CONESTOGA-ROVERS & ASSOCIATES

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MEMORANDUM

TO:	Kevin Lund, MDEQ Jackson District RRD	REF. NO.:	017358
FROM:	Beth Landale	DATE:	October 10, 2013
CC:	Grant Trigger, RACER David Favero, RACER Laina Jerdon, CRA		
RE:	RFI Work Plan Addendum No. 2 Data Results Willow Run Powertrain Ypsilanti, Michigan		

This memorandum serves to summarize the results of the Resource Conservation Recovery Act (RCRA) Facility Investigation (RFI) Work Plan Addendum No. 2 field investigation that was completed on August 13th and 14th, 2013. These additional investigations were required to further delineate concentrations of constituents which exceeded applicable screening criteria from previously completed investigations. These previous results were presented in the RFI Work Plan Addendum No. 2 and RFI Report submitted to the Michigan Department of Environmental Quality (MDEQ) in August and October 2013, respectively.

As described in the RFI Work Plan Addendum No. 2, the following field activities were completed:

- Five soil borings were completed to further delineate shallow soil exceedances for arsenic above non-residential direct contact criteria.
- Two soil borings were completed to further delineate shallow soil exceedances for manganese above non-residential particulate soil inhalation criteria.
- Twelve soil borings were completed with borehole water samples collected from each location to further delineate volatile organic compound (VOC) impacted soil and groundwater.

In addition to those activities described in the work plan the following activities were competed:

- An additional sample was collected from the 0 – 6 inch interval from CRA-839SB to evaluate manganese concentrations in the gravel immediately at the surface in this location.
- An additional soil sample was collected at 2 – 4 feet below ground surface from CRA-873SB due to elevated reading on the photoionization detector. This location was sampled planned to be sampled for arsenic delineation.

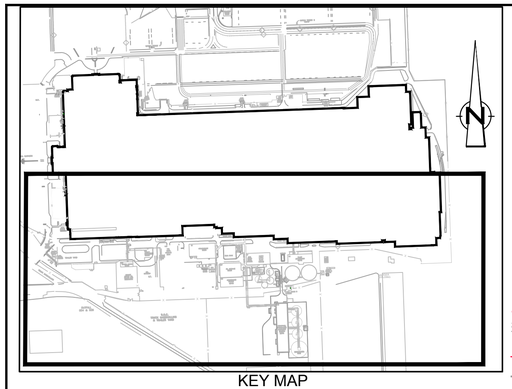
The soil and groundwater data collected in August 2013 are presented in Tables 1 and 2, respectively. Figure 1 identifies the locations of the sampling points.

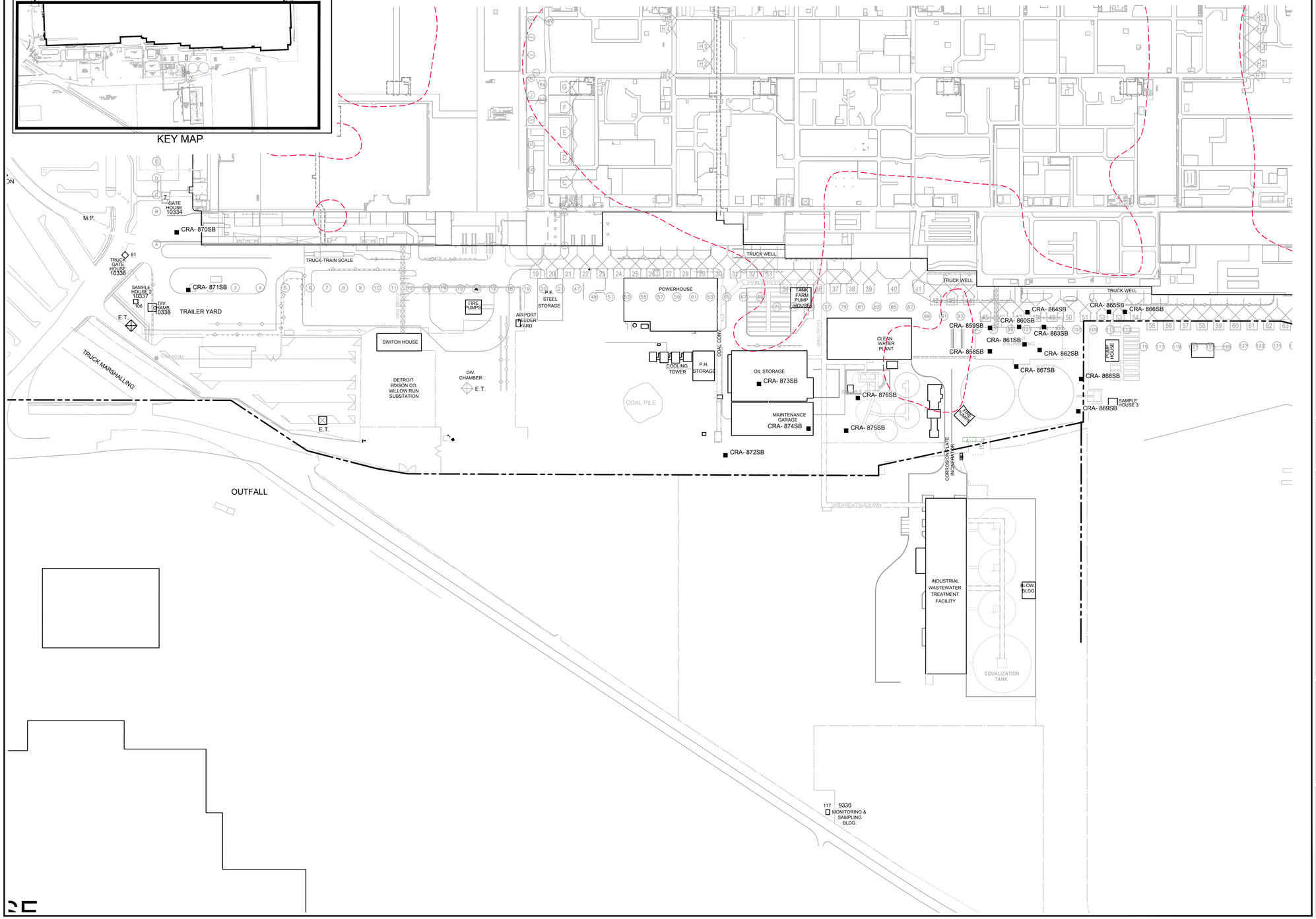
Based on the results of this sampling event, the manganese and arsenic exceedances are sufficiently delineated. The VOC impacts in the soil and groundwater near the southeast property boundary, north of the current wastewater treatment plant require additional delineation activities.

REGISTERED COMPANY FOR ISO 9001 ENGINEERING DESIGN

EQUAL EMPLOYMENT OPPORTUNITY EMPLOYER

DRAWINGS





NΩ	Revision	Date	Initial

0 40 120ft

LEGEND

- PROPERTY BOUNDARY
- FENCE LINE
- APPROXIMATE EXTENT OF LNAPL BASED ON LIF AND IN WELL MEASUREMENTS
- ■ CRA-867SB SOIL BORING COMPLETED IN AUGUST 2013

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

SOIL BORING LOCATIONS COMPLETED AUGUST 2013

YPSILANTI, MICHIGAN

RFI WORK PLAN ADDENDUM NO. 2
WILLOW RUN POWERTRAIN

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
B. LANDALE	D. BECK	OCTOBER 2013	
Scale: 1"=120'	Project Nº: 017358-T01	Report Nº: MEMO107	Drawing Nº: 1

017358-T01(MEMO107)GN-DE001 OCT 8/2013

TABLES

TABLE 1

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation		*Michigan Act 451, Part 201 Cleanup Criteria and Part 213 Risk-based Screening Levels: Residential and Non-Residential Generic Cleanup Criteria* (1)														
Perimeter Status (1)		Statewide	Drinking	Non-Residential Drinking	Groundwater	Groundwater	Soil Volatilization	Non-Residential Soil Volatilization	Infinite Source	Non-Residential Infinite Source	Finite VSIC for	Non-Residential Finite VSIC for	Finite VSIC for	Non-Residential Finite VSIC for	Particulate	Non-Residential Particulate	Direct
Sample Location		Default	Water	Water	Surface Water	Contact	to Indoor Air	to Indoor Air	Volatile Soil	Volatile Soil	5 Meter Source	5 Meter Source	2 Meter Source	2 Meter Source	Soil Inhalation	Soil Inhalation	Contact
Sample Identification		Background	Protection	Protection	Interface Protection	Protection	Inhalation	Inhalation	Inhalation	Inhalation	Thickness	Thickness	Thickness	Thickness			
Sample Date		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
Sample Depth																	
Sample Type																	
	Units																
Volatile Organic Compounds (VOCs)																	
1,1,1-Trichloroethane	mg/kg	4	4	1.8	460	250	460	3800	4500	12000	15000	28000	31000	67000000	29000000	460
1,1,2,2-Tetrachloroethane	mg/kg	0.17	0.7	1.6	94	4.3	23	10	34	10	34	14	34	54000	68000	53
1,1,2-Trichloroethane	mg/kg	0.1	0.1	6.6	420	4.6	24	17	57	21	57	44	120	190000	250000	180
1,1-Dichloroethane	mg/kg	18	50	15	890	230	430	2100	2500	5900	6000	14000	14000	33000000	15000000	890
1,1-Dichloroethene	mg/kg	0.14	0.14	2.6	220	0.062	0.33	1.1	3.7	5.3	15	13	37	62000	78000	200
1,2,4-Trichlorobenzene	mg/kg	4.2	4.2	5.9	1100	1100	1100	28000	34000	28000	34000	28000	34000	25000000	11000000	990
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.01	0.01	ID	1.2	0.22	1.2	0.26	0.9	0.26	0.9	0.26	0.9	560	700	1.2
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.02	0.02	0.11	0.5	0.67	3.6	1.7	5.8	1.7	5.8	3.3	9.8	14000	18000	0.092
1,2-Dichlorobenzene	mg/kg	14	14	0.28	210	210	210	39000	46000	39000	46000	52000	55000	100000000	44000000	210
1,2-Dichloroethane	mg/kg	0.1	0.1	7.2	380	2.1	11	6.2	21	11	33	26	74	120000	150000	91
1,2-Dichloropropane	mg/kg	0.1	0.1	4.6	320	4	7.4	25	30	50	51	110	120	270000	120000	140
1,3-Dichlorobenzene	mg/kg	0.17	0.48	0.68	51	26	48	79	94	79	94	110	110	200000	8800	170
1,4-Dichlorobenzene	mg/kg	1.7	1.7	0.36	140	19	100	77	260	77	260	110	340	450000	570000	400
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	260	760	44	27000	27000	27000	29000	35000	29000	35000	35000	36000	67000000	29000000	27000
2-Hexanone	mg/kg	20	58	ID	2500	990	1800	1100	1300	1100	1300	1400	1500	2700000	1200000	2500
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	36	100	ID	2700	2700	2700	45000	53000	45000	53000	67000	70000	140000000	60000000	2700
Acetone	mg/kg	15	42	34	110000	110000	110000	130000	160000	130000	160000	190000	200000	390000000	170000000	23000
Benzene	mg/kg	0.1	0.1	4	220	1.6	8.4	13	45	34	99	79	230	380000	470000	180
Bromodichloromethane	mg/kg	1.6	1.6	ID	280	1.2	6.4	9.1	31	9.7	31	19	57	84000	110000	110
Bromoform	mg/kg	1.6	1.6	ID	870	150	770	900	3100	900	3100	900	3100	2800000	3600000	820
Bromomethane (Methyl bromide)	mg/kg	0.2	0.58	0.7	1400	0.86	1.6	11	13	57	57	140	140	330000	150000	320
Carbon disulfide	mg/kg	16	46	ID	280	76	140	1300	1600	7900	8000	19000	19000	47000000	21000000	280
Carbon tetrachloride	mg/kg	0.1	0.1	0.9	92	0.19	0.99	3.5	12	12	34	28	79	130000	170000	96
Chlorobenzene	mg/kg	2	2	0.5	260	120	220	770	920	990	1100	2100	2100	4700000	2100000	260
Chloroethane	mg/kg	8.6	34	22	950	950	950	30000	36000	120000	120000	280000	280000	670000000	290000000	950
Chloroform (Trichloromethane)	mg/kg	1.6	1.6	7	1500	7.2	38	45	150	120	340	270	790	1300000	1600000	1200
Chloromethane (Methyl chloride)	mg/kg	5.2	22	ID	1100	2.3	10	40	120	410	1000	1000	2500	4900000	2600000	1100
cis-1,2-Dichloroethene	mg/kg	1.4	1.4	12	640	22	41	180	210	420	430	990	1000	2300000	1000000	640
cis-1,3-Dichloropropene	mg/kg															
Cyclohexane	mg/kg															
Dibromochloromethane	mg/kg	1.6	1.6	ID	360	3.9	21	24	80	24	80	33	98	130000	160000	110
Dichlorodifluoromethane (CFC-12)	mg/kg	95	270	ID	1000	900	1700	53000	63000	550000	550000	1400000	1400000	3300000000	1500000000	1000
Ethylbenzene	mg/kg	1.5	1.5	0.36	140	87	140	720	2400	1000	3100	2200	6500	10000000	13000000	140
Isopropyl benzene	mg/kg	91	260	3.2	390	390	390	1700	2000	1700	2000	2800	3000	5800000	2600000	390
Methyl acetate	mg/kg															
Methyl cyclohexane	mg/kg															
Methyl tert butyl ether (MTBE)	mg/kg	0.8	0.8	140	5900	5900	5900	25000	30000	39000	41000	87000	89000	200000000	88000000	1500
Methylene chloride	mg/kg	0.1	0.1	30	2300	45	240	210	700	590	1700	1400	4000	6600000	8300000	1300
Styrene	mg/kg	2.7	2.7	2.1	270	250	520	970	3300	970	3300	1400	4200	5500000	6900000	400
Tetrachloroethene	mg/kg	0.1	0.1	1.2	88	11	21	170	210	480	490	1100	1100	2700000	1200000	88
Toluene	mg/kg	16	16	5.4	250	250	250	2800	3300	5100	36000	12000	36000	27000000	12000000	250
trans-1,2-Dichloroethene	mg/kg	2	2	30	1400	23	43	280	330	830	840	2000	2000	4700000	2100000	1400
trans-1,3-Dichloropropene	mg/kg															
Trichloroethene	mg/kg	0.1	0.1	4	440	1.0	1.9	11	14	25	25	57	58	130000	59000	500
Trichlorofluoromethane (CFC-11)	mg/kg	52	150		560	560	560	92000	110000	630000	140000000	1500000	140000000	3800000000	1700000000	560
Trifluorotrichloroethane (Freon 113)	mg/kg	550	550	1.7	550	550	550	180000	210000	880000	890000	2100000	2100000	5100000000	2300000000	550
Vinyl chloride	mg/kg	0.04	0.04	0.26	20	0.27	2.8	4.2	29	30	170	73	420	350000	890000	3.8
Xylenes (total)	mg/kg	5.6	5.6	0.82	150	150	150	46000	54000	61000	65000	130000	130000	290000000	130000000	150

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation		*Michigan Act 451, Part 201 Cleanup Criteria and Part 213 Risk-based Screening Levels: Residential and Non-Residential Generic Cleanup Criteria* (1)														
Perimeter Status (1)		Statewide	Drinking	Non-Residential Drinking	Groundwater	Groundwater	Soil Volatilization	Non-Residential Soil Volatilization	Infinite Source	Non-Residential Infinite Source	Finite VSIC for	Non-Residential Finite VSIC for	Finite VSIC for	Non-Residential Finite VSIC for	Particulate	Non-Residential Particulate	Direct
Sample Location		Default	Water	Water	Surface Water	Contact	to Indoor Air	to Indoor Air	Volatile Soil	Volatile Soil	5 Meter Source	5 Meter Source	2 Meter Source	2 Meter Source	Soil Inhalation	Soil Inhalation	Contact
Sample Identification		Background	Protection	Protection	Interface Protection	Protection	Inhalation	Inhalation	Inhalation	Inhalation	Thickness	Thickness	Thickness	Thickness			
Sample Date		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
Sample Depth																	
Sample Type																	
	Units																
Semi-Volatile Organic Compounds (SVOCs)																	
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg																
2,4,5-Trichlorophenol	mg/kg		39	110		9100	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	23000000	10000000	23000
2,4,6-Trichlorophenol	mg/kg		2.4	9.4	0.33	200	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1000000	1300000	710
2,4-Dichlorophenol	mg/kg		1.5	4.2	0.33	960	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	5100000	2300000	660
2,4-Dimethylphenol	mg/kg		7.4	20	7.6	10000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	4700000	2100000	11000
2,4-Dinitrophenol	mg/kg																
2,4-Dinitrotoluene	mg/kg		0.43	0.64		170	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	16000	20000	48
2,6-Dinitrotoluene	mg/kg																
2-Chloronaphthalene	mg/kg		620	1800		2300	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	56000
2-Chlorophenol	mg/kg		0.9	2.6	0.36	1900	430	800	960	1100	960	1100	960	1100	1200000	530000	1400
2-Methylnaphthalene	mg/kg		57	170	4.2	5500	2700	4900	1500	1800	1500	1800	1500	1800	670000	290000	8100
2-Methylphenol	mg/kg		7.4	20	1	16000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6700000	2900000	11000
2-Nitroaniline	mg/kg																
2-Nitrophenol	mg/kg		0.4	1.2	ID	1600	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	630
3&4-Methylphenol	mg/kg		7.4	20	1	16000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6700000	2900000	11000
3,3'-Dichlorobenzidine	mg/kg		2	2	2	4.6	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6500	8200	6.6
3-Nitroaniline	mg/kg																
4,6-Dinitro-2-methylphenol	mg/kg		0.83	0.83		190	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	130000	59000	79
4-Bromophenyl phenyl ether	mg/kg																
4-Chloro-3-methylphenol	mg/kg		5.8	16	0.28	3000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	4500
4-Chloroaniline	mg/kg																
4-Chlorophenyl phenyl ether	mg/kg																
4-Nitroaniline	mg/kg																
4-Nitrophenol	mg/kg																
Acenaphthene	mg/kg		300	880	8.7	970	190000	350000	81000	97000	81000	97000	81000	97000	14000000	6200000	41000
Acenaphthylene	mg/kg		5.9	17	ID	440	1600	3000	2200	2700	2200	2700	2200	2700	2300000	1000000	1600
Acetophenone	mg/kg		30	88	ID	1100	1100	1100	44000	52000	44000	52000	44000	52000	33000000	14000000	1100
Anthracene	mg/kg		41	41	ID	41	1000000	1000000	1400000	1600000	1400000	1600000	1400000	1600000	67000000	29000000	230000
Atrazine	mg/kg		0.06	0.06	0.15	110	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	71
Benzaldehyde	mg/kg																
Benzo(a)anthracene	mg/kg		NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	20
Benzo(a)pyrene	mg/kg		NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1500	1900	2
Benzo(b)fluoranthene	mg/kg		NLL	NLL	NLL	NLL	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	20
Benzo(g,h,i)perylene	mg/kg		NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	800000	350000	2500
Benzo(k)fluoranthene	mg/kg		NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	200
Biphenyl (1,1-Biphenyl)	mg/kg																
bis(2-Chloroethoxy)methane	mg/kg																
bis(2-Chloroethyl)ether	mg/kg		0.10	0.17	0.1	110	8.3	44	3.8	13	3.8	13	3.8	13	9400	12000	13
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg		NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	700000	890000	2800
Butyl benzylphthalate (BBP)	mg/kg		310	310	120	310	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	47000000	21000000	310
Caprolactam	mg/kg		120	340		1000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	670000	290000	53000
Carbazole	mg/kg		9.4	39	1.1	820	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	62000	78000	530
Chrysene	mg/kg		NLL	NLL	NLL	NLL	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	2000
Dibenz(a,h)anthracene	mg/kg		NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	2
Dibenzofuran	mg/kg		ID	ID	1.7	ID	2000	3600	130	160	130	160	130	160	6700	2900	ID
Diethyl phthalate	mg/kg		110	320	2.2	740	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	3300000	1500000	740
Dimethyl phthalate	mg/kg		790	790		790	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	3300000	1500000	790
Di-n-butylphthalate (DBP)	mg/kg		760	760	11	760	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	3300000	1500000	760
Di-n-octyl phthalate (DnOP)	mg/kg		100000	140000	ID	140000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	31000000	14000000	6900
Fluoranthene	mg/kg		730	730	5.5	730	1000000	1000000	740000	890000	740000	880000	740000	880000	9300000	4100000	46000
Fluorene	mg/kg		390	890	5.3	890	580000	1000000	130000	150000	130000	150000	130000	150000	9300000	4100000	27000
Hexachlorobenzene	mg/kg		1.8	1.8	0.35	8.2	41	220	17	56	17	56	17	56	6800	8500	8.9
Hexachlorobutadiene	mg/kg		26	72	0.091	350	130	350	130	460	130	460	130	460	140000	180000	100
Hexachlorocyclopentadiene	mg/kg		320	320	ID	720	30	56	50	60	50	60	50	60	13000	5900	720
Hexachloroethane	mg/kg		0.43	1.2	1.8	110	40	79	550	660	930	1400	930	1400	230000	100000	230
Indeno(1,2,3-cd)pyrene	mg/kg		NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	20
Isophorone	mg/kg		15	62	26	2400	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	12000000	8200000	2400
Naphthalene	mg/kg		35	100	0.73	2100	250	470	300	350	300	350	300	350	200000	88000	16000

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Site Section Designation		*Michigan Act 451, Part 201 Cleanup Criteria and Part 213 Risk-based Screening Levels: Residential and Non-Residential Generic Cleanup Criteria* (1)															
Perimeter Status (1)		Statewide	Drinking	Non-Residential Drinking	Groundwater	Groundwater	Soil Volatilization	Non-Residential Soil Volatilization	Infinite Source	Non-Residential Infinite Source	Finite VSIC for	Non-Residential Finite VSIC for	Finite VSIC for	Non-Residential Finite VSIC for	Particulate	Non-Residential Particulate	Direct
Sample Location		Default	Water	Water	Surface Water	Contact	to Indoor Air	to Indoor Air	Volatile Soil	Volatile Soil	5 Meter Source	5 Meter Source	2 Meter Source	2 Meter Source	Soil Inhalation	Soil Inhalation	Contact
Sample Identification		Background	Protection	Protection	Interface Protection	Protection	Inhalation	Inhalation	Inhalation	Inhalation	Thickness	Thickness	Thickness	Thickness			
Sample Date		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
Sample Depth																	
Sample Type																	
	Units																
Nitrobenzene	mg/kg		0.33	0.33	3.6	220	91	170	54	64	54	64	54	64	47000	21000	100
N-Nitrosodi-n-propylamine	mg/kg		0.33	0.33		7.2	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1600	2000	1.2
N-Nitrosodiphenylamine	mg/kg		5.4	22		700	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	2200000	2800000	1700
Pentachlorophenol	mg/kg		0.022	0.022	27	4.3	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	100000	130000	90
Phenanthrene	mg/kg		56	160	2.1	1100	2800	5100	160	190	160	190	160	190	6700	2900	1600
Phenol	mg/kg		88	260	9	12000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	40000000	18000000	12000
Pyrene	mg/kg		480	480	ID	480	1000000	1000000	650000	780000	650000	780000	650000	780000	6700000	2900000	29000
Metals																	
Aluminum	mg/kg	6900	1	1		1000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	50000
Antimony	mg/kg		4.3	4.3	94	49000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	13000	5900	180
Arsenic	mg/kg	5.8	4.6	4.6	4.6	2000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	720	910	7.6
Barium	mg/kg	75	1300	1300	1200	1000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	330000	150000	37000
Beryllium	mg/kg		51	51	950	1000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1300	590	410
Cadmium	mg/kg	1.2	6	6	7.30	230000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1700	2200	550
Chromium	mg/kg	18	1000000	1000000	6600000	1000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	330000	150000	790000
Cobalt	mg/kg	6.8	0.8	2	2	48000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	13000	5900	2600
Copper	mg/kg	32	5800	5800	170	1000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	130000	59000	20000
Iron	mg/kg	12000	6	6		1000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	160000
Lead	mg/kg	21	700	700	11000	ID	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	100000	44000	400
Manganese	mg/kg	440	1	1	130	180000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	3300	1500	25000
Mercury	mg/kg	0.13	1.7	1.7	0.05	47	48	89	52	62	52	62	52	62	20000	8800	160
Nickel	mg/kg	20	100	100	170	1000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	13000	16000	40000
Selenium	mg/kg	0.41	4	4	0.4	78000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	130000	59000	2600
Silver	mg/kg	1	4.5	13	0.1	200000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6700	2900	2500
Thallium	mg/kg		2.3	2.3	4.2	15000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	13000	5900	35
Vanadium	mg/kg		72	990	430	1000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	750
Zinc	mg/kg	47	2400	5000	380	1000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	170000
PCBs																	
Aroclor-1016 (PCB-1016)	mg/kg		NLL	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4
Aroclor-1221 (PCB-1221)	mg/kg		NLL	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4
Aroclor-1232 (PCB-1232)	mg/kg		NLL	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4
Aroclor-1242 (PCB-1242)	mg/kg		NLL	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4
Aroclor-1248 (PCB-1248)	mg/kg		NLL	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4
Aroclor-1254 (PCB-1254)	mg/kg		NLL	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4
Aroclor-1260 (PCB-1260)	mg/kg		NLL	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4
Aroclor-1262 (PCB-1262)	mg/kg		NLL	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4
Aroclor-1268 (PCB-1268)	mg/kg		NLL	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4
Total PCBs	mg/kg		NLL	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4

