



TANK F INVESTIGATION REPORT

**FORMER GM WILMINGTON ASSEMBLY PLANT
801 BOXWOOD ROAD
WILMINGTON, DELAWARE**

**Prepared For:
Motors Liquidation Company**

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1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) has prepared this report on behalf of Motors Liquidation Company (MLC) in response to the Delaware Department of Natural Resources and Environmental Control (DNREC) Tank Management Branch (TMB) request dated September 29, 2009 regarding aboveground storage tank (AST) closure activities at the former General Motors Corporation (GM) Wilmington Assembly Plant in Wilmington, Delaware (Site). A Site location map is presented on Figure 1.1.

DNREC-TMB's request was based on their review of the AST closure document for four ASTs (CRA, August 2009) which demonstrated that the requirements of the DE Admin Code 1352 State of Delaware Regulations Governing Aboveground Storage Tanks (AST Regulations) Part B Section 16 for Permanent Closure in Place of ASTs had been met for ASTs A, B, C, and F and that No Further Action was required for ASTs A, B, and C. However, further delineation of semi-volatile organic compound (SVOC) impacts in the vicinity of AST F (Tank F) was requested.

In accordance with DNREC-TMB's request, an Investigation Work Plan was prepared to outline a sampling and analysis plan to adequately delineate SVOC impacts in the vicinity of Tank F. The Investigation Work Plan was submitted to DNREC-TMB on November 11, 2009 and was subsequently approved on December 2, 2009. This report provides a summary of the Investigation Work Plan implementation activities and the analytical data generated there from.

2.0 BACKGROUND

Tank F is a 250,000-gallon, vertical AST with a diameter of 40 feet and a height of 27 feet, located within an earthen berm in the tank farm located on the west side of the plant. It was installed in 1955 for the storage of No. 6 fuel oil and was permanently taken out of service on April 18, 2007. Underground piping extends from Tank F to the Power House to the east. Tank F was cleaned once it was permanently removed from service and is now empty. The Site layout, including Tank F and surrounding tank farm, is presented on Figure 2.1.

The soil and groundwater quality in the vicinity of Tank F was characterized in April 2009 as part of a Site assessment for the closure of four ASTs (i.e., Tanks A, B, C, and F). Assessment activities were conducted in accordance with the AST Regulations. Soil samples were collected on the four sides of Tank F at the soil interval immediately below the gravel layer [i.e., 6 to 12-inches below ground surface (bgs)] and below the underground piping leading to the pump house (i.e., 4.5 to 5 feet bgs). Soil samples were submitted for laboratory analysis of SVOCs, polychlorinated biphenyls (PCBs), and metals. A review of the laboratory analytical results found the soil in the vicinity of Tank F exhibited levels of benzo-a-pyrene and arsenic above restricted Delaware Uniform Risk-Based Standards (URSS), however, arsenic was eliminated as a contaminant of concern in the AST closure report as the concentrations found in the soil were within known background concentrations.

In addition, two groundwater grab samples were collected in the vicinity of Tank F for laboratory analysis of SVOCs and metals. A review of the laboratory analytical results found groundwater in the vicinity of Tank F exhibited levels of SVOCs (i.e., benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, bis(2-ethylhexyl)phthalate, and indeno(1,2,3-cd)pyrene) above Delaware URSS for groundwater. With the exception of bis(2-ethylhexyl)phthalate, the SVOCs detected in the groundwater grab samples have aqueous solubilities less than the Delaware Risk Based Corrective Action Program (DERBCAP) Risk Based Screening Levels (RBSLs) for groundwater with a point of compliance greater than 50 feet. No RBSL has been developed for bis(2-ethylhexyl)phthalate. These findings were documented in the AST Closure Document, prepared by CRA and submitted to DNREC on August 18, 2009. The August 2009 report recommended further delineation of SVOC impacts in the vicinity of Tank F.

3.0 ADDITIONAL FIELD INVESTIGATION ACTIVITIES

The following documents the soil and groundwater investigation activities that were conducted to further delineate the extent of SVOC impacts in the vicinity of Tank F.

3.1 SOIL QUALITY INVESTIGATION

On January 5, 2010, four soil borings were advanced in the vicinity of Tank F to facilitate the inspection and field screening of soils. Soil boring GP-21 was advanced to delineate the northeastern extent of SVOC impact, GP-22 and GP-24 were advanced to delineate the extent of SVOC impact beneath underground piping to the east, and GP-23 was advanced to delineate the southern extent of impact.

The approximate locations of the soil borings advanced in accordance with the Tank F Investigation Work Plan and previous tank closure activities are presented on Figure 3.1.

Soil borings were advanced to an approximate depth of 10 ft bgs. Soils were logged in accordance with the Unified Soil Classification System (USCS), with special attention to visual or olfactory evidence of impact, however, no visual or olfactory evidence of impact were identified. The soils were screened using a photoionization detector (PID) to determine relative concentrations of undifferentiated volatile organic vapors, however, no PID evidence of impacts were identified. In general, the stratigraphy encountered consisted primarily of poorly sorted sand with some silts and clays. Stratigraphic logs are provided in Appendix A.

Soil samples were collected from each soil boring at depths of 0.5, 4.5 and 6.0 feet bgs. Soil samples were placed in laboratory supplied sample containers and submitted for analysis of base/neutral SVOCs.

A sample key is provided in Table 3.1.

3.2 GROUNDWATER QUALITY INVESTIGATION

Historical groundwater elevation data indicates that in this part of the Facility groundwater flows towards the west/southwest as presented on Figure 3.2. To further investigate the groundwater quality in the vicinity of Tank F, two soil borings were advanced downgradient of Tank F, at the approximate locations shown on Figure 3.1, and instrumented as groundwater monitoring wells (i.e., MW-20 and MW-21).

Stratigraphic and monitoring well instrumentation logs and are provided in Appendix A.

Once instrumented, groundwater levels in the wells were monitored until the in-well groundwater level reached equilibrium with the surrounding water table. Once the water levels reached equilibrium, the depth to groundwater was recorded and each well was developed to ensure that the groundwater quality was representative of the quality of groundwater within the screened hydrogeologic unit. In order, to determine that the in well groundwater quality had stabilized, CRA continually measured stabilization parameters [i.e., temperature, pH, turbidity, conductivity, and dissolved oxygen (DO)] until five to ten well volumes were removed from each well. A monitoring well development summary is provided in Table 3.2.

Monitoring well purging and groundwater sampling was conducted on January 21, 2010, approximately 2-weeks following well installation and development. Field stabilization parameters collected during well purging activities are summarized in Table 3.2. Groundwater samples were collected from existing monitoring well MW-8 and the two new monitoring wells (i.e., MW-20 and MW-21) using low flow groundwater sampling techniques. Groundwater samples were placed directly into laboratory supplied sample containers and submitted for base / neutral SVOC analysis.

A sample key is provided in Table 3.1.

4.0 ANALYTICAL RESULTS

The following section discusses the analytical results of the soil and groundwater samples that were collected to further delineate the presence of SVOCs in soil and groundwater in the vicinity of Tank F. The samples were submitted for chemical analysis to Test America Laboratories, Inc., an accredited laboratory located in Edison, New Jersey and analyzed for base/neutral SVOCs. Laboratory analytical reports are provided in Appendix B.

Soil and groundwater analytical data have been compared to Delaware's restricted URSS for the protection of human health in a non-critical water resource area as discussed below.

4.1 DATA VALIDATION

CRA conducted an independent data validation of the soil and groundwater analytical results generated by the laboratory. The data validation indicated no issues with the quality, accuracy or precision of the analytical data. Laboratory percent recoveries in the matrix spike and matrix spike duplicate samples were found to be low for the detection of naphthalene within the groundwater sample collected from MW-8. As such, this data has been qualified to indicate that it represents an estimated value.

A detailed data validation memorandum is included in Appendix C.

4.2 SOIL ANALYTICAL RESULTS

A total of 12 soil samples were collected from soil borings GP-21 through GP-24 for chemical analysis. Soil samples were analyzed for base/neutral SVOCs. Soil sample analytical results for the soil samples collected during the January 2010 and previously conducted closure activities are summarized in Table 4.1, along with the applicable criteria for comparative reference.

Analytical results from GP-21, GP-22, and GP-24 indicate no SVOCs were detected above the laboratory method detection limits or, when detected, SVOCs were below the referenced criteria.

Review of the analytical data from GP-23 indicates that the surface soil (i.e., 0.5 to 1.0 feet bgs) exhibits concentrations of benzo(a)anthracene, benzo(a)pyrene,

benzo(b)fluoranthene and dibenz(a,h)anthracene above the restricted URSs. No exceedances of the restricted URSs were detected in the subsurface (i.e., 4.5 feet bgs) sample at this location.

4.3 GROUNDWATER ANALYTICAL RESULTS

A total of four groundwater samples, including one duplicate sample for quality assurance purposes, were collected from monitoring wells MW-8, MW-20, and MW-21. Groundwater samples were analyzed for base /neutral SVOCs. Groundwater sample results, for the groundwater samples collected during the January 2010 and previously conducted tank closure activities, are summarized in Table 4.2 along with the applicable criteria for comparative reference.

With the exception of naphthalene detected in the upgradient well (i.e., MW-8), no analyzed parameters were detected above the referenced criteria. Naphthalene was detected at an estimated concentration of 140 milligrams per liter (mg/L). The associated RBSLs indicate that the aqueous solubility of naphthalene is below the cleanup standard for groundwater at a distance of greater than 50 feet from the point of compliance. As such, in accordance with DERBCAP, the presence of naphthalene in groundwater more than 50 feet from the property boundary does not pose an unacceptable risk.

It is noted that the method detection limit for some analyzed parameters are above the URSs. Groundwater samples within the holding limits will be reanalyzed to at lower detection limits to demonstrate compliance with the URSs, if sufficient sample volume remains at the laboratory. Alternatively, monitoring wells MW-8, MW-21, and MW-22 will be re-sampled and analyzed using lower detection limits during the next scheduled operable unit 2 (OU-2) quarterly groundwater sampling event (i.e., March 2010).

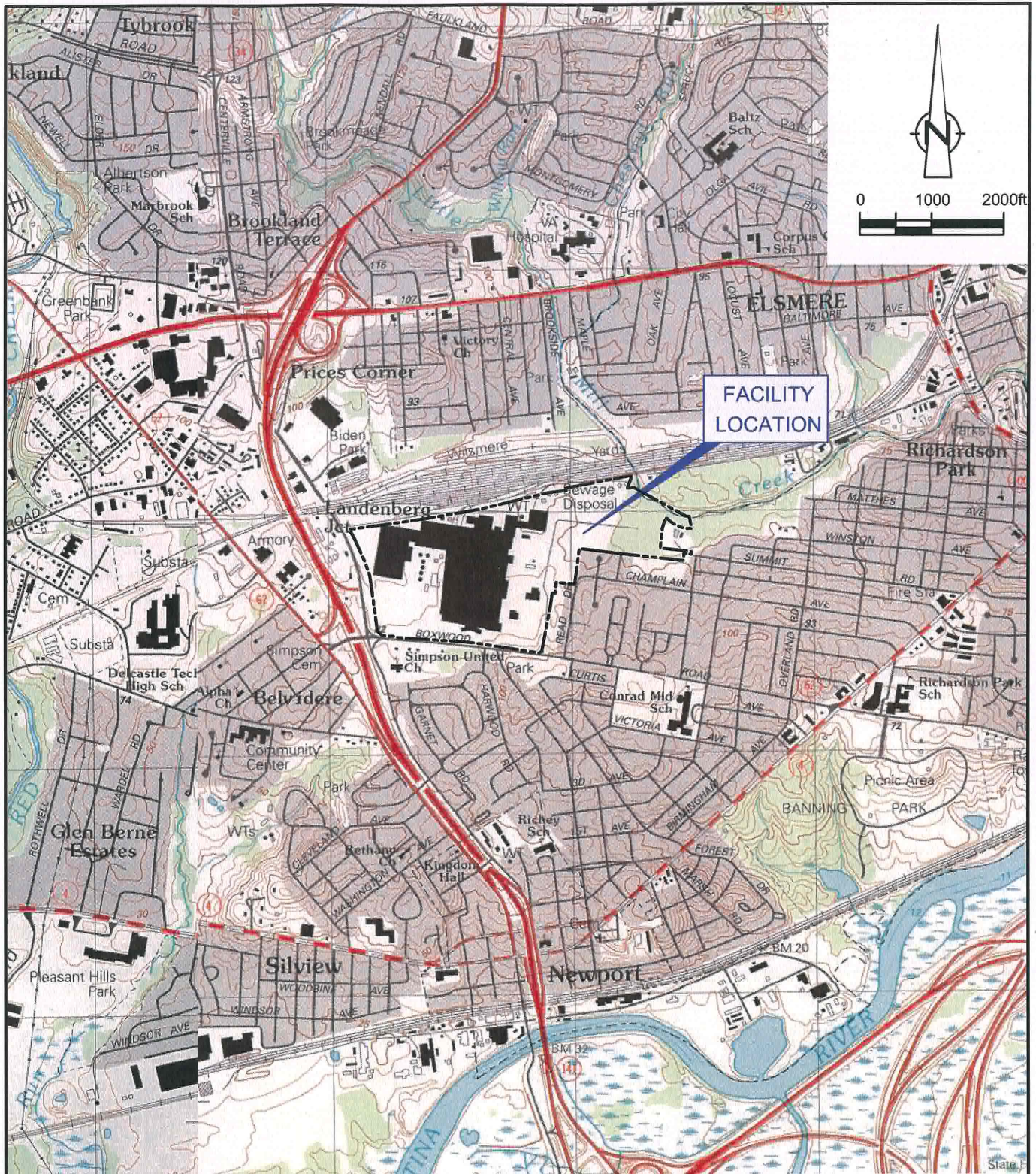
5.0 CONCLUSIONS

Impacts to soil above the Delaware restricted URSs have been identified in the vicinity of Tank F however, the impacts appear to be contained to an area of less than 50-feet by 50-feet within the south-east quadrant of the secondary containment berm. Impacts identified are limited to surface soils with the exception of those in the vicinity of GP-15 where deeper impacts (i.e., 4.5 to 5 feet bgs) are present due to the depth of the piping run.

Though reference elevations have not yet been established at MW-21 and MW-22, historical groundwater elevation data suggests that groundwater flows west/southwest in the vicinity of Tank F. This will be confirmed during the next scheduled OU-2 quarterly groundwater sampling event (i.e., March 2010). The results of the groundwater samples collected from downgradient wells MW-21 and MW-22 indicate impacts to groundwater, if any, from the operation of Tank F are highly localized.

With the collection of additional soil and groundwater data in accordance with the Tank F Investigation Work Plan, SVOC impacts to soil and groundwater in the vicinity of Tank F have been delineated and demonstrate that the contamination remaining in the subsurface is limited in extent.

An updated potentiometric map and groundwater analytical data with lower detection limits will be provided to DNREC as an addendum to this report. Recommendations for further action associated with the Tank F closure, if warranted, will be provided with the report addendum.

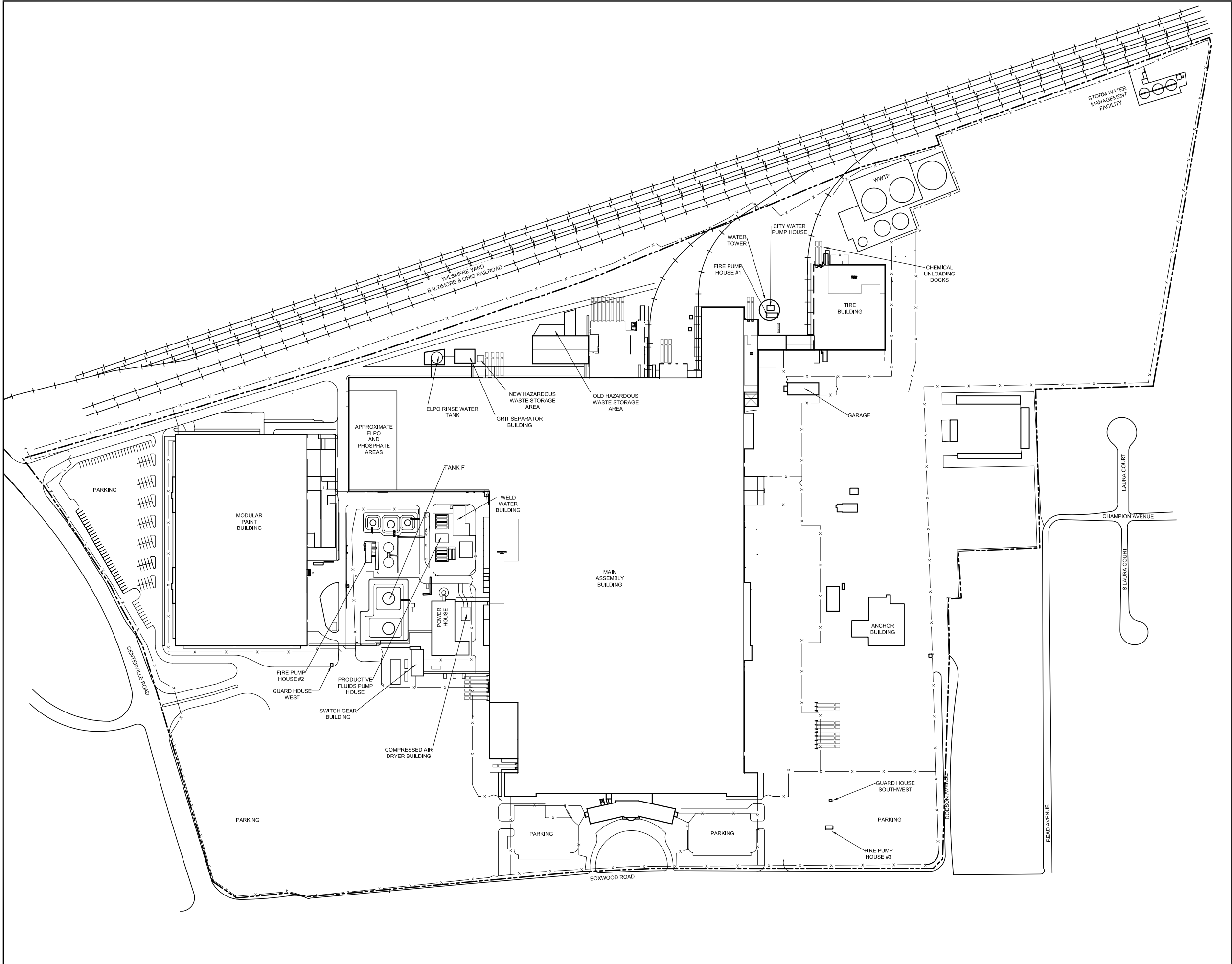



LEGEND
 APPROXIMATE FACILITY BOUNDARY

figure 1.1
FACILITY LOCATION
TANK F INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
Wilmington, Delaware



REFERENCE:
 USGS WILMINGTON SOUTH QUADRANGLE, DEL TOPOGRAPHIC, 7.5
 MINUTES SERIES 1997 SCALE: 1:24,000



No	Revision	Date	Initial



LEGEND

APPROXIMATE FACILITY BOUNDARY
FENCELINE
RAILWAY

SCALE VERIFICATION

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



Approved		
DRAWING STATUS		
Status	Date	Initial

FORMER GM WILMINGTON
ASSEMBLY PLANT

TANK F INVESTIGATION REPORT

FACILITY LAYOUT

 **CONESTOGA-ROVERS & ASSOCIATES**

Source Reference:

Project Manager: S. RICHARDSON	Reviewed By: A. STADNYK	Date: MARCH 2010
Scale: 1:150	Project No: 017338-00	Report No: 017
		Drawing No: 2.1

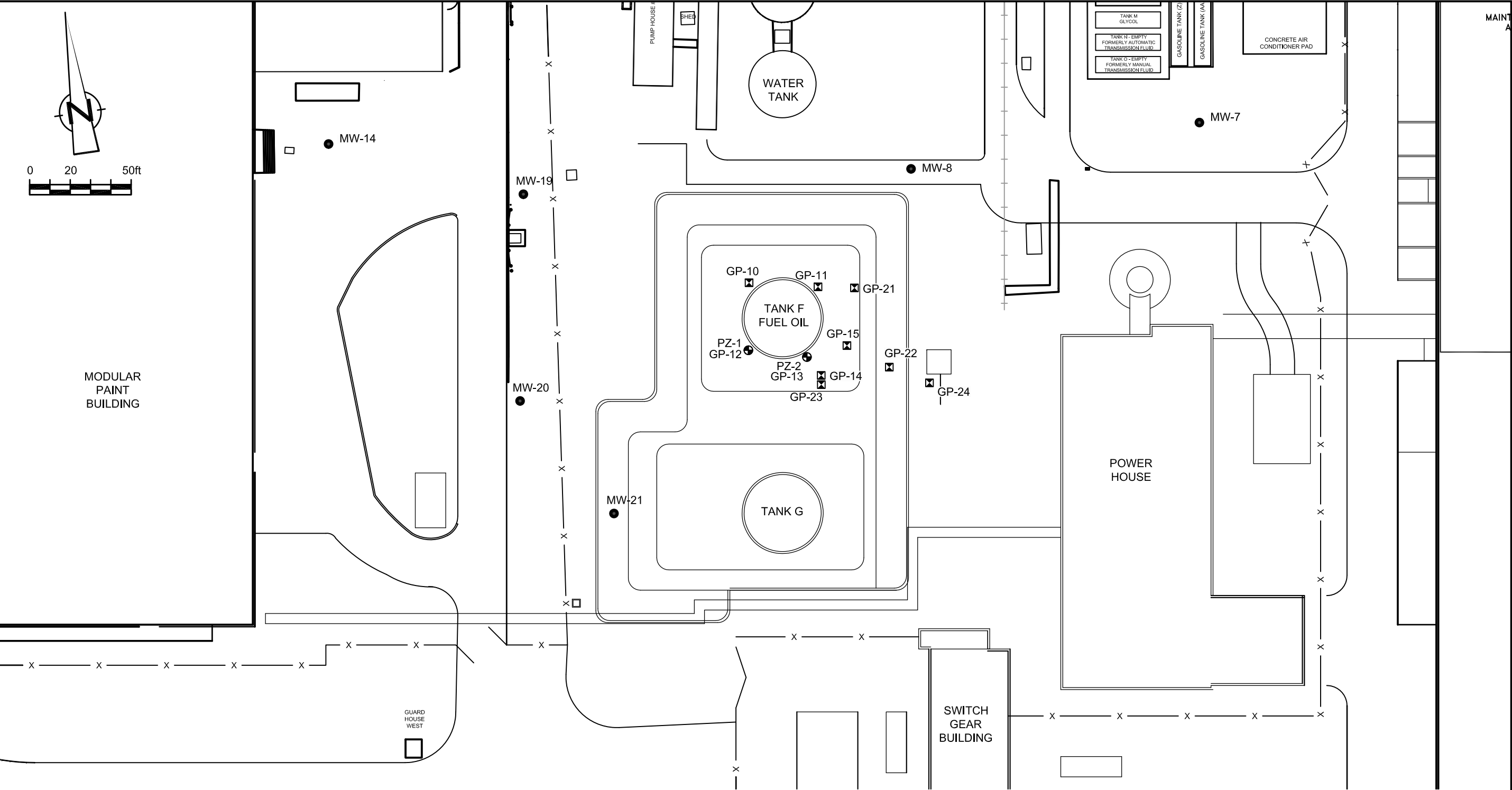


figure 3.1
SAMPLING LOCATIONS
TANK F INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
Wilmington, Delaware

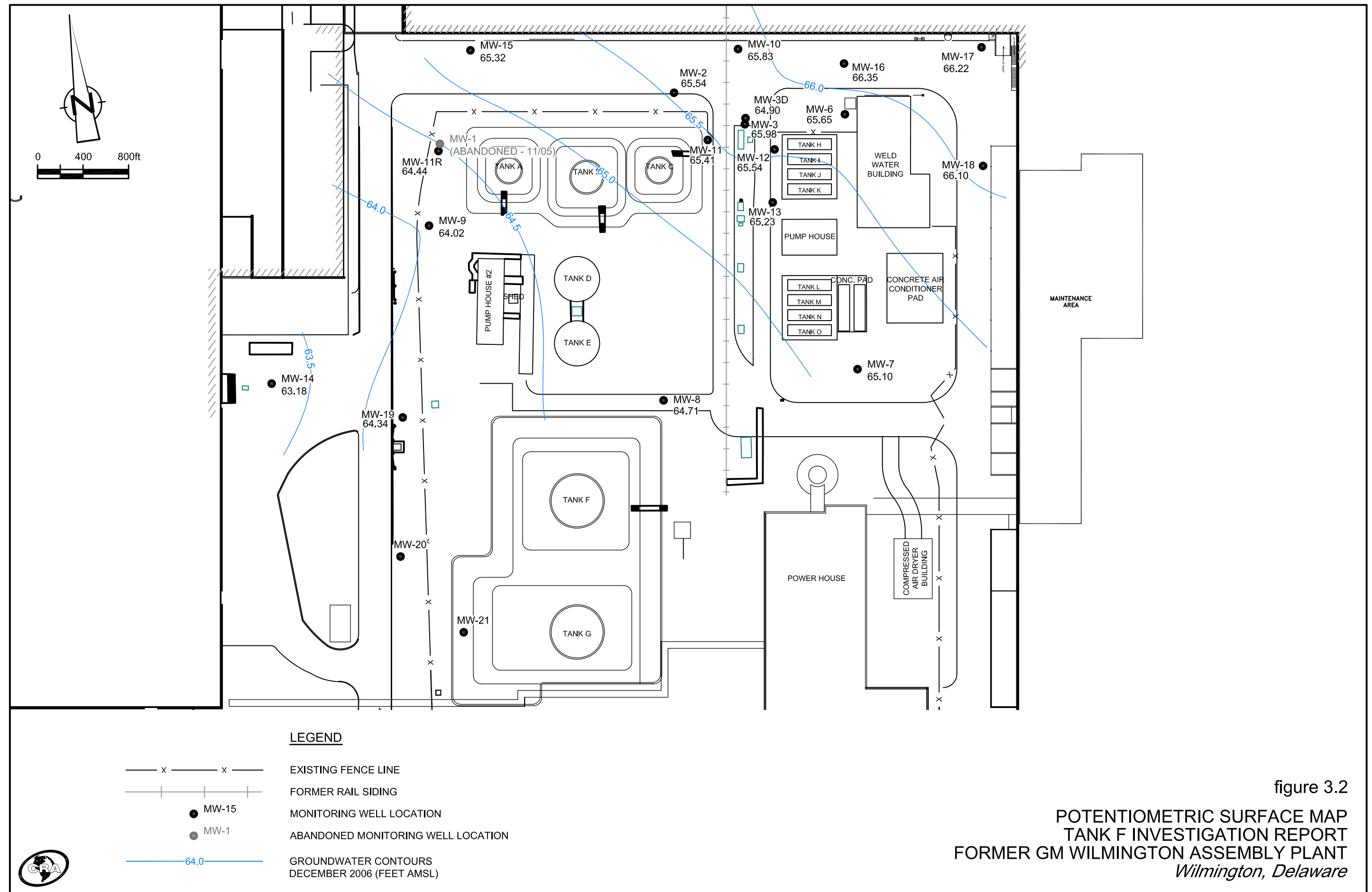


TABLE 3.1

**FIELD SAMPLE KEY
TANK F INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE**

<i>Location</i>	<i>Sample ID</i>	<i>Sample Date</i>	<i>Matrix</i>	<i>QA/QC</i>	<i>Parameters</i>	<i>Hold⁽¹⁾</i>
GP-10	SO-55786-7109-MM-23	07/01/09	Soil		VOCs, SVOCs, PCBs, Metals	
GP-11	SO-55786-7109-MM-24	07/01/09	Soil		VOCs, SVOCs, PCBs, Metals	
GP-12	SO-55786-7109-MM-22	07/01/09	Soil		VOCs, SVOCs, PCBs, Metals	
GP-12	SO-55786-7109-MM-25	07/01/09	Groundwater		SVOCs, Metals (dissolved)	
GP-12	SO-55786-7109-MM-26 □ (dup. of 25)	07/01/09	Groundwater	FD	SVOCs, Metals (dissolved)	
GP-13	SO-55786-7109-MM-21	05/20/09	Soil		VOCs, SVOCs, PCBs, Metals	
GP-13	SO-55786-7109-MM-27	07/01/09	Groundwater		SVOCs, Metals (dissolved)	
GP-14	SS-55786-52009-MM-019	05/20/09	Soil	FD	VOCs, SVOCs, PCBs, Metals	
GP-15	SS-55786-52009-MM-020	05/20/09	Soil		VOCs, SVOCs, PCBs, Metals	
GP-21	SO-17338-010510-GP21-MM-007	01/05/10	Soil		Base/Neutral SVOCs	
GP-21	SO-17338-010510-GP21-MM-008	01/05/10	Soil		Base/Neutral SVOCs	
GP-21	SO-17338-010510-GP21-MM-009	01/05/10	Soil		Base/Neutral SVOCs	X
GP-22	SO-17338-010510-GP22-MM-004	01/05/10	Soil		Base/Neutral SVOCs	
GP-22	SO-17338-010510-GP22-MM-005	01/05/10	Soil		Base/Neutral SVOCs	
GP-22	SO-17338-010510-GP22-MM-006	01/05/10	Soil		Base/Neutral SVOCs	X
GP-23	SO-17338-010510-GP23-MM-010	01/05/10	Soil		Base/Neutral SVOCs	
GP-23	SO-17338-010510-GP23-MM-011	01/05/10	Soil		Base/Neutral SVOCs	
GP-23	SO-17338-010510-GP23-MM-012	01/05/10	Soil		Base/Neutral SVOCs	X
GP-24	SO-17338-010510-GP24-MM-001	01/05/10	Soil		Base/Neutral SVOCs	
GP-24	SO-17338-010510-GP24-MM-002	01/05/10	Soil		Base/Neutral SVOCs	
GP-24	SO-17338-010510-GP24-MM-003	01/05/10	Soil		Base/Neutral SVOCs	X
MW-8	GW-017338-012110-ACH-001	01/21/10	Groundwater	MS/MSD	Base/Neutral SVOCs	
MW-20	GW-017338-012110-ACH-004	01/21/10	Groundwater		Base/Neutral SVOCs	
MW-21	GW-017338-012110-ACH-002	01/21/10	Groundwater		Base/Neutral SVOCs	
MW-21	GW-017338-012110-ACH-003	01/21/10	Groundwater	FD	Base/Neutral SVOCs	

Note:

(1) - Sample held at laboratory for analysis.

MS/MSD - Matrix Spike/Matrix Spike Duplicate.

FD - Field Duplicate

Base/Neutral SVOCs - Base/Neutral Semi-volatile Organic Compounds.

VOCs - Volatile Organic Compounds

PCBs - Polychlorinated Biphenyls

TABLE 3.2

DEVELOPMENT AND PURGE SUMMARIES
TANK F INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

<i>Location ID</i>	<i>Date</i>	<i>Time</i>	<i>pH</i>	<i>Conductivity (mS/cm)</i>	<i>Temperature (° C)</i>	<i>Turbidity (NTU)</i>	<i>Dissolved Oxygen (mg/L)</i>	<i>Comments</i>
<u><i>Monitoring Well Development Summary</i></u>								
MW-20	1/6/2010	-	5.62	0.717	9.8	201	7.89	-
		-	5.81	0.723	10.1	228	7.95	-
		-	5.94	0.796	10.2	74	6.76	-
		-	5.97	1.030	10.6	46	8.45	-
		-	6.01	0.736	10.4	38	8.47	-
		-	6.01	0.724	10.5	41	8.39	-
		-	5.98	0.729	10.3	33	8.45	-
		-	5.98	0.729	10.3	33	8.45	-
MW-21	1/6/2010	-	6.08	0.290	10.4	214	9.24	-
		-	5.29	0.241	12.7	525	7.47	-
		-	4.93	0.264	13.0	122	10.67	-
		-	4.65	0.237	12.9	212	6.33	-
		-	4.59	0.241	13.2	167	6.30	-
		-	4.58	0.242	13.8	131	6.26	-
		-	4.59	0.244	13.8	128	6.29	-
		-	4.56	0.245	13.7	125	6.28	-
		-	4.58	0.243	13.9	130	6.26	-
		-	4.58	0.242	13.8	128	6.29	-
		-	4.58	0.242	13.8	128	6.29	-
		-	4.58	0.242	13.8	128	6.29	-

TABLE 3.2

DEVELOPMENT AND PURGE SUMMARIES
TANK F INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

<i>Location ID</i>	<i>Date</i>	<i>Time</i>	<i>pH</i>	<i>Conductivity (mS/cm)</i>	<i>Temperature (° C)</i>	<i>Turbidity (NTU)</i>	<i>Dissolved Oxygen (mg/L)</i>	<i>Comments</i>
<i>Groundwater Sampling Purge Summary</i>								
MW-8	1/21/2010	9:50	-	1.55	10.8	257	0.00	pH Meter Error.
		9:55	-	1.53	14.4	47	0.00	pH Meter Error.
		10:00	-	1.79	14.5	27	0.00	pH Meter Error.
		10:05	-	2.64	15.2	0	0.00	pH Meter Error.
		10:10	-	2.68	15.5	0	0.00	pH Meter Error.
		10:15	-	2.34	15.4	0	0.00	pH Meter Error.
		10:20	-	2.10	15.7	0	0.00	pH Meter Error.
		10:25	-	1.89	14.9	0	0.00	pH Meter Error.
		10:30	-	1.74	14.5	0	0.00	pH Meter Error.
		10:35	-	1.55	14.5	0	0.00	pH Meter Error.
		10:40	-	1.53	14.7	0	0.00	pH Meter Error.
		10:45	-	1.52	14.6	0	0.00	pH Meter Error.
MW-20	1/21/2010	12:55	-	0.639	11.4	>1000	9.28	pH Meter Error.
		13:00	-	0.650	11.7	>1000	8.19	pH Meter Error.
		13:05	-	0.648	11.9	>1000	7.32	pH Meter Error.
		13:10	-	0.648	11.9	701	6.53	pH Meter Error.
		13:15	-	0.645	12.0	386	5.52	pH Meter Error.
		13:20	-	0.642	12.0	278	4.59	pH Meter Error.
		13:25	-	0.636	12.0	218	3.67	pH Meter Error.
		13:30	-	0.630	12.2	207	3.00	pH Meter Error.
		13:35	-	0.623	12.1	170	2.32	pH Meter Error.
		13:40	-	0.618	12.1	168	2.26	pH Meter Error.
MW-21	1/21/2010	13:45	-	0.615	12.0	149	2.09	pH Meter Error.
		11:22	-	0.218	11.6	>1000	12.12	pH Meter Error.
		11:27	-	0.203	12.3	>1000	7.24	pH Meter Error.
		11:32	-	0.196	12.2	869	6.66	pH Meter Error.
		11:37	-	0.193	12.3	819	6.35	pH Meter Error.
		11:42	-	0.191	12.3	414	6.18	pH Meter Error.
		11:47	-	0.189	12.4	353	5.91	pH Meter Error.
		11:52	-	0.188	12.4	320	5.69	pH Meter Error.
		11:57	-	0.188	12.4	315	5.46	pH Meter Error.
		12:02	-	0.187	12.3	295	5.39	pH Meter Error.

Notes:

- - Not measured.
uS/cm - microSiemen per centimeter.
NTU - nephelometric turbidity units.
mg/L - milligram per liter.
°C - degree centigrade

TABLE 4.1

**SUMMARY OF SOIL ANALYTICAL RESULTS
TANK F INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE**

Sample Location:	GP-10		GP-11		GP-12		GP-13	
Sample ID:	SO-55786-7109-MM-23		SO-55786-7109-MM-24		SO-55786-7109-MM-22		SO-55786-7109-MM-21	
Sample Date:	7/1/2009		7/1/2009		7/1/2009		7/1/2009	
Sample Depth:	(0.5-1) ft BGS		(0.5-1) ft BGS		(0.5-1) ft BGS		(0.5-1) ft BGS	
Parameters:	Units	URS ⁽¹⁾						
Semi-volatile Organic Compounds								
Acenaphthene	mg/kg	5000	0.057 U	0.058 U	0.056 U		0.22 J	
Acenaphthylene	mg/kg	-	0.057 U	0.059 U	0.057 U		0.054 U	
Acetophenone	mg/kg	5000	NT	NT	NT		NT	
Anthracene	mg/kg	5000	0.071 U	0.073 U	0.070 U		0.99	
Atrazine	mg/kg	26	NT	NT	NT		NT	
Benzaldehyde	mg/kg	5000	NT	NT	NT		NT	
Benzo(a)anthracene	mg/kg	8	0.0074 U	0.18	0.16		3.0	
Benzo(a)pyrene	mg/kg	0.8	0.0049 U	0.20	0.19		2.9	
Benzo(b)fluoranthene	mg/kg	8	0.006 U	0.29	0.29		3.5	
Benzo(g,h,i)perylene	mg/kg	-	0.042 U	0.16 J	0.16 J		1.6	
Benzo(k)fluoranthene	mg/kg	78	0.0056 U	0.0057 U	0.098		1.7	
Biphenyl (1,1-Biphenyl)	mg/kg	5000	-	-	-		-	
bis(2-Chloroethoxy)methane	mg/kg	-	0.057 U	0.059 U	0.057 U		0.054 U	
bis(2-Chloroethyl)ether	mg/kg	5	0.0083 U	0.0086 U	0.0083 U		0.0079 U	
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	410	0.053 U	0.055 U	0.053 U		0.050 U	
Butyl benzylphthalate (BBP)	mg/kg	5000	0.047 U	1.5	0.39 J		0.58	
Caprolactam	mg/kg	5000	NT	NT	NT		NT	
Carbazole	mg/kg	290	0.064 U	0.065 U	0.063 U		0.13 J	
Chrysene	mg/kg	780	0.058 U	0.21 J	0.19 J		3.2	
Dibenz(a,h)anthracene	mg/kg	0.8	0.0048 U	0.035 J	0.035 J		0.41	
Dibenzofuran	mg/kg	820	0.060 U	0.062 U	0.060 U		0.074 J	
Diethyl phthalate	mg/kg	5000	0.054 U	0.055 U	0.053 U		0.051 U	
Dimethyl phthalate	mg/kg	5000	0.054 U	0.055 U	0.054 U		0.051 U	
Di-n-butylphthalate (DBP)	mg/kg	5000	0.061 U	0.063 U	0.061 U		0.058 U	
Di-n-octyl phthalate (DnOP)	mg/kg	4100	0.048 U	0.049 U	0.047 U		0.045 U	
Diphenyl	mg/kg	-	NT	NT	NT		NT	
Fluoranthene	mg/kg	5000	0.067 U	0.20 J	0.22 J		6.0	
Fluorene	mg/kg	5000	0.068 U	0.070 U	0.067 U		0.20 J	
Hexachlorobenzene	mg/kg	4	0.0056 U	0.0057 U	0.0055 U		0.0052 U	
Hexachlorobutadiene	mg/kg	73	0.016 U	0.017 U	0.016 U		0.015 U	
Hexachlorocyclopentadiene	mg/kg	1400	0.12 U	0.12 U	0.12 U		0.11 U	
Hexachloroethane	mg/kg	410	0.0068 U	0.0069 U	0.0067 U		0.0064 U	
Indeno(1,2,3-cd)pyrene	mg/kg	8	0.0064 U	0.18	0.16		1.8	
Isophorone	mg/kg	5000	0.046 U	0.047 U	0.046 U		0.043 U	
Naphthalene	mg/kg	4100	0.059 U	0.060 U	0.058 U		0.055 U	
Nitrobenzene	mg/kg	100	0.009 U	0.0092 U	0.0089 U		0.0084 U	
N-Nitrosodi-n-propylamine	mg/kg	0.8	0.0053 U	0.0054 U	0.0052 U		0.005 U	
N-Nitrosodiphenylamine	mg/kg	1200	0.065 U	0.067 U	0.065 U		0.062 U	
Pentachlorophenol	mg/kg	48	0.20 U	0.20 U	0.19 U		0.27 J	
Phenanthrene	mg/kg	5000	0.070 U	0.072 U	0.069 U		3.1	
Phenol	mg/kg	5000	0.049 U	0.050 U	0.049 U		0.046 U	
Pyrene	mg/kg	5000	0.069 U	0.25 J	0.28 J		5.5	
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	82	0	0.054 U	0.052 U		0.050 U	
2,4,5-Trichlorophenol	mg/kg	5000	0.077 U	0.079 U	0.076 U		0.073 U	
2,4,6-Trichlorophenol	mg/kg	520	0.072 U	0.073 U	0.071 U		0.068 U	
2,4-Dichlorophenol	mg/kg	610	0.064 U	0.33 J	0.064 U		0.061 U	
2,4-Dimethylphenol	mg/kg	4100	0.064 U	0.066 U	0.064 U		0.061 U	
2,4-Dinitrophenol	mg/kg	410	0.085 U	0.087 U	0.084 U		0.080 U	
2,4-Dinitrotoluene	mg/kg	410	0.012 U	0.012 U	0.012 U		0.011 U	
2,6-Dinitrotoluene	mg/kg	200	0.010 U	0.010 U	0.010 U		0.0096 U	
2-Chloronaphthalene	mg/kg	5000	0.057 U	0.058 U	0.056 U		0.053 U	
2-Chlorophenol	mg/kg	1000	0.053 U	0.055 U	0.053 U		0.050 U	
2-Methylnaphthalene	mg/kg	4100	0.058 U	0.060 U	0.058 U		0.055 U	
2-Methylphenol	mg/kg	5000	0.058 U	0.059 U	0.057 U		0.054 U	
2-Nitroaniline	mg/kg	12	0.11 U	0.11 U	0.11 U		0.10 U	
2-Nitrophenol	mg/kg	-	0.066 U	0.068 U	0.065 U		0.062 U	
3,3'-Dichlorobenzidine	mg/kg	13	0.089 U	0.091 U	0.088 U		0.084 U	
3-Nitroaniline	mg/kg	-	0.091 U	0.093 U	0.090 U		0.085 U	
4,6-Dinitro-2-methylphenol	mg/kg	2	0.19 U	0.20 U	0.19 U		0.18 U	
4-Bromophenyl phenyl ether	mg/kg	-	0.071 U	0.073 U	0.071 U		0.067 U	
4-Chloro-3-methylphenol	mg/kg	-	0.067 U	0.069 U	0.067 U		0.063 U	
4-Chloroaniline	mg/kg	820	0.050 U	0.052 U	0.050 U		0.047 U	
4-Chlorophenyl phenyl ether	mg/kg	-	0.069 U	0.071 U	0.068 U		0.065 U	
4-Methylphenol	mg/kg	5000	0.066 U	0.067 U	0.065 U		0.062 U	
4-Nitroaniline	mg/kg	-	0.083 U	0.085 U	0.082 U		0.078 U	
4-Nitrophenol	mg/kg	1600	0.10 U	0.11 U	0.10 U		0.097 U	

Notes:

J - Estimated concentration.

U - Not present at or above the associated value.

UJ - Estimated reporting limit.

R - Rejected.

- - Not analyzed.

Criteria:

(1) - Delaware Uniform Risk-Based Remediation Standards - December 1999 - Non-Critical Water Resource Area - Restricted Use - Subsurface Soil

TABLE 4.1

**SUMMARY OF SOIL ANALYTICAL RESULTS
TANK F INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE**

<i>Sample Location:</i>			<i>GP-14</i>	<i>GP-15</i>	<i>GP-21</i>	<i>GP-21</i>
<i>Sample ID:</i>			SS-55786-52009-MM-019	SS-55786-52009-MM-020	SO-17338-010510-GP21-MM-007	SO-17338-010510-GP21-MM-008
<i>Sample Date:</i>			5/20/2009	5/20/2009	1/5/2010	1/5/2010
<i>Sample Depth:</i>			(4.5-5) ft BGS	(4.5-5) ft BGS	(0.5-1) ft BGS	(4.5-5) ft BGS
<i>Parameters:</i>			<i>Duplicate</i>			
	<i>Units</i>	URS ⁽¹⁾				
<i>Semi-volatile Organic Compounds</i>						
Acenaphthene	mg/ kg	5000	0.28 J	0.19 J	0.41 U	0.39 U
Acenaphthylene	mg/ kg	-	0.062 U	0.057 U	0.41 U	0.39 U
Acetophenone	mg/ kg	5000	NT	NT	0.41 U	0.39 U
Anthracene	mg/ kg	5000	0.42 J	0.62	0.41 U	0.39 U
Atrazine	mg/ kg	26	NT	NT	0.41 U	0.39 U
Benzaldehyde	mg/ kg	5000	NT	NT	0.41 UJ	0.39 UJ
Benzo(a)anthracene	mg/ kg	8	0.53	3.1	0.041 U	0.039 U
Benzo(a)pyrene	mg/ kg	0.8	0.21	1.7	0.041 U	0.039 U
Benzo(b)fluoranthene	mg/ kg	8	0.13	2.1	0.041 U	0.039 U
Benzo(g,h,i)perylene	mg/ kg	-	0.046 U	0.69 U	0.41 U	0.39 U
Benzo(k)fluoranthene	mg/ kg	78	0.006 U	2.3 U	0.041 U	0.039 U
Biphenyl (1,1-Biphenyl)	mg/ kg	5000	-	-	0.41 U	0.39 U
bis(2-Chloroethoxy)methane	mg/ kg	-	0.062 U	0.057 U	0.41 U	0.39 U
bis(2-Chloroethyl)ether	mg/ kg	5	0.057 U	0.052 U	0.041 U	0.039 U
bis(2-Ethylhexyl)phthalate (DEHP)	mg/ kg	410	0.057 U	0.053 J	0.41 U	0.39 U
Butyl benzyolphthalate (BBP)	mg/ kg	5000	0.050 U	0.13	0.41 U	0.39 U
Caprolactam	mg/ kg	5000	NT	NT	0.41 U	0.39 U
Carbazole	mg/ kg	290	0.069 U	0.12	0.41 U	0.39 U
Chrysene	mg/ kg	780	0.66	2.9 U	0.41 U	0.39 U
Dibenz(a,h)anthracene	mg/ kg	0.8	0.0052 U	0.31 U	0.041 U	0.039 U
Dibenzofuran	mg/ kg	820	0.065 U	0.060 U	0.41 U	0.39 U
Diethyl phthalate	mg/ kg	5000	0.058 U	0.054 U	0.41 U	0.39 U
Dimethyl phthalate	mg/ kg	5000	0.058 U	0.054 U	0.41 U	0.39 U
Di-n-butylphthalate (DBP)	mg/ kg	5000	0.066 U	0.061	0.41 U	0.39 U
Di-n-octyl phthalate (DnOP)	mg/ kg	4100	0.051 U	0.048 J	0.41 U	0.39 U
Diphenyl	mg/ kg	-	NT	NT	-	-
Fluoranthene	mg/ kg	5000	0.72	5.1 U	0.41 U	0.39 U
Fluorene	mg/ kg	5000	0.37 J	0.12 U	0.41 U	0.39 U
Hexachlorobenzene	mg/ kg	4	0.006 U	0.0056 U	0.041 U	0.039 U
Hexachlorobutadiene	mg/ kg	73	0.018 U	0.016 U	0.082 U	0.079 U
Hexachlorocyclopentadiene	mg/ kg	1400	0.13 U	0.12	0.41 U	0.39 U
Hexachloroethane	mg/ kg	410	0.0073 U	0.0067 U	0.041 U	0.039 U
Indeno(1,2,3-cd)pyrene	mg/ kg	8	0.029 J	0.79 U	0.041 U	0.039 U
Isophorone	mg/ kg	5000	0.050 U	0.046 U	0.41 U	0.39 U
Naphthalene	mg/ kg	4100	0.60	0.059 U	0.41 U	0.39 U
Nitrobenzene	mg/ kg	100	0.0097 U	0.009 U	0.041 U	0.039 U
N-Nitrosodi-n-propylamine	mg/ kg	0.8	0.0057 U	0.0053 U	0.041 U	0.039 U
N-Nitrosodiphenylamine	mg/ kg	1200	0.070 U	0.065	0.41 U	0.39 U
Pentachlorophenol	mg/ kg	48	0.21 U	0.20 U	1.2 U	1.2 U
Phenanthrene	mg/ kg	5000	2.2	2.8	0.41 U	0.39 U
Phenol	mg/ kg	5000	0.053 U	0.049	0.41 U	0.39 U
Pyrene	mg/ kg	5000	1.3	6.1	0.41 U	0.39 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/ kg	82	0.009 U	0.0083 J	0.41 U	0.39 U
2,4,5-Trichlorophenol	mg/ kg	5000	0.083 U	0.077 U	0.41 U	0.39 U
2,4,6-Trichlorophenol	mg/ kg	520	0.077 U	0.072 U	0.41 U	0.39 U
2,4-Dichlorophenol	mg/ kg	610	0.069 U	0.064 U	0.41 U	0.39 U
2,4-Dimethylphenol	mg/ kg	4100	0.069 U	0.064 U	0.41 U	0.39 U
2,4-Dinitrophenol	mg/ kg	410	0.092 U	0.085 U	1.2 UJ	1.2 UJ
2,4-Dinitrotoluene	mg/ kg	410	0.013 U	0.012 U	0.082 U	0.079 U
2,6-Dinitrotoluene	mg/ kg	200	0.011 U	0.010 U	0.082 U	0.079 U
2-Chloronaphthalene	mg/ kg	5000	0.061 U	0.056 U	0.41 U	0.39 U
2-Chlorophenol	mg/ kg	1000	0.058 U	0.053 U	0.41 U	0.39 U
2-Methylnaphthalene	mg/ kg	4100	1.6	0.058 U	0.41 U	0.39 U
2-Methylphenol	mg/ kg	5000	0.062 U	0.058 U	0.41 U	0.39 U
2-Nitroaniline	mg/ kg	12	0.12 U	0.11 U	0.82 U	0.79 U
2-Nitrophenol	mg/ kg	-	0.071 U	0.066 U	0.41 U	0.39 U
3,3'-Dichlorobenzidine	mg/ kg	13	0.096 U	0.089 U	0.82 U	0.79 U
3-Nitroaniline	mg/ kg	-	0.098 U	0.090 U	0.82 U	0.79 U
4,6-Dinitro-2-methylphenol	mg/ kg	2	0.21 U	0.19 U	1.2 UJ	1.2 UJ
4-Bromophenyl phenyl ether	mg/ kg	-	0.077 U	0.071 U	0.41 U	0.39 U
4-Chloro-3-methylphenol	mg/ kg	-	0.073 U	0.067 U	0.41 U	0.39 U
4-Chloroaniline	mg/ kg	820	0.054 U	0.050 U	0.41 U	0.39 U
4-Chlorophenyl phenyl ether	mg/ kg	-	0.074 U	0.069 U	0.41 U	0.39 U
4-Methylphenol	mg/ kg	5000	0.071 U	0.066 U	0.41 U	0.39 U
4-Nitroaniline	mg/ kg	-	0.089 U	0.083 U	0.82 U	0.79 U
4-Nitrophenol	mg/ kg	1600	0.11 U	0.10 U	1.2 U	1.2 U

Notes:

J - Estimated concentration.

U - Not present at or above the associated value.

UJ - Estimated reporting limit.

R - Rejected.

- - Not analyzed.

Criteria:

(1) - Delaware Uniform Risk-Based Remediation Standards - December 1999 - Non-Critical Water Resource Area - Restricted Use - Subsurface Soil

TABLE 4.1

**SUMMARY OF SOIL ANALYTICAL RESULTS
TANK F INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE**

<i>Sample Location:</i>			<i>GP-22</i>	<i>GP-22</i>	<i>GP-23</i>	<i>GP-23</i>
<i>Sample ID:</i>			<i>SO-17338-010510-GP22-MM-004</i>	<i>SO-17338-010510-GP22-MM-005</i>	<i>SO-17338-010510-GP23-MM-010</i>	<i>SO-17338-010510-GP23-MM-011</i>
<i>Sample Date:</i>			<i>1/5/2010</i>	<i>1/5/2010</i>	<i>1/5/2010</i>	<i>1/5/2010</i>
<i>Sample Depth:</i>			<i>(0.5-1) ft BGS</i>	<i>(4.5-5) ft BGS</i>	<i>(0.5-1) ft BGS</i>	<i>(4.5-5) ft BGS</i>
<i>Parameters:</i>	<i>Units</i>	<i>URS ⁽¹⁾</i>				
<i>Semi-volatile Organic Compounds</i>						
Acenaphthene	mg/ kg	5000	0.37 U	0.4 U	0.72 J	0.39 U
Acenaphthylene	mg/ kg	-	0.37 U	0.4 U	2 U	0.39 U
Acetophenone	mg/ kg	5000	0.37 U	0.4 U	2 U	0.39 U
Anthracene	mg/ kg	5000	0.37 U	0.4 U	3.2	0.16 J
Atrazine	mg/ kg	26	0.37 U	0.4 U	2 U	0.39 U
Benzaldehyde	mg/ kg	5000	0.37 UJ	0.4 UJ	2 UJ	0.39 UJ
Benzo(a)anthracene	mg/ kg	8	0.037 U	0.04 U	11	0.29
Benzo(a)pyrene	mg/ kg	0.8	0.037 UJ	0.04 U	9.1	0.17
Benzo(b)fluoranthene	mg/ kg	8	0.037 UJ	0.04 U	12	0.087
Benzo(g,h,i)perylene	mg/ kg	-	0.37 U	0.4 U	5.9	0.11 J
Benzo(k)fluoranthene	mg/ kg	78	0.037 U	0.04 U	5.1	0.039 U
Biphenyl (1,1-Biphenyl)	mg/ kg	5000	0.37 U	0.4 U	2 U	0.39 U
bis(2-Chloroethoxy)methane	mg/ kg	-	0.37 U	0.4 U	2 U	0.39 U
bis(2-Chloroethyl)ether	mg/ kg	5	0.037 U	0.04 U	0.2 U	0.039 U
bis(2-Ethylhexyl)phthalate (DEHP)	mg/ kg	410	0.37 U	0.4 U	2 U	0.39 U
Butyl benzylphthalate (BBP)	mg/ kg	5000	0.37 U	0.4 U	2 U	0.39 U
Caprolactam	mg/ kg	5000	0.37 U	0.4 U	2 U	0.39 U
Carbazole	mg/ kg	290	0.37 U	0.4 U	2 U	0.39 U
Chrysene	mg/ kg	780	0.37 U	0.4 U	11	0.55
Dibenz(a,h)anthracene	mg/ kg	0.8	0.037 U	0.04 U	1.9	0.039 U
Dibenzofuran	mg/ kg	820	0.37 U	0.4 U	2 U	0.39 U
Diethyl phthalate	mg/ kg	5000	0.37 U	0.4 U	2 U	0.39 U
Dimethyl phthalate	mg/ kg	5000	0.37 U	0.4 U	2 U	0.39 U
Di-n-butylphthalate (DBP)	mg/ kg	5000	0.37 U	0.4 U	2 U	0.39 U
Di-n-octyl phthalate (DnOP)	mg/ kg	4100	0.37 U	0.4 U	2 U	0.39 U
Diphenyl	mg/ kg	-	-	-	-	-
Fluoranthene	mg/ kg	5000	0.37 U	0.4 U	14	0.11 J
Fluorene	mg/ kg	5000	0.37 U	0.4 U	0.71 J	0.14 J
Hexachlorobenzene	mg/ kg	4	0.037 U	0.04 U	0.2 U	0.039 U
Hexachlorobutadiene	mg/ kg	73	0.076 U	0.081 U	0.41 U	0.08 U
Hexachlorocyclopentadiene	mg/ kg	1400	0.37 U	0.4 U	2 U	0.39 U
Hexachloroethane	mg/ kg	410	0.037 U	0.04 U	0.2 U	0.039 U
Indeno(1,2,3-cd)pyrene	mg/ kg	8	0.037 U	0.04 U	6	0.045
Isophorone	mg/ kg	5000	0.37 U	0.4 U	2 U	0.39 U
Naphthalene	mg/ kg	4100	0.37 UJ	0.4 U	2 U	0.39 U
Nitrobenzene	mg/ kg	100	0.037 U	0.04 U	0.2 U	0.039 U
N-Nitrosodi-n-propylamine	mg/ kg	0.8	0.037 U	0.04 U	0.2 U	0.039 U
N-Nitrosodiphenylamine	mg/ kg	1200	0.37 U	0.4 U	2 U	0.39 U
Pentachlorophenol	mg/ kg	48	1.1 U	1.2 U	6.1 U	1.2 U
Phenanthrene	mg/ kg	5000	0.37 U	0.4 U	6.2	0.48
Phenol	mg/ kg	5000	0.37 U	0.4 U	2 U	0.39 U
Pyrene	mg/ kg	5000	0.37 U	0.4 U	17	0.55
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/ kg	82	0.37 U	0.4 U	2 U	0.39 U
2,4,5-Trichlorophenol	mg/ kg	5000	0.37 U	0.4 U	2 U	0.39 U
2,4,6-Trichlorophenol	mg/ kg	520	0.37 U	0.4 U	2 U	0.39 U
2,4-Dichlorophenol	mg/ kg	610	0.37 U	0.4 U	2 U	0.39 U
2,4-Dimethylphenol	mg/ kg	4100	0.37 U	0.4 U	2 U	0.39 U
2,4-Dinitrophenol	mg/ kg	410	R	1.2 UJ	6.1 UJ	1.2 UJ
2,4-Dinitrotoluene	mg/ kg	410	0.076 U	0.081 U	0.41 U	0.08 U
2,6-Dinitrotoluene	mg/ kg	200	0.076 U	0.081 U	0.41 U	0.08 U
2-Chloronaphthalene	mg/ kg	5000	0.37 U	0.4 U	2 U	0.39 U
2-Chlorophenol	mg/ kg	1000	0.37 U	0.4 U	2 U	0.39 U
2-Methylnaphthalene	mg/ kg	4100	0.37 U	0.4 U	2 U	0.39 U
2-Methylphenol	mg/ kg	5000	0.37 U	0.4 U	2 U	0.39 U
2-Nitroaniline	mg/ kg	12	0.76 U	0.81 U	4.1 U	0.8 U
2-Nitrophenol	mg/ kg	-	0.37 U	0.4 U	2 U	0.39 U
3,3'-Dichlorobenzidine	mg/ kg	13	0.76 U	0.81 U	4.1 U	0.8 U
3-Nitroaniline	mg/ kg	-	0.76 U	0.81 U	4.1 U	0.8 U
4,6-Dinitro-2-methylphenol	mg/ kg	2	R	1.2 UJ	6.1 UJ	1.2 UJ
4-Bromophenyl phenyl ether	mg/ kg	-	0.37 U	0.4 U	2 U	0.39 U
4-Chloro-3-methylphenol	mg/ kg	-	0.37 U	0.4 U	2 U	0.39 U
4-Chloroaniline	mg/ kg	820	0.37 U	0.4 U	2 U	0.39 U
4-Chlorophenyl phenyl ether	mg/ kg	-	0.37 U	0.4 U	2 U	0.39 U
4-Methylphenol	mg/ kg	5000	0.37 U	0.4 U	2 U	0.39 U
4-Nitroaniline	mg/ kg	-	0.76 U	0.81 U	4.1 U	0.8 U
4-Nitrophenol	mg/ kg	1600	1.1 U	1.2 U	6.1 U	1.2 U

Notes:

J - Estimated concentration.

U - Not present at or above the associated value.

UJ - Estimated reporting limit.

R - Rejected.

- - Not analyzed.

Criteria:

(1) - Delaware Uniform Risk-Based Remediation Standards - December 1999 - Non-Critical Water Resource Area - Restricted Use - Subsurface Soil

TABLE 4.2

**SUMMARY OF GROUNDWATER ANALYTICAL
TANK F INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE**

Sample Location:			GP-12	GP-12	GP-13
Sample ID:			SO-55786-7109-MM-25	SO-55786-7109-MM-26	SO-55786-7109-MM-27
Sample Date:			7/1/2009	7/1/2009	7/1/2009
Parameters:	Units	URS ⁽¹⁾	Duplicate		
Semi-volatile Organic Compounds					
Acenaphthene	ug/L	37	7.4 U	4.2 U	4.9 U
Acenaphthylene	ug/L	-	7.9 U	4.5 U	5.3 U
Acetophenone	ug/L	0.004	8.4 U	4.8 U	5.7 U
Anthracene	ug/L	180	7.0 U	3.9 U	4.7 U
Atrazine	ug/L	0.3	9.4 U	5.3 U	6.3 U
Benzaldehyde	ug/L	370	2.6 U	1.5 U	1.8 U
Benzo(a)anthracene	ug/L	0.09	0.97 J	0.84 J	0.36 U
Benzo(a)pyrene	ug/L	0.01	0.90 J	0.85 J	0.24 U
Benzo(b)fluoranthene	ug/L	0.09	0.85 J *	0.64 J *	0.28 U *
Benzo(g,h,i)perylene	ug/L	-	5.3 U	3.0 U	3.6 U
Benzo(k)fluoranthene	ug/L	0.9	1.0 J	0.78 J	0.39 U
Biphenyl (1,1-Biphenyl)	ug/L	30	-	-	-
bis(2-Chloroethoxy)methane	ug/L	-	6.8 U	3.9 U	4.6 U
bis(2-Chloroethyl)ether	ug/L	0.01	0.80 U	0.46 U	0.54 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5	60	130	3.2 U
Butyl benzylphthalate (BBP)	ug/L	730	5.5 U	3.1 U	3.7 U
Caprolactam	ug/L	1800	0.98 U	0.56 U	0.66 U
Carbazole	ug/L	3	6.0 U	3.4 U	4.0 U
Chrysene	ug/L	9	7.4 U	4.2 U	5.0 U
Dibenz(a,h)anthracene	ug/L	0.01	0.31 U	0.18 U	0.21 U
Dibenzofuran	ug/L	2	7.0 U	4.0 U	4.7 U
Diethyl phthalate	ug/L	5000	7.5 U	4.2 U	5.0 U
Dimethyl phthalate	ug/L	37000	6.4 U	3.6 U	4.3 U
Di-n-butylphthalate (DBP)	ug/L	370	5.4 U	3.1 U	3.6 U
Di-n-octyl phthalate (DnOP)	ug/L	73	3.7 U	2.1 U	2.5 U
Diphenyl	ug/L	-	11 U	6.0 U	7.1 U
Fluoranthene	ug/L	150	5.2 U	2.9 U	3.5 U
Fluorene	ug/L	24	6.4 U	3.6 U	4.3 U
Hexachlorobenzene	ug/L	0.04	0.53 U	0.30 U	0.36 U
Hexachlorobutadiene	ug/L	0.9	1.8 U	1.0 U	1.2 U
Hexachlorocyclopentadiene	ug/L	26	9.0 U	5.1 U	6.0 U
Hexachloroethane	ug/L	1	0.98 U	0.56 U	0.66 U
Indeno(1,2,3-cd)pyrene	ug/L	0.09	0.24 U	0.44 J	0.16 U
Isophorone	ug/L	71	7.0 U	4.0 U	4.7 U
Naphthalene	ug/L	0.7	7.2 U	4.1 U	4.8 U
Nitrobenzene	ug/L	0.4	0.80 U	0.46 U	0.54 U
N-Nitrosodi-n-propylamine	ug/L	0.01	0.63 U	0.36 U	0.42 U
N-Nitrosodiphenylamine	ug/L	14	7.6 U	4.3 U	5.1 U
Pentachlorophenol	ug/L	0.6	10 U *	5.7 U	6.7 U
Phenanthrene	ug/L	120	7.0 U	4.0 U	4.7 U
Phenol	ug/L	22	1.7 U	0.99 U	1.2 U
Pyrene	ug/L	18	8.4 U	4.7 U	5.6 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	0.3	6.3 U	3.6 U	4.2 U
2,4,5-Trichlorophenol	ug/L	370	4.9 U	2.8 U	3.3 U
2,4,6-Trichlorophenol	ug/L	6	6.2 U	3.5 U	4.2 U
2,4-Dichlorophenol	ug/L	20	5.4 U	3.1 U	3.6 U
2,4-Dimethylphenol	ug/L	73	4.9 U	2.8 U	3.3 U
2,4-Dinitrophenol	ug/L	7	9.4 U	5.3 U	6.3 U
2,4-Dinitrotoluene	ug/L	7	0.84 U	0.48 U	0.57 U
2,6-Dinitrotoluene	ug/L	4	1.2 U	0.66 U	0.78 U
2-Chloronaphthalene	ug/L	49	7.4 U	4.2 U	4.9 U
2-Chlorophenol	ug/L	30	5.1 U	2.9 U	3.4 U
2-Methylnaphthalene	ug/L	12	6.1 U	3.4 U	4.1 U
2-Methylphenol	ug/L	180	3.3 U *	1.8 U	2.2 U
2-Nitroaniline	ug/L	0.2	11 U	6.3 U	7.5 U
2-Nitrophenol	ug/L	-	6.6 U	3.8 U	4.5 U
3,3'-Dichlorobenzidine	ug/L	0.2	14 U	7.7 U	9.2 U
3-Nitroaniline	ug/L	-	8.5 U	4.8 U	5.7 U
4,6-Dinitro-2-methylphenol	ug/L	0.4	10 U	5.8 U	6.9 U
4-Bromophenyl phenyl ether	ug/L	-	7.7 U	4.4 U	5.2 U
4-Chloro-3-methylphenol	ug/L	-	3.9 U	2.2 U	2.6 U
4-Chloroaniline	ug/L	15	4.1 U	2.3 U	2.8 U
4-Chlorophenyl phenyl ether	ug/L	-	7.7 U	4.4 U	5.2 U
4-Methylphenol	ug/L	18	3.1 U	1.8 U	2.1 U
4-Nitroaniline	ug/L	-	7.8 U	4.4 U	5.2 U
4-Nitrophenol	ug/L	60	4.5 U	2.6 U	3.1 U

Notes:

J - Estimated concentration.

U - Not present at or above the associated value.

UJ - Estimated reporting limit.

NT - Not Tested

* - Recovery or Relative Percent Difference (RPD) exceeds laboratory control limit.

Criteria:

(1) - Delaware Uniform Risk-Based Remediation Standards - December 1999 - Groundwater

TABLE 4.2

**SUMMARY OF GROUNDWATER ANALYTICAL
TANK F INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE**

Sample Location:			MW-8	MW-20	MW-21	MW-21
Sample ID:			GW-017338-012110-ACH-001	GW-017338-012110-ACH-004	GW-017338-012110-ACH-002	GW-017338-012110-ACH-003
Sample Date:			1/21/2010	1/21/2010	1/21/2010	1/21/2010 (Duplicate)
Parameters:	Units	URS ⁽¹⁾				
<i>Semi-volatile Organic Compounds</i>						
Acenaphthene	ug/L	37	10 U	10 U	10 U	10 U
Acenaphthylene	ug/L	-	10 U	10 U	10 U	10 U
Acetophenone	ug/L	0.004	10 U	10 U	10 U	10 U
Anthracene	ug/L	180	10 U	10 U	10 U	10 U
Atrazine	ug/L	0.3	10 U	10 U	10 U	10 U
Benzaldehyde	ug/L	370	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(a)anthracene	ug/L	0.09	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)pyrene	ug/L	0.01	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(b)fluoranthene	ug/L	0.09	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(g,h,i)perylene	ug/L	-	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	ug/L	0.9	1.0 U	1.0 U	1.0 U	1.0 U
Biphenyl (1,1-Biphenyl)	ug/L	30	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	ug/L	-	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	ug/L	0.01	1.0 U	1.0 U	1.0 U	1.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5	10 U	10 U	10 U	10 U
Butyl benzylphthalate (BBP)	ug/L	730	10 U	10 U	10 U	10 U
Caprolactam	ug/L	1800	10 U	10 U	10 U	10 U
Carbazole	ug/L	3	10 U	10 U	10 U	10 U
Chrysene	ug/L	9	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	ug/L	0.01	1.0 U	1.0 U	1.0 U	1.0 U
Dibenzofuran	ug/L	2	10 U	10 U	10 U	10 U
Diethyl phthalate	ug/L	5000	10 U	10 U	10 U	10 U
Dimethyl phthalate	ug/L	37000	10 U	10 U	10 U	10 U
Di-n-butylphthalate (DBP)	ug/L	370	10 U	10 U	10 U	10 U
Di-n-octyl phthalate (DnOP)	ug/L	73	10 U	10 U	10 U	10 U
Diphenyl	ug/L	-	-	-	-	-
Fluoranthene	ug/L	150	10 U	10 U	10 U	10 U
Fluorene	ug/L	24	10 U	10 U	10 U	10 U
Hexachlorobenzene	ug/L	0.04	1.0 U	1.0 U	1.0 U	1.0 U
Hexachlorobutadiene	ug/L	0.9	2.0 U	2.0 U	2.0 U	2.0 U
Hexachlorocyclopentadiene	ug/L	26	10 U	10 U	10 U	10 U
Hexachloroethane	ug/L	1	1.0 U	1.0 U	1.0 U	1.0 U
Indeno(1,2,3-cd)pyrene	ug/L	0.09	1.0 U	1.0 U	1.0 U	1.0 U
Isophorone	ug/L	71	10 U	10 U	10 U	10 U
Naphthalene	ug/L	0.7	140 J	10 U	10 U	10 U
Nitrobenzene	ug/L	0.4	1.0 U	1.0 U	1.0 U	1.0 U
N-Nitrosodi-n-propylamine	ug/L	0.01	1.0 U	1.0 U	1.0 U	1.0 U
N-Nitrosodiphenylamine	ug/L	14	10 U	10 U	10 U	10 U
Pentachlorophenol	ug/L	0.6	30 U	30 U	30 U	30 U
Phenanthrene	ug/L	120	10 U	10 U	10 U	10 U
Phenol	ug/L	22	10 U	10 U	10 U	10 U
Pyrene	ug/L	18	10 U	10 U	10 U	10 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	0.3	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	ug/L	370	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	ug/L	6	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	ug/L	20	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	73	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	ug/L	7	30 U	30 U	30 U	30 U
2,4-Dinitrotoluene	ug/L	7	2.0 U	2.0 U	2.0 U	2.0 U
2,6-Dinitrotoluene	ug/L	4	2.0 U	2.0 U	2.0 U	2.0 U
2-Chloronaphthalene	ug/L	49	10 U	10 U	10 U	10 U
2-Chlorophenol	ug/L	30	10 U	10 U	10 U	10 U
2-Methylnaphthalene	ug/L	12	10 U	10 U	10 U	10 U
2-Methylphenol	ug/L	180	10 U	10 U	10 U	10 U
2-Nitroaniline	ug/L	0.2	20 U	20 U	20 U	20 U
2-Nitrophenol	ug/L	-	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	ug/L	0.2	20 U	20 U	20 U	20 U
3-Nitroaniline	ug/L	-	20 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	0.4	30 U	30 U	30 U	30 U
4-Bromophenyl phenyl ether	ug/L	-	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	ug/L	-	10 U	10 U	10 U	10 U
4-Chloroaniline	ug/L	15	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	ug/L	-	10 U	10 U	10 U	10 U
4-Methylphenol	ug/L	18	10 U	10 U	10 U	10 U
4-Nitroaniline	ug/L	-	20 U	20 U	20 U	20 U
4-Nitrophenol	ug/L	60	30 U	30 U	30 U	30 U

Notes:

J - Estimated concentration.

U - Not present at or above the associated value.

UJ - Estimated reporting limit.

NT - Not Tested

* - Recovery or Relative Percent Difference (RPD) exceeds laboratory control limit.

Criteria:

(1) - Delaware Uniform Risk-Based Remediation Standards - December 1999 - Groundwater

APPENDIX A

STRATIGRAPHIC AND MONITORING WELL INSTRUMENTATION LOGS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM-Wilmington
PROJECT NUMBER: 017338
CLIENT: Motors Liquidation Company
LOCATION: Wilmington, Delaware

HOLE DESIGNATION: GP-21
DATE COMPLETED: January 5, 2010
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: P. Warwick

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITOR INSTALLATION	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	SM-SILTY-SAND, poorly graded sand, fine-coarse, some silt and clay, tan to grey			007		80		0
4				008				
6	CL-SILTY CLAY, grey to brown with orange mottling	5.00	BENTONITE	009		100		0
8								
10	END OF BOREHOLE @ 10.0ft BGS	10.00						
12								
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 017338.GPJ CRA CORP.GDT 2/22/10

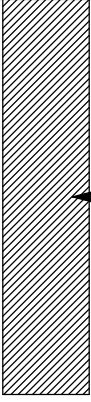


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM-Wilmington
PROJECT NUMBER: 017338
CLIENT: Motors Liquidation Company
LOCATION: Wilmington, Delaware

HOLE DESIGNATION: GP-22
DATE COMPLETED: January 5, 2010
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: P. Warwick

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITOR INSTALLATION	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	GW-GRAVEL FILL SM-SILTY SAND, poorly graded sand, fine-course, brown	0.10	 BENTONITE	004		100		0
4	ML-SILT-SAND, silt with some clay and fine sand, brown to grey	3.00		005				
6	SP-SAND, poorly graded sands, coarse-medium, grey to brown	5.00		006		60		0
8								
10	CL-CLAYEY-SILT, GREY END OF BOREHOLE @ 10.0ft BGS	9.50 10.00						
12								
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 017338.GPJ CRA CORP.GDT 2/22/10



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM-Wilmington
PROJECT NUMBER: 017338
CLIENT: Motors Liquidation Company
LOCATION: Wilmington, Delaware

HOLE DESIGNATION: GP-23
DATE COMPLETED: January 5, 2010
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: P. Warwick

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITOR INSTALLATION	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	GM-SILTY-GRAVEL, gravel-silt-sand mixture, coarse to medium coarse with silt, brown to grey			010		60		0
4	CL-SILT-CLAY, silty-clay with fine sand, grey	4.50		011				
6	SP-SAND, poorly graded, fine to coarse, grey to brown	5.00	BENTONITE	012		100		0
10	END OF BOREHOLE @ 10.0ft BGS	10.00						
12								
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 017338.GPJ CRA CORP.GDT 2/22/10

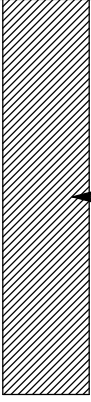


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM-Wilmington
PROJECT NUMBER: 017338
CLIENT: Motors Liquidation Company
LOCATION: Wilmington, Delaware

HOLE DESIGNATION: GP-24
DATE COMPLETED: January 5, 2010
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: P. Warwick

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITOR INSTALLATION	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	GW-GRAVEL FILL SP-SAND, fine to coarse, brown to tan, dry	0.50	 BENTONITE	001		60		0
4				002				
6	SM-SAND, sand with some silt, coarse, grey to brown - moist at 5.5ft BGS	5.00		003		80		0
8								
10	END OF BOREHOLE @ 10.0ft BGS	10.00						
12								
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 017338.GPJ CRA CORP.GDT 2/22/10



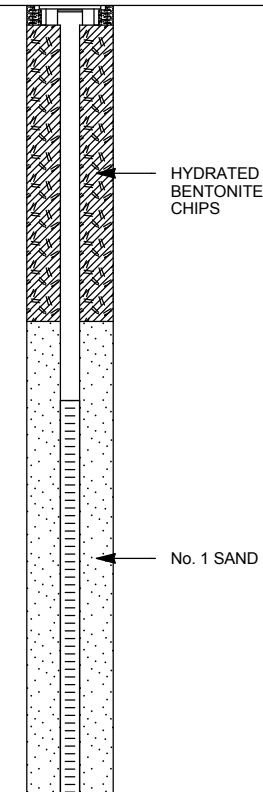
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM-Wilmington
PROJECT NUMBER: 017338
CLIENT: Motors Liquidation Company
LOCATION: Wilmington, Delaware

HOLE DESIGNATION: MW-20
DATE COMPLETED: January 5, 2010
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: P. Warwick

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	HSA	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	SP-SILTY-SAND, coarse sand with increasing silt with depth, brown					100		0
4								
6	SC-SAND-CLAY, coarse sand-silt with clay, brown to grey, low plasticity	5.00				100		0
8								
10	- wet at 9.0ft BGS	10.00						
12	SC-SAND-CLAY, coarse sand-silt with clay, brown to grey, low plasticity, moist							0
14								
16								
18						100		0
20	END OF BOREHOLE @ 20.0ft BGS	20.00						
22								
24								
26								
28								
30								
32								
34								



WELL DETAILS
Screened interval:
10.00 to 20.00ft BGS
Length: 10ft
Diameter: 0.01in
Slot Size: 10
Material: PVC
Seal:
0.50 to 8.00ft BGS
Material: HYDRATED
BENTONITE CHIPS
Sand Pack:
8.00 to 20.00ft BGS
Material: No. 1 SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 017338.GPJ CRA CORP.GDT 2/22/10

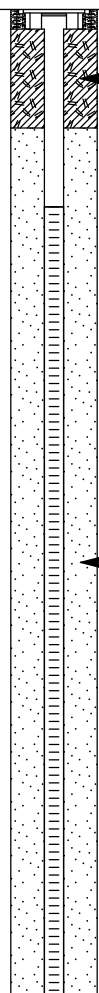
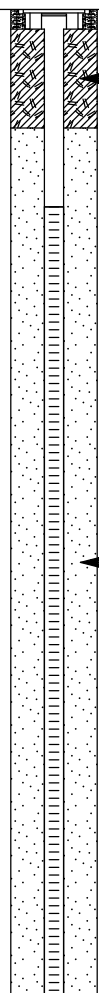


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM-Wilmington
PROJECT NUMBER: 017338
CLIENT: Motors Liquidation Company
LOCATION: Wilmington, Delaware

HOLE DESIGNATION: MW-21
DATE COMPLETED: January 5, 2010
DRILLING METHOD: GEOPROBE/HSA
FIELD PERSONNEL: P. Warwick

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	HSA	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	SP-SAND, poorly graded sands, fine to coarse, tan to orange		 HYDRATED BENTONITE CHIPS No. 1 SAND			90		0
4		5.00						
6	SP-SAND, poorly graded sands with some silt, fine to coarse, tan to orange					100		0
8								
10	- wet at 9.5ft BGS	10.00						
12	SP-SAND, poorly grades sands with some silt, fine to coarse, tan to orange becoming more brown, saturated. Hole is collapsing due to water					60		0
14		15.00						
16	SP-SAND, poorly grades sands with some silt, fine to coarse, orange to brown, saturated. General description from augering.		 HYDRATED BENTONITE CHIPS No. 1 SAND					0
18								
20	SP-SAND, poorly grades sands with some silt, fine to coarse, orange to brown, saturated	20.00						
22								0
24		25.00						
26	END OF BOREHOLE @ 25.0ft BGS							
28								
30								
32								
34								

WELL DETAILS

Screened interval:
5.00 to 25.00ft BGS
Length: 20ft
Diameter: 0.01in
Slot Size: 10
Material: PVC
Seal:
0.50 to 3.00ft BGS
Material: HYDRATED BENTONITE CHIPS
Sand Pack:
3.00 to 25.00ft BGS
Material: No. 1 SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 017338.GPJ CRA CORP.GDT 2/22/10

APPENDIX B

LABORATORY ANALYTICAL REPORTS

ANALYTICAL REPORT

Job Number: 460-9545-1

Job Description: GM Wilmington

For:
Conestoga-Rovers & Associates, Inc.
2055 Niagara Falls Blvd., Suite 3
Niagara Falls, NY 14304
Attention: Ms. Sue Scrocchi



Approved for release.
Joy Kelly
Project Manager II
1/27/2010 12:42 PM

Joy Kelly
Project Manager II
joy.kelly@testamericainc.com
01/27/2010

cc: Mr. Golnoush Bolourani
Mr. Greg Carli

The test results in this report meet all NELAP requirements unless specified within the case narrative. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Edison Project Manager.

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TestAmerica Laboratories, Inc.

TestAmerica Edison 777 New Durham Road, Edison, NJ 08817
Tel (732) 549-3900 Fax (732) 549-3679 www.testamericainc.com



CASE NARRATIVE

Client: Conestoga-Rovers & Associates, Inc.

Project: GM Wilmington

Report Number: 460-9545-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 01/07/2010; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.4 C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

SEMIVOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples 460-9545-1, 460-9545-2, 460-9545-4, 460-9545-5, 460-9545-7, 460-9545-8, 460-9545-10 and 460-9545-11 were analyzed for semivolatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8270C. The samples were prepared on 01/11/2010 and analyzed on 01/19/2010.

2,4-Dinitrophenol was outside acceptance limits in the capping continuing calibration verification (CCV) associated with batch 28200. Sample matrix is suspected as the cause of this failure. The capping CCV requirement is specific to the Delaware HSCA SOP. All other method-specific calibration verification requirements were met.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 27397 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Sample SO-17338-010510-GP23-MM-010 (460-9545-10) was diluted due to abundance of target analytes. Elevated reporting limits (RLs) are provided.

Due to the nature of the sample only diluted sample reported.

Refer to the QC report for details.

No other difficulties were encountered during the semivolatiles analyses.

All other quality control parameters were within the acceptance limits.

PERCENT SOLIDS

Samples 460-9545-1 through 460-9545-12 were analyzed for percent solids in accordance with ASTM D2974-87 Modified. The samples were analyzed on 01/08/2010.

No difficulties were encountered during the % solids analyses.

All quality control parameters were within the acceptance limits.

METHOD SUMMARY

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Semivolatile Organics (GC/MS)	TAL EDI	SW846 8270C	
Automated Soxhlet Extraction	TAL EDI		SW846 3541
Percent Moisture	TAL EDI	EPA Moisture	

Lab References:

TAL EDI = TestAmerica Edison

Method References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Method	Analyst	Analyst ID
SW846 8270C	Asfaw, Abebaye A.	AAA
EPA Moisture	Retana, Camille	CR

SAMPLE SUMMARY

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
460-9545-1	SO-17338-010510-GP24-M M-001	Solid	01/05/2010 0910	01/07/2010 1930
460-9545-2	SO-17338-010510-GP24-M M-002	Solid	01/05/2010 0920	01/07/2010 1930
460-9545-3	SO-17338-010510-GP24-M M-003	Solid	01/05/2010 0930	01/07/2010 1930
460-9545-4	SO-17338-010510-GP22-M M-004	Solid	01/05/2010 0950	01/07/2010 1930
460-9545-5	SO-17338-010510-GP22-M M-005	Solid	01/05/2010 0955	01/07/2010 1930
460-9545-6	SO-17338-010510-GP22-M M-006	Solid	01/05/2010 1000	01/07/2010 1930
460-9545-7	SO-17338-010510-GP21-M M-007	Solid	01/05/2010 1030	01/07/2010 1930
460-9545-8	SO-17338-010510-GP21-M M-008	Solid	01/05/2010 1040	01/07/2010 1930
460-9545-9	SO-17338-010510-GP21-M M-009	Solid	01/05/2010 1050	01/07/2010 1930
460-9545-10	SO-17338-010510-GP23-M M-010	Solid	01/05/2010 1115	01/07/2010 1930
460-9545-11	SO-17338-010510-GP23-M M-011	Solid	01/05/2010 1130	01/07/2010 1930
460-9545-12	SO-17338-010510-GP23-M M-012	Solid	01/05/2010 1140	01/07/2010 1930

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP24-MM-001

Lab Sample ID: 460-9545-1

Date Sampled: 01/05/2010 0910

Client Matrix: Solid

% Moisture: 9.8

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28200	Instrument ID:	BNAMS4
Preparation:	3541	Prep Batch: 460-27397	Lab File ID:	u57368.d
Dilution:	1.0		Initial Weight/Volume:	15.02 g
Date Analyzed:	01/19/2010 1943		Final Weight/Volume:	1 mL
Date Prepared:	01/11/2010 0100		Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzaldehyde		370	U	23	370
Phenol		370	U	45	370
Bis(2-chloroethyl)ether		37	U	7.6	37
2-Chlorophenol		370	U	49	370
2-Methylphenol		370	U	53	370
2,2'-oxybis[1-chloropropane]		370	U	48	370
Acetophenone		370	U	54	370
4-Methylphenol		370	U	60	370
N-Nitrosodi-n-propylamine		37	U	4.8	37
Hexachloroethane		37	U	6.2	37
Nitrobenzene		37	U	8.2	37
Isophorone		370	U	42	370
2-Nitrophenol		370	U	60	370
2,4-Dimethylphenol		370	U	59	370
Bis(2-chloroethoxy)methane		370	U	52	370
2,4-Dichlorophenol		370	U	59	370
Naphthalene		370	U	54	370
4-Chloroaniline		370	U	46	370
Hexachlorobutadiene		74	U	15	74
Caprolactam		370	U	50	370
4-Chloro-3-methylphenol		370	U	61	370
2-Methylnaphthalene		370	U	53	370
Hexachlorocyclopentadiene		370	U	110	370
2,4,6-Trichlorophenol		370	U	66	370
2,4,5-Trichlorophenol		370	U	71	370
1,1'-Biphenyl		370	U	60	370
2-Chloronaphthalene		370	U	52	370
2-Nitroaniline		740	U	100	740
Dimethyl phthalate		370	U	50	370
2,6-Dinitrotoluene		74	U	9.3	74
Acenaphthylene		370	U	52	370
3-Nitroaniline		740	U	83	740
Acenaphthene		370	U	52	370
2,4-Dinitrophenol		1100	U	78	1100
4-Nitrophenol		1100	U	94	1100
Dibenzofuran		370	U	55	370
2,4-Dinitrotoluene		74	U	11	74
Diethyl phthalate		370	U	49	370
Fluorene		370	U	62	370
4-Chlorophenyl phenyl ether		370	U	63	370
4-Nitroaniline		740	U	76	740
4,6-Dinitro-2-methylphenol		1100	U	180	1100
N-Nitrosodiphenylamine		370	U	60	370
4-Bromophenyl phenyl ether		370	U	65	370
Hexachlorobenzene		37	U	5.1	37
Atrazine		370	U	68	370

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP24-MM-001

Lab Sample ID: 460-9545-1

Date Sampled: 01/05/2010 0910

Client Matrix: Solid

% Moisture: 9.8

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch:	460-28200	Instrument ID:	BNAMS4
Preparation:	3541	Prep Batch:	460-27397	Lab File ID:	u57368.d
Dilution:	1.0			Initial Weight/Volume:	15.02 g
Date Analyzed:	01/19/2010 1943			Final Weight/Volume:	1 mL
Date Prepared:	01/11/2010 0100			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Pentachlorophenol		1100	U	180	1100
Phenanthrene		360	J	64	370
Anthracene		93	J	65	370
Carbazole		370	U	58	370
Di-n-butyl phthalate		370	U	56	370
Fluoranthene		850		61	370
Pyrene		950		63	370
Butyl benzyl phthalate		170	J	43	370
3,3'-Dichlorobenzidine		740	U	81	740
Benzo[a]anthracene		640		6.8	37
Chrysene		730		53	370
Bis(2-ethylhexyl) phthalate		370	U	49	370
Di-n-octyl phthalate		370	U	44	370
Benzo[b]fluoranthene		1200		5.4	37
Benzo[k]fluoranthene		500		5.1	37
Benzo[a]pyrene		770		4.5	37
Indeno[1,2,3-cd]pyrene		640		5.9	37
Dibenz(a,h)anthracene		140		4.4	37
Benzo[g,h,i]perylene		650		39	370

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	48		10 - 120
2-Fluorobiphenyl	90		40 - 109
2-Fluorophenol (Surr)	77		37 - 125
Nitrobenzene-d5 (Surr)	76		38 - 105
Phenol-d5 (Surr)	88		41 - 118
Terphenyl-d14 (Surr)	97		16 - 151

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP24-MM-002

Lab Sample ID: 460-9545-2

Date Sampled: 01/05/2010 0920

Client Matrix: Solid

% Moisture: 12.7

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28200	Instrument ID:	BNAMS4
Preparation:	3541	Prep Batch: 460-27397	Lab File ID:	u57367.d
Dilution:	1.0		Initial Weight/Volume:	15.00 g
Date Analyzed:	01/19/2010 1921		Final Weight/Volume:	1 mL
Date Prepared:	01/11/2010 0100		Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzaldehyde		380	U	24	380
Phenol		380	U	46	380
Bis(2-chloroethyl)ether		38	U	7.9	38
2-Chlorophenol		380	U	51	380
2-Methylphenol		380	U	55	380
2,2'-oxybis[1-chloropropane]		380	U	50	380
Acetophenone		380	U	56	380
4-Methylphenol		380	U	62	380
N-Nitrosodi-n-propylamine		38	U	5.0	38
Hexachloroethane		38	U	6.4	38
Nitrobenzene		38	U	8.5	38
Isophorone		380	U	44	380
2-Nitrophenol		380	U	62	380
2,4-Dimethylphenol		380	U	61	380
Bis(2-chloroethoxy)methane		380	U	54	380
2,4-Dichlorophenol		380	U	61	380
Naphthalene		380	U	55	380
4-Chloroaniline		380	U	48	380
Hexachlorobutadiene		77	U	15	77
Caprolactam		380	U	52	380
4-Chloro-3-methylphenol		380	U	64	380
2-Methylnaphthalene		380	U	55	380
Hexachlorocyclopentadiene		380	U	110	380
2,4,6-Trichlorophenol		380	U	68	380
2,4,5-Trichlorophenol		380	U	73	380
1,1'-Biphenyl		380	U	62	380
2-Chloronaphthalene		380	U	54	380
2-Nitroaniline		770	U	100	770
Dimethyl phthalate		380	U	51	380
2,6-Dinitrotoluene		77	U	9.6	77
Acenaphthylene		380	U	54	380
3-Nitroaniline		770	U	86	770
Acenaphthene		380	U	54	380
2,4-Dinitrophenol		1100	U	80	1100
4-Nitrophenol		1100	U	97	1100
Dibenzofuran		380	U	57	380
2,4-Dinitrotoluene		77	U	11	77
Diethyl phthalate		380	U	51	380
Fluorene		380	U	64	380
4-Chlorophenyl phenyl ether		380	U	65	380
4-Nitroaniline		770	U	78	770
4,6-Dinitro-2-methylphenol		1100	U	180	1100
N-Nitrosodiphenylamine		380	U	62	380
4-Bromophenyl phenyl ether		380	U	68	380
Hexachlorobenzene		38	U	5.3	38
Atrazine		380	U	71	380

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP24-MM-002

Lab Sample ID: 460-9545-2

Date Sampled: 01/05/2010 0920

Client Matrix: Solid

% Moisture: 12.7

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch:	460-28200	Instrument ID:	BNAMS4
Preparation:	3541	Prep Batch:	460-27397	Lab File ID:	u57367.d
Dilution:	1.0			Initial Weight/Volume:	15.00 g
Date Analyzed:	01/19/2010 1921			Final Weight/Volume:	1 mL
Date Prepared:	01/11/2010 0100			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Pentachlorophenol		1100	U	190	1100
Phenanthrene		140	J	66	380
Anthracene		380	U	67	380
Carbazole		380	U	60	380
Di-n-butyl phthalate		380	U	58	380
Fluoranthene		390		63	380
Pyrene		530		66	380
Butyl benzyl phthalate		170	J	44	380
3,3'-Dichlorobenzidine		770	U	84	770
Benzo[a]anthracene		310		7.0	38
Chrysene		360	J	55	380
Bis(2-ethylhexyl) phthalate		380	U	50	380
Di-n-octyl phthalate		380	U	45	380
Benzo[b]fluoranthene		540		5.6	38
Benzo[k]fluoranthene		240		5.3	38
Benzo[a]pyrene		350		4.7	38
Indeno[1,2,3-cd]pyrene		240		6.1	38
Dibenz(a,h)anthracene		57		4.6	38
Benzo[g,h,i]perylene		260	J	40	380

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	38		10 - 120
2-Fluorobiphenyl	87		40 - 109
2-Fluorophenol (Surr)	77		37 - 125
Nitrobenzene-d5 (Surr)	79		38 - 105
Phenol-d5 (Surr)	89		41 - 118
Terphenyl-d14 (Surr)	95		16 - 151

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP22-MM-004

Lab Sample ID: 460-9545-4

Date Sampled: 01/05/2010 0950

Client Matrix: Solid

% Moisture: 11.7

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28200	Instrument ID:	BNAMS4
Preparation:	3541	Prep Batch: 460-27397	Lab File ID:	u57358.d
Dilution:	1.0		Initial Weight/Volume:	15.01 g
Date Analyzed:	01/19/2010 1601		Final Weight/Volume:	1 mL
Date Prepared:	01/11/2010 0100		Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzaldehyde		370	U	23	370
Phenol		370	U	46	370
Bis(2-chloroethyl)ether		37	U	7.8	37
2-Chlorophenol		370	U	50	370
2-Methylphenol		370	U	54	370
2,2'-oxybis[1-chloropropane]		370	U	49	370
Acetophenone		370	U	56	370
4-Methylphenol		370	U	61	370
N-Nitrosodi-n-propylamine		37	U	4.9	37
Hexachloroethane		37	U	6.3	37
Nitrobenzene		37	U	8.4	37
Isophorone		370	U	43	370
2-Nitrophenol		370	U	62	370
2,4-Dimethylphenol		370	U	60	370
Bis(2-chloroethoxy)methane		370	U	53	370
2,4-Dichlorophenol		370	U	60	370
Naphthalene		370	U	55	370
4-Chloroaniline		370	U	47	370
Hexachlorobutadiene		76	U	15	76
Caprolactam		370	U	51	370
4-Chloro-3-methylphenol		370	U	63	370
2-Methylnaphthalene		370	U	55	370
Hexachlorocyclopentadiene		370	U	110	370
2,4,6-Trichlorophenol		370	U	67	370
2,4,5-Trichlorophenol		370	U	72	370
1,1'-Biphenyl		370	U	62	370
2-Chloronaphthalene		370	U	53	370
2-Nitroaniline		760	U	100	760
Dimethyl phthalate		370	U	51	370
2,6-Dinitrotoluene		76	U	9.5	76
Acenaphthylene		370	U	54	370
3-Nitroaniline		760	U	85	760
Acenaphthene		370	U	53	370
2,4-Dinitrophenol		1100	U	79	1100
4-Nitrophenol		1100	U	96	1100
Dibenzofuran		370	U	56	370
2,4-Dinitrotoluene		76	U	11	76
Diethyl phthalate		370	U	50	370
Fluorene		370	U	63	370
4-Chlorophenyl phenyl ether		370	U	64	370
4-Nitroaniline		760	U	77	760
4,6-Dinitro-2-methylphenol		1100	U	180	1100
N-Nitrosodiphenylamine		370	U	61	370
4-Bromophenyl phenyl ether		370	U	67	370
Hexachlorobenzene		37	U	5.2	37
Atrazine		370	U	70	370

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP22-MM-004

Lab Sample ID: 460-9545-4

Date Sampled: 01/05/2010 0950

Client Matrix: Solid

% Moisture: 11.7

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch:	460-28200	Instrument ID:	BNAMS4
Preparation:	3541	Prep Batch:	460-27397	Lab File ID:	u57358.d
Dilution:	1.0			Initial Weight/Volume:	15.01 g
Date Analyzed:	01/19/2010 1601			Final Weight/Volume:	1 mL
Date Prepared:	01/11/2010 0100			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Pentachlorophenol		1100	U	180	1100
Phenanthrene		370	U	65	370
Anthracene		370	U	66	370
Carbazole		370	U	59	370
Di-n-butyl phthalate		370	U	57	370
Fluoranthene		370	U	62	370
Pyrene		370	U	65	370
Butyl benzyl phthalate		370	U	44	370
3,3'-Dichlorobenzidine		760	U	83	760
Benzo[a]anthracene		37	U	6.9	37
Chrysene		370	U	54	370
Bis(2-ethylhexyl) phthalate		370	U	50	370
Di-n-octyl phthalate		370	U	44	370
Benzo[b]fluoranthene		37	U	5.6	37
Benzo[k]fluoranthene		37	U	5.2	37
Benzo[a]pyrene		37	U	4.6	37
Indeno[1,2,3-cd]pyrene		37	U	6.0	37
Dibenz(a,h)anthracene		37	U	4.5	37
Benzo[g,h,i]perylene		370	U	39	370

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	54		10 - 120
2-Fluorobiphenyl	88		40 - 109
2-Fluorophenol (Surr)	83		37 - 125
Nitrobenzene-d5 (Surr)	84		38 - 105
Phenol-d5 (Surr)	90		41 - 118
Terphenyl-d14 (Surr)	93		16 - 151

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP22-MM-005

Lab Sample ID: 460-9545-5

Date Sampled: 01/05/2010 0955

Client Matrix: Solid

% Moisture: 16.8

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method: 8270C

Analysis Batch: 460-28200

Instrument ID: BNAMS4

Preparation: 3541

Prep Batch: 460-27397

Lab File ID: u57361.d

Dilution: 1.0

Initial Weight/Volume: 14.98 g

Date Analyzed: 01/19/2010 1708

Final Weight/Volume: 1 mL

Date Prepared: 01/11/2010 0100

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzaldehyde		400	U	25	400
Phenol		400	U	49	400
Bis(2-chloroethyl)ether		40	U	8.3	40
2-Chlorophenol		400	U	53	400
2-Methylphenol		400	U	57	400
2,2'-oxybis[1-chloropropane]		400	U	52	400
Acetophenone		400	U	59	400
4-Methylphenol		400	U	65	400
N-Nitrosodi-n-propylamine		40	U	5.3	40
Hexachloroethane		40	U	6.7	40
Nitrobenzene		40	U	8.9	40
Isophorone		400	U	46	400
2-Nitrophenol		400	U	65	400
2,4-Dimethylphenol		400	U	64	400
Bis(2-chloroethoxy)methane		400	U	57	400
2,4-Dichlorophenol		400	U	64	400
Naphthalene		400	U	58	400
4-Chloroaniline		400	U	50	400
Hexachlorobutadiene		81	U	16	81
Caprolactam		400	U	55	400
4-Chloro-3-methylphenol		400	U	67	400
2-Methylnaphthalene		400	U	58	400
Hexachlorocyclopentadiene		400	U	120	400
2,4,6-Trichlorophenol		400	U	71	400
2,4,5-Trichlorophenol		400	U	77	400
1,1'-Biphenyl		400	U	66	400
2-Chloronaphthalene		400	U	56	400
2-Nitroaniline		810	U	110	810
Dimethyl phthalate		400	U	54	400
2,6-Dinitrotoluene		81	U	10	81
Acenaphthylene		400	U	57	400
3-Nitroaniline		810	U	90	810
Acenaphthene		400	U	57	400
2,4-Dinitrophenol		1200	U	85	1200
4-Nitrophenol		1200	U	100	1200
Dibenzofuran		400	U	60	400
2,4-Dinitrotoluene		81	U	12	81
Diethyl phthalate		400	U	53	400
Fluorene		400	U	67	400
4-Chlorophenyl phenyl ether		400	U	68	400
4-Nitroaniline		810	U	82	810
4,6-Dinitro-2-methylphenol		1200	U	190	1200
N-Nitrosodiphenylamine		400	U	65	400
4-Bromophenyl phenyl ether		400	U	71	400
Hexachlorobenzene		40	U	5.5	40
Atrazine		400	U	74	400

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP22-MM-005

Lab Sample ID: 460-9545-5

Date Sampled: 01/05/2010 0955

Client Matrix: Solid

% Moisture: 16.8

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method: 8270C

Analysis Batch: 460-28200

Instrument ID: BNAMS4

Preparation: 3541

Prep Batch: 460-27397

Lab File ID: u57361.d

Dilution: 1.0

Initial Weight/Volume: 14.98 g

Date Analyzed: 01/19/2010 1708

Final Weight/Volume: 1 mL

Date Prepared: 01/11/2010 0100

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Pentachlorophenol		1200	U	190	1200
Phenanthrene		400	U	69	400
Anthracene		400	U	70	400
Carbazole		400	U	63	400
Di-n-butyl phthalate		400	U	61	400
Fluoranthene		400	U	66	400
Pyrene		400	U	69	400
Butyl benzyl phthalate		400	U	46	400
3,3'-Dichlorobenzidine		810	U	88	810
Benzo[a]anthracene		40	U	7.4	40
Chrysene		400	U	58	400
Bis(2-ethylhexyl) phthalate		400	U	53	400
Di-n-octyl phthalate		400	U	47	400
Benzo[b]fluoranthene		40	U	5.9	40
Benzo[k]fluoranthene		40	U	5.6	40
Benzo[a]pyrene		40	U	4.9	40
Indeno[1,2,3-cd]pyrene		40	U	6.4	40
Dibenz(a,h)anthracene		40	U	4.8	40
Benzo[g,h,i]perylene		400	U	42	400

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	47		10 - 120
2-Fluorobiphenyl	89		40 - 109
2-Fluorophenol (Surr)	76		37 - 125
Nitrobenzene-d5 (Surr)	83		38 - 105
Phenol-d5 (Surr)	88		41 - 118
Terphenyl-d14 (Surr)	96		16 - 151

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP21-MM-007

Lab Sample ID: 460-9545-7

Date Sampled: 01/05/2010 1030

Client Matrix: Solid

% Moisture: 18.7

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method: 8270C

Analysis Batch: 460-28200

Instrument ID: BNAMS4

Preparation: 3541

Prep Batch: 460-27397

Lab File ID: u57363.d

Dilution: 1.0

Initial Weight/Volume: 15.03 g

Date Analyzed: 01/19/2010 1752

Final Weight/Volume: 1 mL

Date Prepared: 01/11/2010 0100

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzaldehyde		410	U	25	410
Phenol		410	U	50	410
Bis(2-chloroethyl)ether		41	U	8.5	41
2-Chlorophenol		410	U	54	410
2-Methylphenol		410	U	58	410
2,2'-oxybis[1-chloropropane]		410	U	53	410
Acetophenone		410	U	60	410
4-Methylphenol		410	U	67	410
N-Nitrosodi-n-propylamine		41	U	5.4	41
Hexachloroethane		41	U	6.8	41
Nitrobenzene		41	U	9.1	41
Isophorone		410	U	47	410
2-Nitrophenol		410	U	67	410
2,4-Dimethylphenol		410	U	65	410
Bis(2-chloroethoxy)methane		410	U	58	410
2,4-Dichlorophenol		410	U	65	410
Naphthalene		410	U	59	410
4-Chloroaniline		410	U	51	410
Hexachlorobutadiene		82	U	16	82
Caprolactam		410	U	56	410
4-Chloro-3-methylphenol		410	U	68	410
2-Methylnaphthalene		410	U	59	410
Hexachlorocyclopentadiene		410	U	120	410
2,4,6-Trichlorophenol		410	U	73	410
2,4,5-Trichlorophenol		410	U	78	410
1,1'-Biphenyl		410	U	67	410
2-Chloronaphthalene		410	U	57	410
2-Nitroaniline		820	U	110	820
Dimethyl phthalate		410	U	55	410
2,6-Dinitrotoluene		82	U	10	82
Acenaphthylene		410	U	58	410
3-Nitroaniline		820	U	92	820
Acenaphthene		410	U	58	410
2,4-Dinitrophenol		1200	U	86	1200
4-Nitrophenol		1200	U	100	1200
Dibenzofuran		410	U	61	410
2,4-Dinitrotoluene		82	U	12	82
Diethyl phthalate		410	U	55	410
Fluorene		410	U	69	410
4-Chlorophenyl phenyl ether		410	U	70	410
4-Nitroaniline		820	U	84	820
4,6-Dinitro-2-methylphenol		1200	U	190	1200
N-Nitrosodiphenylamine		410	U	66	410
4-Bromophenyl phenyl ether		410	U	72	410
Hexachlorobenzene		41	U	5.6	41
Atrazine		410	U	76	410

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP21-MM-007

Lab Sample ID: 460-9545-7

Date Sampled: 01/05/2010 1030

Client Matrix: Solid

% Moisture: 18.7

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch:	460-28200	Instrument ID:	BNAMS4
Preparation:	3541	Prep Batch:	460-27397	Lab File ID:	u57363.d
Dilution:	1.0			Initial Weight/Volume:	15.03 g
Date Analyzed:	01/19/2010 1752			Final Weight/Volume:	1 mL
Date Prepared:	01/11/2010 0100			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Pentachlorophenol		1200	U	200	1200
Phenanthrene		410	U	71	410
Anthracene		410	U	72	410
Carbazole		410	U	65	410
Di-n-butyl phthalate		410	U	62	410
Fluoranthene		410	U	68	410
Pyrene		410	U	70	410
Butyl benzyl phthalate		410	U	47	410
3,3'-Dichlorobenzidine		820	U	90	820
Benzo[a]anthracene		41	U	7.5	41
Chrysene		410	U	59	410
Bis(2-ethylhexyl) phthalate		410	U	54	410
Di-n-octyl phthalate		410	U	48	410
Benzo[b]fluoranthene		41	U	6.0	41
Benzo[k]fluoranthene		41	U	5.7	41
Benzo[a]pyrene		41	U	5.0	41
Indeno[1,2,3-cd]pyrene		41	U	6.5	41
Dibenz(a,h)anthracene		41	U	4.9	41
Benzo[g,h,i]perylene		410	U	43	410

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	46		10 - 120
2-Fluorobiphenyl	89		40 - 109
2-Fluorophenol (Surr)	81		37 - 125
Nitrobenzene-d5 (Surr)	83		38 - 105
Phenol-d5 (Surr)	88		41 - 118
Terphenyl-d14 (Surr)	98		16 - 151

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP21-MM-008

Lab Sample ID: 460-9545-8

Date Sampled: 01/05/2010 1040

Client Matrix: Solid

% Moisture: 15.3

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method: 8270C

Analysis Batch: 460-28200

Instrument ID: BNAMS4

Preparation: 3541

Prep Batch: 460-27397

Lab File ID: u57364.d

Dilution: 1.0

Initial Weight/Volume: 15.00 g

Date Analyzed: 01/19/2010 1814

Final Weight/Volume: 1 mL

Date Prepared: 01/11/2010 0100

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzaldehyde		390	U	24	390
Phenol		390	U	48	390
Bis(2-chloroethyl)ether		39	U	8.1	39
2-Chlorophenol		390	U	52	390
2-Methylphenol		390	U	56	390
2,2'-oxybis[1-chloropropane]		390	U	51	390
Acetophenone		390	U	58	390
4-Methylphenol		390	U	64	390
N-Nitrosodi-n-propylamine		39	U	5.2	39
Hexachloroethane		39	U	6.6	39
Nitrobenzene		39	U	8.7	39
Isophorone		390	U	45	390
2-Nitrophenol		390	U	64	390
2,4-Dimethylphenol		390	U	63	390
Bis(2-chloroethoxy)methane		390	U	56	390
2,4-Dichlorophenol		390	U	63	390
Naphthalene		390	U	57	390
4-Chloroaniline		390	U	49	390
Hexachlorobutadiene		79	U	16	79
Caprolactam		390	U	54	390
4-Chloro-3-methylphenol		390	U	66	390
2-Methylnaphthalene		390	U	57	390
Hexachlorocyclopentadiene		390	U	110	390
2,4,6-Trichlorophenol		390	U	70	390
2,4,5-Trichlorophenol		390	U	75	390
1,1'-Biphenyl		390	U	64	390
2-Chloronaphthalene		390	U	55	390
2-Nitroaniline		790	U	110	790
Dimethyl phthalate		390	U	53	390
2,6-Dinitrotoluene		79	U	9.9	79
Acenaphthylene		390	U	56	390
3-Nitroaniline		790	U	88	790
Acenaphthene		390	U	56	390
2,4-Dinitrophenol		1200	U	83	1200
4-Nitrophenol		1200	U	100	1200
Dibenzofuran		390	U	59	390
2,4-Dinitrotoluene		79	U	11	79
Diethyl phthalate		390	U	52	390
Fluorene		390	U	66	390
4-Chlorophenyl phenyl ether		390	U	67	390
4-Nitroaniline		790	U	81	790
4,6-Dinitro-2-methylphenol		1200	U	190	1200
N-Nitrosodiphenylamine		390	U	64	390
4-Bromophenyl phenyl ether		390	U	70	390
Hexachlorobenzene		39	U	5.4	39
Atrazine		390	U	73	390

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP21-MM-008

Lab Sample ID: 460-9545-8

Date Sampled: 01/05/2010 1040

Client Matrix: Solid

% Moisture: 15.3

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch:	460-28200	Instrument ID:	BNAMS4
Preparation:	3541	Prep Batch:	460-27397	Lab File ID:	u57364.d
Dilution:	1.0			Initial Weight/Volume:	15.00 g
Date Analyzed:	01/19/2010 1814			Final Weight/Volume:	1 mL
Date Prepared:	01/11/2010 0100			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Pentachlorophenol		1200	U	190	1200
Phenanthrene		390	U	68	390
Anthracene		390	U	69	390
Carbazole		390	U	62	390
Di-n-butyl phthalate		390	U	60	390
Fluoranthene		390	U	65	390
Pyrene		390	U	68	390
Butyl benzyl phthalate		390	U	46	390
3,3'-Dichlorobenzidine		790	U	86	790
Benzo[a]anthracene		39	U	7.2	39
Chrysene		390	U	57	390
Bis(2-ethylhexyl) phthalate		390	U	52	390
Di-n-octyl phthalate		390	U	46	390
Benzo[b]fluoranthene		39	U	5.8	39
Benzo[k]fluoranthene		39	U	5.5	39
Benzo[a]pyrene		39	U	4.8	39
Indeno[1,2,3-cd]pyrene		39	U	6.2	39
Dibenz(a,h)anthracene		39	U	4.7	39
Benzo[g,h,i]perylene		390	U	41	390

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	46		10 - 120
2-Fluorobiphenyl	87		40 - 109
2-Fluorophenol (Surr)	79		37 - 125
Nitrobenzene-d5 (Surr)	79		38 - 105
Phenol-d5 (Surr)	88		41 - 118
Terphenyl-d14 (Surr)	100		16 - 151

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP23-MM-010

Lab Sample ID: 460-9545-10

Date Sampled: 01/05/2010 1115

Client Matrix: Solid

% Moisture: 17.5

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28200	Instrument ID:	BNAMS4
Preparation:	3541	Prep Batch: 460-27397	Lab File ID:	u57370.d
Dilution:	5.0		Initial Weight/Volume:	15.02 g
Date Analyzed:	01/19/2010 2027		Final Weight/Volume:	1 mL
Date Prepared:	01/11/2010 0100		Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzaldehyde		2000	U	130	2000
Phenol		2000	U	250	2000
Bis(2-chloroethyl)ether		200	U	42	200
2-Chlorophenol		2000	U	270	2000
2-Methylphenol		2000	U	290	2000
2,2'-oxybis[1-chloropropane]		2000	U	260	2000
Acetophenone		2000	U	300	2000
4-Methylphenol		2000	U	330	2000
N-Nitrosodi-n-propylamine		200	U	26	200
Hexachloroethane		200	U	34	200
Nitrobenzene		200	U	45	200
Isophorone		2000	U	230	2000
2-Nitrophenol		2000	U	330	2000
2,4-Dimethylphenol		2000	U	320	2000
Bis(2-chloroethoxy)methane		2000	U	290	2000
2,4-Dichlorophenol		2000	U	320	2000
Naphthalene		2000	U	290	2000
4-Chloroaniline		2000	U	250	2000
Hexachlorobutadiene		410	U	81	410
Caprolactam		2000	U	270	2000
4-Chloro-3-methylphenol		2000	U	340	2000
2-Methylnaphthalene		2000	U	290	2000
Hexachlorocyclopentadiene		2000	U	590	2000
2,4,6-Trichlorophenol		2000	U	360	2000
2,4,5-Trichlorophenol		2000	U	390	2000
1,1'-Biphenyl		2000	U	330	2000
2-Chloronaphthalene		2000	U	280	2000
2-Nitroaniline		4100	U	550	4100
Dimethyl phthalate		2000	U	270	2000
2,6-Dinitrotoluene		410	U	51	410
Acenaphthylene		2000	U	290	2000
3-Nitroaniline		4100	U	450	4100
Acenaphthene		720	J	280	2000
2,4-Dinitrophenol		6100	U	420	6100
4-Nitrophenol		6100	U	510	6100
Dibenzofuran		2000	U	300	2000
2,4-Dinitrotoluene		410	U	58	410
Diethyl phthalate		2000	U	270	2000
Fluorene		710	J	340	2000
4-Chlorophenyl phenyl ether		2000	U	340	2000
4-Nitroaniline		4100	U	410	4100
4,6-Dinitro-2-methylphenol		6100	U	960	6100
N-Nitrosodiphenylamine		2000	U	330	2000
4-Bromophenyl phenyl ether		2000	U	360	2000
Hexachlorobenzene		200	U	28	200
Atrazine		2000	U	370	2000

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP23-MM-010

Lab Sample ID: 460-9545-10

Date Sampled: 01/05/2010 1115

Client Matrix: Solid

% Moisture: 17.5

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch:	460-28200	Instrument ID:	BNAMS4
Preparation:	3541	Prep Batch:	460-27397	Lab File ID:	u57370.d
Dilution:	5.0			Initial Weight/Volume:	15.02 g
Date Analyzed:	01/19/2010 2027			Final Weight/Volume:	1 mL
Date Prepared:	01/11/2010 0100			Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Pentachlorophenol		6100	U	980	6100
Phenanthrene		6200		350	2000
Anthracene		3200		350	2000
Carbazole		2000	U	320	2000
Di-n-butyl phthalate		2000	U	310	2000
Fluoranthene		14000		330	2000
Pyrene		17000		350	2000
Butyl benzyl phthalate		2000	U	230	2000
3,3'-Dichlorobenzidine		4100	U	440	4100
Benzo[a]anthracene		11000		37	200
Chrysene		11000		290	2000
Bis(2-ethylhexyl) phthalate		2000	U	270	2000
Di-n-octyl phthalate		2000	U	240	2000
Benzo[b]fluoranthene		12000		30	200
Benzo[k]fluoranthene		5100		28	200
Benzo[a]pyrene		9100		25	200
Indeno[1,2,3-cd]pyrene		6000		32	200
Dibenz(a,h)anthracene		1900		24	200
Benzo[g,h,i]perylene		5900		210	2000

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	48		10 - 120
2-Fluorobiphenyl	82		40 - 109
2-Fluorophenol (Surr)	59		37 - 125
Nitrobenzene-d5 (Surr)	68		38 - 105
Phenol-d5 (Surr)	73		41 - 118
Terphenyl-d14 (Surr)	75		16 - 151

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP23-MM-011

Lab Sample ID: 460-9545-11

Date Sampled: 01/05/2010 1130

Client Matrix: Solid

% Moisture: 16.6

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28200	Instrument ID:	BNAMS4
Preparation:	3541	Prep Batch: 460-27397	Lab File ID:	u57369.d
Dilution:	1.0		Initial Weight/Volume:	15.04 g
Date Analyzed:	01/19/2010 2005		Final Weight/Volume:	1 mL
Date Prepared:	01/11/2010 0100		Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzaldehyde		390	U	25	390
Phenol		390	U	48	390
Bis(2-chloroethyl)ether		39	U	8.2	39
2-Chlorophenol		390	U	53	390
2-Methylphenol		390	U	57	390
2,2'-oxybis[1-chloropropane]		390	U	52	390
Acetophenone		390	U	59	390
4-Methylphenol		390	U	65	390
N-Nitrosodi-n-propylamine		39	U	5.2	39
Hexachloroethane		39	U	6.7	39
Nitrobenzene		39	U	8.9	39
Isophorone		390	U	45	390
2-Nitrophenol		390	U	65	390
2,4-Dimethylphenol		390	U	63	390
Bis(2-chloroethoxy)methane		390	U	56	390
2,4-Dichlorophenol		390	U	63	390
Naphthalene		390	U	58	390
4-Chloroaniline		390	U	50	390
Hexachlorobutadiene		80	U	16	80
Caprolactam		390	U	54	390
4-Chloro-3-methylphenol		390	U	66	390
2-Methylnaphthalene		390	U	58	390
Hexachlorocyclopentadiene		390	U	120	390
2,4,6-Trichlorophenol		390	U	71	390
2,4,5-Trichlorophenol		390	U	76	390
1,1'-Biphenyl		390	U	65	390
2-Chloronaphthalene		390	U	56	390
2-Nitroaniline		800	U	110	800
Dimethyl phthalate		390	U	53	390
2,6-Dinitrotoluene		80	U	10	80
Acenaphthylene		390	U	57	390
3-Nitroaniline		800	U	89	800
Acenaphthene		390	U	56	390
2,4-Dinitrophenol		1200	U	84	1200
4-Nitrophenol		1200	U	100	1200
Dibenzofuran		390	U	59	390
2,4-Dinitrotoluene		80	U	12	80
Diethyl phthalate		390	U	53	390
Fluorene		140	J	67	390
4-Chlorophenyl phenyl ether		390	U	68	390
4-Nitroaniline		800	U	82	800
4,6-Dinitro-2-methylphenol		1200	U	190	1200
N-Nitrosodiphenylamine		390	U	64	390
4-Bromophenyl phenyl ether		390	U	70	390
Hexachlorobenzene		39	U	5.5	39
Atrazine		390	U	74	390

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Client Sample ID: SO-17338-010510-GP23-MM-011

Lab Sample ID: 460-9545-11

Date Sampled: 01/05/2010 1130

Client Matrix: Solid

% Moisture: 16.6

Date Received: 01/07/2010 1930

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28200	Instrument ID:	BNAMS4
Preparation:	3541	Prep Batch: 460-27397	Lab File ID:	u57369.d
Dilution:	1.0		Initial Weight/Volume:	15.04 g
Date Analyzed:	01/19/2010 2005		Final Weight/Volume:	1 mL
Date Prepared:	01/11/2010 0100		Injection Volume:	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Pentachlorophenol		1200	U	190	1200
Phenanthrene		480		69	390
Anthracene		160	J	70	390
Carbazole		390	U	63	390
Di-n-butyl phthalate		390	U	61	390
Fluoranthene		110	J	66	390
Pyrene		550		68	390
Butyl benzyl phthalate		390	U	46	390
3,3'-Dichlorobenzidine		800	U	88	800
Benzo[a]anthracene		290		7.3	39
Chrysene		550		58	390
Bis(2-ethylhexyl) phthalate		390	U	53	390
Di-n-octyl phthalate		390	U	47	390
Benzo[b]fluoranthene		87		5.9	39
Benzo[k]fluoranthene		39	U	5.5	39
Benzo[a]pyrene		170		4.9	39
Indeno[1,2,3-cd]pyrene		45		6.3	39
Dibenz(a,h)anthracene		39	U	4.8	39
Benzo[g,h,i]perylene		110	J	42	390

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	50		10 - 120
2-Fluorobiphenyl	89		40 - 109
2-Fluorophenol (Surr)	74		37 - 125
Nitrobenzene-d5 (Surr)	85		38 - 105
Phenol-d5 (Surr)	81		41 - 118
Terphenyl-d14 (Surr)	82		16 - 151

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

General Chemistry

Client Sample ID: SO-17338-010510-GP24-MM-001

Lab Sample ID: 460-9545-1

Date Sampled: 01/05/2010 0910

Client Matrix: Solid

Date Received: 01/07/2010 1930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	9.8		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N
Percent Solids	90.2		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

General Chemistry**Client Sample ID:** SO-17338-010510-GP24-MM-002

Lab Sample ID: 460-9545-2

Date Sampled: 01/05/2010 0920

Client Matrix: Solid

Date Received: 01/07/2010 1930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	12.7		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N
Percent Solids	87.3		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

General Chemistry

Client Sample ID: SO-17338-010510-GP24-MM-003

Lab Sample ID: 460-9545-3

Date Sampled: 01/05/2010 0930

Client Matrix: Solid

Date Received: 01/07/2010 1930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	12.8		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345		Date Analyzed: 01/08/2010 1751				DryWt Corrected: N
Percent Solids	87.2		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345		Date Analyzed: 01/08/2010 1751				DryWt Corrected: N

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

General Chemistry

Client Sample ID: SO-17338-010510-GP22-MM-004

Lab Sample ID: 460-9545-4

Date Sampled: 01/05/2010 0950

Client Matrix: Solid

Date Received: 01/07/2010 1930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	11.7		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N
Percent Solids	88.3		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

General Chemistry

Client Sample ID: SO-17338-010510-GP22-MM-005

Lab Sample ID: 460-9545-5

Date Sampled: 01/05/2010 0955

Client Matrix: Solid

Date Received: 01/07/2010 1930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	16.8		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N
Percent Solids	83.2		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

General Chemistry**Client Sample ID:** SO-17338-010510-GP22-MM-006

Lab Sample ID: 460-9545-6

Date Sampled: 01/05/2010 1000

Client Matrix: Solid

Date Received: 01/07/2010 1930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	16.5		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345			Date Analyzed: 01/08/2010 1751			DryWt Corrected: N
Percent Solids	83.5		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345			Date Analyzed: 01/08/2010 1751			DryWt Corrected: N

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

General Chemistry**Client Sample ID:** SO-17338-010510-GP21-MM-007

Lab Sample ID: 460-9545-7

Date Sampled: 01/05/2010 1030

Client Matrix: Solid

Date Received: 01/07/2010 1930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	18.7		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N
Percent Solids	81.3		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

General Chemistry**Client Sample ID:** SO-17338-010510-GP21-MM-008

Lab Sample ID: 460-9545-8

Date Sampled: 01/05/2010 1040

Client Matrix: Solid

Date Received: 01/07/2010 1930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	15.3		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345		Date Analyzed: 01/08/2010 1751				DryWt Corrected: N
Percent Solids	84.7		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345		Date Analyzed: 01/08/2010 1751				DryWt Corrected: N

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

General Chemistry**Client Sample ID:** SO-17338-010510-GP21-MM-009

Lab Sample ID: 460-9545-9

Date Sampled: 01/05/2010 1050

Client Matrix: Solid

Date Received: 01/07/2010 1930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	27.8		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N
Percent Solids	72.2		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

General Chemistry**Client Sample ID:** SO-17338-010510-GP23-MM-010

Lab Sample ID: 460-9545-10

Date Sampled: 01/05/2010 1115

Client Matrix: Solid

Date Received: 01/07/2010 1930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	17.5		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345		Date Analyzed: 01/08/2010 1751				DryWt Corrected: N
Percent Solids	82.5		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345		Date Analyzed: 01/08/2010 1751				DryWt Corrected: N

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

General Chemistry

Client Sample ID: SO-17338-010510-GP23-MM-011

Lab Sample ID: 460-9545-11

Date Sampled: 01/05/2010 1130

Client Matrix: Solid

Date Received: 01/07/2010 1930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	16.6		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N
Percent Solids	83.4		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

General Chemistry

Client Sample ID: SO-17338-010510-GP23-MM-012

Lab Sample ID: 460-9545-12

Date Sampled: 01/05/2010 1140

Client Matrix: Solid

Date Received: 01/07/2010 1930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	16.8		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N
Percent Solids	83.2		%	1.0	1.0	1.0	Moisture
	Analysis Batch: 460-27345	Date Analyzed: 01/08/2010 1751					DryWt Corrected: N

DATA REPORTING QUALIFIERS

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Lab Section	Qualifier	Description
GC/MS Semi VOA	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	U	Indicates the analyte was analyzed for but not detected.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Page ____ of ____

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

Name (for report and invoice) KENNY ALXANDER		Sample Name (Printed) M. MYLE		Site/Project Identification GM-6/LUMINATOR	
Company CRA		P.O.# 17338		State (Location of site): NJ: ☐ NY: ☐ Other: DE	
Address 410 CAULEY BLVD		Analysis Turnaround Time Standard ☒ Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐		Regulatory Program: PUREC	
City EXTON, PA		State		LAB USE ONLY Project No: 46003203 Job No: 9545	
Phone 610-321-1800		Fax 610-321-2763		Sample Numbers	
Sample Identification	Date	Time	Matrix	No. of Cont.	
SO-17338-010510-CP24-MM-001	11/5/10	0910	Soil	1	X
SO-17338-010510-CP24-MM-002		0920		1	X
SO-17338-010510-CP24-MM-003		0930		1	X
SO-17338-010510-CP24-MM-004		0940		1	X
SO-17338-010510-CP24-MM-005		0955		1	X
SO-17338-010510-CP24-MM-006		1000		1	X
SO-17338-010510-CP24-MM-007		1030		1	X
SO-17338-010510-CP24-MM-008		1040		1	X
SO-17338-010510-CP24-MM-009		1050		1	X
Preservation Used: 1 = ICE, 2 = HCl, 3 = H ₂ SO ₄ , 4 = HNO ₃ , 5 = NaOH 6 = Other _____, 7 = Other _____					Soil: ☒ Water: ☐

Special Instructions **ANALYZE AND HOLD -003 -006 -009**

Water Metals Filtered (Yes/No)?

Relinquished by [Signature]	Company [Signature]	Date / Time 11/10/2010	Received by [Signature]	Company [Signature]
Relinquished by [Signature]	Company [Signature]	Date / Time 11/10/2010	Received by [Signature]	Company [Signature]
Relinquished by [Signature]	Company [Signature]	Date / Time 11/11/2010	Received by [Signature]	Company [Signature]
Relinquished by [Signature]	Company [Signature]	Date / Time 11/11/2010	Received by [Signature]	Company [Signature]

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).
Massachusetts (M-NJ312), North Carolina (No. 578)

TestAmerica

777 New Durham Road
Edison, New Jersey 08817
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THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Page ____ of ____

Name (for report and invoice)		Samplers Name (Printed)		Site/Project Identification	
Henry Alexander		M. MYLET		CM-WILMINGTON	
Company		P.O. #		State (Location of site): NJ: ☐ NY: ☐ Other: DE	
CNA		17338		Regulatory Program: DMHC	
Address		Analysts Turnaround Time		LAB USE ONLY	
910 EMLER BLVD		Standard ☒ Rush Charges Authorized For:		Project No:	
City		2 Week ☐ 1 Week ☐ Other ☐		Job No:	
EXTON				9545	
Phone		Fax		Sample Numbers	
610-321-1800		610-321-2763			
Sample Identification		Date	Time	Matrix	No. of Cont.
SO-17338-010510-CP23-MM-016	11/5/10	11:15	Soil	1	10
SO-17338-010510-CP23-MM-011	11/30	11:30	1	1	11
SO-17338-010510-CP23-MM-012	11/40	11:40	1	1	12
Preservation Used: 1 = ICE, 2 = HCl, 3 = H₂SO₄, 4 = HNO₃, 5 = NaOH 6 = Other _____, 7 = Other _____ Soil: ☒ Water: ☐					
Special Instructions: ANALYZE AND HOLD - 012					
Relinquished by		Company	Date / Time	Received by	Company
[Signature]		[Signature]	11/20/09 09:55	[Signature]	[Signature]
Relinquished by		Company	Date / Time	Received by	Company
[Signature]		[Signature]	11/20/09 13:15	[Signature]	[Signature]
Relinquished by		Company	Date / Time	Received by	Company
[Signature]		[Signature]	11/10/10 10:30	[Signature]	[Signature]
Relinquished by		Company	Date / Time	Received by	Company
[Signature]		[Signature]	11/10/10 10:30	[Signature]	[Signature]

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).
Massachusetts (M-NJ312), North Carolina (No. 578)

Login Sample Receipt Check List

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9545-1

Login Number: 9545

List Source: TestAmerica Edison

Creator: Hall, Alonzo

List Number: 1

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.4°C IR#-40
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

ANALYTICAL REPORT

Job Number: 460-9924-1

Job Description: GM Wilmington

For:
Conestoga-Rovers & Associates, Inc.
2055 Niagara Falls Blvd., Suite 3
Niagara Falls, NY 14304
Attention: Ms. Sue Scrocchi



Approved for release.
Joy Kelly
Project Manager II
1/28/2010 3:23 PM

Joy Kelly
Project Manager II
joy.kelly@testamericainc.com
01/28/2010

cc: Mr. Golnoush Bolourani
Mr. Greg Carli

The test results in this report meet all NELAP requirements unless specified within the case narrative. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Edison Project Manager.

TestAmerica Edison Certifications and Approvals: Connecticut: CTDOH #PH-0200, New Jersey: NJDEP (NELAP) #12028, New York: NYDOH (NELAP) #11452, NYDOH (ELAP) #11452, Pennsylvania: PADEP (NELAP) 68-00522 and Rhode Island: RIDOH LAO00132

TestAmerica Laboratories, Inc.

TestAmerica Edison 777 New Durham Road, Edison, NJ 08817
Tel (732) 549-3900 Fax (732) 549-3679 www.testamericainc.com



Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC/MS Semi VOA

No other analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

CASE NARRATIVE

Client: Conestoga-Rovers & Associates, Inc.

Project: GM Wilmington

Report Number: 460-9924-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 01/21/2010; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.9, 2.1 C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

SEMIVOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples 460-9924-1 through 460-9924-4 were analyzed for semivolatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8270C. The samples were prepared on 01/25/2010 and analyzed on 01/26/2010.

2,4,5-Trichlorophenol, Benzaldehyde and N-Nitrosodi-n-propylamine failed the recovery criteria high for LCS 460-28589/2-A.

Naphthalene failed the recovery criteria low for the MS/MSD of sample 460-9924-1 in batch 460-28726. Benzaldehyde and N-Nitrosodi-n-propylamine failed the recovery criteria high. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Refer to the QC report for details.

No other difficulties were encountered during the semivolatiles analyses.

All other quality control parameters were within the acceptance limits.

METHOD SUMMARY

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Semivolatile Organics (GC/MS)	TAL EDI	SW846 8270C	
Liquid-Liquid Extraction (Separatory Funnel)	TAL EDI		SW846 3510C

Lab References:

TAL EDI = TestAmerica Edison

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Method	Analyst	Analyst ID
SW846 8270C	Asfaw, Abebaye A.	AAA

SAMPLE SUMMARY

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
460-9924-1	GW-017338-012110-ACH-001	GW	01/21/2010 1100	01/21/2010 1850
460-9924-1MS	GW-017338-012110-ACH-001	GW	01/21/2010 1100	01/21/2010 1850
460-9924-1MSD	GW-017338-012110-ACH-001	GW	01/21/2010 1100	01/21/2010 1850
460-9924-2	GW-017338-012110-ACH-002	GW	01/21/2010 1205	01/21/2010 1850
460-9924-3	GW-017338-012110-ACH-003	GW	01/21/2010 1210	01/21/2010 1850
460-9924-4	GW-017338-012110-ACH-004	GW	01/21/2010 1400	01/21/2010 1850

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Client Sample ID: GW-017338-012110-ACH-001

Lab Sample ID: 460-9924-1

Date Sampled: 01/21/2010 1100

Client Matrix: GW

Date Received: 01/21/2010 1850

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28726	Instrument ID:	BNAMS11
Preparation:	3510C	Prep Batch: 460-28589	Lab File ID:	z7757.d
Dilution:	1.0		Initial Weight/Volume:	1000 mL
Date Analyzed:	01/26/2010 1713		Final Weight/Volume:	2 mL
Date Prepared:	01/25/2010 1958		Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1'-Biphenyl	10	U	5.4	10
Phenol	10	U	0.89	10
2,4,6-Trichlorophenol	10	U	3.2	10
Bis(2-chloroethyl)ether	1.0	U	0.41	1.0
2,4-Dichlorophenol	10	U	2.8	10
2-Chlorophenol	10	U	2.6	10
2,4-Dinitrotoluene	2.0	U	0.43	2.0
2,2'-oxybis[1-chloropropane]	10	U	3.2	10
Acetophenone	10	U	4.3	10
2-Methylnaphthalene	10	U	3.1	10
4-Methylphenol	10	U	1.6	10
2-Methylphenol	10	U	1.7	10
2-Nitroaniline	20	U	5.7	20
Hexachloroethane	1.0	U	0.50	1.0
Nitrobenzene	1.0	U	0.41	1.0
4-Chloro-3-methylphenol	10	U	2.0	10
Isophorone	10	U	3.6	10
2-Nitrophenol	10	U	3.4	10
4-Chlorophenyl phenyl ether	10	U	3.9	10
2,4-Dimethylphenol	10	U	2.5	10
4-Nitroaniline	20	U	4.0	20
4-Nitrophenol	30	U	2.3	30
Bis(2-chloroethoxy)methane	10	U	3.5	10
Atrazine	10	U	4.8	10
Naphthalene	140		3.7	10
Benzaldehyde	10	U *	1.3	10
4-Chloroaniline	10	U	2.1	10
Benzo[a]pyrene	1.0	U	0.18	1.0
Hexachlorobutadiene	2.0	U	0.94	2.0
Benzo[k]fluoranthene	1.0	U	0.30	1.0
Caprolactam	10	U	0.50	10
Carbazole	10	U	3.1	10
Hexachlorocyclopentadiene	10	U	4.6	10
Dibenz(a,h)anthracene	1.0	U	0.16	1.0
2,4,5-Trichlorophenol	10	U *	2.5	10
Dimethyl phthalate	10	U	3.3	10
2-Chloronaphthalene	10	U	3.8	10
Fluoranthene	10	U	2.6	10
Fluorene	10	U	3.3	10
2,6-Dinitrotoluene	2.0	U	0.59	2.0
Acenaphthylene	10	U	4.0	10
3-Nitroaniline	20	U	4.3	20
N-Nitrosodi-n-propylamine	1.0	U *	0.32	1.0
Acenaphthene	10	U	3.8	10
2,4-Dinitrophenol	30	U	4.8	30
Dibenzofuran	10	U	3.6	10

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Client Sample ID: GW-017338-012110-ACH-001

Lab Sample ID: 460-9924-1

Date Sampled: 01/21/2010 1100

Client Matrix: GW

Date Received: 01/21/2010 1850

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28726	Instrument ID:	BNAMS11
Preparation:	3510C	Prep Batch: 460-28589	Lab File ID:	z7757.d
Dilution:	1.0		Initial Weight/Volume:	1000 mL
Date Analyzed:	01/26/2010 1713		Final Weight/Volume:	2 mL
Date Prepared:	01/25/2010 1958		Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Diethyl phthalate	10	U	3.8	10
4,6-Dinitro-2-methylphenol	30	U	5.2	30
N-Nitrosodiphenylamine	10	U	3.9	10
4-Bromophenyl phenyl ether	10	U	3.9	10
Hexachlorobenzene	1.0	U	0.27	1.0
Pentachlorophenol	30	U	5.1	30
Phenanthrene	10	U	3.6	10
Anthracene	10	U	3.6	10
Di-n-butyl phthalate	10	U	2.8	10
Pyrene	10	U	4.3	10
Butyl benzyl phthalate	10	U	2.8	10
3,3'-Dichlorobenzidine	20	U	7.0	20
Benzo[a]anthracene	1.0	U	0.27	1.0
Chrysene	10	U	3.8	10
Bis(2-ethylhexyl) phthalate	10	U	2.4	10
Di-n-octyl phthalate	10	U	1.9	10
Benzo[b]fluoranthene	1.0	U	0.21	1.0
Indeno[1,2,3-cd]pyrene	1.0	U	0.12	1.0
Benzo[g,h,i]perylene	10	U	2.7	10

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	91		50 - 119
2-Fluorobiphenyl	82		61 - 112
2-Fluorophenol (Surr)	42		14 - 68
Nitrobenzene-d5 (Surr)	82		61 - 120
Phenol-d5 (Surr)	29		9 - 48
Terphenyl-d14 (Surr)	76		41 - 124

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Client Sample ID: GW-017338-012110-ACH-001

Lab Sample ID: 460-9924-1

Date Sampled: 01/21/2010 1100

Client Matrix: GW

Date Received: 01/21/2010 1850

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28726	Instrument ID:	BNAMS11
Preparation:	3510C	Prep Batch: 460-28589	Lab File ID:	z7757.d
Dilution:	1.0		Initial Weight/Volume:	1000 mL
Date Analyzed:	01/26/2010 1713		Final Weight/Volume:	2 mL
Date Prepared:	01/25/2010 1958		Injection Volume:	1 uL

Tentatively Identified Compounds **Number TIC's Found: 9**

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
496-11-7	Indane	4.32	110	T J N
	Diethylbenzene isomer-1	4.39	10	T J
	Diethylbenzene isomer-2	4.46	29	T J
	Ethyl dimethylbenzene isomer	4.68	190	T J
	Tetramethylbenzene isomer	4.92	60	T J
	Unknown	4.94	25	T J
	C10H12 Aromatic-1	5.09	17	T J
480-63-7	Benzoic acid, 2,4,6-trimethyl-	6.72	11	T J N
80-05-7	Phenol, 4,4"-(1-methylethylidene)bis-	10.09	31	T J N

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Client Sample ID: GW-017338-012110-ACH-002

Lab Sample ID: 460-9924-2

Date Sampled: 01/21/2010 1205

Client Matrix: GW

Date Received: 01/21/2010 1850

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28726	Instrument ID:	BNAMS11
Preparation:	3510C	Prep Batch: 460-28589	Lab File ID:	z7760.d
Dilution:	1.0		Initial Weight/Volume:	990 mL
Date Analyzed:	01/26/2010 1825		Final Weight/Volume:	2 mL
Date Prepared:	01/25/2010 1958		Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1'-Biphenyl	10	U	5.5	10
Phenol	10	U	0.90	10
2,4,6-Trichlorophenol	10	U	3.2	10
Bis(2-chloroethyl)ether	1.0	U	0.41	1.0
2,4-Dichlorophenol	10	U	2.8	10
2-Chlorophenol	10	U	2.6	10
2,4-Dinitrotoluene	2.0	U	0.43	2.0
2,2'-oxybis[1-chloropropane]	10	U	3.2	10
Acetophenone	10	U	4.3	10
2-Methylnaphthalene	10	U	3.1	10
4-Methylphenol	10	U	1.6	10
2-Methylphenol	10	U	1.7	10
2-Nitroaniline	20	U	5.8	20
Hexachloroethane	1.0	U	0.51	1.0
Nitrobenzene	1.0	U	0.41	1.0
4-Chloro-3-methylphenol	10	U	2.0	10
Isophorone	10	U	3.6	10
2-Nitrophenol	10	U	3.4	10
4-Chlorophenyl phenyl ether	10	U	4.0	10
2,4-Dimethylphenol	10	U	2.5	10
4-Nitroaniline	20	U	4.0	20
4-Nitrophenol	30	U	2.3	30
Bis(2-chloroethoxy)methane	10	U	3.5	10
Atrazine	10	U	4.8	10
Naphthalene	10	U	3.7	10
Benzaldehyde	10	U *	1.4	10
4-Chloroaniline	10	U	2.1	10
Benzo[a]pyrene	1.0	U	0.18	1.0
Hexachlorobutadiene	2.0	U	0.95	2.0
Benzo[k]fluoranthene	1.0	U	0.30	1.0
Caprolactam	10	U	0.51	10
Carbazole	10	U	3.1	10
Hexachlorocyclopentadiene	10	U	4.6	10
Dibenz(a,h)anthracene	1.0	U	0.16	1.0
2,4,5-Trichlorophenol	10	U *	2.5	10
Dimethyl phthalate	10	U	3.3	10
2-Chloronaphthalene	10	U	3.8	10
Fluoranthene	10	U	2.7	10
Fluorene	10	U	3.3	10
2,6-Dinitrotoluene	2.0	U	0.60	2.0
Acenaphthylene	10	U	4.1	10
3-Nitroaniline	20	U	4.4	20
N-Nitrosodi-n-propylamine	1.0	U *	0.32	1.0
Acenaphthene	10	U	3.8	10
2,4-Dinitrophenol	30	U	4.9	30
Dibenzofuran	10	U	3.6	10

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Client Sample ID: GW-017338-012110-ACH-002

Lab Sample ID: 460-9924-2

Date Sampled: 01/21/2010 1205

Client Matrix: GW

Date Received: 01/21/2010 1850

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28726	Instrument ID:	BNAMS11
Preparation:	3510C	Prep Batch: 460-28589	Lab File ID:	z7760.d
Dilution:	1.0		Initial Weight/Volume:	990 mL
Date Analyzed:	01/26/2010 1825		Final Weight/Volume:	2 mL
Date Prepared:	01/25/2010 1958		Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Diethyl phthalate	10	U	3.9	10
4,6-Dinitro-2-methylphenol	30	U	5.3	30
N-Nitrosodiphenylamine	10	U	3.9	10
4-Bromophenyl phenyl ether	10	U	4.0	10
Hexachlorobenzene	1.0	U	0.27	1.0
Pentachlorophenol	30	U	5.2	30
Phenanthrene	10	U	3.6	10
Anthracene	10	U	3.6	10
Di-n-butyl phthalate	10	U	2.8	10
Pyrene	10	U	4.3	10
Butyl benzyl phthalate	10	U	2.8	10
3,3'-Dichlorobenzidine	20	U	7.0	20
Benzo[a]anthracene	1.0	U	0.27	1.0
Chrysene	10	U	3.8	10
Bis(2-ethylhexyl) phthalate	10	U	2.4	10
Di-n-octyl phthalate	10	U	1.9	10
Benzo[b]fluoranthene	1.0	U	0.21	1.0
Indeno[1,2,3-cd]pyrene	1.0	U	0.12	1.0
Benzo[g,h,i]perylene	10	U	2.7	10

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	90		50 - 119
2-Fluorobiphenyl	83		61 - 112
2-Fluorophenol (Surr)	49		14 - 68
Nitrobenzene-d5 (Surr)	90		61 - 120
Phenol-d5 (Surr)	35		9 - 48
Terphenyl-d14 (Surr)	82		41 - 124

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Client Sample ID: GW-017338-012110-ACH-002

Lab Sample ID: 460-9924-2

Date Sampled: 01/21/2010 1205

Client Matrix: GW

Date Received: 01/21/2010 1850

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28726	Instrument ID:	BNAMS11
Preparation:	3510C	Prep Batch: 460-28589	Lab File ID:	z7760.d
Dilution:	1.0		Initial Weight/Volume:	990 mL
Date Analyzed:	01/26/2010 1825		Final Weight/Volume:	2 mL
Date Prepared:	01/25/2010 1958		Injection Volume:	1 uL

Tentatively Identified Compounds **Number TIC's Found: 0**

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Client Sample ID: GW-017338-012110-ACH-003

Lab Sample ID: 460-9924-3

Date Sampled: 01/21/2010 1210

Client Matrix: GW

Date Received: 01/21/2010 1850

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28726	Instrument ID:	BNAMS11
Preparation:	3510C	Prep Batch: 460-28589	Lab File ID:	z7761.d
Dilution:	1.0		Initial Weight/Volume:	1000 mL
Date Analyzed:	01/26/2010 1850		Final Weight/Volume:	2 mL
Date Prepared:	01/25/2010 1958		Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1'-Biphenyl	10	U	5.4	10
Phenol	10	U	0.89	10
2,4,6-Trichlorophenol	10	U	3.2	10
Bis(2-chloroethyl)ether	1.0	U	0.41	1.0
2,4-Dichlorophenol	10	U	2.8	10
2-Chlorophenol	10	U	2.6	10
2,4-Dinitrotoluene	2.0	U	0.43	2.0
2,2'-oxybis[1-chloropropane]	10	U	3.2	10
Acetophenone	10	U	4.3	10
2-Methylnaphthalene	10	U	3.1	10
4-Methylphenol	10	U	1.6	10
2-Methylphenol	10	U	1.7	10
2-Nitroaniline	20	U	5.7	20
Hexachloroethane	1.0	U	0.50	1.0
Nitrobenzene	1.0	U	0.41	1.0
4-Chloro-3-methylphenol	10	U	2.0	10
Isophorone	10	U	3.6	10
2-Nitrophenol	10	U	3.4	10
4-Chlorophenyl phenyl ether	10	U	3.9	10
2,4-Dimethylphenol	10	U	2.5	10
4-Nitroaniline	20	U	4.0	20
4-Nitrophenol	30	U	2.3	30
Bis(2-chloroethoxy)methane	10	U	3.5	10
Atrazine	10	U	4.8	10
Naphthalene	10	U	3.7	10
Benzaldehyde	10	U *	1.3	10
4-Chloroaniline	10	U	2.1	10
Benzo[a]pyrene	1.0	U	0.18	1.0
Hexachlorobutadiene	2.0	U	0.94	2.0
Benzo[k]fluoranthene	1.0	U	0.30	1.0
Caprolactam	10	U	0.50	10
Carbazole	10	U	3.1	10
Hexachlorocyclopentadiene	10	U	4.6	10
Dibenz(a,h)anthracene	1.0	U	0.16	1.0
2,4,5-Trichlorophenol	10	U *	2.5	10
Dimethyl phthalate	10	U	3.3	10
2-Chloronaphthalene	10	U	3.8	10
Fluoranthene	10	U	2.6	10
Fluorene	10	U	3.3	10
2,6-Dinitrotoluene	2.0	U	0.59	2.0
Acenaphthylene	10	U	4.0	10
3-Nitroaniline	20	U	4.3	20
N-Nitrosodi-n-propylamine	1.0	U *	0.32	1.0
Acenaphthene	10	U	3.8	10
2,4-Dinitrophenol	30	U	4.8	30
Dibenzofuran	10	U	3.6	10

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Client Sample ID: GW-017338-012110-ACH-003

Lab Sample ID: 460-9924-3

Date Sampled: 01/21/2010 1210

Client Matrix: GW

Date Received: 01/21/2010 1850

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28726	Instrument ID:	BNAMS11
Preparation:	3510C	Prep Batch: 460-28589	Lab File ID:	z7761.d
Dilution:	1.0		Initial Weight/Volume:	1000 mL
Date Analyzed:	01/26/2010 1850		Final Weight/Volume:	2 mL
Date Prepared:	01/25/2010 1958		Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Diethyl phthalate	10	U	3.8	10
4,6-Dinitro-2-methylphenol	30	U	5.2	30
N-Nitrosodiphenylamine	10	U	3.9	10
4-Bromophenyl phenyl ether	10	U	3.9	10
Hexachlorobenzene	1.0	U	0.27	1.0
Pentachlorophenol	30	U	5.1	30
Phenanthrene	10	U	3.6	10
Anthracene	10	U	3.6	10
Di-n-butyl phthalate	10	U	2.8	10
Pyrene	10	U	4.3	10
Butyl benzyl phthalate	10	U	2.8	10
3,3'-Dichlorobenzidine	20	U	7.0	20
Benzo[a]anthracene	1.0	U	0.27	1.0
Chrysene	10	U	3.8	10
Bis(2-ethylhexyl) phthalate	10	U	2.4	10
Di-n-octyl phthalate	10	U	1.9	10
Benzo[b]fluoranthene	1.0	U	0.21	1.0
Indeno[1,2,3-cd]pyrene	1.0	U	0.12	1.0
Benzo[g,h,i]perylene	10	U	2.7	10

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	89		50 - 119
2-Fluorobiphenyl	86		61 - 112
2-Fluorophenol (Surr)	49		14 - 68
Nitrobenzene-d5 (Surr)	93		61 - 120
Phenol-d5 (Surr)	36		9 - 48
Terphenyl-d14 (Surr)	86		41 - 124

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Client Sample ID: GW-017338-012110-ACH-003

Lab Sample ID: 460-9924-3

Date Sampled: 01/21/2010 1210

Client Matrix: GW

Date Received: 01/21/2010 1850

8270C Semivolatile Organics (GC/MS)

Method: 8270C

Analysis Batch: 460-28726

Instrument ID: BNAMS11

Preparation: 3510C

Prep Batch: 460-28589

Lab File ID: z7761.d

Dilution: 1.0

Initial Weight/Volume: 1000 mL

Date Analyzed: 01/26/2010 1850

Final Weight/Volume: 2 mL

Date Prepared: 01/25/2010 1958

Injection Volume: 1 uL

Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Client Sample ID: GW-017338-012110-ACH-004

Lab Sample ID: 460-9924-4

Date Sampled: 01/21/2010 1400

Client Matrix: GW

Date Received: 01/21/2010 1850

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28726	Instrument ID:	BNAMS11
Preparation:	3510C	Prep Batch: 460-28589	Lab File ID:	z7762.d
Dilution:	1.0		Initial Weight/Volume:	1000 mL
Date Analyzed:	01/26/2010 1914		Final Weight/Volume:	2 mL
Date Prepared:	01/25/2010 1958		Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1'-Biphenyl	10	U	5.4	10
Phenol	10	U	0.89	10
2,4,6-Trichlorophenol	10	U	3.2	10
Bis(2-chloroethyl)ether	1.0	U	0.41	1.0
2,4-Dichlorophenol	10	U	2.8	10
2-Chlorophenol	10	U	2.6	10
2,4-Dinitrotoluene	2.0	U	0.43	2.0
2,2'-oxybis[1-chloropropane]	10	U	3.2	10
Acetophenone	10	U	4.3	10
2-Methylnaphthalene	10	U	3.1	10
4-Methylphenol	10	U	1.6	10
2-Methylphenol	10	U	1.7	10
2-Nitroaniline	20	U	5.7	20
Hexachloroethane	1.0	U	0.50	1.0
Nitrobenzene	1.0	U	0.41	1.0
4-Chloro-3-methylphenol	10	U	2.0	10
Isophorone	10	U	3.6	10
2-Nitrophenol	10	U	3.4	10
4-Chlorophenyl phenyl ether	10	U	3.9	10
2,4-Dimethylphenol	10	U	2.5	10
4-Nitroaniline	20	U	4.0	20
4-Nitrophenol	30	U	2.3	30
Bis(2-chloroethoxy)methane	10	U	3.5	10
Atrazine	10	U	4.8	10
Naphthalene	10	U	3.7	10
Benzaldehyde	10	U *	1.3	10
4-Chloroaniline	10	U	2.1	10
Benzo[a]pyrene	1.0	U	0.18	1.0
Hexachlorobutadiene	2.0	U	0.94	2.0
Benzo[k]fluoranthene	1.0	U	0.30	1.0
Caprolactam	10	U	0.50	10
Carbazole	10	U	3.1	10
Hexachlorocyclopentadiene	10	U	4.6	10
Dibenz(a,h)anthracene	1.0	U	0.16	1.0
2,4,5-Trichlorophenol	10	U *	2.5	10
Dimethyl phthalate	10	U	3.3	10
2-Chloronaphthalene	10	U	3.8	10
Fluoranthene	10	U	2.6	10
Fluorene	10	U	3.3	10
2,6-Dinitrotoluene	2.0	U	0.59	2.0
Acenaphthylene	10	U	4.0	10
3-Nitroaniline	20	U	4.3	20
N-Nitrosodi-n-propylamine	1.0	U *	0.32	1.0
Acenaphthene	10	U	3.8	10
2,4-Dinitrophenol	30	U	4.8	30
Dibenzofuran	10	U	3.6	10

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Client Sample ID: GW-017338-012110-ACH-004

Lab Sample ID: 460-9924-4

Date Sampled: 01/21/2010 1400

Client Matrix: GW

Date Received: 01/21/2010 1850

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28726	Instrument ID:	BNAMS11
Preparation:	3510C	Prep Batch: 460-28589	Lab File ID:	z7762.d
Dilution:	1.0		Initial Weight/Volume:	1000 mL
Date Analyzed:	01/26/2010 1914		Final Weight/Volume:	2 mL
Date Prepared:	01/25/2010 1958		Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Diethyl phthalate	10	U	3.8	10
4,6-Dinitro-2-methylphenol	30	U	5.2	30
N-Nitrosodiphenylamine	10	U	3.9	10
4-Bromophenyl phenyl ether	10	U	3.9	10
Hexachlorobenzene	1.0	U	0.27	1.0
Pentachlorophenol	30	U	5.1	30
Phenanthrene	10	U	3.6	10
Anthracene	10	U	3.6	10
Di-n-butyl phthalate	10	U	2.8	10
Pyrene	10	U	4.3	10
Butyl benzyl phthalate	10	U	2.8	10
3,3'-Dichlorobenzidine	20	U	7.0	20
Benzo[a]anthracene	1.0	U	0.27	1.0
Chrysene	10	U	3.8	10
Bis(2-ethylhexyl) phthalate	10	U	2.4	10
Di-n-octyl phthalate	10	U	1.9	10
Benzo[b]fluoranthene	1.0	U	0.21	1.0
Indeno[1,2,3-cd]pyrene	1.0	U	0.12	1.0
Benzo[g,h,i]perylene	10	U	2.7	10

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	90		50 - 119
2-Fluorobiphenyl	83		61 - 112
2-Fluorophenol (Surr)	48		14 - 68
Nitrobenzene-d5 (Surr)	88		61 - 120
Phenol-d5 (Surr)	35		9 - 48
Terphenyl-d14 (Surr)	80		41 - 124

Analytical Data

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Client Sample ID: GW-017338-012110-ACH-004

Lab Sample ID: 460-9924-4

Date Sampled: 01/21/2010 1400

Client Matrix: GW

Date Received: 01/21/2010 1850

8270C Semivolatile Organics (GC/MS)

Method:	8270C	Analysis Batch: 460-28726	Instrument ID:	BNAMS11
Preparation:	3510C	Prep Batch: 460-28589	Lab File ID:	z7762.d
Dilution:	1.0		Initial Weight/Volume:	1000 mL
Date Analyzed:	01/26/2010 1914		Final Weight/Volume:	2 mL
Date Prepared:	01/25/2010 1958		Injection Volume:	1 uL

Tentatively Identified Compounds **Number TIC's Found: 0**

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

DATA REPORTING QUALIFIERS

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	*	Recovery or RPD exceeds control limits
	J	Indicates an Estimated Value for TICs
	N	This flag indicates the presumptive evidence of a compound.
	T	Result is a tentatively identified compound (TIC) and an estimated value.
	U	Indicates the analyte was analyzed for but not detected.

Login Sample Receipt Check List

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 460-9924-1

Login Number: 9924

List Source: TestAmerica Edison

Creator: Retana, Camille

List Number: 1

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.9°C IR 2.1°C IR 40
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

APPENDIX C

DATA VALIDATION MEMORANDUM



**CONESTOGA-ROVERS
& ASSOCIATES**

45 Farmington Valley Drive
Plainville, Connecticut 06062
Telephone: (860) 747-1800 Fax: (860) 747-1900
www.CRAworld.com

MEMORANDUM

TO: Greg Carli

FROM: Kathy Shaw/lo/1/CT 

RE: Data Quality Assessment and Validation
WAP Soil/Groundwater Investigation
General Motors Wilmington Site - Wilmington, Delaware

REF. NO.: 017388-25

DATE: February 4, 2010

SSOW: 017307-091010

The following details a quality assessment and validation of the analytical data resulting from the January 2010, collection of eight (8) soil, four (4) groundwater samples and one (1) quality control sample from the General Motors Wilmington Site in Wilmington, Delaware. The sample summary detailing sample identification, sample location, quality control samples, and analytical parameters is presented in Table 1. Sample analysis was completed at TestAmerica Laboratories, Inc. in Edison, New Jersey (TA) in accordance with the methodologies presented in Table 2.

The Quality Control (QC) criteria used to assess the data were established by the methods and the Quality Assurance Project Plan (QAPP). Summaries of the analytical data are presented in Tables 3a and 3b. Application of quality assurance criteria was consistent with following guidance documents:

- i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", USEPA-540-R-08-01, June 2008.

These guidelines are collectively referred to as "Guidelines" in this memorandum.

Sample Quantitation

The laboratory reported any detected concentrations of semi-volatile organic compounds (SVOC), observed below the laboratory's report limit (RL) but above the laboratory's method detection limit (MDL) with a "J" flag. These concentrations should be qualified as estimated (J) values unless qualified otherwise in this memorandum.

Sample Preservation and Holding Times

Sample holding time periods and preservation requirements are summarized in the analytical methods. All sample extractions and/or analyses were performed within the specified holding times. All samples were properly preserved and cooled to 4°C(±2°C) after collection.

Gas Chromatography/Mass Spectrometer (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check) – Organic Analyses

To ensure adequate mass resolution, identification, and to some degree, sensitivity; the performance of each GC/MS instrument used for SVOC analysis was checked at the beginning of each 12-hour period using and decafluorotriphenylphosphine (DFTPP). The resulting spectra must meet the criteria cited in the "Guidelines" before initiating an analysis sequence.

Instrument performance check data were reviewed. These tuning compounds were analyzed at the required frequency throughout the SVOC analysis. The results of all instrument performance checks were within the acceptance criteria, indicating acceptable instrument performance.

Initial Calibration – Organic Analyses

Initial calibration data are used to demonstrate that each instrument is capable of generating acceptable quantitative data. A five point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each over a specific concentration range.

Initial calibration criteria for organic analyses are evaluated against the following criteria:

- i) GC/MS (all compounds) – must meet a minimum mean relative response factor (RRF) of 0.05; and
- ii) GC/MS (all compounds) – the percent relative standard deviation (%RSD) values must not exceed 30.0 percent or a minimum coefficient of determination of 0.99 if quadratic equation calibration curves are used.

Calibration standards were analyzed at the required frequency and the results met the above criteria for linearity and sensitivity with the following exception:

- i) the benzaldehyde curve yielded standard deviations greater than 30 percent. All associated sample results were qualified as estimated. A summary of the qualified samples is presented in Table 4.

Continuing Calibration – Organic Analyses

To ensure that each instrument was capable of producing acceptable quantitative data over the analysis period, continuing calibration standards must be analyzed every 12 hours. The following criteria are employed to evaluate the continuing calibration data:

- i) GC/MS (all compounds) – must meet a minimum mean RRF of 0.05;
- ii) GC/MS (all compounds) – the percent difference between the mean initial calibration RRF and the continuing calibration RRF must not exceed 25 percent; and
- iii) GC/MS (compounds determined by quadratic curve) – the percent drift between the true value and the continuing calibration value must not exceed 25 percent.

Calibration standards were analyzed at the required frequency and the results met the above criteria for instrument sensitivity and linearity of response for all analytes of interest, with the exception of the samples outlined in Table 5.

Method Blank Samples

Method blank samples are prepared from a purified sample matrix and are processed concurrently with investigative samples to assess the presence and the magnitude of sample contamination introduced during sample analysis. Method blank samples are analyzed at a minimum frequency of one per analytical batch and target analytes should be non-detect. Method blanks were analyzed at the recommended frequency and the results were non-detect for all analytes of interest.

Surrogate Compounds – Organic Analyses

Individual sample performance for organic analyses was monitored by assessing the results of surrogate compound percent recoveries. Surrogate percent recoveries are reviewed against the laboratory developed control limits provided in the analytical report. All surrogate recoveries met the method criteria, demonstrating acceptable analytical efficiency for these analyses.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses and Matrix Spike/Laboratory Duplicate Analyses (MS/Dup)

To assess the long term accuracy and precision of the analytical methods on various matrices, MS/MSD or MS/Dup percent recoveries and relative percent differences (RPD) of the concentrations were determined. The organic MS/MSD percent recovery and RPD control limits are established by the laboratory. All MS/MSD or MS/Dup recoveries were acceptable indicating good analytical accuracy and precision, with the exception of the samples outlined in Table 6.

Laboratory Control Sample/Laboratory Control Duplicate Analysis

The laboratory control sample and laboratory control duplicate (LCS/LCD) analyses serve as a monitor of the overall performance in all steps of the sample analysis and are analyzed with each sample batch. The LCS/LCD percent recoveries were evaluated against method and laboratory established control limits. The LCS/LCD percent recoveries were within the laboratory control limits or did not warrant qualification, indicating that an acceptable level of overall performance was achieved.

Laboratory precision was verified by the relative percent difference (RPD) of the LCS/LCD when a matrix spike/matrix spike duplicate was not analyzed. The RPDs were within the laboratory control limits, indicating that an acceptable level of overall laboratory precision was achieved.

Internal Standard (IS) Summaries – Organic Analyses

To correct for variability in the GC/MS response and sensitivity, IS compounds are added to all samples. All results are calculated as a ratio of the compound and associated IS response. Overall instrument stability and performance for SVOC analysis was monitored using IS peak area and retention time (RT) data. The IS peak areas and RTs of the samples are required to meet the following criteria:

- i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated continuing calibration standard IS area counts; and
- ii) the RT of the IS must not vary by more than plus or minus 30 seconds from the associated continuing calibration standard.

Internal Standard (IS) Summaries – Organic Analyses (Cont'd)

A review of the SVOC internal standard data showed that the IS area counts and retention time data were within the acceptance criteria for all samples.

Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to identification criteria established by the methods. The organic compounds reported adhered to the specified identification criteria.

Target Compound Quantitation

The reported quantitation results and detection limits were checked to ensure results reported were accurate. No discrepancies were found between the raw data and the sample results reported by the laboratory.

Field Quality Assurance/Quality Control (QA/QC)

The field quality assurance/quality control consisted of one field duplicate sample set. Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample sets. The RPDs associated with these duplicate samples must be less than 50 percent for water. If the reported concentration in either the investigative sample or its duplicate is less than five times the RL, the evaluation criteria is one times the RL value for water. The field duplicate sample set was non-detect for all compounds of interest.

System Performance

System performance between various quality control checks was evaluated to monitor for changes that may have caused the degradation of data quality. No technical problems or chromatographic anomalies were observed which would require qualification of the data.

Tentatively Identified Compounds (TICs)

TICs were evaluated for all samples submitted for volatile and semi-volatile analyses. A summary of the TICs reported and the estimated concentrations is presented in Table 7. TICs which were present in the blanks or which were identified as aldol condensation products and/or siloxanes have been eliminated.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used with the qualifications noted with the exception of the following:

- SVOC data was rejected in a number of samples due to MS/MSD violations

TABLE 1

**SAMPLE COLLECTION AND ANALYSIS SUMMARY
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE**

<i>Sample Identification</i>	<i>Location</i>	<i>Start Depth (ft bgs)</i>	<i>End Depth (ft bgs)</i>	<i>Matrix</i>	<i>QC Samples</i>	<i><u>Parameters</u></i>
						<i>TCL SVOC</i>
SO-17338-010510-GP24-MM-001	GP-24	0.5	1	Soil		X
SO-17338-010510-GP24-MM-002	GP-24	4.5	5	Soil		X
SO-17338-010510-GP22-MM-004	GP-22	0.5	1	Soil		X
SO-17338-010510-GP22-MM-005	GP-22	4.5	5	Soil		X
SO-17338-010510-GP21-MM-007	GP-21	0.5	1	Soil		X
SO-17338-010510-GP21-MM-008	GP-21	4.5	5	Soil		X
SO-17338-010510-GP23-MM-010	GP-23	0.5	1	Soil		X
SO-17338-010510-GP23-MM-011	GP-23	4.5	5	Soil		X
GW-017338-012110-ACH-001	MW-8	12.76	12.8	Water	MS/MSD	X
GW-017338-012110-ACH-002	MW-21	14.46	14.51	Water		X
GW-017338-012110-ACH-003	MW-21	14.46	14.51	Water	Duplicate (MW-21)	X
GW-017338-012110-ACH-004	MW-20	14.47	14.71	Water		X

Notes:

TCL - Target Compound List
SVOC - Semi-Volatile Organic Compounds
MS/MSD - Matrix Spike/Matrix Spike Duplicate

TABLE 2

SUMMARY OF ANALYTICAL METHODS, HOLDING TIME PERIODS, AND PRESERVATIVES
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE

<i>Parameter</i>	<i>Method</i>	<i>Matrix</i>	<i>Holding Time</i>	<i>Preservation</i>
TCL SVOC	SW-846 8270C	Water	- 7 days from sample collection to extraction - 40 days from extraction to completion of analysis	Iced, $4 \pm 2^{\circ}$ C

Notes

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, 3rd Edition, and Promulgated updates, November 1986

**ANALYTICAL RESULTS SUMMARY
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE**

<i>Sample Location:</i>		<i>GP-21</i>	<i>GP-21</i>	<i>GP-21</i>	<i>GP-22</i>
<i>Sample ID:</i>		<i>SO-17338-010510-GP21-MM-007</i>	<i>SO-17338-010510-GP21-MM-008</i>	<i>SO-17338-010510-GP21-MM-009</i>	<i>SO-17338-010510-GP22-MM-004</i>
<i>Sample Date:</i>		<i>1/5/2010</i>	<i>1/5/2010</i>	<i>1/5/2010</i>	<i>1/5/2010</i>
<i>Sample Depth:</i>		<i>(0.5-1) ft BGS</i>	<i>(4.5-5) ft BGS</i>	<i>(6-6.5) ft BGS</i>	<i>(0.5-1) ft BGS</i>
<i>matrix_code</i>		<i>SO</i>	<i>SO</i>	<i>SO</i>	<i>SO</i>
<i>Parameters:</i>	<i>Units</i>				
<i>Semi-volatile Organic Compounds</i>					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	410 U	390 U	-	370 U
2,4,5-Trichlorophenol	ug/kg	410 U	390 U	-	370 U
2,4,6-Trichlorophenol	ug/kg	410 U	390 U	-	370 U
2,4-Dichlorophenol	ug/kg	410 U	390 U	-	370 U
2,4-Dimethylphenol	ug/kg	410 U	390 U	-	370 U
2,4-Dinitrophenol	ug/kg	1200 UJ	1200 UJ	-	R
2,4-Dinitrotoluene	ug/kg	82 U	79 U	-	76 U
2,6-Dinitrotoluene	ug/kg	82 U	79 U	-	76 U
2-Chloronaphthalene	ug/kg	410 U	390 U	-	370 U
2-Chlorophenol	ug/kg	410 U	390 U	-	370 U
2-Methylnaphthalene	ug/kg	410 U	390 U	-	370 U
2-Methylphenol	ug/kg	410 U	390 U	-	370 U
2-Nitroaniline	ug/kg	820 U	790 U	-	760 U
2-Nitrophenol	ug/kg	410 U	390 U	-	370 U
3,3'-Dichlorobenzidine	ug/kg	820 U	790 U	-	760 U
3-Nitroaniline	ug/kg	820 U	790 U	-	760 U
4,6-Dinitro-2-methylphenol	ug/kg	1200 UJ	1200 UJ	-	R
4-Bromophenyl phenyl ether	ug/kg	410 U	390 U	-	370 U
4-Chloro-3-methylphenol	ug/kg	410 U	390 U	-	370 U
4-Chloroaniline	ug/kg	410 U	390 U	-	370 U
4-Chlorophenyl phenyl ether	ug/kg	410 U	390 U	-	370 U
4-Methylphenol	ug/kg	410 U	390 U	-	370 U
4-Nitroaniline	ug/kg	820 U	790 U	-	760 U
4-Nitrophenol	ug/kg	1200 U	1200 U	-	1100 U
Acenaphthene	ug/kg	410 U	390 U	-	370 U
Acenaphthylene	ug/kg	410 U	390 U	-	370 U
Acetophenone	ug/kg	410 U	390 U	-	370 U
Anthracene	ug/kg	410 U	390 U	-	370 U
Atrazine	ug/kg	410 U	390 U	-	370 U
Benzaldehyde	ug/kg	410 UJ	390 UJ	-	370 UJ
Benzo(a)anthracene	ug/kg	41 U	39 U	-	37 U
Benzo(a)pyrene	ug/kg	41 U	39 U	-	37 UJ
Benzo(b)fluoranthene	ug/kg	41 U	39 U	-	37 UJ
Benzo(g,h,i)perylene	ug/kg	410 U	390 U	-	370 U
Benzo(k)fluoranthene	ug/kg	41 U	39 U	-	37 U

TABLE 3A

**ANALYTICAL RESULTS SUMMARY
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE**

<i>Sample Location:</i>		<i>GP-21</i>	<i>GP-21</i>	<i>GP-21</i>	<i>GP-22</i>
<i>Sample ID:</i>		<i>SO-17338-010510-GP21-MM-007</i>	<i>SO-17338-010510-GP21-MM-008</i>	<i>SO-17338-010510-GP21-MM-009</i>	<i>SO-17338-010510-GP22-MM-004</i>
<i>Sample Date:</i>		<i>1/5/2010</i>	<i>1/5/2010</i>	<i>1/5/2010</i>	<i>1/5/2010</i>
<i>Sample Depth:</i>		<i>(0.5-1) ft BGS</i>	<i>(4.5-5) ft BGS</i>	<i>(6-6.5) ft BGS</i>	<i>(0.5-1) ft BGS</i>
<i>matrix_code</i>		<i>SO</i>	<i>SO</i>	<i>SO</i>	<i>SO</i>
Biphenyl (1,1-Biphenyl)	ug/kg	410 U	390 U	-	370 U
bis(2-Chloroethoxy)methane	ug/kg	410 U	390 U	-	370 U
bis(2-Chloroethyl)ether	ug/kg	41 U	39 U	-	37 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	410 U	390 U	-	370 U
Butyl benzylphthalate (BBP)	ug/kg	410 U	390 U	-	370 U
Caprolactam	ug/kg	410 U	390 U	-	370 U
Carbazole	ug/kg	410 U	390 U	-	370 U
Chrysene	ug/kg	410 U	390 U	-	370 U
Dibenz(a,h)anthracene	ug/kg	41 U	39 U	-	37 U
Dibenzofuran	ug/kg	410 U	390 U	-	370 U
Diethyl phthalate	ug/kg	410 U	390 U	-	370 U
Dimethyl phthalate	ug/kg	410 U	390 U	-	370 U
Di-n-butylphthalate (DBP)	ug/kg	410 U	390 U	-	370 U
Di-n-octyl phthalate (DnOP)	ug/kg	410 U	390 U	-	370 U
Fluoranthene	ug/kg	410 U	390 U	-	370 U
Fluorene	ug/kg	410 U	390 U	-	370 U
Hexachlorobenzene	ug/kg	41 U	39 U	-	37 U
Hexachlorobutadiene	ug/kg	82 U	79 U	-	76 U
Hexachlorocyclopentadiene	ug/kg	410 U	390 U	-	370 U
Hexachloroethane	ug/kg	41 U	39 U	-	37 U
Indeno(1,2,3-cd)pyrene	ug/kg	41 U	39 U	-	37 U
Isophorone	ug/kg	410 U	390 U	-	370 U
Naphthalene	ug/kg	410 U	390 U	-	370 UJ
Nitrobenzene	ug/kg	41 U	39 U	-	37 U
N-Nitrosodi-n-propylamine	ug/kg	41 U	39 U	-	37 U
N-Nitrosodiphenylamine	ug/kg	410 U	390 U	-	370 U
Pentachlorophenol	ug/kg	1200 U	1200 U	-	1100 U
Phenanthrene	ug/kg	410 U	390 U	-	370 U
Phenol	ug/kg	410 U	390 U	-	370 U
Pyrene	ug/kg	410 U	390 U	-	370 U

General Chemistry

Percent solids, vol.	%	81.3	84.7	72.2	88.3
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Notes:

J - Estimated concentration.

U - Not present at or above the associated value.

UJ - Estimated reporting limit.

R - Rejected.

-- - Not analyzed.

**ANALYTICAL RESULTS SUMMARY
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE**

<i>Sample Location:</i>		GP-22	GP-22	GP-23	GP-23
<i>Sample ID:</i>		SO-17338-010510-GP22-MM-005	SO-17338-010510-GP22-MM-006	SO-17338-010510-GP23-MM-010	SO-17338-010510-GP23-MM-011
<i>Sample Date:</i>		1/5/2010	1/5/2010	1/5/2010	1/5/2010
<i>Sample Depth:</i>		(4.5-5) ft BGS	(6-6.5) ft BGS	(0.5-1) ft BGS	(4.5-5) ft BGS
<i>matrix_code</i>		SO	SO	SO	SO
<i>Parameters:</i>	<i>Units</i>				
<i>Semi-volatile Organic Compounds</i>					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	400 U	-	2000 U	390 U
2,4,5-Trichlorophenol	ug/kg	400 U	-	2000 U	390 U
2,4,6-Trichlorophenol	ug/kg	400 U	-	2000 U	390 U
2,4-Dichlorophenol	ug/kg	400 U	-	2000 U	390 U
2,4-Dimethylphenol	ug/kg	400 U	-	2000 U	390 U
2,4-Dinitrophenol	ug/kg	1200 UJ	-	6100 UJ	1200 UJ
2,4-Dinitrotoluene	ug/kg	81 U	-	410 U	80 U
2,6-Dinitrotoluene	ug/kg	81 U	-	410 U	80 U
2-Chloronaphthalene	ug/kg	400 U	-	2000 U	390 U
2-Chlorophenol	ug/kg	400 U	-	2000 U	390 U
2-Methylnaphthalene	ug/kg	400 U	-	2000 U	390 U
2-Methylphenol	ug/kg	400 U	-	2000 U	390 U
2-Nitroaniline	ug/kg	810 U	-	4100 U	800 U
2-Nitrophenol	ug/kg	400 U	-	2000 U	390 U
3,3'-Dichlorobenzidine	ug/kg	810 U	-	4100 U	800 U
3-Nitroaniline	ug/kg	810 U	-	4100 U	800 U
4,6-Dinitro-2-methylphenol	ug/kg	1200 UJ	-	6100 UJ	1200 UJ
4-Bromophenyl phenyl ether	ug/kg	400 U	-	2000 U	390 U
4-Chloro-3-methylphenol	ug/kg	400 U	-	2000 U	390 U
4-Chloroaniline	ug/kg	400 U	-	2000 U	390 U
4-Chlorophenyl phenyl ether	ug/kg	400 U	-	2000 U	390 U
4-Methylphenol	ug/kg	400 U	-	2000 U	390 U
4-Nitroaniline	ug/kg	810 U	-	4100 U	800 U
4-Nitrophenol	ug/kg	1200 U	-	6100 U	1200 U
Acenaphthene	ug/kg	400 U	-	720 J	390 U
Acenaphthylene	ug/kg	400 U	-	2000 U	390 U
Acetophenone	ug/kg	400 U	-	2000 U	390 U
Anthracene	ug/kg	400 U	-	3200	160 J
Atrazine	ug/kg	400 U	-	2000 U	390 U
Benzaldehyde	ug/kg	400 UJ	-	2000 UJ	390 UJ
Benzo(a)anthracene	ug/kg	40 U	-	11000	290
Benzo(a)pyrene	ug/kg	40 U	-	9100	170
Benzo(b)fluoranthene	ug/kg	40 U	-	12000	87
Benzo(g,h,i)perylene	ug/kg	400 U	-	5900	110 J
Benzo(k)fluoranthene	ug/kg	40 U	-	5100	39 U

**ANALYTICAL RESULTS SUMMARY
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE**

<i>Sample Location:</i>		<i>GP-22</i>	<i>GP-22</i>	<i>GP-23</i>	<i>GP-23</i>
<i>Sample ID:</i>		<i>SO-17338-010510-GP22-MM-005</i>	<i>SO-17338-010510-GP22-MM-006</i>	<i>SO-17338-010510-GP23-MM-010</i>	<i>SO-17338-010510-GP23-MM-011</i>
<i>Sample Date:</i>		<i>1/5/2010</i>	<i>1/5/2010</i>	<i>1/5/2010</i>	<i>1/5/2010</i>
<i>Sample Depth:</i>		<i>(4.5-5) ft BGS</i>	<i>(6-6.5) ft BGS</i>	<i>(0.5-1) ft BGS</i>	<i>(4.5-5) ft BGS</i>
<i>matrix_code</i>		<i>SO</i>	<i>SO</i>	<i>SO</i>	<i>SO</i>
Biphenyl (1,1-Biphenyl)	ug/kg	400 U	-	2000 U	390 U
bis(2-Chloroethoxy)methane	ug/kg	400 U	-	2000 U	390 U
bis(2-Chloroethyl)ether	ug/kg	40 U	-	200 U	39 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	400 U	-	2000 U	390 U
Butyl benzylphthalate (BBP)	ug/kg	400 U	-	2000 U	390 U
Caprolactam	ug/kg	400 U	-	2000 U	390 U
Carbazole	ug/kg	400 U	-	2000 U	390 U
Chrysene	ug/kg	400 U	-	11000	550
Dibenz(a,h)anthracene	ug/kg	40 U	-	1900	39 U
Dibenzofuran	ug/kg	400 U	-	2000 U	390 U
Diethyl phthalate	ug/kg	400 U	-	2000 U	390 U
Dimethyl phthalate	ug/kg	400 U	-	2000 U	390 U
Di-n-butylphthalate (DBP)	ug/kg	400 U	-	2000 U	390 U
Di-n-octyl phthalate (DnOP)	ug/kg	400 U	-	2000 U	390 U
Fluoranthene	ug/kg	400 U	-	14000	110 J
Fluorene	ug/kg	400 U	-	710 J	140 J
Hexachlorobenzene	ug/kg	40 U	-	200 U	39 U
Hexachlorobutadiene	ug/kg	81 U	-	410 U	80 U
Hexachlorocyclopentadiene	ug/kg	400 U	-	2000 U	390 U
Hexachloroethane	ug/kg	40 U	-	200 U	39 U
Indeno(1,2,3-cd)pyrene	ug/kg	40 U	-	6000	45
Isophorone	ug/kg	400 U	-	2000 U	390 U
Naphthalene	ug/kg	400 U	-	2000 U	390 U
Nitrobenzene	ug/kg	40 U	-	200 U	39 U
N-Nitrosodi-n-propylamine	ug/kg	40 U	-	200 U	39 U
N-Nitrosodiphenylamine	ug/kg	400 U	-	2000 U	390 U
Pentachlorophenol	ug/kg	1200 U	-	6100 U	1200 U
Phenanthrene	ug/kg	400 U	-	6200	480
Phenol	ug/kg	400 U	-	2000 U	390 U
Pyrene	ug/kg	400 U	-	17000	550

General Chemistry

Percent solids, vol.	%	83.2	83.5	82.5	83.4
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Notes:

J - Estimated concentration.

U - Not present at or above the associated value.

UJ - Estimated reporting limit.

R - Rejected.

-- - Not analyzed.

**ANALYTICAL RESULTS SUMMARY
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE**

<i>Sample Location:</i>		GP-23	GP-24	GP-24	GP-24
<i>Sample ID:</i>		SO-17338-010510-GP23-MM-012	SO-17338-010510-GP24-MM-001	SO-17338-010510-GP24-MM-002	SO-17338-010510-GP24-MM-003
<i>Sample Date:</i>		1/5/2010	1/5/2010	1/5/2010	1/5/2010
<i>Sample Depth:</i>		(6-6.5) ft BGS	(0.5-1) ft BGS	(4.5-5) ft BGS	(6-6.5) ft BGS
<i>matrix_code</i>		SO	SO	SO	SO
<i>Parameters:</i>	<i>Units</i>				
<i>Semi-volatile Organic Compounds</i>					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	-	370 U	380 U	-
2,4,5-Trichlorophenol	ug/kg	-	370 U	380 U	-
2,4,6-Trichlorophenol	ug/kg	-	370 U	380 U	-
2,4-Dichlorophenol	ug/kg	-	370 U	380 U	-
2,4-Dimethylphenol	ug/kg	-	370 U	380 U	-
2,4-Dinitrophenol	ug/kg	-	1100 UJ	1100 UJ	-
2,4-Dinitrotoluene	ug/kg	-	74 U	77 U	-
2,6-Dinitrotoluene	ug/kg	-	74 U	77 U	-
2-Chloronaphthalene	ug/kg	-	370 U	380 U	-
2-Chlorophenol	ug/kg	-	370 U	380 U	-
2-Methylnaphthalene	ug/kg	-	370 U	380 U	-
2-Methylphenol	ug/kg	-	370 U	380 U	-
2-Nitroaniline	ug/kg	-	740 U	770 U	-
2-Nitrophenol	ug/kg	-	370 U	380 U	-
3,3'-Dichlorobenzidine	ug/kg	-	740 U	770 U	-
3-Nitroaniline	ug/kg	-	740 U	770 U	-
4,6-Dinitro-2-methylphenol	ug/kg	-	1100 UJ	1100 UJ	-
4-Bromophenyl phenyl ether	ug/kg	-	370 U	380 U	-
4-Chloro-3-methylphenol	ug/kg	-	370 U	380 U	-
4-Chloroaniline	ug/kg	-	370 U	380 U	-
4-Chlorophenyl phenyl ether	ug/kg	-	370 U	380 U	-
4-Methylphenol	ug/kg	-	370 U	380 U	-
4-Nitroaniline	ug/kg	-	740 U	770 U	-
4-Nitrophenol	ug/kg	-	1100 U	1100 U	-
Acenaphthene	ug/kg	-	370 U	380 U	-
Acenaphthylene	ug/kg	-	370 U	380 U	-
Acetophenone	ug/kg	-	370 U	380 U	-
Anthracene	ug/kg	-	93 J	380 U	-
Atrazine	ug/kg	-	370 U	380 U	-
Benzaldehyde	ug/kg	-	370 UJ	380 UJ	-
Benzo(a)anthracene	ug/kg	-	640	310	-
Benzo(a)pyrene	ug/kg	-	770	350	-
Benzo(b)fluoranthene	ug/kg	-	1200	540	-
Benzo(g,h,i)perylene	ug/kg	-	650	260 J	-
Benzo(k)fluoranthene	ug/kg	-	500	240	-

TABLE 3A

**ANALYTICAL RESULTS SUMMARY
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE**

<i>Sample Location:</i>		GP-23	GP-24	GP-24	GP-24
<i>Sample ID:</i>		SO-17338-010510-GP23-MM-012	SO-17338-010510-GP24-MM-001	SO-17338-010510-GP24-MM-002	SO-17338-010510-GP24-MM-003
<i>Sample Date:</i>		1/5/2010	1/5/2010	1/5/2010	1/5/2010
<i>Sample Depth:</i>		(6-6.5) ft BGS	(0.5-1) ft BGS	(4.5-5) ft BGS	(6-6.5) ft BGS
<i>matrix_code</i>		SO	SO	SO	SO
Biphenyl (1,1-Biphenyl)	ug/kg	-	370 U	380 U	-
bis(2-Chloroethoxy)methane	ug/kg	-	370 U	380 U	-
bis(2-Chloroethyl)ether	ug/kg	-	37 U	38 U	-
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	-	370 U	380 U	-
Butyl benzylphthalate (BBP)	ug/kg	-	170 J	170 J	-
Caprolactam	ug/kg	-	370 U	380 U	-
Carbazole	ug/kg	-	370 U	380 U	-
Chrysene	ug/kg	-	730	360 J	-
Dibenz(a,h)anthracene	ug/kg	-	140	57	-
Dibenzofuran	ug/kg	-	370 U	380 U	-
Diethyl phthalate	ug/kg	-	370 U	380 U	-
Dimethyl phthalate	ug/kg	-	370 U	380 U	-
Di-n-butylphthalate (DBP)	ug/kg	-	370 U	380 U	-
Di-n-octyl phthalate (DnOP)	ug/kg	-	370 U	380 U	-
Fluoranthene	ug/kg	-	850	390	-
Fluorene	ug/kg	-	370 U	380 U	-
Hexachlorobenzene	ug/kg	-	37 U	38 U	-
Hexachlorobutadiene	ug/kg	-	74 U	77 U	-
Hexachlorocyclopentadiene	ug/kg	-	370 U	380 U	-
Hexachloroethane	ug/kg	-	37 U	38 U	-
Indeno(1,2,3-cd)pyrene	ug/kg	-	640	240	-
Isophorone	ug/kg	-	370 U	380 U	-
Naphthalene	ug/kg	-	370 U	380 U	-
Nitrobenzene	ug/kg	-	37 U	38 U	-
N-Nitrosodi-n-propylamine	ug/kg	-	37 U	38 U	-
N-Nitrosodiphenylamine	ug/kg	-	370 U	380 U	-
Pentachlorophenol	ug/kg	-	1100 U	1100 U	-
Phenanthrene	ug/kg	-	360 J	140 J	-
Phenol	ug/kg	-	370 U	380 U	-
Pyrene	ug/kg	-	950	530	-
General Chemistry					
Percent solids, vol.	%	83.2	90.2	87.3	87.2

Notes:

J - Estimated concentration.

U - Not present at or above the associated value.

UJ - Estimated reporting limit.

R - Rejected.

-- - Not analyzed.

TABLE 3B

ANALYTICAL RESULTS SUMMARY
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE

Sample Location:		MW-8	MW-20	MW-21	MW-21
Sample ID:		GW-017338-012110-ACH-001	GW-017338-012110-ACH-004	GW-017338-012110-ACH-002	GW-017338-012110-ACH-003
Sample Date:		1/21/2010	1/21/2010	1/21/2010	1/21/2010
Sample Depth:		(12.76-12.8) ft BGS	(14.47-14.71) ft BGS	(14.46-14.51) ft BGS	(14.46-14.51) ft BGS
matrix_code		WG	WG	WG	WG
					(Duplicate)
Parameters:	Units				
Semi-volatile Organic Compounds					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	ug/L	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	ug/L	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	ug/L	30 U	30 U	30 U	30 U
2,4-Dinitrotoluene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U
2,6-Dinitrotoluene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U
2-Chloronaphthalene	ug/L	10 U	10 U	10 U	10 U
2-Chlorophenol	ug/L	10 U	10 U	10 U	10 U
2-Methylnaphthalene	ug/L	10 U	10 U	10 U	10 U
2-Methylphenol	ug/L	10 U	10 U	10 U	10 U
2-Nitroaniline	ug/L	20 U	20 U	20 U	20 U
2-Nitrophenol	ug/L	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	ug/L	20 U	20 U	20 U	20 U
3-Nitroaniline	ug/L	20 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	30 U	30 U	30 U	30 U
4-Bromophenyl phenyl ether	ug/L	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	ug/L	10 U	10 U	10 U	10 U
4-Chloroaniline	ug/L	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	ug/L	10 U	10 U	10 U	10 U
4-Methylphenol	ug/L	10 U	10 U	10 U	10 U
4-Nitroaniline	ug/L	20 U	20 U	20 U	20 U
4-Nitrophenol	ug/L	30 U	30 U	30 U	30 U
Acenaphthene	ug/L	10 U	10 U	10 U	10 U
Acenaphthylene	ug/L	10 U	10 U	10 U	10 U
Acetophenone	ug/L	10 U	10 U	10 U	10 U
Anthracene	ug/L	10 U	10 U	10 U	10 U
Atrazine	ug/L	10 U	10 U	10 U	10 U
Benzaldehyde	ug/L	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(a)anthracene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)pyrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(b)fluoranthene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(g,h,i)perylene	ug/L	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U

**ANALYTICAL RESULTS SUMMARY
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE**

<i>Sample Location:</i>	MW-8	MW-20	MW-21	MW-21
<i>Sample ID:</i>	GW-017338-012110-ACH-001	GW-017338-012110-ACH-004	GW-017338-012110-ACH-002	GW-017338-012110-ACH-003
<i>Sample Date:</i>	1/21/2010	1/21/2010	1/21/2010	1/21/2010
<i>Sample Depth:</i>	(12.76-12.8) ft BGS	(14.47-14.71) ft BGS	(14.46-14.51) ft BGS	(14.46-14.51) ft BGS
<i>matrix_code</i>	WG	WG	WG	WG
Biphenyl (1,1-Biphenyl)	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
bis(2-Chloroethoxy)methane	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
bis(2-Chloroethyl)ether	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Butyl benzylphthalate (BBP)	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Caprolactam	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Carbazole	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Chrysene	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Dibenz(a,h)anthracene	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U
Dibenzofuran	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Diethyl phthalate	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Dimethyl phthalate	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Di-n-butylphthalate (DBP)	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Di-n-octyl phthalate (DnOP)	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Fluoranthene	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Fluorene	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Hexachlorobenzene	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U
Hexachlorobutadiene	ug/L 2.0 U	ug/L 2.0 U	ug/L 2.0 U	ug/L 2.0 U
Hexachlorocyclopentadiene	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Hexachloroethane	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U
Indeno(1,2,3-cd)pyrene	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U
Isophorone	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Naphthalene	ug/L 140 J	ug/L 10 U	ug/L 10 U	ug/L 10 U
Nitrobenzene	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U
N-Nitrosodi-n-propylamine	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U	ug/L 1.0 U
N-Nitrosodiphenylamine	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Pentachlorophenol	ug/L 30 U	ug/L 30 U	ug/L 30 U	ug/L 30 U
Phenanthrene	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Phenol	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
Pyrene	ug/L 10 U	ug/L 10 U	ug/L 10 U	ug/L 10 U
2,4,6-Trimethyl-benzoicacid A	ug/L 11 NJ	-	-	-
Bisphenol A A	ug/L 31 NJ	-	-	-
Indane A	ug/L 110 NJ	-	-	-
Unknown 1	ug/L 10 J	-	-	-
Unknown 2	ug/L 29 J	-	-	-
Unknown 3	ug/L 190 J	-	-	-
Unknown 4	ug/L 60 J	-	-	-
Unknown 5	ug/L 25 J	-	-	-
Unknown 6	ug/L 17 J	-	-	-

Notes:

J - Estimated concentration.

NJ* - Presence tentatively identified. