blanks. All associated sample results were either non-detect or significantly greater than the contamination present, and no qualification of the data was performed.

#### System Performance

System performance between various QC checks was evaluated to monitor for changes that may have caused the degradation of data quality. The samples identified in Table 1 were reviewed. No technical problems or chromatographic anomalies were observed which require qualification of the data.

#### Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported.

TABLE 1  
 SAMPLE COLLECTION AND ANALYSIS SUMMARY  
 SITE INVESTIGATION  
 GENERAL MOTORS - NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JUNE 2005

Sample ID	Location ID	Collection Date (mm/dd/yy)	Collection Time (hr:min)	Parameter		Comments
				TCL	VOCs	
RFI-84-05(060805)	RFI-84-05	6/8/2005	14:34	X		
RFI-36-18(060805)	RFI-36-18	6/8/2005	16:36	X		
RFI-09-04R(060805)	RFI-09-04R	6/8/2005	13:20	X		
RFI-36-44(060805)	RFI-36-44	6/8/2005	16:31	X		
84-7(060805)	84-7	6/8/2005	15:09	X		
RFI-09-53(060805)	RFI-09-53	6/8/2005	13:28	X		
TB-01(060805)	-	6/8/2005	-	X		Trip Blank
36-FPI(060905)	36-FPI	6/9/2005	16:25	X		
RFI-36-46(060905)	RFI-36-46	6/9/2005	15:31	X		
RFI-36-03(060905)	RFI-36-03	6/9/2005	14:25	X		
84-6RZ(060905)	84-6RZ	6/9/2005	12:38	X		MS/MSD
RFI-17-02(060905)	RFI-17-02	6/9/2005	11:08	X		
RFI-10-32(060905)	RFI-10-32	6/9/2005	9:50	X		
Dupe-01(060905)	RFI-10-32	6/9/2005	-	X		Duplicate of RFI-10-32(060905)
EB-01(060905)	-	6/9/2005	16:49	X		Equipment Blank
TB-02(060905)	-	6/9/2005	-	X		Trip Blank
36-100(061005)	36-100	06/10/05	14:35	X		
RFI-36-48(061005)	RFI-36-48	06/10/05	10:00	X		
RFI-36-47(061005)	RFI-36-47	06/10/05	12:35	X		
RFI-36-17(061005)	RFI-36-17	06/10/05	11:20	X		
RFI-36-51(061005)	RFI-36-51	06/10/05	3:15	X		
EB-02(061005)	-	06/10/05	15:45	X		Equipment Blank
RFI-36-05(061005)	RFI-36-05	06/10/05	13:50	X		
RFI-36-45(061005)	RFI-36-45	06/10/05	12:20	X		
Dupe-02(061005)	RFI-36-45	06/10/05	-	X		Duplicate of RFI-36-45(061005)
RFI-36-37(061005)	RFI-36-37	06/10/05	11:25	X		MS/MSD
RFI-36-53(061005)	RFI-36-53	06/10/05	9:44	X		

Notes:  
 TCL Target Compound List.  
 VOCs Volatile Organic Compounds.  
 MS/MSD Matrix Spike/Matrix Spike Duplicate.

TABLE 2  
SUMMARY OF ANALYTICAL METHODOLOGIES  
SITE INVESTIGATION  
GENERAL MOTORS - NAO FLINT OPERATIONS  
FLINT, MICHIGAN  
JUNE 2005

<i>Parameter</i>	<i>Method</i>
TCL VOCs	SW-846 8260 <sup>1</sup>

Notes:

1 "Test Methods for Solid Waste Physical/Chemical Methods",  
SW-846, 3rd Edition, September 1986 (with subsequent  
revisions).

TCL Target Compound List.

VOCs Volatile Organic Compounds.

TABLE 3  
 QUALIFIED SAMPLE RESULTS DUE TO OUTLYING CONTINUING CALIBRATION RESULTS  
 SITE INVESTIGATION  
 GENERAL MOTORS - NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JUNE 2005

Parameter	Calibration Date	Compound	%D	Associated Sample ID	Sample Results	Units	Qualifier
Volatiles	06/12/05	Dichlorodifluoromethane(CFC-12)	29	RFI-36-03(060905)	1 U	ug/L	UJ
	06/13/05	Chloroethane	31	RFI-36-45(061005)	5	ug/L	J
				RFI-36-37(061005)	5	ug/L	J
				Dupe-02(061005)	4	ug/L	J
				36-FPI(060905)	69	ug/L	J
				RFI-36-53(061005)	7	ug/L	J
				RFI-10-32(060905)	110	ug/L	J

Notes:  
 J Estimated.  
 UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.  
 % D Percent Difference.

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING LABORATORY CONTROL SAMPLE RESULTS  
 SITE INVESTIGATION  
 GENERAL MOTORS - NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JUNE 2005

Parameter	Compound	Percent Recovery	Control Limits (percent)	Associated Sample ID	Sample Results	Units	Qualifier
Volatiles	Trichlorofluoromethane (CFC-11)	125	79-121	RFI-09-04R(060805)	5	ug/L	J

Notes:

J Estimated.



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## MEMORANDUM

TO: Lisa Coffey

FROM: Angela Bown/js/9 *AB/JS*

C.C.: JoAnn Robertson, Paul McMahon

RE: **Data Quality Assessment and Validation  
Monitoring Well Installation  
General Motors - NAO Flint Operations  
Flint, Michigan**

REF. NO.: 17307-195006

DATE: August 24, 2005

E-Mail and U.S. Mail

**PREVIOUSLY TRANSMITTED  
BY E-MAIL**

The following details a quality assessment and validation of the analytical data resulting from the collection of 29 soil, two trip blank, one rinse blank, and two field duplicate samples from the General Motors Site (Site) in Flint, Michigan, from June 28 to July 15, 2005. The sample summary detailing sample identification, sample location, quality control (QC) samples, and analytical parameters is presented in Table 1. Sample analysis was completed at Merit Laboratories, Inc. in East Lansing, Michigan, in accordance with the methodologies presented in Table 2. The QC criteria used to assess the data were established by the methods and following documents:

- i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", USEPA 540/R-99/008, October 1999;
- ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", EPA 540/R-94-013, February 1994; and
- iii) "Innovative Approaches to Data Validation", USEPA Region III, June 1995.

Full Contract Laboratory Program (CLP)-equivalent raw data deliverables were provided by the laboratory. The data quality assessment and validation presented in the following subsections were performed based on the sample results and supporting quality assurance/quality control (QA/QC) provided.

### Holding Time Period and Sample Analysis

The holding time periods are presented in the analytical methods. All samples were prepared and analyzed within the method-required holding times. All samples were properly cooled after collection and upon receipt at the laboratory.

### Gas Chromatography/Mass Spectrometer (GC/MS) Mass Calibration

Prior to analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the volatile organic compound (VOC) and semi-volatile organic compound

decafluorotriphenylphosphine (DFTPP), respectively. The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 12 hours throughout sample analysis to ensure the continued optimization of the instrument.

Instrument tuning data were reviewed. Tuning compounds were analyzed at the required frequency throughout the VOC and SVOC analysis periods. All tuning criteria were met for the analyses, indicating proper optimization of the instrumentation.

#### Initial Calibration - Organic Analyses, GC/MS

To quantify compounds of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a minimum of a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range.

Calibration data were reviewed for all samples. Linearity of the calibration curve and instrument sensitivity were evaluated against the following criteria:

- i) all relative response factors (RRFs) must be greater than or equal to 0.05; and
- ii) percent relative standard deviation (%RSD) values must not exceed 30 percent or if quadratic/linear regression is used, the correlation coefficient ( $R^2$ ) value must be at least 0.990.

Initial calibration standards were analyzed as required and the data showed acceptable sensitivity and linearity with the exception of the data presented in Table 3 with qualifiers.

#### Initial Calibration - Organics, GC

To quantify compounds of interest, calibration of the GC over a specific concentration range must be performed. Initially, a minimum of a five-point calibration curve is analyzed for Aroclors 1254, 1016, and 1260, while the other Aroclors are calibrated using one point.

Linearity of the calibration curves are acceptable if %RSD values are less than or equal to 20 percent or if the correlation coefficient is greater than 0.995. Retention time windows are also calculated from the initial calibration analyses. These windows are then used to identify all compounds of interest in subsequent analyses.

Initial calibration standards were analyzed at the required frequencies. All retention time and linearity criteria were satisfied.

#### Inductively Coupled Plasma/Mass Spectrometer (ICP/MS) - Mass Calibration and Resolution Checks - Metal Analyses

To ensure adequate mass resolution, identification, and to some degree, sensitivity; the performance of each ICP/MS instrument used for metals analyses was checked prior to calibration before initiating an analysis sequence through the analysis of a tuning solution. The results of the tuning solution analysis were reviewed against the following criteria:

- i) analyze tuning solution a minimum of four times with a %RSD of less than or equal to five for the analytes contained in the tuning solution; and
- ii) the mass resolution must be within 0.1 atomic mass unit (amu) of the true value over the analytical range.

Instrument performance check data were reviewed. The tuning solution was analyzed at the required frequency throughout the analyses. The results of all instrument performance checks were within the acceptance criteria, indicating acceptable instrument performance.

#### Initial Calibration - Inorganic Analyses

To calibrate the ICP/MS, a calibration blank and at least one standard must be analyzed to establish the analytical curve. For mercury analyses, a calibration blank and a minimum of five standards must be analyzed to establish the analytical curve. Resulting correlation coefficients for mercury curves must be at least 0.995.

After calibration, an initial calibration verification (ICV) standard must be analyzed to verify the analytical accuracy of the calibration curves within a method-specific percent recovery of the accepted or true value.

A review of the data showed that all calibration curves and ICVs were analyzed at the proper frequencies and were within the acceptance criteria.

#### Continuing Calibration - Organics, GC/MS

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 12 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) all RRF values must be greater than or equal to 0.05; and
- ii) percent difference (%D) values must not exceed 25 percent.

Calibration standards were analyzed at the required frequency and most results met the above criteria for instrument sensitivity and linearity of response. Some VOCs and SVOCs exhibited variability in instrument response. Associated sample data for these compounds were qualified as estimated (see Table 4).

#### Continuing Calibration - Organics, GC

To ensure that the calibration of the instrument is valid throughout the sample analysis period, continuing calibration standards are analyzed and evaluated on a regular basis. To evaluate the continued linearity of the calibration, %D values are calculated for each compound in all continuing standards and assessed against an acceptance criterion of 15 percent.

To ensure that compound retention times do not vary over the analysis period, all retention times must fall within the established retention time windows.

Continuing calibration standards were analyzed at the required frequency and all method criteria were met for analyte linearity with the exception of the data presented in Table 4 with qualifiers.

#### Continuing Calibration - Inorganics

Continuing calibration criteria for inorganic analyses were the same criteria as used for assessing the initial calibration data. The continuing calibration verification data were within the acceptance criteria.

#### Method Blank Samples

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch. The blank results were non-detect for the analytes of interest, with the exception of the sample data presented in Table 5 with qualifiers.

#### Laboratory Blank Samples - Inorganic Analyses

Metals analyses include the analysis of initial calibration blanks (ICB) and continuing calibration blanks (CCB) to assess the presence and the magnitude of sample contamination introduced during sample analysis. The CCBs are analyzed at a minimum frequency of one every 10 samples and target analytes should be non-detect.

Several ICB and CCBs were reported with detectable concentrations of target analytes. The samples presented in Table 6 should be qualified due to ICB and CCB contamination above the laboratory method detection limits (MDL). The remaining ICB and CCBs were reported to be free from detectable levels of target analytes, indicating no additional laboratory-attributable contamination occurred.

#### Surrogate Compound Percent Recoveries (Surrogate Recoveries)

In accordance with the methods employed, all samples, blanks, and standards analyzed for VOCs, SVOCs, and polychlorinated biphenyls (PCBs) were spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against laboratory control limits. For the SVOC method, it is acceptable for one surrogate recovery per fraction (base neutral or acid phenolic) to fall outside of these limits, provided it is greater than 10 percent. All surrogate recoveries were within the laboratory specified control limits for VOCs and SVOCs, demonstrating acceptable analytical accuracy. The surrogate, decachlorobiphenyl (DCB) recovered outside of acceptable limits for some samples for PCB analysis. Table 7 presents the sample data that should be qualified due to surrogate failure.

#### Laboratory Control Sample (LCS) Analysis

The LCS serves as a measure of overall analytical performance. LCSs are prepared with all analytes of interest and analyzed with each sample batch.

LCSs were prepared and analyzed for all parameters. The LCS recoveries were within the laboratory specified control limits for all analytes of interest except for certain VOC and SVOC compounds. Table 8 presents the data that are qualified due to LCS failures.

#### Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

MS/MSD samples are prepared for each parameter and analyzed with each sample batch for the organic parameters. MS/MSD samples are prepared and analyzed with the samples for each metal. The recoveries of spike analyses are used to assess the analytical accuracy achieved on individual sample matrices. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as shown in Table 1. The laboratory performed additional analyses internally. Most MS/MSD recoveries were within laboratory control limits demonstrating acceptable overall analytical accuracy and precision. Outlying recoveries were reported for VOCs and SVOCs. Non-detect results associated with outlying RPDs or high MS/MSD recoveries were not impacted, and no qualification was performed. No qualification was performed when only the MS or MSD was slightly outside of control limits. Some low VOC, SVOC, and PCB MS/MSD recoveries were associated with non-detected and detected sample results, and the results were qualified as estimated (see Table 9 and Table 10).

#### Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) Interference Check Sample (ICS) Analysis

To verify that proper inter-element and background correction factors have been established by the laboratory, ICSs are analyzed. These samples contain high concentrations of aluminum, calcium, magnesium, and iron and are analyzed at the end of each sample analysis period.

ICS analysis results were evaluated for all samples. All ICS recoveries were within the established control limits of 80 to 120 percent.

#### Serial Dilution - Inorganic Analyses

The serial dilution determines whether significant physical or chemical interferences exist due to sample matrix. A minimum of one per 20 investigative samples is analyzed at a five-fold dilution. For samples with sufficient analyte concentrations (>50 times the MDL), the serial dilution results must agree within 10 percent of the original results.

Serial dilution analyses were performed and the results were acceptable.

#### Internal Standard (IS) Summaries

To correct for changes in GC/MS response and sensitivity, IS compounds are added to investigative samples and QC samples prior to VOC and SVOC analyses. All results are calculated as a ratio of the IS response. The criteria by which the IS results are assessed are as follows:

- i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard; and

- ii) the retention time of the IS must not vary more than  $\pm 30$  seconds from the associated calibration standard.

All sample IS results met the above criteria and all were correctly used to calculate sample results.

#### Internal Standard Summaries - Inorganic Analyses

To correct for variability in the ICP/MS response and sensitivity, IS are added to all samples. Overall instrument stability and performance for metals analyses was monitored using the IS intensity data which are evaluated against the following criteria:

- i) the IS intensities in samples must recover between 30 and 120 percent of the true value; and
- ii) the IS intensities in instrument calibration checks (CCVs and CCBs) must recover between 80 and 120 percent of the true value.

A review of the ICP/MS metals IS data showed that the IS intensities were within the acceptance criteria.

#### Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organics reported adhered to the specified identification criteria.

#### Trip Blanks - VOCs

Trip blanks are transported, stored, and analyzed with the investigative samples to identify potential cross-contamination of VOCs. Trip blanks were collected at the proper frequency, and all results were non-detect for the analytes of interest.

#### Field Duplicates

Two samples were collected in duplicate as summarized in Table 1 and submitted to the laboratory for analysis. Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample sets. The RPDs associated with these duplicate samples must be less than 50 and 100 percent for water and soil samples, respectively. If the reported concentration in either the investigative sample or its duplicate is less than five times the RL, the evaluation criteria is one or two times the RL value for water and soil samples, respectively.

Table 11 presents the RPDs of detected analytes in duplicate sample sets with qualifiers.

#### Rinse Blanks

To assess contamination from field equipment cleaning activities, a rinse blank was collected as identified in Table 1. Most sample results were non-detect for the analytes of interest. VOCs and SVOCs were detected in the rinse blank. Most associated sample results were either non-detect or were significantly greater in

concentration, and were not impacted. Associated sample results with comparable concentrations were qualified as non-detect (see Table 12).

#### System Performance

System performance between various QC checks was evaluated to monitor for changes that may have caused the degradation of data quality. The samples identified in Table 1 were reviewed. No technical problems or chromatographic anomalies were observed which require qualification of the data.

#### Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision based on the provided information and may be used with the qualifications noted.

TABLE 1  
 SAMPLE COLLECTION AND ANALYSIS SUMMARY  
 MONITORING WELL INSTALLATION  
 GENERAL MOTORS - NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

Sample ID	Location ID	Start Depth (ft bgs)	End Depth (ft bgs)	Collection Date (mm/dd/yy)	Collection Time (hr:min)	Analysis/Parameters				Comments
						TCL VOCs	TCL SVOCs	PCBs	Site Metals/Cyanide	
RFI-10-35(0-2)	RFI-10-35	0	2	06/28/05	8:10	X	X	X	X	
RF1-10-35(8-10)	RFI-10-35	8	10	06/28/05	9:25	X	X	X	X	
RFI-10-36(0-2)	RFI-10-36	0	2	06/28/05	10:02	X	X	X	X	
RF1-10-36(8-10)	RFI-10-36	8	10	06/28/05	10:19	X	X	X	X	
RFI-10-34(0-2)	RFI-10-34	0	2	06/28/05	11:22	X	X	X	X	
RF1-10-34(8-10)	RFI-10-34	8	10	06/28/05	11:44	X	X	X	X	
RFI-10-33(0-2)	RFI-10-33	0	2	06/28/05	13:48	X	X	X	X	
RF1-10-33(8-10)	RFI-10-33	8	10	06/28/05	14:10	X	X	X	X	
RFI-84-8(2-3)	RFI-84-8	2	3	06/28/05	16:24	X	X	X	X	
RFI-84-8(8-10)	RFI-84-8	8	10	06/28/05	16:39	X	X	X	X	
RFI-84-8(28-30)	RFI-84-8	28	30	06/29/05	16:24	X	X	X	X	
RFI-84-7(2-4)	RFI-84-7	2	4	06/30/05	8:02	X	X	X	X	
RFI-84-7(14-16)	RFI-84-7	14	16	06/30/05	8:38	X	X	X	X	
RFI-09-56(0-2)	RFI-09-56	0	2	06/30/05	14:25	X	X	X	X	
RFI-09-56(2-4)	RFI-09-56	2	4	06/30/05	14:30	X	X	X	X	
RFI-84-7(8-10)	RFI-84-7	8	10	06/30/05	4:24	X	X	X	X	
RFI-09-57(0-2)	RFI-09-57	0	2	07/01/05	12:05	X	X	X	X	MS/MSD
RF1-09-57(4-6)	RFI-09-57	4	6	07/01/05	12:14	X	X	X	X	
Duplicate 1	RFI-09-57	-	-	07/01/05	-	X	X	X	X	Duplicate of RFI-09-57(4-6)
RFI-36-55(0-2)	RFI-36-55	0	2	07/01/05	9:10	X	X	X	X	
RFI-36-55(8-10)	RFI-36-55	8	10	07/01/05	9:45	X	X	X	X	
Rinse Blank 1(7/1/05)	Rinse Blank	-	-	07/01/05	12:00	X	X	X	X	Rinse Blank
Trip Blank	Trip Blank	-	-	07/01/05	-	X				Trip Blank
RFI-09-58(0-2')	RFI-09-58	0	2	07/13/05	10:05	X	X	X	X	
RFI-09-58(8-10')	RFI-09-58	8	10	07/13/05	10:25	X	X	X	X	
RFI-36-56(0-2')	RFI-36-56	0	2	07/13/05	15:35	X	X	X	X	
RFI-36-56(6-8')	RFI-36-56	6	8	07/13/05	15:45	X	X	X	X	
RFI-36-54(0-2')	RFI-36-54	0	2	07/14/05	9:55	X	X	X	X	MS/MSD
RFI-36-54(8-10')	RFI-36-54	8	10	07/14/05	10:35	X	X	X	X	
RFI-36-54(14-16')	RFI-36-54	14	16	07/14/05	10:50	X	X	X	X	
DUP-1	RFI-36-54	14	16	07/14/05	-	X	X	X	X	Duplicate of RFI-36-54(14-16')
TB-071505	Trip Blank	-	-	07/15/05	-	X				Trip Blank

- Notes:
- Not applicable.
  - MS Matrix Spike.
  - MSD Matrix Spike Duplicate.
  - PCB Polychlorinated Biphenyls.
  - SVOC Semi-Volatile Organic Compound.
  - TCL Target Compound List.
  - VOC Volatile Organic Compound.

**TABLE 2**  
**SUMMARY OF ANALYTICAL METHODS**  
**MONITORING WELL INSTALLATION**  
**GENERAL MOTORS - NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JULY 2005**

<i>Parameter</i>	<i>Method</i> <sup>1</sup>
TCL VOC	SW-846-8260B
TCL SVOCs	SW-846-8270C
PCBs	SW-846-8082
Select Metals	SW-846-6020/7471A/9012

Notes:

<sup>1</sup> "Test Methods for Solid Waste/Physical Chemical Methods", SW-846, 3rd Edition, September 1986 (with all subsequent revisions).

PCB Polychlorinated Biphenyls.

SVOC Semi-Volatile Organic Compound.

TCL Target Compound List.

VOC Volatile Organic Compound.

TABLE 3  
 QUALIFIED SAMPLE RESULTS DUE TO OUTLYING INITIAL CALIBRATION RESULTS  
 MONITORING WELL INSTALLATION  
 GENERAL MOTORS - NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

<i>Parameter</i>	<i>Compound</i>	<i>Calibration Date</i>	<i>%RSD</i>	<i>Associated Sample ID</i>	<i>Sample Results</i>	<i>Units</i>	<i>Qualifier</i>
Semi-volatiles	4-Chloroaniline	06/20/05	35	RFI-10-33(0-2)	670 U	µg/Kg	UJ
				RFI-10-33(8-10)	670 U	µg/Kg	UJ
				RFI-10-34(0-2)	670 U	µg/Kg	UJ
				RFI-10-34(8-10)	670 U	µg/Kg	UJ
				RFI-10-35(0-2)	670 U	µg/Kg	UJ
				RFI-10-35(8-10)	670 U	µg/Kg	UJ
				RFI-10-36(0-2)	670 U	µg/Kg	UJ
				RFI-10-36(8-10)	670 U	µg/Kg	UJ
				RFI-84-8(2-3)	670 U	µg/Kg	UJ
				RFI-84-8(8-10)	670 U	µg/Kg	UJ
				RFI-84-8(28-30)	670 U	µg/Kg	UJ
				RFI-09-56(0-2)	670 U	µg/Kg	UJ
				RFI-09-56(2-4)	670 U	µg/Kg	UJ
				RFI-36-55(0-2)	670 U	µg/Kg	UJ
				RFI-36-55(8-10)	670 U	µg/Kg	UJ
				RFI-84-7(14-16)	670 U	µg/Kg	UJ
				RFI-84-7(2-4)	600 U	µg/Kg	UJ
				RFI-84-7(8-10)	670 U	µg/Kg	UJ
				RFI-09-57(0-2)	670 U	µg/Kg	UJ
				RFI-09-57(4-6)	670 U	µg/Kg	UJ
Dup-RFI-09-57(4-6)	670 U	µg/Kg	UJ				

Notes:

%RSD Percent Relative Standard Deviation.

U Non-detect at associated value.

UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.

**TABLE 4**  
**QUALIFIED SAMPLE RESULTS DUE TO OUTLYING CONTINUING CALIBRATION RESULTS**  
**MONITORING WELL INSTALLATION**  
**GENERAL MOTORS - NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JULY 2005**

<i>Parameter</i>	<i>Calibration Date</i>	<i>Compound</i>	<i>%D</i>	<i>Associated Sample ID</i>	<i>Sample Results</i>	<i>Units</i>	<i>Qualifier</i>
Semi-volatiles	07/14/05	Benzo(k)fluoranthene	32.9	RFI-10-33(0-2)	50 J	µg/Kg	J
				RFI-10-34(0-2)	70 J	µg/Kg	J
				RFI-84-8(8-10)	200 J	µg/Kg	J
Volatiles	07/13/05	Dichlorodifluoromethane	34.9	RFI-36-55(0-2)	50 U	µg/Kg	UJ
				RFI-36-55(8-10)	60 U	µg/Kg	UJ
				RFI-84-7(2-4)	60 U	µg/Kg	UJ
Volatiles	07/26/05	Dichlorodifluoromethane	37.3	RFI-09-58(0-2)	50 U	µg/Kg	UJ
				RFI-09-58(8-10)	60 U	µg/Kg	UJ
				RFI-36-54(0-2)	50 U	µg/Kg	UJ
				RFI-36-54(14-16)	50 U	µg/Kg	UJ
				RFI-36-54(8-10)	60 U	µg/Kg	UJ
				RFI-36-56(0-2)	60 U	µg/Kg	UJ
				RFI-36-56(6-8)	50 U	µg/Kg	UJ
				RFI-36-54(14-16) DUP	50 U	µg/Kg	UJ
				PCBs	07/11/05	Aroclor-1016	16.2
RFI-09-56(2-4)	330 U	µg/Kg	UJ				
RFI-36-55(0-2)	330 U	µg/Kg	UJ				
RFI-36-55(8-10)	330 U	µg/Kg	UJ				
RFI-84-7(14-16)	330 U	µg/Kg	UJ				
RFI-84-7(2-4)	330 U	µg/Kg	UJ				
RFI-84-7(8-10)	330 U	µg/Kg	UJ				
RFI-09-57(4-6)	330 U	µg/Kg	UJ				
Dup-RFI-09-57(4-6)	330 U	µg/Kg	UJ				
PCBs	07/11/05	Aroclor-1221	16.2	RFI-09-56(0-2)	330 U	µg/Kg	UJ
				RFI-09-56(2-4)	330 U	µg/Kg	UJ
				RFI-36-55(0-2)	330 U	µg/Kg	UJ
				RFI-36-55(8-10)	330 U	µg/Kg	UJ
				RFI-84-7(14-16)	330 U	µg/Kg	UJ
				RFI-84-7(2-4)	330 U	µg/Kg	UJ
				RFI-84-7(8-10)	330 U	µg/Kg	UJ
				RFI-09-57(4-6)	330 U	µg/Kg	UJ
				Dup-RFI-09-57(4-6)	330 U	µg/Kg	UJ
PCBs	07/11/05	Aroclor-1232	16.2	RFI-09-56(0-2)	330 U	µg/Kg	UJ
				RFI-09-56(2-4)	330 U	µg/Kg	UJ
				RFI-36-55(0-2)	330 U	µg/Kg	UJ
				RFI-36-55(8-10)	330 U	µg/Kg	UJ
				RFI-84-7(14-16)	330 U	µg/Kg	UJ
				RFI-84-7(2-4)	330 U	µg/Kg	UJ
				RFI-84-7(8-10)	330 U	µg/Kg	UJ
				RFI-09-57(4-6)	330 U	µg/Kg	UJ
				Dup-RFI-09-57(4-6)	330 U	µg/Kg	UJ
PCBs	07/11/05	Aroclor-1242	16.2	RFI-09-56(0-2)	330 U	µg/Kg	UJ
				RFI-09-56(2-4)	330 U	µg/Kg	UJ
				RFI-36-55(0-2)	330 U	µg/Kg	UJ
				RFI-36-55(8-10)	330 U	µg/Kg	UJ
				RFI-84-7(14-16)	330 U	µg/Kg	UJ
				RFI-84-7(2-4)	330 U	µg/Kg	UJ
				RFI-84-7(8-10)	330 U	µg/Kg	UJ
				RFI-09-57(4-6)	330 U	µg/Kg	UJ
				Dup-RFI-09-57(4-6)	330 U	µg/Kg	UJ

**TABLE 4**  
**QUALIFIED SAMPLE RESULTS DUE TO OUTLYING CONTINUING CALIBRATION RESULTS**  
**MONITORING WELL INSTALLATION**  
**GENERAL MOTORS - NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JULY 2005**

<i>Parameter</i>	<i>Calibration Date</i>	<i>Compound</i>	<i>%D</i>	<i>Associated Sample ID</i>	<i>Sample Results</i>	<i>Units</i>	<i>Qualifier</i>
PCBs	07/11/05	Aroclor-1248	16.2	RFI-09-56(0-2)	330 U	µg/Kg	UJ
				RFI-09-56(2-4)	330 U	µg/Kg	UJ
				RFI-36-55(0-2)	330 U	µg/Kg	UJ
				RFI-36-55(8-10)	330 U	µg/Kg	UJ
				RFI-84-7(14-16)	330 U	µg/Kg	UJ
				RFI-84-7(2-4)	330 U	µg/Kg	UJ
				RFI-84-7(8-10)	330 U	µg/Kg	UJ
				Dup-RFI-09-57(4-6)	330 U	µg/Kg	UJ
PCBs	07/12/05	Aroclor-1016	16.6	RFI-09-57(0-2)	330 U	µg/Kg	UJ
PCBs	07/12/05	Aroclor-1221	16.6	RFI-09-57(0-2)	330 U	µg/Kg	UJ
PCBs	07/12/05	Aroclor-1232	16.6	RFI-09-57(0-2)	330 U	µg/Kg	UJ
PCBs	07/12/05	Aroclor-1242	16.6	RFI-09-57(0-2)	330 U	µg/Kg	UJ
PCBs	07/12/05	Aroclor-1248	16.6	RFI-09-57(0-2)	330 U	µg/Kg	UJ

## Notes:

%D Percent Difference.

J Estimated.

PCBs Polychlorinated Biphenyls.

U Non-detect at associated value.

UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.

TABLE 5  
 QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS  
 MONITORING WELL INSTALLATION  
 GENERAL MOTORS - NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

<i>Parameter</i>	<i>Analysis Date</i>	<i>Analyte</i>	<i>Blank Result</i>	<i>Sample ID</i>	<i>Sample Result</i>	<i>Qualified Result</i>
Semi-volatiles	07/14/05	bis(2-Ethylhexyl)phthalate	0.31	RFI-10-33(0-2)	50 J	330U
				RFI-10-34(0-2)	30 J	330U
Semi-volatiles	07/14/05	Di-n-butylphthalate	0.34	RFI-10-33(0-2)	40 J	330U
				RFI-10-34(0-2)	30 J	330U
				RFI-10-35(0-2)	30 J	330U
				RFI-10-36(8-10)	20 J	330U
				RFI-84-8(2-3)	20 J	330U
Semi-volatiles	07/14/05	Di-n-butylphthalate	0.26	RFI-09-56(0-2)	30 J	330U
				RFI-09-56(2-4)	40 J	330U
				RFI-36-55(0-2)	30 J	330U
				RFI-36-55(8-10)	20 J	330U
				RFI-84-7(2-4)	20 J	330U
				RFI-84-7(8-10)	30 J	330U
Semi-volatiles	07/14/05	Di-n-butylphthalate	0.21	Dup-RFI-09-57(4-6)	30 J	330U
Semi-volatiles	07/25/05	Di-n-butylphthalate	0.17	RFI-09-58(0-2)	50 J	330U
				RFI-36-54(0-2)	80 J	330U

Notes:

- U Non-detect at associated value.
- J Estimated.

**TABLE 6**  
**QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN INSTRUMENT BLANKS**  
**MONITORING WELL INSTALLATION**  
**GENERAL MOTORS - NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JULY 2005**

<i>Parameter</i>	<i>Analysis Date</i>	<i>Analyte</i>	<i>Blank Result</i>	<i>Sample ID</i>	<i>Sample Result</i>	<i>Qualified Result</i>	<i>Units</i>				
Metals	07/12/05	Arsenic	0.7	RFI-10-34(8-10)	0.64	0.64 U	mg/Kg				
				RFI-84-8(2-3)	0.68	0.68 U	mg/Kg				
				RFI-09-57(4-6)	0.58	0.58 U	mg/Kg				
				Dup-RFI-09-57(4-6)	0.46	0.46 U	mg/Kg				
Metals	07/12/05	Selenium	2.8	RFI-10-33(0-2)	0.29	0.29 U	mg/Kg				
				RFI-10-34(0-2)	0.30	0.30 U	mg/Kg				
				RFI-10-35(0-2)	0.21	0.21 U	mg/Kg				
				RFI-10-36(0-2)	0.23	0.23 U	mg/Kg				
				RFI-84-8(2-3)	0.15 J	0.20 U	mg/Kg				
				RFI-84-8(28-30)	0.82	0.82 U	mg/Kg				
				RFI-84-8(8-10)	0.58	0.58 U	mg/Kg				
				RFI-09-56(0-2)	0.18 J	0.20 U	mg/Kg				
				RFI-09-56(2-4)	0.40	0.40 U	mg/Kg				
				RFI-36-55(0-2)	0.22	0.22 U	mg/Kg				
				RFI-36-55(8-10)	0.36	0.36 U	mg/Kg				
				RFI-84-7(14-16)	0.92	0.92 U	mg/Kg				
				RFI-84-7(2-4)	0.87	0.87 U	mg/Kg				
				RFI-84-7(8-10)	0.64	0.64 U	mg/Kg				
				RFI-09-57(0-2)	0.40	0.40 U	mg/Kg				
				RFI-09-57(4-6)	0.17 J	0.20 U	mg/Kg				
				Metals	07/20/05	Selenium	1.8	Dup-RFI-09-57(4-6)	0.19 J	0.20 U	mg/Kg
RFI-09-58(0-2)	0.35	0.35 U	mg/Kg								
RFI-09-58(8-10)	0.37	0.37 U	mg/Kg								
RFI-36-54(0-2)	0.11 J	0.20 U	mg/Kg								
RFI-36-54(14-16)	0.28	0.28 U	mg/Kg								
RFI-36-54(8-10)	0.14 J	0.20 U	mg/Kg								
RFI-36-56(0-2)	0.15 J	0.20 U	mg/Kg								
Metals	07/12/05	Silver	0.09	RFI-10-33(0-2)	0.09 J	0.10 U	mg/Kg				
				RFI-10-35(0-2)	0.02 J	0.10 U	mg/Kg				
				RFI-10-36(0-2)	0.09 J	0.10 U	mg/Kg				
				RFI-84-8(2-3)	0.02 J	0.10 U	mg/Kg				
				RFI-84-8(28-30)	0.03 J	0.10 U	mg/Kg				
				RFI-84-8(8-10)	0.02 J	0.10 U	mg/Kg				
				RFI-09-56(0-2)	0.02 J	0.10 U	mg/Kg				
				RFI-84-7(2-4)	0.02 J	0.10 U	mg/Kg				
				RFI-36-55(0-2)	0.07 J	0.10 U	mg/Kg				
				RFI-84-7(14-16)	0.05 J	0.10 U	mg/Kg				
				RFI-09-57(0-2)	0.05 J	0.10 U	mg/Kg				
				Metals	07/12/05	Thallium	0.15	RFI-10-33(8-10)	0.02 J	0.50 U	mg/Kg
								RFI-10-34(0-2)	0.13 J	0.50 U	mg/Kg
RFI-10-34(8-10)	0.02 J	0.50 U	mg/Kg								
RFI-10-35(0-2)	0.04 J	0.50 U	mg/Kg								
RFI-10-35(8-10)	0.02 J	0.50 U	mg/Kg								
RFI-10-36(0-2)	0.07 J	0.50 U	mg/Kg								
RFI-84-8(28-30)	0.09 J	0.50 U	mg/Kg								
RFI-09-56(0-2)	0.03 J	0.50 U	mg/Kg								
RFI-36-55(0-2)	0.12 J	0.50 U	mg/Kg								
RFI-84-7(14-16)	0.12 J	0.50 U	mg/Kg								
RFI-84-7(2-4)	0.05 J	0.50 U	mg/Kg								
RFI-84-7(8-10)	0.02 J	0.50 U	mg/Kg								
RFI-09-57(0-2)	0.09 J	0.50 U	mg/Kg								
RFI-09-57(4-6)	0.02 J	0.50 U	mg/Kg								
Dup-RFI-09-57(4-6)	0.02 J	0.50 U	mg/Kg								

**TABLE 6**  
**QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN INSTRUMENT BLANKS**  
**MONITORING WELL INSTALLATION**  
**GENERAL MOTORS - NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JULY 2005**

<i>Parameter</i>	<i>Analysis Date</i>	<i>Analyte</i>	<i>Blank Result</i>	<i>Sample ID</i>	<i>Sample Result</i>	<i>Qualified Result</i>	<i>Units</i>
Metals	07/20/05	Thallium	0.11	RFI-09-58(8-10)	0.02 J	0.50 U	mg/Kg
				RFI-36-54(14-16)	0.08 J	0.50 U	mg/Kg
				RFI-36-56(0-2)	0.11 J	0.50 U	mg/Kg
				RFI-36-54(14-16) DUP	0.08 J	0.50 U	mg/Kg
Metals	07/12/05	Antimony	0.6	RFI-36-55(0-2)	0.07 J	0.30 U	mg/Kg
				RFI-84-7(8-10)	0.47	0.47 U	mg/Kg
	07/12/05	Antimony	0.86	RFI-09-57(0-2)	0.58	0.58 U	mg/Kg
Metals	07/20/05	Antimony	1.5	Dup-RFI-09-57(4-6)	0.07 J	0.30 U	mg/Kg
				RFI-09-58(0-2)	0.76	0.76 U	mg/Kg
				RFI-36-54(0-2)	1.07	1.07 U	mg/Kg
				RFI-36-54(14-16)	0.17 J	0.30 U	mg/Kg
				RFI-36-54(8-10)	0.63	0.63 U	mg/Kg
				RFI-36-56(0-2)	0.10 J	0.30 U	mg/Kg
Metals	07/20/05	Arsenic	0.71	RFI-36-54(14-16) DUP	0.16 J	0.30 U	mg/Kg
				RFI-36-56(6-8)	0.45	0.45 U	mg/Kg

## Notes:

- J Estimated.  
U Non-detect at associated value.

**TABLE 7**  
**QUALIFIED SAMPLE DATA DUE TO OUTLYING SURROGATE RECOVERIES**  
**MONITORING WELL INSTALLATION**  
**GENERAL MOTORS - NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JULY 2005**

<i>Parameter</i>	<i>Surrogate</i>	<i>Surrogate Recovery (percent)</i>	<i>Control Limits (percent)</i>	<i>Sample ID</i>	<i>Analytes</i>	<i>Sample Results</i>	<i>Units</i>	<i>Qualifier</i>
PCBs	DCB	11	30-137	RFI-36-55(0-2')	Aroclor-1260 (PCB-1260)	70 J	µg/Kg	J
					Aroclor-1254 (PCB-1254)	330 U	µg/Kg	UJ
					Aroclor-1221 (PCB-1221)	330 U	µg/Kg	UJ
					Aroclor-1232 (PCB-1232)	330 U	µg/Kg	UJ
					Aroclor-1248 (PCB-1248)	330 U	µg/Kg	UJ
					Aroclor-1016 (PCB-1016)	330 U	µg/Kg	UJ
					Aroclor-1242 (PCB-1242)	330 U	µg/Kg	UJ
PCBs	DCB	20	30-137	RFI-09-57(0-2')	Aroclor-1260 (PCB-1260)	330 U	µg/Kg	UJ
					Aroclor-1254 (PCB-1254)	330 U	µg/Kg	UJ
					Aroclor-1221 (PCB-1221)	330 U	µg/Kg	UJ
					Aroclor-1232 (PCB-1232)	330 U	µg/Kg	UJ
					Aroclor-1248 (PCB-1248)	330 U	µg/Kg	UJ
					Aroclor-1016 (PCB-1016)	330 U	µg/Kg	UJ
					Aroclor-1242 (PCB-1242)	330 U	µg/Kg	UJ
PCBs	DCB	15.3	30-137	RFI-36-56(0-2')	Aroclor-1260 (PCB-1260)	330 U	µg/Kg	UJ
					Aroclor-1254 (PCB-1254)	330 U	µg/Kg	UJ
					Aroclor-1221 (PCB-1221)	330 U	µg/Kg	UJ
					Aroclor-1232 (PCB-1232)	330 U	µg/Kg	UJ
					Aroclor-1248 (PCB-1248)	330 U	µg/Kg	UJ
					Aroclor-1016 (PCB-1016)	330 U	µg/Kg	UJ
					Aroclor-1242 (PCB-1242)	330 U	µg/Kg	UJ

Notes:

DCB Decachlorobiphenyl.

J Estimated.

PCBs Polychlorinated Biphenyls.

U Non-detect at associated value.

UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.

TABLE 8  
 QUALIFIED SAMPLE RESULTS DUE TO OUTLYING LABORATORY CONTROL SAMPLE RESULTS  
 MONITORING WELL INSTALLATION  
 GENERAL MOTORS - NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

<i>Parameter</i>	<i>Compound</i>	<i>Percent Recovery</i>	<i>Control Limits (percent)</i>	<i>Associated Sample ID</i>	<i>Sample Results</i>	<i>Units</i>	<i>Qualifier</i>
Semi-volatiles	Benzo(b)fluoranthene	199	29-152.7	RFI-10-33(0-2)	60 J	µg/Kg	J
				RFI-10-34(0-2)	90 J	µg/Kg	J
				RFI-84-8(8-10)	100 J	µg/Kg	J
Semi-volatiles	Benzo(k)fluoranthene	221	29.8-136	RFI-10-33(0-2)	50 J	µg/Kg	J
				RFI-10-34(0-2)	70 J	µg/Kg	J
				RFI-84-8(8-10)	200 J	µg/Kg	J
Volatiles	Cyclohexane	39.7	67.8-137.4	RFI-09-58(0-2)	210	µg/Kg	J
				RFI-09-58(8-10)	60 U	µg/Kg	UJ
				RFI-36-54(0-2)	50 U	µg/Kg	UJ
				RFI-36-54(14-16)	50 U	µg/Kg	UJ
				RFI-36-54(8-10)	60 U	µg/Kg	UJ
				RFI-36-56(0-2)	60 U	µg/Kg	UJ
				RFI-36-56(6-8)	50 U	µg/Kg	UJ
RFI-36-54(14-16) DUP	50 U	µg/Kg	UJ				

Notes:

J Estimated.

U Non-detect at associated value.

UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.

TABLE 9  
 QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES  
 MONITORING WELL INSTALLATION  
 GENERAL MOTORS - NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

Parameter	Associated Sample ID	Analyte	MS Recovery (percent)	MSD Recovery (percent)	RPD	Control Limits		Sample Result	Units	Qualifier
						Recovery (percent)	RPD (percent)			
Semi-volatiles	RFI-36-55(0-2)	2,4-Dimethylphenol	29.8	36.7	20.6	37.1-120	35	330 U	µg/Kg	UJ
Volatiles	RFI-36-54(0-2)	Bromomethane	29.7	26.8	10.2	30.5-120	20	300 U	µg/Kg	UJ
		Cyclohexane	42	42.4	0.9	67.8-137.4	20	50 U	µg/Kg	UJ

Notes:  
 MS Matrix Spike.  
 MSD Matrix Spike Duplicate.  
 RPD Relative Percent Difference.  
 U Non-detect at associated value.  
 UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.

TABLE 10  
 QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE RECOVERIES  
 MONITORING WELL INSTALLATION  
 GENERAL MOTORS - NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

Parameter	Associated Samples	Spike ID	MS Recovery (percent)	Control Limits (percent)	Analytes	Sample Results	Units	Qualifier
PCBs	RFI-36-55(0-2)	RFI-36-55(0-2)	19.2	52.9-123.4	Aroclor-1260 (PCB-1260)	70 J	µg/Kg	J
					Aroclor-1254 (PCB-1254)	330 U	µg/Kg	UJ
					Aroclor-1221 (PCB-1221)	330 U	µg/Kg	UJ
					Aroclor-1232 (PCB-1232)	330 U	µg/Kg	UJ
					Aroclor-1248 (PCB-1248)	330 U	µg/Kg	UJ
					Aroclor-1016 (PCB-1016)	330 U	µg/Kg	UJ
					Aroclor-1242 (PCB-1242)	330 U	µg/Kg	UJ

Notes:

- J Estimated concentration.
- MS Matrix Spike.
- PCBs Polychlorinated Biphenyls.
- U Non-detect at associated value.
- UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.

TABLE 11

QUALIFIED SAMPLE RESULTS DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS  
 MONITORING WELL INSTALLATION  
 GENERAL MOTORS - NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

Parameter	Analyte	Original Sample ID	Original Result	Duplicate Sample ID	Duplicate Result	2xRL	Units	Qualifier <sup>(1)</sup>
Semi-volatiles	Fluoranthene	RFI-36-54(14-16')	300	RFI-36-54(14-16')DUP	1000	660	µg/Kg	J
	Phenanthrene	RFI-36-54(14-16')	620	RFI-36-54(14-16')DUP	2100	660	µg/Kg	J
	Pyrene	RFI-36-54(14-16')	300	RFI-36-54(14-16')DUP	970	660	µg/Kg	J

Notes:

(1) Qualifier is associated with both the original and duplicate sample.  
 J Estimated.

**TABLE 12**  
**QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE RINSE BLANKS**  
**MONITORING WELL INSTALLATION**  
**GENERAL MOTORS - NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JULY 2005**

<i>Parameter</i>	<i>Rinse Blank Date</i>	<i>Analyte</i>	<i>Blank Result</i>	<i>Sample ID</i>	<i>Sample Result</i>	<i>Qualified Sample Result</i>	<i>Units</i>
Volatiles	07/01/05	Chloroform	0.9	RFI-09-56(2-4)	10J	50 U	µg/Kg
Semi-volatiles	07/01/05	Diethyl phthalate	0.2	RFI-36-55(0-2)	30J	330 U	ug/Kg

Notes:

- J Estimated.
- U Non-detect at associated value.



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# 4.1

## MEMORANDUM

TO: Lisa Coffey

FROM: Paul McMahon/js/8 *pm*

C.C.: JoAnn Robertson

RE: **Data Quality Assessment and Validation  
Soil Sampling  
General Motors - NAO Flint Operations  
Flint, Michigan**

REF. NO.: 17307-195007

DATE: August 12, 2005  
E-Mail and U.S. Mail

**PREVIOUSLY TRANSMITTED  
BY E-MAIL**

The following details a quality assessment and validation of the analytical data resulting from the collection of six soil, one field duplicate, and one trip blank sample from the General Motors Site (Site) in Flint, Michigan, in July 2005. The sample summary detailing sample identification, sample location, quality control (QC) samples, and analytical parameters is presented in Table 1. Sample analysis was completed at Merit Laboratories, Inc. in East Lansing, Michigan, in accordance with the methodology presented in Table 2. The QC criteria used to assess the data were established by the method and following documents:

- i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", USEPA 540/R-99/008, October 1999; and
- ii) "Innovative Approaches to Data Validation", USEPA Region III, June 1995.

Full Contract Laboratory Program (CLP)-equivalent raw data deliverables were provided by the laboratory. The data quality assessment and validation presented in the following subsections were performed based on the sample results and supporting quality assurance/quality control (QA/QC) provided.

### Holding Time Period and Sample Analysis

The holding time period is presented in the analytical method. All samples were prepared and analyzed within the method-required holding time. All samples were properly cooled after collection and upon receipt at the laboratory.

### Gas Chromatography/Mass Spectrometer (GC/MS) Mass Calibration

Prior to analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the volatile organic compound (VOC) method requires the analysis of the specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 12 hours throughout sample analysis to ensure the continued optimization of the instrument.

Instrument tuning data were reviewed. Tuning compounds were analyzed at the required frequency throughout the VOC analysis periods. All tuning criteria were met for the analyses, indicating proper optimization of the instrumentation.

#### Initial Calibration - Organic Analyses, GC/MS

To quantify compounds of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a minimum of a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range.

Calibration data were reviewed for all samples. Linearity of the calibration curve and instrument sensitivity were evaluated against the following criteria:

- i) all relative response factors (RRFs) must be greater than or equal to 0.05; and
- ii) percent relative standard deviation (%RSD) values must not exceed 30 percent or if quadratic/linear regression is used, the correlation coefficient ( $R^2$ ) value must be at least 0.990.

Initial calibration standards were analyzed as required and all data showed acceptable sensitivity and linearity.

#### Continuing Calibration - Organics, GC/MS

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 12 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) all Relative Response Factors (RRFs) values must be greater than or equal to 0.05; and
- ii) percent difference (%D) values must not exceed 25 percent.

Calibration standards were analyzed at the required frequency and all results met the above criteria for instrument sensitivity. One compound exhibited variability in instrument response. Associated sample results for this compound were qualified as estimated (see Table 3).

#### Method Blank Samples

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch. All blank results were non-detect for the analytes of interest.

#### Surrogate Compound Percent Recoveries (Surrogate Recoveries)

In accordance with the method employed, all samples, blanks, and QA/QC standards analyzed for VOCs were spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against

laboratory control limits. All sample surrogate recoveries were within the laboratory specified control limits, demonstrating acceptable analytical accuracy.

#### Laboratory Control Sample (LCS) Analysis

The LCS serves as a measure of overall analytical performance. LCSs are prepared with all analytes of interest and analyzed with each sample batch.

LCSs were prepared and analyzed for all VOCs. Most LCS recoveries were within the laboratory specified control limits for the analytes of interest. A low cyclohexane LCS recovery was reported, and all associated sample results were qualified as estimated (see Table 4).

#### Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

MS/MSD samples are prepared and analyzed with each sample batch. The recoveries of spike analyses are used to assess the analytical accuracy achieved on individual sample matrices. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as shown in Table 1. Most MS/MSD recoveries were within laboratory control limits demonstrating acceptable overall analytical accuracy and precision. Low cyclohexane MS/MSD recoveries were reported for sample. The associated sample result was already qualified as estimated based on the low LCS recoveries, and no further qualification was necessary. Low bromomethane MS/MSD recoveries were reported, and the associated sample result was qualified as estimated (see Table 5).

#### Internal Standard (IS) Summaries

To correct for changes in GC/MS response and sensitivity, IS compounds are added to investigative samples and QC samples prior to VOC analyses. All results are calculated as a ratio of the IS response. The criteria by which the IS results are assessed are as follows:

- i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard; and
- ii) the retention time of the IS must not vary more than  $\pm 30$  seconds from the associated calibration standard.

All reported sample IS results met the above criteria and all were correctly used to calculate sample results.

#### Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organics reported adhered to the specified identification criteria.

Trip Blanks - VOCs

Trip blanks are transported, stored, and analyzed with the investigative samples to identify potential cross-contamination of VOCs. One trip blank was collected, and all results were non-detect for the analytes of interest.

Field Duplicates

One sample was collected in duplicate as summarized in Table 1 and submitted to the laboratory for analysis. All sample results showed acceptable sampling and analytical precision.

System Performance

System performance between various QC checks was evaluated to monitor for changes that may have caused the degradation of data quality. The samples identified in Table 1 were reviewed. No technical problems or chromatographic anomalies were observed which require qualification of the data.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported.

TABLE 1  
 SAMPLE COLLECTION AND ANALYSIS SUMMARY  
 SOIL SAMPLING  
 GENERAL MOTORS NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

<i>Sample ID</i>	<i>Location ID</i>	<i>Collection Date (mm/dd/yy)</i>	<i>Collection Time (hr:min)</i>	<i>Parameters TCL VOCs</i>	<i>Comments</i>
RFI-84-09S(0.5-2.5)	RFI-84-09	07/16/05	10:35	X	MS/MSD
RFI-84-09S(8-10)	RFI-84-09	07/16/05	12:15	X	
RFI-84-10S(0.7-2.7)	RFI-84-10	07/16/05	14:30	X	Duplicate of RFI-84-11(0.5-2.5)
RFI-84-10S(2.7-4.7)	RFI-84-10	07/16/05	14:35	X	
RFI-84-11(0.5-2.5)	RFI-84-11	07/16/05	14:40	X	Duplicate of RFI-84-11(0.5-2.5)
Dup-1(071605)	RFI-84-11	07/16/05	-	X	
RFI-84-11(3.5-5.5)	RFI-84-11	07/16/05	14:45	X	Trip Blank
TB-1(071605)	Trip Blank	07/16/05	-	X	

Notes:

- Not applicable.  
 MS Matrix Spike.  
 MSD Matrix Spike Duplicate.  
 TCL Target Compound List.  
 VOCs Volatile Organic Compounds.

**TABLE 2**  
**SUMMARY OF ANALYTICAL METHODOLOGIES**  
**SOIL SAMPLING**  
**GENERAL MOTORS NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JULY 2005**

<i>Parameter</i>	<i>Method</i>
TCL VOCs	SW-846 8260 <sup>1</sup>

Notes:

<sup>1</sup> "Test Methods for Solid Waste Physical/Chemical Methods", SW-846, 3rd Edition, September 1986 (with subsequent revisions).

TCL Target Compound List.

VOCs Volatile Organic Compounds.

TABLE 3  
 QUALIFIED SAMPLE RESULTS DUE TO OUTLYING CONTINUING CALIBRATION RESULTS  
 SOIL SAMPLING  
 GENERAL MOTORS NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

Parameter	Calibration Date	Compound	%D	Associated Sample ID	Sample Results	Units	Qualifier
VOCs	07/26/05	Dichlorodifluoromethane (CFC-12)	37	RFI-84-09S(0.5-2.5)	50 U	µg/kg	UJ
				RFI-84-09S(8-10)	70 U	µg/kg	UJ
				RFI-84-10S(0.7-2.7)	50 U	µg/kg	UJ
				RFI-84-10S(2.7-4.7)	60 U	µg/kg	UJ
				RFI-84-11(0.5-2.5)	60 U	µg/kg	UJ
				RFI-84-11(3.5-5.5)	50 U	µg/kg	UJ
				Dup-1(071605)	60 U	µg/kg	UJ

Notes:  
 %D Percent Difference.  
 U Non-detect at associated value.  
 UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.  
 VOCs Volatile Organic Compounds.

TABLE 4  
 QUALIFIED SAMPLE RESULTS DUE TO OUTLYING LABORATORY CONTROL SAMPLE RESULTS  
 SOIL SAMPLING  
 GENERAL MOTORS NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

Parameter	Preparation Date	Compound	Percent Recovery	Control Limits (percent)	Associated Sample ID	Sample Results	Units	Qualifier
VOCs	07/24/05	Cyclohexane	40	68-137	RFI-84-09S(0.5-2.5)	50 U	µg/kg	UJ
					RFI-84-09S(8-10)	70 U	µg/kg	UJ
					RFI-84-10S(0.7-2.7)	50 U	µg/kg	UJ
					RFI-84-10S(2.7-4.7)	60 U	µg/kg	UJ
					RFI-84-11(0.5-2.5)	60 U	µg/kg	UJ
					RFI-84-11(3.5-5.5)	50 U	µg/kg	UJ
					Dup-1(071605)	60 U	µg/kg	UJ

Notes:  
 U Non-detect at associated value.  
 UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.  
 VOCs Volatile Organic Compounds.

TABLE 5  
 QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES  
 SOIL SAMPLING  
 GENERAL MOTORS NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

Parameter	Associated Sample ID	Analyte	MS Recovery (percent)	MSD Recovery (percent)	RPD	Control Limits		Sample Result	Units	Qualifier
						Recovery (percent)	RPD (percent)			
VOCs	RFI-84-09S(0.5-2.5)	Bromomethane	27	30	10	31-120	20	300 U	µg/Kg	UJ

Notes:  
 MS Matrix Spike.  
 MSD Matrix Spike Duplicate.  
 RPD Relative Percent Difference.  
 U Non-detect at associated value.  
 UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.  
 VOCs Volatile Organic Compounds.



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## MEMORANDUM

TO: Lisa Coffey

FROM: Paul McMahon/js/7 *PM*

C.C.: JoAnn Robertson

RE: **Data Quality Assessment and Validation  
Groundwater Sampling  
General Motors - NAO Flint Operations  
Flint, Michigan**

REF. NO.: 17307-195007

DATE: August 10, 2005

E-Mail and U.S. Mail

The following details a quality assessment and validation of the analytical data resulting from the collection of 16 water, two trip blank, and two field duplicate samples from the General Motors Site (Site) in Flint, Michigan, in July 2005. The sample summary detailing sample identification, sample location, quality control (QC) samples, and analytical parameters is presented in Table 1. Sample analysis was completed at Merit Laboratories, Inc. in East Lansing, Michigan, in accordance with the methodology presented in Table 2. The QC criteria used to assess the data were established by the method and following documents:

- i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", USEPA 540/R-99/008, October 1999; and
- ii) "Innovative Approaches to Data Validation", USEPA Region III, June 1995.

Full Contract Laboratory Program (CLP)-equivalent raw data deliverables were provided by the laboratory. The data quality assessment and validation presented in the following subsections were performed based on the sample results and supporting quality assurance/quality control (QA/QC) provided.

### Holding Time Period and Sample Analysis

The holding time period is presented in the analytical method. All samples were prepared and analyzed within the method-required holding time. All samples were properly cooled after collection and upon receipt at the laboratory.

### Gas Chromatography/Mass Spectrometer (GC/MS) Mass Calibration

Prior to analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the volatile organic compound (VOC) method requires the analysis of the specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 12 hours throughout sample analysis to ensure the continued optimization of the instrument.

Instrument tuning data were reviewed. Tuning compounds were analyzed at the required frequency throughout the VOC analysis periods. All tuning criteria were met for the analyses, indicating proper optimization of the instrumentation.

#### Initial Calibration - Organic Analyses, GC/MS

To quantify compounds of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a minimum of a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range.

Calibration data were reviewed for all samples. Linearity of the calibration curve and instrument sensitivity were evaluated against the following criteria:

- i) all relative response factors (RRFs) must be greater than or equal to 0.05; and
- ii) percent relative standard deviation (%RSD) values must not exceed 30 percent or if quadratic/linear regression is used, the correlation coefficient ( $R^2$ ) value must be at least 0.990.

Initial calibration standards were analyzed as required and all data showed acceptable sensitivity and linearity.

#### Continuing Calibration - Organics, GC/MS

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 12 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) all RRFs values must be greater than or equal to 0.05; and
- ii) percent difference (%D) values must not exceed 25 percent.

Calibration standards were analyzed at the required frequency and all results met the above criteria.

#### Method Blank Samples

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch. All blank results were non-detect for the analytes of interest.

#### Surrogate Compound Percent Recoveries (Surrogate Recoveries)

In accordance with the method employed, all samples, blanks, and QA/QC standards analyzed for VOCs were spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against

laboratory control limits. All sample surrogate recoveries were within the laboratory specified control limits, demonstrating acceptable analytical accuracy.

#### Laboratory Control Sample (LCS) Analysis

The LCS serves as a measure of overall analytical performance. LCSs are prepared with all analytes of interest and analyzed with each sample batch.

LCSs were prepared and analyzed for all VOCs. Most LCS recoveries were within the laboratory specified control limits for all analytes of interest. A high acetone LCS recovery was reported, and the associated detected sample result was qualified as estimated (see Table 3). Some low LCS recoveries were reported, and all associated sample results were qualified as estimated (see Table 3).

#### Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

MS/MSD samples are prepared and analyzed with each sample batch. The recoveries of spike analyses are used to assess the analytical accuracy achieved on individual sample matrices. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as shown in Table 1. Most MS/MSD recoveries were within laboratory control limits demonstrating acceptable overall analytical accuracy and precision. Low cyclohexane recoveries were reported for both MS/MSD samples. The associated sample results were already qualified as estimated based on the low LCS recoveries, and no further qualification was necessary. One high MSD recovery was reported, but the associated sample result was non-detect and was not impacted by the indicated high bias.

#### Internal Standard (IS) Summaries

To correct for changes in GC/MS response and sensitivity, IS compounds are added to investigative samples and QC samples prior to VOC analyses. All results are calculated as a ratio of the IS response. The criteria by which the IS results are assessed are as follows:

- i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard; and
- ii) the retention time of the IS must not vary more than  $\pm 30$  seconds from the associated calibration standard.

All sample IS results met the above criteria and all were correctly used to calculate sample results.

#### Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organics reported adhered to the specified identification criteria.

### Trip Blanks - VOCs

Trip blanks are transported, stored, and analyzed with the investigative samples to identify potential cross-contamination of VOCs. Trip blanks were collected at the proper frequency, and most results were non-detect for the analytes of interest. Benzene and 1,1-dichloroethane were detected in one trip blank. All associated 1,1-dichloroethane sample results were either non-detect or greater than five times the contamination present and no qualification of the data was necessary. Associated detected benzene results were qualified as non-detect (see Table 4).

### Field Duplicates

Two samples were collected in duplicate as summarized in Table 1 and submitted to the laboratory for analysis. All sample results showed acceptable sampling and analytical precision.

### System Performance

System performance between various QC checks was evaluated to monitor for changes that may have caused the degradation of data quality. The samples identified in Table 1 were reviewed. No technical problems or chromatographic anomalies were observed which require qualification of the data.

### Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported.

**TABLE 1**  
**SAMPLE COLLECTION AND ANALYSIS SUMMARY**  
**GROUNDWATER SAMPLING**  
**GENERAL MOTORS NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JULY 2005**

Sample ID	Location ID	Collection Date	Collection Time	Parameters		Comments
				TCL	VOCs	
RFI-36-56(072105)	RFI-36-56	07/21/05	10:35		X	
RFI-84-10D(072105)	RFI-84-10D	07/21/05	13:00		X	
RFI-84-06RD(072105)	RFI-84-06RD	07/21/05	12:15		X	
RFI-84-09D(072205)	RFI-84-09D	07/22/05	13:10		X	
RFI-09-58(072205)	RFI-09-58	07/22/05	11:00		X	
Dupe-1(072205)	RFI-09-58	07/22/05	-		X	Duplicate of RFI-09-58(072205)
RFI-84-8S(072205)	RFI-84-8S	07/22/05	11:35		X	
RFI-84-06R(072205)	RFI-84-06R	07/22/05	13:20		X	
RFI-84-09S(072205)	RFI-84-09S	07/22/05	13:31		X	
RFI-84-10S(072205)	RFI-84-10S	07/22/05	11:30		X	MS/MSD
TB-01(072105)	Trip Blank	07/21/05	-		X	Trip Blank
RFI-84-04D(072805)	RFI-84-04D	07/28/05	14:20		X	
RFI-84-04S(072805)	RFI-84-04S	07/28/05	16:05		X	
TB-1(072805)	Trip Blank	07/28/05	-		X	Trip Blank
84-6R2D(072905)	84-6R2D	07/29/05	10:25		X	
RFI-17-02D(072905)	RFI-17-02D	07/29/05	8:40		X	MS/MSD
RFI-84-03S(072905)	RFI-84-03S	07/29/05	10:45		X	
Dupe-01(072905)	RFI-84-03S	07/29/05	-		X	Duplicate of RFI-84-03S(072905)
RFI-84-03I(072905)	RFI-84-03I	07/29/05	9:55		X	
RFI-84-03D(072905)	RFI-84-03D	07/29/05	9:00		X	

Notes:

- Not applicable.
- MS Matrix Spike.
- MSD Matrix Spike Duplicate.
- TCL Target Compound List.
- VOCs Volatile Organic Compounds.

**TABLE 2**  
**SUMMARY OF ANALYTICAL METHODOLOGIES**  
**GROUNDWATER SAMPLING**  
**GENERAL MOTORS NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JULY 2005**

<i>Parameter</i>	<i>Method</i>
TCL VOCs	SW-846 8260 <sup>1</sup>

Notes:

<sup>1</sup> "Test Methods for Solid Waste Physical/Chemical Methods", SW-846, 3rd Edition, September 1986 (with subsequent revisions).

TCL Target Compound List.

VOCs Volatile Organic Compounds.

TABLE 3  
 QUALIFIED SAMPLE RESULTS DUE TO OUTLYING LABORATORY CONTROL SAMPLE RESULTS  
 GROUNDWATER SAMPLING  
 GENERAL MOTORS NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

Parameter	Preparation Date	Compound	Percent Recovery	Control Limits (percent)	Associated Sample ID	Sample Results	Units	Qualifier
VOCs	07/24/05	Cyclohexane	44	78-146	RFI-84-06RD(072105)	1 U	µg/L	UJ
					RFI-84-10d(072105)	1 U	µg/L	UJ
					RFI-84-09S(072205)	1 U	µg/L	UJ
					RFI-84-06R(072205)	1 U	µg/L	UJ
					RFI-84-09D(072205)	1 U	µg/L	UJ
					RFI-84-8S(072205)	1 U	µg/L	UJ
					Dupe-1(072205)	1 U	µg/L	UJ
					RFI-36-56(072105)	1 U	µg/L	UJ
					RFI-84-10S(072205)	1 U	µg/L	UJ
					RFI-09-58(072205)	1 U	µg/L	UJ
					RFI-17-02D(072905)	3 J	µg/L	J
					RFI-84-03I(072905)	1 J	µg/L	J
					Dupe-01(072905)	5 U	µg/L	UJ
RFI-84-03D(072905)	0.5 J	µg/L	J					
RFI-84-04S(072805)	5 U	µg/L	UJ					
RFI-84-04D(072805)	2 J	µg/L	J					
RFI-84-03S(072905)	5 U	µg/L	UJ					
VOCs	07/29/05	Methyl Tert Butyl Ether	74	75-136	RFI-84-04D(072805)	1 U	µg/L	UJ
					RFI-84-03S(072905)	1 U	µg/L	UJ
					RFI-84-04S(072805)	1 U	µg/L	UJ
					RFI-84-03D(072905)	1 U	µg/L	UJ
					RFI-17-02D(072905)	1 U	µg/L	UJ
Dupe-01(072905)	1 U	µg/L	UJ					
VOCs	07/29/05	Cyclohexane	35	78-146	RFI-84-04D(072805)	1 U	µg/L	UJ
					RFI-84-03S(072905)	1 U	µg/L	UJ
					RFI-84-04S(072805)	1 U	µg/L	UJ
					RFI-84-03D(072905)	1 U	µg/L	UJ
VOCs	07/31/05	Acetone	123	28-122	84-6R2D(072905)	100 J	µg/L	J
					84-6R2D(072905)	100 U	µg/L	UJ
					84-6R2D(072905)	10 U	µg/L	UJ
					84-6R2D(072905)	10 U	µg/L	UJ
VOCs	07/31/05	4-Methyl-2-Pentanone	79	80-120	84-6R2D(072905)	10 U	µg/L	UJ
					84-6R2D(072905)	10 U	µg/L	UJ

Notes:  
 J Estimated.  
 U Non-detect at associated value.  
 UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.  
 VOCs Volatile Organic Compounds.

TABLE 4  
 QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE TRIP BLANK  
 GROUNDWATER SAMPLING  
 GENERAL MOTORS NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

Parameter	Blank Date	Analyte	Blank Result	Associated Sample ID	Sample Result	Qualified Result	Units
VOCs	07/22/05	Benzene	0.3 J	RFI-09-58(072205) Dupe-1(072205)	0.3 J 0.3 J	1 U 1 U	µg/L µg/L

Notes:  
 J Estimated.  
 U Non-detect at associated value.  
 VOCs Volatile Organic Compounds.



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## MEMORANDUM

TO: Lisa Coffey

FROM: Paul McMahon/js/6 *pm*

C.C.: JoAnn Robertson

RE: **Data Quality Assessment and Validation  
Groundwater Sampling  
General Motors - NAO Flint Operations  
Flint, Michigan**

REF. NO.: 17307-195008

DATE: August 9, 2005

E-Mail and U.S. Mail

PREVIOUSLY TRANSMITTED  
BY E-MAIL

The following details a quality assessment and validation of the analytical data resulting from the collection of three water samples from the General Motors Site (Site) in Flint, Michigan, in July 2005. The sample summary detailing sample identification, sample location, quality control (QC) samples, and analytical parameters is presented in Table 1. Sample analysis was completed at Merit Laboratories, Inc. in East Lansing, Michigan, in accordance with the methodology presented in Table 2. The QC criteria used to assess the data were established by the method and following documents:

- i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", USEPA 540/R-99/008, October 1999; and
- ii) "Innovative Approaches to Data Validation", USEPA Region III, June 1995.

Full Contract Laboratory Program (CLP)-equivalent raw data deliverables were provided by the laboratory. The data quality assessment and validation presented in the following subsections were performed based on the sample results and supporting quality assurance/quality control (QA/QC) provided.

### Holding Time Period and Sample Analysis

The holding time period is presented in the analytical method. All samples were prepared and analyzed within the method-required holding time. All samples were properly cooled after collection and upon receipt at the laboratory.

### Gas Chromatography/Mass Spectrometer (GC/MS) Mass Calibration

Prior to analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the volatile organic compound (VOC) method requires the analysis of the specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 12 hours throughout sample analysis to ensure the continued optimization of the instrument.

Instrument tuning data were reviewed. Tuning compounds were analyzed at the required frequency throughout the VOC analysis periods. All tuning criteria were met for the analyses, indicating proper optimization of the instrumentation.

#### Initial Calibration – Organic Analyses, GC/MS

To quantify compounds of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a minimum of a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range.

Calibration data were reviewed for all samples. Linearity of the calibration curve and instrument sensitivity were evaluated against the following criteria:

- i) all relative response factors (RRFs) must be greater than or equal to 0.05; and
- ii) percent relative standard deviation (%RSD) values must not exceed 30 percent or if quadratic/linear regression is used, the correlation coefficient ( $R^2$ ) value must be at least 0.990.

Initial calibration standards were analyzed as required and all data showed acceptable sensitivity and linearity.

#### Continuing Calibration - Organics, GC/MS

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 12 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) all Relative Response Factors (RRFs) values must be greater than or equal to 0.05; and
- ii) percent difference (%D) values must not exceed 25 percent.

Calibration standards were analyzed at the required frequency and all results met the above criteria for instrument sensitivity. One compound exhibited variability in instrument response. Associated sample results for this compound were qualified as estimated (see Table 3).

#### Method Blank Samples

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch. All blank results were non-detect for the analytes of interest.

#### Surrogate Compound Percent Recoveries (Surrogate Recoveries)

In accordance with the method employed, all samples, blanks, and QA/QC standards analyzed for VOCs were spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against

laboratory control limits. All sample surrogate recoveries were within the laboratory specified control limits, demonstrating acceptable analytical accuracy.

#### Laboratory Control Sample (LCS) Analysis

The LCS serves as a measure of overall analytical performance. LCSs are prepared with all analytes of interest and analyzed with each sample batch.

LCSs were prepared and analyzed for all VOCs. Most LCS recoveries were within the laboratory specified control limits for the analytes of interest. A high acetone LCS recovery was reported, and the associated detected sample result was qualified as estimated (see Table 4). Some low LCS recoveries were reported, and all associated sample results were qualified as estimated (see Table 4).

#### Internal Standard (IS) Summaries

To correct for changes in GC/MS response and sensitivity, IS compounds are added to investigative samples and QC samples prior to VOC analyses. All results are calculated as a ratio of the IS response. The criteria by which the IS results are assessed are as follows:

- i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard; and
- ii) the retention time of the IS must not vary more than  $\pm 30$  seconds from the associated calibration standard.

All reported sample IS results met the above criteria and all were correctly used to calculate sample results.

#### Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organics reported adhered to the specified identification criteria.

#### System Performance

System performance between various QC checks was evaluated to monitor for changes that may have caused the degradation of data quality. The samples identified in Table 1 were reviewed. No technical problems or chromatographic anomalies were observed which require qualification of the data.

#### Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported.

**TABLE 1**  
**SAMPLE COLLECTION AND ANALYSIS SUMMARY**  
**GROUNDWATER SAMPLING**  
**GENERAL MOTORS NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JULY 2005**

<i>Sample ID</i>	<i>Location ID</i>	<i>Collection Date</i>	<i>Collection Time</i>	<u><i>Parameters</i></u> <i>TCL VOCs</i>
84-7d(072805)	84-7d	07/28/05	15:03	X
RFI-84-07d(072805)	RFI-84-07d	07/28/05	13:25	X
RFI-84-11s(072805)	RFI-84-11s	07/28/05	11:25	X

Notes:

TCL Target Compound List.  
VOCs Volatile Organic Compounds.

**TABLE 2**  
**SUMMARY OF ANALYTICAL METHODOLOGIES**  
**GROUNDWATER SAMPLING**  
**GENERAL MOTORS NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JULY 2005**

<i>Parameter</i>	<i>Method</i>
TCL VOCs	SW-846 8260 <sup>1</sup>

Notes:

<sup>1</sup> "Test Methods for Solid Waste Physical/Chemical Methods",  
SW-846, 3rd Edition, September 1986 (with subsequent  
revisions).

TCL Target Compound List.

VOCs Volatile Organic Compounds.

TABLE 3  
 QUALIFIED SAMPLE RESULTS DUE TO OUTLYING CONTINUING CALIBRATION RESULTS  
 GROUNDWATER SAMPLING  
 GENERAL MOTORS NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

<i>Parameter</i>	<i>Calibration Date</i>	<i>Compound</i>	<i>%D</i>	<i>Associated Sample ID</i>	<i>Sample Results</i>	<i>Units</i>	<i>Qualifier</i>
VOCs	07/31/05	Acetone	34	RFI-84-11s(072805)	30 U	µg/L	UJ
				RFI-84-07d(072805)	200 J	µg/L	J

Notes:

%D Percent Difference.

U Non-detect at associated value.

UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.

VOCs Volatile Organic Compounds.

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING LABORATORY CONTROL SAMPLE RESULTS  
 GROUNDWATER SAMPLING  
 GENERAL MOTORS NAO FLINT OPERATIONS  
 FLINT, MICHIGAN  
 JULY 2005

Parameter	Preparation Date	Compound	Percent Recovery	Control Limits (percent)	Associated Sample ID	Sample Results	Units	Qualifier
VOCs	07/29/05	Methyl Tert Butyl Ether	74	75-136	84-7d(072805)	5 U	µg/L	UJ
VOCs	07/29/05	Cyclohexane	35	78-146	84-7d(072805)	1 U	µg/L	UJ
VOCs	07/31/05	Cyclohexane	37	78-146	RFI-84-07d(072805) RFI-84-11s(072805)	70 1 U	µg/L µg/L	J UJ
VOCs	07/31/05	4-Methyl-2-Pentanone	79	80-120	RFI-84-07d(072805) RFI-84-11s(072805)	10 U 1 U	µg/L µg/L	UJ UJ
VOCs	07/31/05	Methyl Acetate	76	77-126	RFI-84-07d(072805) RFI-84-11s(072805)	100 U 10 U	µg/L µg/L	UJ UJ
VOCs	07/31/05	Acetone	123	28-122	RFI-84-07d(072805)	200 J	µg/L	J

## Notes:

- J Estimated.
- U Non-detect at associated value.
- UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- VOCs Volatile Organic Compounds.



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## MEMORANDUM

TO: Lisa Coffey

FROM: Paul McMahon/js/4 *PM*

C.C.: JoAnn Robertson

RE: **Data Quality Assessment and Validation  
Groundwater Sampling  
General Motors - NAO Flint Operations  
Flint, Michigan**

REF. NO.: 17307-195006

DATE: July 15, 2005

E-Mail and U.S. Mail

**PREVIOUSLY TRANSMITTED  
BY E-MAIL**

The following details a quality assessment and validation of the analytical data resulting from the collection of 10 water, three trip blank, one equipment blank, and one field duplicate sample from the General Motors Site (Site) in Flint, Michigan, in June and July 2005. The sample summary detailing sample identification, sample location, quality control (QC) samples, and analytical parameters is presented in Table 1. Sample analysis was completed at Merit Laboratories, Inc. in East Lansing, Michigan, in accordance with the methodology presented in Table 2. The QC criteria used to assess the data were established by the method and following documents:

- i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", USEPA 540/R-99/008, October 1999; and
- ii) "Innovative Approaches to Data Validation", USEPA Region III, June 1995.

Full Contract Laboratory Program (CLP)-equivalent raw data deliverables were provided by the laboratory. The data quality assessment and validation presented in the following subsections were performed based on the sample results and supporting quality assurance/quality control (QA/QC) provided.

### Holding Time Period and Sample Analysis

The holding time period is presented in the analytical method. All samples were prepared and analyzed within the method-required holding time. All samples were properly cooled after collection and upon receipt at the laboratory.

### Gas Chromatography/Mass Spectrometer (GC/MS) Mass Calibration

Prior to analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the volatile organic compound (VOC) method requires the analysis of the specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 12 hours throughout sample analysis to ensure the continued optimization of the instrument.

Instrument tuning data were reviewed. Tuning compounds were analyzed at the required frequency throughout the VOC analysis periods. All tuning criteria were met for the analyses, indicating proper optimization of the instrumentation.

#### Initial Calibration - Organic Analyses, GC/MS

To quantify compounds of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a minimum of a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range.

Calibration data were reviewed for all samples. Linearity of the calibration curve and instrument sensitivity were evaluated against the following criteria:

- i) all relative response factors (RRFs) must be greater than or equal to 0.05; and
- ii) percent relative standard deviation (%RSD) values must not exceed 30 percent or if quadratic/linear regression is used, the correlation coefficient ( $R^2$ ) value must be at least 0.990.

Initial calibration standards were analyzed as required and all data showed acceptable sensitivity and linearity.

#### Continuing Calibration - Organics, GC/MS

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 12 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) all Relative Response Factors (RRFs) values must be greater than or equal to 0.05; and
- ii) percent difference (%D) values must not exceed 25 percent.

Calibration standards were analyzed at the required frequency and all results met the above criteria for instrument sensitivity. One compound exhibited variability in instrument response. Associated sample results for this compound were qualified as estimated (see Table 3).

#### Method Blank Samples

Method blanks are prepared and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch. Most blank results were non-detect for the analytes of interest. Methylene chloride was detected in one method blank, and the associated sample results were qualified as non-detect (see Table 4).

### Surrogate Compound Percent Recoveries (Surrogate Recoveries)

In accordance with the method employed, all samples, blanks, and QA/QC standards analyzed for VOCs were spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against laboratory control limits. All sample surrogate recoveries were within the laboratory specified control limits, demonstrating acceptable analytical accuracy.

### Laboratory Control Sample (LCS) Analysis

The LCS serves as a measure of overall analytical performance. LCSs are prepared with all analytes of interest and analyzed with each sample batch.

LCSs were prepared and analyzed for all VOCs. The LCS recoveries were within the laboratory specified control limits for all analytes of interest.

### Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

MS/MSD samples are prepared and analyzed with each sample batch. The recoveries of spike analyses are used to assess the analytical accuracy achieved on individual sample matrices. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as shown in Table 1. All MS/MSD recoveries were within laboratory control limits demonstrating acceptable overall analytical accuracy and precision.

### Internal Standard (IS) Summaries

To correct for changes in GC/MS response and sensitivity, IS compounds are added to investigative samples and QC samples prior to VOC analyses. All results are calculated as a ratio of the IS response. The criteria by which the IS results are assessed are as follows:

- i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard; and
- ii) the retention time of the IS must not vary more than  $\pm 30$  seconds from the associated calibration standard.

All sample IS results met the above criteria and all were correctly used to calculate sample results.

### Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organics reported adhered to the specified identification criteria.

Trip Blanks - VOCs

Trip blanks are transported, stored, and analyzed with the investigative samples to identify potential cross-contamination of VOCs. Trip blanks were collected at the proper frequency, and most results were non-detect for the analytes of interest. Chloroform and styrene were detected in the blanks. All associated sample results were non-detect, and no qualification of the data was necessary.

Field Duplicates

One sample was collected in duplicate as summarized in Table 1 and submitted to the laboratory for analysis. All sample results showed acceptable sampling and analytical precision.

Equipment Blanks

To assess contamination from field equipment cleaning activities, one equipment blank was collected as identified in Table 1. Most sample results were non-detect for the analytes of interest. Chloroform was detected in the blank. All associated sample results were non-detect, and no qualification of the data was necessary.

System Performance

System performance between various QC checks was evaluated to monitor for changes that may have caused the degradation of data quality. The samples identified in Table 1 were reviewed. No technical problems or chromatographic anomalies were observed which require qualification of the data.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported.

**TABLE 1**  
**SAMPLE COLLECTION AND ANALYSIS SUMMARY**  
**GROUNDWATER SAMPLING**  
**GENERAL MOTORS NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JUNE - JULY 2005**

<i>Sample ID</i>	<i>Location ID</i>	<i>Collection Date</i>	<i>Collection Time</i>	<i>Parameters TCL VOCs</i>	<i>Comments</i>
RFI-10-35(062905)	RFI-10-35	06/29/05	10:45	X	
RFI-10-36(062905)	RFI-10-36	06/29/05	11:45	X	
RFI-10-34(062905)	RFI-10-34	06/29/05	13:05	X	MS/MSD
RFI-10-33(62905)	RFI-10-33	06/29/05	14:15	X	
TB-1(062905)	-	06/29/05	-	X	Trip Blank
RFI-10-29(063005)	RFI-10-29	06/30/05	11:30	X	
RFI-84-7(070105)	RFI-84-7	07/01/05	9:30	X	
TB-1(070105)	-	07/01/05	-	X	Trip Blank
EB-1(070105)	-	07/01/05	17:00	X	Equipment Blank
RFI-36-55(070605)	RFI-36-55	07/06/05	9:10	X	
RFI-84-8(070605)	RFI-84-8	07/06/05	11:20	X	
Dupe-1(070605)	RFI-84-8	07/06/05	-	X	Duplicate of RFI-84-8(070605)
RFI-09-56(070605)	RFI-09-56	07/06/05	13:50	X	
RFI-09-57(070605)	RFI-09-57	07/06/05	14:55	X	
TB(070605)	-	07/06/05	-	X	Trip Blank

Notes:

- Not applicable.
- MS Matrix Spike.
- MSD Matrix Spike Duplicate.
- TCL Target Compound List.
- VOCs Volatile Organic Compounds.

**TABLE 2**  
**SUMMARY OF ANALYTICAL METHODOLOGIES**  
**GROUNDWATER SAMPLING**  
**GENERAL MOTORS NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JUNE - JULY 2005**

<i>Parameter</i>	<i>Method</i>
TCL VOCs	SW-846 8260 <sup>1</sup>

Notes:

<sup>1</sup> "Test Methods for Solid Waste Physical/Chemical Methods", SW-846, 3rd Edition, September 1986 (with subsequent revisions).

TCL Target Compound List.

VOCs Volatile Organic Compounds.

**TABLE 3**  
**QUALIFIED SAMPLE RESULTS DUE TO OUTLYING CONTINUING CALIBRATION RESULTS**  
**GROUNDWATER SAMPLING**  
**GENERAL MOTORS NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JUNE - JULY 2005**

<i>Parameter</i>	<i>Calibration Date</i>	<i>Compound</i>	<i>%D</i>	<i>Associated Sample ID</i>	<i>Sample Results</i>	<i>Units</i>	<i>Qualifier</i>
VOCs	07/06/05	Dichlorodifluoromethane (CFC-12)	34	RFI-10-33(062905)	1 U	µg/L	UJ
				RFI-10-36(062905)	1 U	µg/L	UJ
				RFI-10-34(062905)	1 U	µg/L	UJ
				RFI-10-29(063005)	1 U	µg/L	UJ
				RFI-10-35(062905)	1 U	µg/L	UJ
				RFI-84-7(070105)	1 U	µg/L	UJ

Notes:

- %D Percent Difference.
- U Non-detect at associated value.
- UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- VOCs Volatile Organic Compounds.

**TABLE 4**  
**QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE LABORATORY BLANKS**  
**GROUNDWATER SAMPLING**  
**GENERAL MOTORS NAO FLINT OPERATIONS**  
**FLINT, MICHIGAN**  
**JUNE - JULY 2005**

<i>Parameter</i>	<i>Analysis Date</i>	<i>Analyte</i>	<i>Blank Result</i>	<i>Sample ID</i>	<i>Sample Result</i>	<i>Qualified Result</i>	<i>Units</i>
VOCs	07/06/05	Methylene Chloride	1.04	RFI-10-35(062905)	0.5 J	5 U	µg/L
				RFI-10-36(062905)	0.3 J	5 U	µg/L
				RFI-10-34(062905)	0.3 J	5 U	µg/L

Note:

U Non-detect at associated value.

UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.

VOCs Volatile Organic Compounds.