Notes
Michigan Part 201 generic clean up criteria (updated September 28, 2012)

ID Insufficient data to develop criterion
NLV Hazardous substance is not likely to volatilize under most conditions
NA Criterion or value is not available

Perimeter Status (1) - N - non-perimeter, Y - perimeter

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)		Non-Residential Direct	Soil Saturation										
Sample Location		Contact	Concentration	*CRA-858SB*	*CRA-858SB*	*CRA-858SB*	*CRA-859SB*	*CRA-859SB*	*CRA-859SB*	*CRA-860SB*	*CRA-860SB*	*CRA-860SB*	*CRA-861SB*
Sample Identification			Screening	*SO-17358-081413-DR-055*	*SO-17358-081413-DR-056*	*SO-17358-081413-DR-057*	*SO-17358-081413-DR-072*	*SO-17358-081413-DR-073*	*SO-17358-081413-DR-074*	*SO-17358-081413-DR-068*	*SO-17358-081413-DR-069*	*SO-17358-081413-DR-070*	*SO-17358-081413-DR-051*
Sample Date		q	r	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*
Sample Depth				*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*
Sample Type													
	Units												
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	mg/kg	460	460	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
1,1,2,2-Tetrachloroethane	mg/kg	240	870	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
1,1,2-Trichloroethane	mg/kg	840	920	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
1,1-Dichloroethane	mg/kg	890	890	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
1,1-Dichloroethene	mg/kg	570	570	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
1,2,4-Trichlorobenzene	mg/kg	1100	1100	1 U	1.1 U	5.8 U	0.89 U	0.82 U	1.7 U	0.2 U	0.22 U	0.22 U	0.22 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	1.2	1.2	1 U	1.1 U	5.8 U	0.89 U	0.82 U	1.7 U	0.2 U	0.22 U	0.22 U	0.22 U
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.43	890	1 U	1.1 U	5.8 U	0.89 U	0.82 U	1.7 U	0.2 U	0.22 U	0.22 U	0.22 U
1,2-Dichlorobenzene	mg/kg	210	210	0.4 U	0.44 U	2.3 U	0.36 U	0.33 U	0.67 U	0.08 U	0.09 U	0.089 U	0.087 U
1,2-Dichloroethane	mg/kg	420	1200	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
1,2-Dichloropropane	mg/kg	550	550	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
1,3-Dichlorobenzene	mg/kg	170	170	0.4 U	0.44 U	2.3 U	0.36 U	0.33 U	0.67 U	0.08 U	0.09 U	0.089 U	0.087 U
1,4-Dichlorobenzene	mg/kg	1900		0.4 U	0.44 U	2.3 U	0.36 U	0.33 U	0.67 U	0.08 U	0.09 U	0.089 U	0.087 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	27000	27000	3 U	3.3 U	17 U	2.7 U	2.5 U	5 U	0.6 U	0.67 U	0.67 U	0.65 U
2-Hexanone	mg/kg	2500	2500	10 U	11 U	58 U	8.9 U	8.2 U	17 U	2 U	2.2 U	2.2 U	2.2 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	2700	2700	10 U	11 U	58 U	8.9 U	8.2 U	17 U	2 U	2.2 U	2.2 U	2.2 U
Acetone	mg/kg	73000	110000	3 U	3.3 U	17 U	2.7 U	2.5 U	5 U	0.6 U	0.67 U	0.67 U	0.65 U
Benzene	mg/kg	400	400	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
Bromodichloromethane	mg/kg	490	1500	0.4 U	0.44 U	2.3 U	0.36 U	0.33 U	0.67 U	0.08 U	0.09 U	0.089 U	0.087 U
Bromoform	mg/kg	870	870	0.4 U	0.44 U	2.3 U	0.36 U	0.33 U	0.67 U	0.08 U	0.09 U	0.089 U	0.087 U
Bromomethane (Methyl bromide)	mg/kg	1000	2200	1 U	1.1 U	5.8 U	0.89 U	0.82 U	1.7 U	0.2 U	0.22 U	0.22 U	0.22 U
Carbon disulfide	mg/kg	280	280	1 U	1.1 U	5.8 U	0.89 U	0.82 U	1.7 U	0.2 U	0.22 U	0.22 U	0.22 U
Carbon tetrachloride	mg/kg	390	390	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
Chlorobenzene	mg/kg	260	260	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
Chloroethane	mg/kg	950	950	1 U	1.1 U	5.8 U	0.89 U	0.82 U	1.7 U	0.2 U	0.22 U	0.22 U	0.22 U
Chloroform (Trichloromethane)	mg/kg	1500	1500	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
Chloromethane (Methyl chloride)	mg/kg	1100	1100	1 U	1.1 U	5.8 U	0.89 U	0.82 U	1.7 U	0.2 U	0.22 U	0.22 U	0.22 U
cis-1,2-Dichloroethene	mg/kg	640	640	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
cis-1,3-Dichloropropene	mg/kg			0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
Cyclohexane	mg/kg			4.8 U	5.3 U	28 U	4.3 U	3.9 U	8 U	0.96 U	1.1 U	1.1 U	1 U
Dibromochloromethane	mg/kg	500	610	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
Dichlorodifluoromethane (CFC-12)	mg/kg	1000	1000	0.4 U	0.44 U	2.3 U	0.36 U	0.33 U	0.67 U	0.08 U	0.09 U	0.089 U	0.087 U
Ethylbenzene	mg/kg	140	140	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
Isopropyl benzene	mg/kg	390	390	1 U	1.1 U	5.8 U	0.89 U	0.82 U	1.7 U	0.2 U	0.22 U	0.22 U	0.22 U
Methyl acetate	mg/kg			4.8 U	5.3 U	28 U	4.3 U	3.9 U	8 U	0.027 J	1.1 U	1.1 U	1 U
Methyl cyclohexane	mg/kg			4.8 U	5.3 U	28 U	4.3 U	3.9 U	8 U	0.96 U	1.1 U	1.1 U	1 U
Methyl tert butyl ether (MTBE)	mg/kg	5900	5900	1 U	1.1 U	5.8 U	0.89 U	0.82 U	1.7 U	0.2 U	0.22 U	0.22 U	0.22 U
Methylene chloride	mg/kg	2300	2300	1 U	1.1 U	5.8 U	0.89 U	0.82 U	1.7 U	0.2 U	0.22 U	0.22 U	0.22 U
Styrene	mg/kg	520	520	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
Tetrachloroethene	mg/kg	88	88	**12**[bcdf]	**13**[bcdf]	**49**[bcdfg]	**9**[bcd]	**9.8**[bcd]	**14**[bcdf]	**0.48**[bc]	**0.51**[bc]	**0.36**[bc]	**0.4**[bc]
Toluene	mg/kg	250	250	0.4 U	0.15 J	0.57 J	0.36 U	0.33 U	0.14 J	0.08 U	0.09 U	0.089 U	0.087 U
trans-1,2-Dichloroethene	mg/kg	1400	1400	0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
trans-1,3-Dichloropropene	mg/kg			0.2 U	0.22 U	1.2 U	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
Trichloroethene	mg/kg	500	500	**1.1**[bcf]	**1.3**[bcf]	**4.5**[bcdfg]	0.18 U	0.16 U	0.34 U	0.04 U	0.045 U	0.045 U	0.044 U
Trichlorofluoromethane (CFC-11)	mg/kg	560	560	0.4 U	0.44 U	2.3 U	0.36 U	0.33 U	0.67 U	0.08 U	0.09 U	0.089 U	0.087 U
Trifluorotrichloroethane (Freon 113)	mg/kg	550	550	1 U	1.1 U	5.8 U	0.89 U	0.82 U	1.7 U	0.2 U	0.22 U	0.22 U	0.22 U
Vinyl chloride	mg/kg	34	490	0.16 U	0.18 U	0.92 U	0.14 U	0.13 U	0.27 U	0.032 U	0.036 U	0.036 U	0.035 U
Xylenes (total)	mg/kg	150	150	0.61 U	0.67 U	3.5 U	0.53 U	0.49 U	1 U	0.12 U	0.13 U	0.13 U	0.13 U

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation												
Perimeter Status (1)		Non-Residential Direct	Soil Saturation									
Sample Location		Contact	Concentration	*CRA-858SB*	*CRA-858SB*	*CRA-858SB*	*CRA-859SB*	*CRA-859SB*	*CRA-859SB*	*CRA-860SB*	*CRA-860SB*	*CRA-860SB*	*CRA-861SB*
Sample Identification			Screening	*SO-17358-081413-DR-055*	*SO-17358-081413-DR-056*	*SO-17358-081413-DR-057*	*SO-17358-081413-DR-072*	*SO-17358-081413-DR-073*	*SO-17358-081413-DR-074*	*SO-17358-081413-DR-068*	*SO-17358-081413-DR-069*	*SO-17358-081413-DR-070*	*SO-17358-081413-DR-051*
Sample Date		q	r	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*
Sample Depth				*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*
Sample Type													
	Units												
Semi-Volatile Organic Compounds (SVOCs)													
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg			-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	73000		-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	3300		-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	1800	1800	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	36000		-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg			-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	220		-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg			-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	180000		-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	4500	19000	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	26000		-	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	36000		-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg			-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	2000		-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	36000		-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	30		-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg			-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	260		-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg			-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	15000		-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	mg/kg			-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg			-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg			-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg			-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	130000		-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	5200		-	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	1100	1100	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	730000		-	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	330		-	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg			-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	80		-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	8		-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	80		-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	7000		-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	800		-	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg			-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg			-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	58	2200	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	10000	10000	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	310	310	-	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	310000		-	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	2400		-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	8000		-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	8		-	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	ID		-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	740	740	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	790	790	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	760	760	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	20000	140000	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	130000		-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	87000		-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	37		-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	350	350	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	720	720	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	730		-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	80		-	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	2400	2400	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	52000		-	-	-	-	-	-	-	-	-	-

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)		Non-Residential Direct	Soil Saturation										
Sample Location		Contact	Concentration	*CRA-858SB*	*CRA-858SB*	*CRA-858SB*	*CRA-859SB*	*CRA-859SB*	*CRA-859SB*	*CRA-860SB*	*CRA-860SB*	*CRA-860SB*	*CRA-861SB*
Sample Identification			Screening	*SO-17358-081413-DR-055*	*SO-17358-081413-DR-056*	*SO-17358-081413-DR-057*	*SO-17358-081413-DR-072*	*SO-17358-081413-DR-073*	*SO-17358-081413-DR-074*	*SO-17358-081413-DR-068*	*SO-17358-081413-DR-069*	*SO-17358-081413-DR-070*	*SO-17358-081413-DR-051*
Sample Date		q	r	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*
Sample Depth				*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*
Sample Type													
	Units												
Nitrobenzene	mg/kg	340	490	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	5.4	1500	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	7800		-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	320		-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	5200		-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	12000	12000	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	84000		-	-	-	-	-	-	-	-	-	-
Metals													
Aluminum	mg/kg	370000		-	-	-	-	-	-	-	-	-	-
Antimony	mg/kg	670		-	-	-	-	-	-	-	-	-	-
Arsenic	mg/kg	37		-	-	-	-	-	-	-	-	-	-
Barium	mg/kg	130000		-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	1600		-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	2100		-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	1000000		-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	9000		-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	73000		-	-	-	-	-	-	-	-	-	-
Iron	mg/kg	580000		-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	900		-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg	90000		-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	580		-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	150000		-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	9600		-	-	-	-	-	-	-	-	-	-
Silver	mg/kg	9000		-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg	130		-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	5500		-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	630000		-	-	-	-	-	-	-	-	-	-
PCBs													
Aroclor-1016 (PCB-1016)	mg/kg	16		-	-	-	-	-	-	-	-	-	-
Aroclor-1221 (PCB-1221)	mg/kg	16		-	-	-	-	-	-	-	-	-	-
Aroclor-1232 (PCB-1232)	mg/kg	16		-	-	-	-	-	-	-	-	-	-
Aroclor-1242 (PCB-1242)	mg/kg	16		-	-	-	-	-	-	-	-	-	-
Aroclor-1248 (PCB-1248)	mg/kg	16		-	-	-	-	-	-	-	-	-	-
Aroclor-1254 (PCB-1254)	mg/kg	16		-	-	-	-	-	-	-	-	-	-
Aroclor-1260 (PCB-1260)	mg/kg	16		-	-	-	-	-	-	-	-	-	-
Aroclor-1262 (PCB-1262)	mg/kg	16		-	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	16		-	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	16		-	-	-	-	-	-	-	-	-	-

Notes
Michigan Part 201 generic clean up criteria (updated September 28, 2012)
ID Insufficie
NLV Hazardo
NA Criterion

Perimeter Status (1) - N - non-perimeter, Y - perimeter

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)													
Sample Location		*CRA-861SB*	*CRA-861SB*	*CRA-862SB*	*CRA-862SB*	*CRA-862SB*	*CRA-862SB*	*CRA-863SB*	*CRA-863SB*	*CRA-863SB*	*CRA-864SB*	*CRA-864SB*	*CRA-864SB*
Sample Identification		*SO-17358-081413-DR-052*	*SO-17358-081413-DR-053*	*SO-17358-081413-DR-046*	*SO-17358-081413-DR-047*	*SO-17358-081413-DR-048*	*SO-17358-081413-DR-049*	*SO-17358-081413-DR-064*	*SO-17358-081413-DR-065*	*SO-17358-081413-DR-066*	*SO-17358-081313-DR-025*	*SO-17358-081313-DR-026*	*SO-17358-081313-DR-027*
Sample Date		*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*
Sample Depth		*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*
Sample Type						*Duplicate*							
	Units												
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.092	0.047 U	0.042 U	0.21
1,1,2,2-Tetrachloroethane	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
1,1,2-Trichloroethane	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
1,1-Dichloroethane	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
1,1-Dichloroethene	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.042 J
1,2,4-Trichlorobenzene	mg/kg	0.23 U	0.21 U	0.22 U	0.25 U	0.21 U	0.24 U	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U	0.21 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.23 U	0.21 U	0.22 U	0.25 U	0.21 U	0.24 U	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U	0.21 U
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.23 U	0.21 U	0.22 U	0.25 U	0.21 U	0.24 U	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U	0.21 U
1,2-Dichlorobenzene	mg/kg	0.091 U	0.083 U	0.086 U	0.098 U	0.086 U	0.097 U	0.089 U	0.083 U	0.089 U	0.094 U	0.084 U	0.085 U
1,2-Dichloroethane	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
1,2-Dichloropropane	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
1,3-Dichlorobenzene	mg/kg	0.091 U	0.083 U	0.086 U	0.098 U	0.086 U	0.097 U	0.089 U	0.083 U	0.089 U	0.094 U	0.084 U	0.085 U
1,4-Dichlorobenzene	mg/kg	0.091 U	0.083 U	0.086 U	0.098 U	0.086 U	0.097 U	0.089 U	0.083 U	0.089 U	0.094 U	0.084 U	0.085 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	0.68 U	0.62 U	0.65 U	0.74 U	0.64 U	0.73 U	0.67 U	0.62 U	0.66 U	0.065 J	0.63 U	0.64 U
2-Hexanone	mg/kg	2.3 U	2.1 U	2.2 U	2.5 U	2.1 U	2.4 U	2.2 U	2.1 U	2.2 U	2.3 U	2.1 U	2.1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	2.3 U	2.1 U	2.2 U	2.5 U	2.1 U	2.4 U	2.2 U	2.1 U	2.2 U	2.3 U	2.1 U	2.1 U
Acetone	mg/kg	0.68 U	0.62 U	0.65 U	0.74 U	0.64 U	0.73 U	0.67 U	0.62 U	0.66 U	0.7 U	0.63 U	0.64 U
Benzene	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
Bromodichloromethane	mg/kg	0.091 U	0.083 U	0.086 U	0.098 U	0.086 U	0.097 U	0.089 U	0.083 U	0.089 U	0.094 U	0.084 U	0.085 U
Bromoform	mg/kg	0.091 U	0.083 U	0.086 U	0.098 U	0.086 U	0.097 U	0.089 U	0.083 U	0.089 U	0.094 U	0.084 U	0.085 U
Bromomethane (Methyl bromide)	mg/kg	0.23 U	0.21 U	0.22 U	0.25 U	0.21 U	0.24 U	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U	0.21 U
Carbon disulfide	mg/kg	0.23 U	0.21 U	0.22 U	0.25 U	0.21 U	0.24 U	0.22 U	0.21 U	0.22 U	0.027 J	0.21 U	0.21 U
Carbon tetrachloride	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
Chlorobenzene	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
Chloroethane	mg/kg	0.23 U	0.21 U	0.22 U	0.25 U	0.21 U	0.24 U	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U	0.21 U
Chloroform (Trichloromethane)	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
Chloromethane (Methyl chloride)	mg/kg	0.23 U	0.21 U	0.22 U	0.25 U	0.21 U	0.24 U	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U	0.21 U
cis-1,2-Dichloroethene	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
cis-1,3-Dichloropropene	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
Cyclohexane	mg/kg	1.1 U	1 U	1 U	1.2 U	1 U	1.2 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U
Dibromochloromethane	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
Dichlorodifluoromethane (CFC-12)	mg/kg	0.091 U	0.083 U	0.086 U	0.098 U	0.086 U	0.097 U	0.089 U	0.083 U	0.089 U	0.094 U	0.084 U	0.085 U
Ethylbenzene	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
Isopropyl benzene	mg/kg	0.23 U	0.21 U	0.22 U	0.25 U	0.21 U	0.24 U	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U	0.21 U
Methyl acetate	mg/kg	1.1 U	0.026 J	1 U	1.2 U	1 U	1.2 U	0.064 J	1 U	0.091 J	0.54 J	0.053 J	0.12 J
Methyl cyclohexane	mg/kg	1.1 U	1 U	1 U	1.2 U	1 U	1.2 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U
Methyl tert butyl ether (MTBE)	mg/kg	0.23 U	0.21 U	0.22 U	0.25 U	0.21 U	0.24 U	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U	0.21 U
Methylene chloride	mg/kg	0.23 U	0.21 U	0.22 U	0.25 U	0.21 U	0.24 U	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U	0.21 U
Styrene	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
Tetrachloroethene	mg/kg	0.055 U	**2.6**[bcd]	**2.9**[bcd]	**3**[bcd]	**3.6**[bcd]	**3.5**[bcd]	0.044 U	0.042 U	**0.52**[bc]	0.047 U	0.042 U	0.043 U
Toluene	mg/kg	0.091 U	0.083 U	0.086 U	0.098 U	0.086 U	0.097 U	0.089 U	0.083 U	0.089 U	0.094 U	0.084 U	0.085 U
trans-1,2-Dichloroethene	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
trans-1,3-Dichloropropene	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.043 U
Trichloroethene	mg/kg	0.045 U	0.042 U	0.043 U	0.049 U	0.043 U	0.049 U	0.044 U	0.042 U	0.044 U	0.047 U	0.042 U	0.1
Trichlorofluoromethane (CFC-11)	mg/kg	0.091 U	0.083 U	0.086 U	0.098 U	0.086 U	0.097 U	0.089 U	0.083 U	0.089 U	0.094 U	0.084 U	0.085 U
Trifluorotrichloroethane (Freon 113)	mg/kg	0.23 U	0.21 U	0.22 U	0.25 U	0.21 U	0.24 U	0.22 U	0.21 U	0.22 U	0.23 U	0.21 U	0.21 U
Vinyl chloride	mg/kg	0.036 U	0.033 U	0.035 U	0.039 U	0.034 U	0.039 U	0.036 U	0.033 U	0.035 U	0.038 U	0.034 U	0.034 U
Xylenes (total)	mg/kg	0.14 U	0.12 U	0.13 U	0.15 U	0.13 U	0.15 U	0.13 U	0.12 U	0.13 U	0.14 U	0.13 U	0.13 U

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)													
Sample Location		*CRA-861SB*	*CRA-861SB*	*CRA-862SB*	*CRA-862SB*	*CRA-862SB*	*CRA-862SB*	*CRA-863SB*	*CRA-863SB*	*CRA-863SB*	*CRA-864SB*	*CRA-864SB*	*CRA-864SB*
Sample Identification		*SO-17358-081413-DR-052*	*SO-17358-081413-DR-053*	*SO-17358-081413-DR-046*	*SO-17358-081413-DR-047*	*SO-17358-081413-DR-048*	*SO-17358-081413-DR-049*	*SO-17358-081413-DR-064*	*SO-17358-081413-DR-065*	*SO-17358-081413-DR-066*	*SO-17358-081313-DR-025*	*SO-17358-081313-DR-026*	*SO-17358-081313-DR-027*
Sample Date		*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*
Sample Depth		*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*
Sample Type						*Duplicate*							
	Units												
Semi-Volatile Organic Compounds (SVOCs)													
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)													
Sample Location		*CRA-861SB*	*CRA-861SB*	*CRA-862SB*	*CRA-862SB*	*CRA-862SB*	*CRA-862SB*	*CRA-863SB*	*CRA-863SB*	*CRA-863SB*	*CRA-864SB*	*CRA-864SB*	*CRA-864SB*
Sample Identification		*SO-17358-081413-DR-052*	*SO-17358-081413-DR-053*	*SO-17358-081413-DR-046*	*SO-17358-081413-DR-047*	*SO-17358-081413-DR-048*	*SO-17358-081413-DR-049*	*SO-17358-081413-DR-064*	*SO-17358-081413-DR-065*	*SO-17358-081413-DR-066*	*SO-17358-081313-DR-025*	*SO-17358-081313-DR-026*	*SO-17358-081313-DR-027*
Sample Date		*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*
Sample Depth		*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*
Sample Type						*Duplicate*							
	Units												
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Metals													
Aluminum	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
PCBs													
Aroclor-1016 (PCB-1016)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1221 (PCB-1221)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1232 (PCB-1232)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1242 (PCB-1242)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1248 (PCB-1248)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1254 (PCB-1254)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1260 (PCB-1260)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-

Notes
Michigan Part 201 generic clean up criteria (updated September 28, 2012)
ID Insufficie
NLV Hazardo
NA Criterion

Perimeter Status (1) - N - non-perimeter, Y - perimeter

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.

TABLE 1

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)													
Sample Location		*CRA-865SB*	*CRA-865SB*	*CRA-865SB*	*CRA-866SB*	*CRA-866SB*	*CRA-866SB*	*CRA-867SB*	*CRA-867SB*	*CRA-867SB*	*CRA-868SB*	*CRA-868SB*	*CRA-868SB*
Sample Identification		*SO-17358-081313-DR-029*	*SO-17358-081313-DR-030*	*SO-17358-081313-DR-031*	*SO-17358-081313-DR-034*	*SO-17358-081313-DR-035*	*SO-17358-081313-DR-036*	*SO-17358-081413-DR-059*	*SO-17358-081413-DR-060*	*SO-17358-081413-DR-061*	*SO-17358-081413-DR-042*	*SO-17358-081413-DR-043*	*SO-17358-081413-DR-044*
Sample Date		*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*
Sample Depth		*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*
Sample Type									*Duplicate*				
	Units												
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
1,1,2,2-Tetrachloroethane	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
1,1,2-Trichloroethane	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
1,1-Dichloroethane	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
1,1-Dichloroethene	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
1,2,4-Trichlorobenzene	mg/kg	0.2 U	0.22 U	0.23 U	0.21 U	0.2 U	0.22 U	0.23 U	0.21 U	0.21 U	0.24 U	0.21 U	0.22 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.2 U	0.22 U	0.23 U	0.21 U	0.2 U	0.22 U	0.23 U	0.21 U	0.21 U	0.24 U	0.21 U	0.22 U
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.2 U	0.22 U	0.23 U	0.21 U	0.2 U	0.22 U	0.23 U	0.21 U	0.21 U	0.24 U	0.21 U	0.22 U
1,2-Dichlorobenzene	mg/kg	0.081 U	0.088 U	0.093 U	0.085 U	0.078 U	0.089 U	0.092 U	0.083 U	0.084 U	0.096 U	0.084 U	0.087 U
1,2-Dichloroethane	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
1,2-Dichloropropane	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
1,3-Dichlorobenzene	mg/kg	0.081 U	0.088 U	0.093 U	0.085 U	0.078 U	0.089 U	0.092 U	0.083 U	0.084 U	0.096 U	0.084 U	0.087 U
1,4-Dichlorobenzene	mg/kg	0.081 U	0.088 U	0.093 U	0.085 U	0.078 U	0.089 U	0.092 U	0.083 U	0.084 U	0.096 U	0.084 U	0.087 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	0.05 J	0.66 U	0.7 U	0.64 U	0.59 U	0.66 U	0.69 U	0.63 U	0.63 U	0.093 J	0.63 U	0.65 U
2-Hexanone	mg/kg	2 U	2.2 U	2.3 U	2.1 U	2 U	2.2 U	2.3 U	2.1 U	2.1 U	2.4 U	2.1 U	2.2 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	2 U	2.2 U	2.3 U	2.1 U	2 U	2.2 U	2.3 U	2.1 U	2.1 U	2.4 U	2.1 U	2.2 U
Acetone	mg/kg	0.61 U	0.66 U	0.7 U	0.64 U	0.59 U	0.66 U	0.69 U	0.63 U	0.63 U	0.72 U	0.63 U	0.65 U
Benzene	mg/kg	**0.27**[bc]	0.044 U	0.041 J	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
Bromodichloromethane	mg/kg	0.081 U	0.088 U	0.093 U	0.085 U	0.078 U	0.089 U	0.092 U	0.083 U	0.084 U	0.096 U	0.084 U	0.087 U
Bromoform	mg/kg	0.081 U	0.088 U	0.093 U	0.085 U	0.078 U	0.089 U	0.092 U	0.083 U	0.084 U	0.096 U	0.084 U	0.087 U
Bromomethane (Methyl bromide)	mg/kg	0.2 U	0.22 U	0.23 U	0.21 U	0.2 U	0.22 U	0.23 U	0.21 U	0.21 U	0.24 U	0.21 U	0.22 U
Carbon disulfide	mg/kg	0.068 J	0.22 U	0.23 U	0.038 J	0.2 U	0.22 U	0.23 U	0.21 U	0.21 U	0.11 J	0.21 U	0.22 U
Carbon tetrachloride	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
Chlorobenzene	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
Chloroethane	mg/kg	0.2 U	0.22 U	0.23 U	0.21 U	0.2 U	0.22 U	0.23 U	0.21 U	0.21 U	0.24 U	0.21 U	0.22 U
Chloroform (Trichloromethane)	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.03 J	0.091
Chloromethane (Methyl chloride)	mg/kg	0.2 U	0.22 U	0.23 U	0.21 U	0.2 U	0.22 U	0.23 U	0.21 U	0.21 U	0.24 U	0.21 U	0.22 U
cis-1,2-Dichloroethene	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
cis-1,3-Dichloropropene	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
Cyclohexane	mg/kg	0.98 U	1.1 U	1.1 U	1 U	0.94 U	1.1 U	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Dibromochloromethane	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
Dichlorodifluoromethane (CFC-12)	mg/kg	0.081 U	0.088 U	0.093 U	0.085 U	0.078 U	0.089 U	0.092 U	0.083 U	0.084 U	0.096 U	0.084 U	0.087 U
Ethylbenzene	mg/kg	0.043	0.044 U	0.023 J	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
Isopropyl benzene	mg/kg	0.042 J	0.018 J	1.9	0.018 J	0.058 J	0.45	0.23 U	0.21 U	0.21 U	0.24 U	0.21 U	0.22 U
Methyl acetate	mg/kg	0.38 J	0.072 J	0.09 J	0.26 J	0.038 J	0.04 J	0.066 J	1 U	1 U	0.72 J	1 U	0.038 J
Methyl cyclohexane	mg/kg	0.98 U	1.1 U	1.1 U	1 U	0.94 U	1.1 U	1.1 U	1 U	1 U	1.1 U	1 U	1 U
Methyl tert butyl ether (MTBE)	mg/kg	0.2 U	0.22 U	0.23 U	0.21 U	0.2 U	0.22 U	0.23 U	0.21 U	0.21 U	0.24 U	0.21 U	0.22 U
Methylene chloride	mg/kg	0.2 U	0.22 U	0.23 U	0.21 U	0.2 U	0.22 U	0.23 U	0.21 U	0.21 U	0.24 U	0.21 U	0.22 U
Styrene	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
Tetrachloroethene	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
Toluene	mg/kg	0.081 U	0.088 U	0.093 U	0.085 U	0.078 U	0.089 U	0.092 U	0.083 U	0.084 U	0.096 U	0.084 U	0.087 U
trans-1,2-Dichloroethene	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
trans-1,3-Dichloropropene	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
Trichloroethene	mg/kg	0.041 U	0.044 U	0.046 U	0.043 U	0.039 U	0.044 U	0.046 U	0.042 U	0.042 U	0.048 U	0.042 U	0.043 U
Trichlorofluoromethane (CFC-11)	mg/kg	0.081 U	0.088 U	0.093 U	0.085 U	0.078 U	0.089 U	0.092 U	0.083 U	0.084 U	0.096 U	0.084 U	0.087 U
Trifluorotrichloroethane (Freon 113)	mg/kg	0.2 U	0.22 U	0.23 U	0.21 U	0.2 U	0.22 U	0.23 U	0.21 U	0.21 U	0.24 U	0.21 U	0.22 U
Vinyl chloride	mg/kg	0.033 U	0.035 U	0.037 U	0.034 U	0.031 U	0.035 U	0.037 U	0.033 U	0.034 U	0.038 U	0.033 U	0.035 U
Xylenes (total)	mg/kg	0.059 J	0.13 U	0.12 J	0.13 U	0.12 U	0.13 U	0.14 U	0.13 U	0.13 U	0.022 J	0.13 U	0.13 U

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)													
Sample Location		*CRA-865SB*	*CRA-865SB*	*CRA-865SB*	*CRA-866SB*	*CRA-866SB*	*CRA-866SB*	*CRA-867SB*	*CRA-867SB*	*CRA-867SB*	*CRA-868SB*	*CRA-868SB*	*CRA-868SB*
Sample Identification		*SO-17358-081313-DR-029*	*SO-17358-081313-DR-030*	*SO-17358-081313-DR-031*	*SO-17358-081313-DR-034*	*SO-17358-081313-DR-035*	*SO-17358-081313-DR-036*	*SO-17358-081413-DR-059*	*SO-17358-081413-DR-060*	*SO-17358-081413-DR-061*	*SO-17358-081413-DR-042*	*SO-17358-081413-DR-043*	*SO-17358-081413-DR-044*
Sample Date		*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*
Sample Depth		*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*
Sample Type									*Duplicate*				
	Units												
Semi-Volatile Organic Compounds (SVOCs)													
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)													
Sample Location		*CRA-865SB*	*CRA-865SB*	*CRA-865SB*	*CRA-866SB*	*CRA-866SB*	*CRA-866SB*	*CRA-867SB*	*CRA-867SB*	*CRA-867SB*	*CRA-868SB*	*CRA-868SB*	*CRA-868SB*
Sample Identification		*SO-17358-081313-DR-029*	*SO-17358-081313-DR-030*	*SO-17358-081313-DR-031*	*SO-17358-081313-DR-034*	*SO-17358-081313-DR-035*	*SO-17358-081313-DR-036*	*SO-17358-081413-DR-059*	*SO-17358-081413-DR-060*	*SO-17358-081413-DR-061*	*SO-17358-081413-DR-042*	*SO-17358-081413-DR-043*	*SO-17358-081413-DR-044*
Sample Date		*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/14/2013*
Sample Depth		*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*	*(1-3) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(1-3) ft BGS*	*(3-5) ft BGS*	*(5-7) ft BGS*
Sample Type									*Duplicate*				
	Units												
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Metals													
Aluminum	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
PCBs													
Aroclor-1016 (PCB-1016)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1221 (PCB-1221)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1232 (PCB-1232)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1242 (PCB-1242)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1248 (PCB-1248)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1254 (PCB-1254)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1260 (PCB-1260)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-

Notes
Michigan Part 201 generic clean up criteria (updated September 28, 2012)
ID Insufficie
NLV Hazardo
NA Criterion

Perimeter Status (1) - N - non-perimeter, Y - perimeter

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)													
Sample Location		*CRA-869SB*	*CRA-869SB*	*CRA-869SB*	*CRA-870SB*	*CRA-870SB*	*CRA-870SB*	*CRA-871SB*	*CRA-871SB*	*CRA-871SB*	*CRA-872SB*	*CRA-872SB*	*CRA-872SB*
Sample Identification		*SO-17358-081313-DR-038*	*SO-17358-081313-DR-039*	*SO-17358-081313-DR-040*	*SO-17358-081313-DR-004*	*SO-17358-081313-DR-005*	*SO-17358-081313-DR-006*	*SO-17358-081313-DR-001*	*SO-17358-081313-DR-002*	*SO-17358-081313-DR-003*	*SO-17358-081313-DR-022*	*SO-17358-081313-DR-023*	*SO-17358-081313-DR-024*
Sample Date		*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*
Sample Depth		*(1-3) ft BGS*	*(3-5) ft BGS*	*(3-5) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*
Sample Type				*Duplicate*									
	Units												
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.22 U	0.19 U	0.21 U	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.22 U	0.19 U	0.21 U	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.22 U	0.19 U	0.21 U	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.086 U	0.077 U	0.082 U	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.086 U	0.077 U	0.082 U	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.086 U	0.077 U	0.082 U	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	0.65 U	0.58 U	0.62 U	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	2.2 U	1.9 U	2.1 U	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	2.2 U	1.9 U	2.1 U	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	0.65 U	0.58 U	0.62 U	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	0.086 U	0.077 U	0.082 U	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	0.086 U	0.077 U	0.082 U	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	0.22 U	0.19 U	0.21 U	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	0.22 U	0.19 U	0.21 U	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	0.22 U	0.19 U	0.21 U	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	0.22 U	0.19 U	0.21 U	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	1 U	0.93 U	0.99 U	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	0.086 U	0.077 U	0.082 U	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	0.22 U	0.19 U	0.21 U	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	1 U	0.93 U	0.99 U	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	1 U	0.93 U	0.036 J	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	0.22 U	0.19 U	0.21 U	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	0.22 U	0.19 U	0.21 U	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	0.043 U	0.039 U	0.02 J	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	0.086 U	0.021 J	0.02 J	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	0.043 U	0.039 U	0.041 U	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	0.086 U	0.077 U	0.082 U	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	mg/kg	0.22 U	0.19 U	0.21 U	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	0.034 U	0.031 U	0.033 U	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	0.13 U	0.12 U	0.02 J	-	-	-	-	-	-	-	-	-

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)													
Sample Location		*CRA-869SB*	*CRA-869SB*	*CRA-869SB*	*CRA-870SB*	*CRA-870SB*	*CRA-870SB*	*CRA-871SB*	*CRA-871SB*	*CRA-871SB*	*CRA-872SB*	*CRA-872SB*	*CRA-872SB*
Sample Identification		*SO-17358-081313-DR-038*	*SO-17358-081313-DR-039*	*SO-17358-081313-DR-040*	*SO-17358-081313-DR-004*	*SO-17358-081313-DR-005*	*SO-17358-081313-DR-006*	*SO-17358-081313-DR-001*	*SO-17358-081313-DR-002*	*SO-17358-081313-DR-003*	*SO-17358-081313-DR-022*	*SO-17358-081313-DR-023*	*SO-17358-081313-DR-024*
Sample Date		*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*
Sample Depth		*(1-3) ft BGS*	*(3-5) ft BGS*	*(3-5) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*
Sample Type				*Duplicate*									
	Units												
Semi-Volatile Organic Compounds (SVOCs)													
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)													
Sample Location		*CRA-869SB*	*CRA-869SB*	*CRA-869SB*	*CRA-870SB*	*CRA-870SB*	*CRA-870SB*	*CRA-871SB*	*CRA-871SB*	*CRA-871SB*	*CRA-872SB*	*CRA-872SB*	*CRA-872SB*
Sample Identification		*SO-17358-081313-DR-038*	*SO-17358-081313-DR-039*	*SO-17358-081313-DR-040*	*SO-17358-081313-DR-004*	*SO-17358-081313-DR-005*	*SO-17358-081313-DR-006*	*SO-17358-081313-DR-001*	*SO-17358-081313-DR-002*	*SO-17358-081313-DR-003*	*SO-17358-081313-DR-022*	*SO-17358-081313-DR-023*	*SO-17358-081313-DR-024*
Sample Date		*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*
Sample Depth		*(1-3) ft BGS*	*(3-5) ft BGS*	*(3-5) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*
Sample Type				*Duplicate*									
	Units												
Nitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Metals													
Aluminum	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	mg/kg	-	-	-	-	-	-	-	-	-	2.8	2.5	2.9
Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg	-	-	-	280	230	300	310	**700**[bcd]	**490**[bcd]	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
PCBs													
Aroclor-1016 (PCB-1016)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1221 (PCB-1221)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1232 (PCB-1232)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1242 (PCB-1242)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1248 (PCB-1248)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1254 (PCB-1254)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1260 (PCB-1260)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-

Notes
Michigan Part 201 generic clean up criteria (updated September 28, 2012)
ID Insufficie
NLV Hazardo
NA Criterion

Perimeter Status (1) - N - non-perimeter, Y - perimeter

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)													
Sample Location		*CRA-873SB*	*CRA-873SB*	*CRA-873SB*	*CRA-874SB*	*CRA-874SB*	*CRA-874SB*	*CRA-875SB*	*CRA-875SB*	*CRA-875SB*	*CRA-876SB*	*CRA-876SB*	*CRA-876SB*
Sample Identification		*SO-17358-081313-DR-009*	*SO-17358-081313-DR-010*	*SO-17358-081313-DR-011*	*SO-17358-081313-DR-019*	*SO-17358-081313-DR-020*	*SO-17358-081313-DR-021*	*SO-17358-081313-DR-016*	*SO-17358-081313-DR-017*	*SO-17358-081313-DR-018*	*SO-17358-081313-DR-012*	*SO-17358-081313-DR-013*	*SO-17358-081313-DR-014*
Sample Date		*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*
Sample Depth		*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*
Sample Type													
	Units												
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	0.82 U	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	0.82 U	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	0.82 U	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	0.33 U	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	0.33 U	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	0.33 U	-	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	2.5 U	-	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	8.2 U	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	8.2 U	-	-	-	-	-	-	-	-	-	-
Acetone	mg/kg	-	2.5 U	-	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	0.33 U	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	-	0.33 U	-	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	0.82 U	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	0.82 U	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	0.82 U	-	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	0.82 U	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	**6.2**[bc]	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
Cyclohexane	mg/kg	-	3.9 U	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	0.33 U	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
Isopropyl benzene	mg/kg	-	0.82 U	-	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/kg	-	0.66 J	-	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	mg/kg	-	3.9 U	-	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	0.82 U	-	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	0.82 U	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	**2.5**[bcd]	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	-	0.33 U	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	0.045 J	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	0.16 U	-	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	0.075 J	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	0.33 U	-	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	mg/kg	-	0.82 U	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	0.13 U	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	0.49 U	-	-	-	-	-	-	-	-	-	-

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)													
Sample Location		*CRA-873SB*	*CRA-873SB*	*CRA-873SB*	*CRA-874SB*	*CRA-874SB*	*CRA-874SB*	*CRA-875SB*	*CRA-875SB*	*CRA-875SB*	*CRA-876SB*	*CRA-876SB*	*CRA-876SB*
Sample Identification		*SO-17358-081313-DR-009*	*SO-17358-081313-DR-010*	*SO-17358-081313-DR-011*	*SO-17358-081313-DR-019*	*SO-17358-081313-DR-020*	*SO-17358-081313-DR-021*	*SO-17358-081313-DR-016*	*SO-17358-081313-DR-017*	*SO-17358-081313-DR-018*	*SO-17358-081313-DR-012*	*SO-17358-081313-DR-013*	*SO-17358-081313-DR-014*
Sample Date		*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*
Sample Depth		*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*
Sample Type													
	Units												
Semi-Volatile Organic Compounds (SVOCs)													
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	-	0.17 U	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	0.027 J	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	0.23 U	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	1.8 U	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	0.23 U	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	0.17 U	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	mg/kg	-	0.23 U	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	0.23 U	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	0.37 U	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Acetophenone	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	-	0.0053 J	-	-	-	-	-	-	-	-	-	-
Atrazine	mg/kg	-	0.045 U	-	-	-	-	-	-	-	-	-	-
Benzaldehyde	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	0.022 J	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	0.022 J	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	-	0.037 J	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	0.019 J	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	0.011 J	-	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	0.09 U	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	0.3 UJ	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Caprolactam	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	0.029 J	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	0.3 UJ	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	0.043 J	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	0.045 U	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	R	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	0.014 J	-	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	0.017 J	-	-	-	-	-	-	-	-	-	-

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation													
Perimeter Status (1)													
Sample Location		*CRA-873SB*	*CRA-873SB*	*CRA-873SB*	*CRA-874SB*	*CRA-874SB*	*CRA-874SB*	*CRA-875SB*	*CRA-875SB*	*CRA-875SB*	*CRA-876SB*	*CRA-876SB*	*CRA-876SB*
Sample Identification		*SO-17358-081313-DR-009*	*SO-17358-081313-DR-010*	*SO-17358-081313-DR-011*	*SO-17358-081313-DR-019*	*SO-17358-081313-DR-020*	*SO-17358-081313-DR-021*	*SO-17358-081313-DR-016*	*SO-17358-081313-DR-017*	*SO-17358-081313-DR-018*	*SO-17358-081313-DR-012*	*SO-17358-081313-DR-013*	*SO-17358-081313-DR-014*
Sample Date		*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*
Sample Depth		*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*
Sample Type													
	Units												
Nitrobenzene	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	0.17 U	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	0.028 J	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	-	0.3 U	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	0.043 J	-	-	-	-	-	-	-	-	-	-
Metals													
Aluminum	mg/kg	-	4100	-	-	-	-	-	-	-	-	-	-
Antimony	mg/kg	-	0.35 UJ	-	-	-	-	-	-	-	-	-	-
Arsenic	mg/kg	4.9	4	**8.5**[bcdp]	4.2	**12**[bcdp]	**9.7**[bcdp]	5.2	4.8	4.9	4	4.4	3.9
Barium	mg/kg	-	23	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	-	0.089 J	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	-	0.072 J	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	7.9	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	-	4	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	12	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg	-	8300	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	5.7	-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg	-	180	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	0.046 U	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	10	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	-	**1.1**[d]	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg	-	0.17 U	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg	-	0.058 J	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	13	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	22	-	-	-	-	-	-	-	-	-	-
PCBs													
Aroclor-1016 (PCB-1016)	mg/kg	-	0.037 U	-	-	-	-	-	-	-	-	-	-
Aroclor-1221 (PCB-1221)	mg/kg	-	0.037 U	-	-	-	-	-	-	-	-	-	-
Aroclor-1232 (PCB-1232)	mg/kg	-	0.037 U	-	-	-	-	-	-	-	-	-	-
Aroclor-1242 (PCB-1242)	mg/kg	-	0.037 U	-	-	-	-	-	-	-	-	-	-
Aroclor-1248 (PCB-1248)	mg/kg	-	0.037 U	-	-	-	-	-	-	-	-	-	-
Aroclor-1254 (PCB-1254)	mg/kg	-	0.037 U	-	-	-	-	-	-	-	-	-	-
Aroclor-1260 (PCB-1260)	mg/kg	-	0.037 U	-	-	-	-	-	-	-	-	-	-
Aroclor-1262 (PCB-1262)	mg/kg	-	0.037 U	-	-	-	-	-	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	0.037 U	-	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	ND	-	-	-	-	-	-	-	-	-	-

Notes
Michigan Part 201 generic clean up criteria (updated September 28, 2012)
ID Insufficie
NLV Hazardo
NA Criterion

Perimeter Status (1) - N - non-perimeter, Y - perimeter

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation			*WEST03*	*WEST03*
Perimeter Status (1)			*N*	*N*
Sample Location		*CRA-876SB*	*CRA-839SB*	*CRA-839SB*
Sample Identification		*SO-17358-081313-DR-015*	*SO-17358-081313-DR-007*	*SO-17358-081313-DR-008*
Sample Date		*8/13/2013*	*8/13/2013*	*8/13/2013*
Sample Depth		*(4-6) ft BGS*	*(0-0.5) ft BGS*	*(0-0.5) ft BGS*
Sample Type		*Duplicate*		*Duplicate*
	Units			
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	mg/kg	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-
1,1-Dichloroethene	mg/kg	-	-	-
1,2,4-Trichlorobenzene	mg/kg	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-
2-Hexanone	mg/kg	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-
Acetone	mg/kg	-	-	-
Benzene	mg/kg	-	-	-
Bromodichloromethane	mg/kg	-	-	-
Bromoform	mg/kg	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-
Carbon disulfide	mg/kg	-	-	-
Carbon tetrachloride	mg/kg	-	-	-
Chlorobenzene	mg/kg	-	-	-
Chloroethane	mg/kg	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-
Cyclohexane	mg/kg	-	-	-
Dibromochloromethane	mg/kg	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-
Ethylbenzene	mg/kg	-	-	-
Isopropyl benzene	mg/kg	-	-	-
Methyl acetate	mg/kg	-	-	-
Methyl cyclohexane	mg/kg	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-
Methylene chloride	mg/kg	-	-	-
Styrene	mg/kg	-	-	-
Tetrachloroethene	mg/kg	-	-	-
Toluene	mg/kg	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-
Trichloroethene	mg/kg	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-
Trifluorotrichloroethane (Freon 113)	mg/kg	-	-	-
Vinyl chloride	mg/kg	-	-	-
Xylenes (total)	mg/kg	-	-	-

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation			*WEST03*	*WEST03*
Perimeter Status (1)			*N*	*N*
Sample Location		*CRA-876SB*	*CRA-839SB*	*CRA-839SB*
Sample Identification		*SO-17358-081313-DR-015*	*SO-17358-081313-DR-007*	*SO-17358-081313-DR-008*
Sample Date		*8/13/2013*	*8/13/2013*	*8/13/2013*
Sample Depth		*(4-6) ft BGS*	*(0-0.5) ft BGS*	*(0-0.5) ft BGS*
Sample Type		*Duplicate*		*Duplicate*
	Units			
Semi-Volatile Organic Compounds (SVOCs)				
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-
2,4,5-Trichlorophenol	mg/kg	-	-	-
2,4,6-Trichlorophenol	mg/kg	-	-	-
2,4-Dichlorophenol	mg/kg	-	-	-
2,4-Dimethylphenol	mg/kg	-	-	-
2,4-Dinitrophenol	mg/kg	-	-	-
2,4-Dinitrotoluene	mg/kg	-	-	-
2,6-Dinitrotoluene	mg/kg	-	-	-
2-Chloronaphthalene	mg/kg	-	-	-
2-Chlorophenol	mg/kg	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-
2-Methylphenol	mg/kg	-	-	-
2-Nitroaniline	mg/kg	-	-	-
2-Nitrophenol	mg/kg	-	-	-
3&4-Methylphenol	mg/kg	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	-	-
3-Nitroaniline	mg/kg	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	-	-
4-Chloroaniline	mg/kg	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-
4-Nitroaniline	mg/kg	-	-	-
4-Nitrophenol	mg/kg	-	-	-
Acenaphthene	mg/kg	-	-	-
Acenaphthylene	mg/kg	-	-	-
Acetophenone	mg/kg	-	-	-
Anthracene	mg/kg	-	-	-
Atrazine	mg/kg	-	-	-
Benzaldehyde	mg/kg	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-
Benzo(b)fluoranthene	mg/kg	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	-	-
Caprolactam	mg/kg	-	-	-
Carbazole	mg/kg	-	-	-
Chrysene	mg/kg	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-
Dibenzofuran	mg/kg	-	-	-
Diethyl phthalate	mg/kg	-	-	-
Dimethyl phthalate	mg/kg	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	-	-
Fluoranthene	mg/kg	-	-	-
Fluorene	mg/kg	-	-	-
Hexachlorobenzene	mg/kg	-	-	-
Hexachlorobutadiene	mg/kg	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	-	-
Hexachloroethane	mg/kg	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-
Isophorone	mg/kg	-	-	-
Naphthalene	mg/kg	-	-	-

PART 201 CRITERIA EXCEEDANCES - SOIL
2013 RFI ADDENDUM NO. 2
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation			*WEST03*	*WEST03*
Perimeter Status (1)			*N*	*N*
Sample Location		*CRA-876SB*	*CRA-839SB*	*CRA-839SB*
Sample Identification		*SO-17358-081313-DR-015*	*SO-17358-081313-DR-007*	*SO-17358-081313-DR-008*
Sample Date		*8/13/2013*	*8/13/2013*	*8/13/2013*
Sample Depth		*(4-6) ft BGS*	*(0-0.5) ft BGS*	*(0-0.5) ft BGS*
Sample Type		*Duplicate*		*Duplicate*
	Units			
Nitrobenzene	mg/kg	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	-	-
Pentachlorophenol	mg/kg	-	-	-
Phenanthrene	mg/kg	-	-	-
Phenol	mg/kg	-	-	-
Pyrene	mg/kg	-	-	-
Metals				
Aluminum	mg/kg	-	-	-
Antimony	mg/kg	-	-	-
Arsenic	mg/kg	2.8	-	-
Barium	mg/kg	-	-	-
Beryllium	mg/kg	-	-	-
Cadmium	mg/kg	-	-	-
Chromium	mg/kg	-	-	-
Cobalt	mg/kg	-	-	-
Copper	mg/kg	-	-	-
Iron	mg/kg	-	-	-
Lead	mg/kg	-	-	-
Manganese	mg/kg	-	**590**[bcd]	**560**[bcd]
Mercury	mg/kg	-	-	-
Nickel	mg/kg	-	-	-
Selenium	mg/kg	-	-	-
Silver	mg/kg	-	-	-
Thallium	mg/kg	-	-	-
Vanadium	mg/kg	-	-	-
Zinc	mg/kg	-	-	-
PCBs				
Aroclor-1016 (PCB-1016)	mg/kg	-	-	-
Aroclor-1221 (PCB-1221)	mg/kg	-	-	-
Aroclor-1232 (PCB-1232)	mg/kg	-	-	-
Aroclor-1242 (PCB-1242)	mg/kg	-	-	-
Aroclor-1248 (PCB-1248)	mg/kg	-	-	-
Aroclor-1254 (PCB-1254)	mg/kg	-	-	-
Aroclor-1260 (PCB-1260)	mg/kg	-	-	-
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-
Total PCBs	mg/kg	-	-	-

Notes
Michigan Part 201 generic clean up criteria (updated September 28, 2012)
ID Insufficie
NLV Hazardo
NA Criterion

Perimeter Status (1) - N - non-perimeter, Y - perimeter

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.

TABLE 2

PART 201 CRITERIA EXCEEDANCES - GROUNDWATER
2013 RFI ADDENDUM NO 2 REPORT
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation		*Michigan Act 451, Part 201 Cleanup Criteria and Part 213 Risk-based Screening Levels: Residential and Non-Residential Generic Cleanup Criteria* [1]											
Aquifer		Residential Drinking Water	Non-Residential Drinking Water	Groundwater Surface Water	Residential Groundwater	Non-Residential Groundwater	Groundwater Contact	Water Solubility	Flammability and Explosivity	Acute Inhalation			
Perimeter Status (1)													
Sample Location				Interface	Volatilization to	Volatilization to			Screening Levels	Screening Levels	***CRA-858SB***	***CRA-859SB***	***CRA-860SB***
Sample Identification					Indoor Air Inhalation	Indoor Air Inhalation					***GW-17358-081413-DR-058***	***GW-17358-081413-DR-075***	***GW-17358-081413-DR-071***
Sample Date		a	b	c	d	e	f	g	h	i	***8/14/2013***	***8/14/2013***	***8/14/2013***
Sample Type													
	Units												
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	mg/L	0.2	0.2	0.089	660	1300	1300	1330	ID	1300	0.033 U	1 U	0.033 U
1,1,2,2-Tetrachloroethane	mg/L	0.0085	0.035	0.078	12	77	4.7	2970	ID	ID	0.033 U	1 U	0.033 U
1,1,2-Trichloroethane	mg/L	0.005	0.005	0.33	17	110	21	4420		ID	0.033 U	1 U	0.033 U
1,1-Dichloroethane	mg/L	0.88	2.5	0.74	1000	2300	2400	5060	380	ID	0.033 U	1 U	0.033 U
1,1-Dichloroethene	mg/L	0.007	0.007	0.13	0.2	1.3	11	2250	97	140	0.033 U	1 U	0.033 U
1,2,4-Trichlorobenzene	mg/L	0.07	0.07	0.099	300	300	19	300		300	0.033 U	1 U	0.033 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	0.0002	0.0002		0.22	1.2	0.39	1.23		ID	0.033 U	1 U	0.033 U
1,2-Dibromoethane (Ethylene dibromide)	mg/L	0.00005	0.00005	0.0057	2.4	15	0.025	4200	ID	ID	0.033 U	1 U	0.033 U
1,2-Dichlorobenzene	mg/L	0.6	0.6	0.013	160	160	160	156		160	0.033 U	1 U	0.033 U
1,2-Dichloroethane	mg/L	0.005	0.005	0.36	9.6	59	19	8520	2500	ID	0.033 U	1 U	0.033 U
1,2-Dichloropropane	mg/L	0.005	0.005	0.23	16	36	16	2800	550	2800	0.033 U	1 U	0.033 U
1,3-Dichlorobenzene	mg/L	0.0066	0.019	0.028	18	41	2	111	ID	ID	0.033 U	1 U	0.033 U
1,4-Dichlorobenzene	mg/L	0.075	0.075	0.017	16	74	6.4	73.8		ID	0.033 U	1 U	0.033 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	13	38	2.2	240000	240000	240000	240000	ID	240000	0.33 U	10 U	0.33 U
2-Hexanone	mg/L	1	2.9	ID	4200	8700	5200	16000		ID	0.33 U	10 U	0.33 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	1.8	5.2	ID	20000	20000	13000	20000	ID	20000	0.33 U	10 U	0.33 U
Acetone	mg/L	0.73	2.1	1.7	1000000	1000000	31000	1000000	15000	1000000	0.33 U	10 U	0.33 U
Benzene	mg/L	0.005	0.005	0.2	5.6	35	11	1750	68	67	0.033 U	1 U	0.033 U
Bromodichloromethane	mg/L	0.08	0.08	ID	4.8	37	14	6740	ID	ID	0.033 U	1 U	0.033 U
Bromoform	mg/L	0.08	0.08	ID	470	3100	140	3100	ID	ID	0.033 U	1 U	0.033 U
Bromomethane (Methyl bromide)	mg/L	0.01	0.029	0.035	4	9	70	14500	ID	ID	0.033 U	1 U	0.033 U
Carbon disulfide	mg/L	0.8	2.3	ID	250	550	1200	1190	13	ID	0.17 U	5 U	0.17 U
Carbon tetrachloride	mg/L	0.005	0.005	0.045	0.37	2.4	4.6	793	ID	96	0.033 U	1 U	0.033 U
Chlorobenzene	mg/L	0.1	0.1	0.025	210	470	86	472	160	ID	0.033 U	1 U	0.033 U
Chloroethane	mg/L	0.43	1.7	1.1	5700	5700	440	5740	110	ID	0.033 U	1 U	0.033 U
Chloroform (Trichloromethane)	mg/L	0.08	0.08	0.35	28	180	150	7920	ID	ID	0.033 U	1 U	0.033 U
Chloromethane (Methyl chloride)	mg/L	0.26	1.1	ID	8.6	45	490	6340	36	210	0.033 U	1 U	0.033 U
cis-1,2-Dichloroethene	mg/L	0.07	0.07	0.62	93	210	200	3500	530	ID	0.017 J	1 U	**0.14**[ab]
cis-1,3-Dichloropropene	mg/L										0.033 U	1 U	0.033 U
Cyclohexane	mg/L										0.033 U	1 U	0.033 U
Dibromochloromethane	mg/L	0.08	0.08	ID	14	110	18	2600	ID	ID	0.033 U	1 U	0.033 U
Dichlorodifluoromethane (CFC-12)	mg/L	1.7	4.8	ID	220	300	300	300	ID	ID	0.033 U	1 U	0.033 U
Ethylbenzene	mg/L	0.074	0.074	0.018	110	170	170	169	43	170	0.033 U	1 U	0.033 U
Isopropyl benzene	mg/L	0.8	2.3	0.028	56	56	56	56	29	ID	0.033 U	1 U	0.033 U
Methyl acetate	mg/L										0.33 U	10 U	0.33 U
Methyl cyclohexane	mg/L										0.033 U	1 U	0.033 U
Methyl tert butyl ether (MTBE)	mg/L	0.04	0.04	7.1	47000	47000	610	46800	ID	ID	0.033 U	1 U	0.033 U
Methylene chloride	mg/L	0.005	0.005	1.5	220	1400	220	17000	ID	ID	0.17 U	**0.4 J**[ab]	**0.015 J**[ab]
Styrene	mg/L	0.1	0.1	0.08	170	310	9.7	310	140	310	0.033 U	1 U	0.033 U

TABLE 2

PART 201 CRITERIA EXCEEDANCES - GROUNDWATER
2013 RFI ADDENDUM NO 2 REPORT
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation		*Michigan Act 451, Part 201 Cleanup Criteria and Part 213 Risk-based Screening Levels: Residential and Non-Residential Generic Cleanup Criteria* [1]											
Aquifier		Residential Drinking Water	Non-Residential Drinking Water	Groundwater Surface Water	Residential Groundwater	Non-Residential Groundwater	Groundwater Contact	Water Solubility	Flammability and Explosivity	Acute Inhalation			
Perimeter Status (1)													
Sample Location				Interface	Volatilization to	Volatilization to			Screening Levels	Screening Levels	*CRA-858SB*	*CRA-859SB*	*CRA-860SB*
Sample Identification					Indoor Air Inhalation	Indoor Air Inhalation					*GW-17358-081413-DR-058*	*GW-17358-081413-DR-075*	*GW-17358-081413-DR-071*
Sample Date		a	b	c	d	e	f	g	h	i	*8/14/2013*	*8/14/2013*	*8/14/2013*
Sample Type													
	Units												
Tetrachloroethene	mg/L	0.005	0.005	0.06	25	170	12	200	ID	200	**0.85**[abc]	**16**[abcf]	**1**[abc]
Toluene	mg/L	0.79	0.79	0.27	530	530	530	526	61	ID	0.0053 J	1 U	0.033 U
trans-1,2-Dichloroethene	mg/L	0.1	0.1	1.5	85	200	220	6300	230	ID	0.033 U	1 U	0.033 U
trans-1,3-Dichloropropene	mg/L										0.033 U	1 U	0.033 U
Trichloroethene	mg/L	0.005	0.005	0.2	2.2	4.9	22	1100	ID	1100	**0.48**[abc]	1 U	**0.031 J**[ab]
Trichlorofluoromethane (CFC-11)	mg/L	2.6	7.3		1100	1100	1100	1100	ID	1100	0.033 U	1 U	0.033 U
Trifluorotrichloroethane (Freon 113)	mg/L	170	170	0.032	170	170	170	170	ID	170	0.033 U	1 U	0.033 U
Vinyl chloride	mg/L	0.002	0.002	0.013	1.1	13	1	2760	33	ID	0.033 U	1 U	**0.0086 J**[ab]
Xylenes (total)	mg/L	0.28	0.28	0.041	190	190	190	186	70	190	0.067 U	2 U	0.067 U
Field Parameters													
Conductivity, field	mS/cm										0.608	0.741	0.673
Dissolved oxygen (DO), field	mg/L										1.5	1.46	1.37
Oxidation reduction potential (ORP), field	millivolts										-61	-80	-80
pH, field	s.u.	6.5 - 8.5	6.5 - 8.5								8.06	7.55	7.61
Temperature, field	Deg C										20.71	21.76	18.54

Notes

Michigan Part 201 generic clean up criteria (updated September 28, 2012)

ID Insufficient data to develop criterion

NLV Hazardous substance is not likely to volatilize under most conditions

NA Criterion or value is not available

Perimeter Status (1) - N - non-perimeter, Y - perimeter

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

TABLE 2

PART 201 CRITERIA EXCEEDANCES - GROUNDWATER
2013 RFI ADDENDUM NO 2 REPORT
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation									
Aquifier									
Perimeter Status (1)									
Sample Location		*CRA-861SB*	*CRA-862SB*	*CRA-863SB*	*CRA-864SB*	*CRA-865SB*	*CRA-865SB*	*CRA-866SB*	*CRA-867SB*
Sample Identification		*GW-17358-081413-DR-054*	*GW-17358-081413-DR-050*	*GW-17358-081413-DR-067*	*GW-17358-081313-DR-028*	*GW-17358-081313-DR-032*	*GW-17358-081313-DR-033*	*GW-17358-081313-DR-037*	*GW-17358-081413-DR-062*
Sample Date		*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/14/2013*
Sample Type							*Duplicate*		
	Units								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	mg/L	0.001 U	0.001 U	0.0012 J	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
1,1,2,2-Tetrachloroethane	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
1,1,2-Trichloroethane	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
1,1-Dichloroethane	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
1,1-Dichloroethene	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
1,2,4-Trichlorobenzene	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
1,2-Dibromoethane (Ethylene dibromide)	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
1,2-Dichlorobenzene	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
1,2-Dichloroethane	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
1,2-Dichloropropane	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
1,3-Dichlorobenzene	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
1,4-Dichlorobenzene	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.01 U	0.01 U	0.04 U	0.067 U	0.01 U	0.01 U	0.014 U	0.01 U
2-Hexanone	mg/L	0.01 U	0.01 U	0.04 U	0.067 U	0.01 U	0.01 U	0.014 U	0.01 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	0.01 U	0.01 U	0.04 U	0.067 U	0.01 U	0.01 U	0.014 U	0.01 U
Acetone	mg/L	0.01 U	0.01 U	0.04 U	0.067 U	0.01 U	0.01 U	0.015	0.01 U
Benzene	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.00053 J	0.001 U
Bromodichloromethane	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Bromoform	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Bromomethane (Methyl bromide)	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Carbon disulfide	mg/L	0.005 U	0.005 U	0.02 U	0.033 U	0.00034 J	0.00029 J	0.0072 U	0.005 U
Carbon tetrachloride	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Chlorobenzene	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Chloroethane	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Chloroform (Trichloromethane)	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Chloromethane (Methyl chloride)	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
cis-1,2-Dichloroethene	mg/L	0.00039 J	0.001 U	0.0041	**0.13**[ab]	0.001 U	0.00022 J	0.0014 U	0.0012
cis-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Cyclohexane	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.019	0.021	0.038	0.001 U
Dibromochloromethane	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Dichlorodifluoromethane (CFC-12)	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Ethylbenzene	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.00022 J	0.00022 J	0.0014 U	0.001 U
Isopropyl benzene	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.024	0.023	0.013	0.001 U
Methyl acetate	mg/L	0.01 U	0.01 U	0.04 U	0.067 U	0.01 U	0.01 U	0.014 U	0.01 U
Methyl cyclohexane	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.0014	0.0015	0.0049	0.001 U
Methyl tert butyl ether (MTBE)	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Methylene chloride	mg/L	0.005 U	0.005 U	0.02 U	0.033 U	0.005 U	0.005 U	0.0072 U	0.005 U
Styrene	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U

TABLE 2

PART 201 CRITERIA EXCEEDANCES - GROUNDWATER
2013 RFI ADDENDUM NO 2 REPORT
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation									
Aquifer									
Perimeter Status (1)									
Sample Location		*CRA-861SB*	*CRA-862SB*	*CRA-863SB*	*CRA-864SB*	*CRA-865SB*	*CRA-865SB*	*CRA-866SB*	*CRA-867SB*
Sample Identification		*GW-17358-081413-DR-054*	*GW-17358-081413-DR-050*	*GW-17358-081413-DR-067*	*GW-17358-081313-DR-028*	*GW-17358-081313-DR-032*	*GW-17358-081313-DR-033*	*GW-17358-081313-DR-037*	*GW-17358-081413-DR-062*
Sample Date		*8/14/2013*	*8/14/2013*	*8/14/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/13/2013*	*8/14/2013*
Sample Type							*Duplicate*		
	Units								
Tetrachloroethene	mg/L	**0.0059**[ab]	**0.0077**[ab]	**0.098**[abc]	0.0067 U	0.001 U	0.001 U	0.0014 U	0.00082 J
Toluene	mg/L	0.00013 J	0.001 U	0.0013 J	0.0018 J	0.0003 J	0.00029 J	0.00087 J	0.00013 J
trans-1,2-Dichloroethene	mg/L	0.001 U	0.001 U	0.004 U	0.011	0.001 U	0.001 U	0.0014 U	0.001 U
trans-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Trichloroethene	mg/L	0.001 U	0.001 U	0.0016 J	0.0016 J	0.001 U	0.001 U	0.0014 U	0.00025 J
Trichlorofluoromethane (CFC-11)	mg/L	0.001 U	0.001 U	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Trifluorotrichloroethane (Freon 113)	mg/L	0.0017	0.0009 J	0.004 U	0.0067 U	0.001 U	0.001 U	0.0014 U	0.001 U
Vinyl chloride	mg/L	0.001 U	0.001 U	0.004 U	**0.012**[ab]	0.001 U	0.001 U	0.0014 U	0.001 U
Xylenes (total)	mg/L	0.002 U	0.002 U	0.008 U	0.013 U	0.002 U	0.002 U	0.0029 U	0.002 U
Field Parameters									
Conductivity, field	mS/cm	0.653	0.574	0.85	2.97	10.57	10.57	6.95	0.658
Dissolved oxygen (DO), field	mg/L	1.69	3.44	1.67	1.74	0.22	0.22	0.84	1.01
Oxidation reduction potential (ORP), field	millivolts	-17	-46	-78	-70	-168	-16	-188	-78
pH, field	s.u.	7.74	7.84	7.45	7.12	6.86	6.86	6.89	7.64
Temperature, field	Deg C	20.92	17.47	20.45	22.96	23.24	23.24	24.13	18.27

Notes
Michigan Part 201 generic clean up criteria (updated September 28, 2012)
ID Insufficient
NLV Hazardous
NA Criterion or

Perimeter Status (1) - N - non-perimeter, Y - perimeter

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

TABLE 2

PART 201 CRITERIA EXCEEDANCES - GROUNDWATER
2013 RFI ADDENDUM NO 2 REPORT
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation				
Aquifier				
Perimeter Status (1)				
Sample Location		*CRA-867SB*	*CRA-868SB*	*CRA-869SB*
Sample Identification		*GW-17358-081413-DR-063*	*GW-17358-081413-DR-045*	*GW-17358-081313-DR-041*
Sample Date		*8/14/2013*	*8/14/2013*	*8/13/2013*
Sample Type		*Duplicate*		
	Units			
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	mg/L	0.001 U	0.001 U	0.00058 J
1,1,2,2-Tetrachloroethane	mg/L	0.001 U	0.001 U	0.001 U
1,1,2-Trichloroethane	mg/L	0.001 U	0.001 U	0.001 U
1,1-Dichloroethane	mg/L	0.001 U	0.001 U	0.00028 J
1,1-Dichloroethene	mg/L	0.001 U	0.001 U	0.001 U
1,2,4-Trichlorobenzene	mg/L	0.001 U	0.001 U	0.001 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	0.001 U	0.001 U	0.001 U
1,2-Dibromoethane (Ethylene dibromide)	mg/L	0.001 U	0.001 U	0.001 U
1,2-Dichlorobenzene	mg/L	0.001 U	0.001 U	0.001 U
1,2-Dichloroethane	mg/L	0.001 U	0.001 U	0.001 U
1,2-Dichloropropane	mg/L	0.001 U	0.001 U	0.001 U
1,3-Dichlorobenzene	mg/L	0.001 U	0.001 U	0.001 U
1,4-Dichlorobenzene	mg/L	0.001 U	0.001 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.01 U	0.01 U	0.01 U
2-Hexanone	mg/L	0.01 U	0.01 U	0.01 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	0.01 U	0.01 U	0.01 U
Acetone	mg/L	0.01 U	0.01 U	0.01 U
Benzene	mg/L	0.001 U	0.001 U	0.001 U
Bromodichloromethane	mg/L	0.001 U	0.001 U	0.001 U
Bromoform	mg/L	0.001 U	0.001 U	0.001 U
Bromomethane (Methyl bromide)	mg/L	0.001 U	0.001 U	0.001 U
Carbon disulfide	mg/L	0.005 U	0.005 U	0.005 U
Carbon tetrachloride	mg/L	0.001 U	0.001 U	0.001 U
Chlorobenzene	mg/L	0.001 U	0.001 U	0.001 U
Chloroethane	mg/L	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	mg/L	0.001 U	0.022	0.001 U
Chloromethane (Methyl chloride)	mg/L	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	mg/L	0.0012	0.001 U	0.001 U
cis-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.001 U
Cyclohexane	mg/L	0.001 U	0.001 U	0.00026 J
Dibromochloromethane	mg/L	0.001 U	0.001 U	0.001 U
Dichlorodifluoromethane (CFC-12)	mg/L	0.001 U	0.001 U	0.001 U
Ethylbenzene	mg/L	0.001 U	0.001 U	0.001 U
Isopropyl benzene	mg/L	0.001 U	0.001 U	0.001 U
Methyl acetate	mg/L	0.01 U	0.01 U	0.01 U
Methyl cyclohexane	mg/L	0.001 U	0.001 U	0.001 U
Methyl tert butyl ether (MTBE)	mg/L	0.001 U	0.001 U	0.001 U
Methylene chloride	mg/L	0.005 U	0.005 U	0.005 U
Styrene	mg/L	0.001 U	0.001 U	0.001 U

TABLE 2

PART 201 CRITERIA EXCEEDANCES - GROUNDWATER
2013 RFI ADDENDUM NO 2 REPORT
FORMER GENERAL MOTORS POWERTRAIN WILLOW RUN
YPSILANTI, MICHIGAN

Site Section Designation				
Aquifer				
Perimeter Status (1)				
Sample Location		*CRA-867SB*	*CRA-868SB*	*CRA-869SB*
Sample Identification		*GW-17358-081413-DR-063*	*GW-17358-081413-DR-045*	*GW-17358-081313-DR-041*
Sample Date		*8/14/2013*	*8/14/2013*	*8/13/2013*
Sample Type		*Duplicate*		
	Units			
Tetrachloroethene	mg/L	0.0009 J	0.001 U	0.001 U
Toluene	mg/L	0.00013 J	0.00016 J	0.001 U
trans-1,2-Dichloroethene	mg/L	0.001 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	mg/L	0.001 U	0.001 U	0.001 U
Trichloroethene	mg/L	0.00025 J	0.001 U	0.0013
Trichlorofluoromethane (CFC-11)	mg/L	0.001 U	0.001 U	0.001 U
Trifluorotrichloroethane (Freon 113)	mg/L	0.001 U	0.001 U	0.001 U
Vinyl chloride	mg/L	0.001 U	0.001 U	0.001 U
Xylenes (total)	mg/L	0.002 U	0.002 U	0.002 U
Field Parameters				
Conductivity, field	mS/cm	0.658	0.38	-
Dissolved oxygen (DO), field	mg/L	1.01	1.53	-
Oxidation reduction potential (ORP), field	millivolts	-78	-74	-
pH, field	s.u.	7.64	8.18	-
Temperature, field	Deg C	18.27	18.8	-

Notes

Michigan Part 201 generic clean up criteria (updated September 28, 2012)

ID Insufficient

NLV Hazardous

NA Criterion or

Perimeter Status (1) - N - non-perimeter, Y - perimeter

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.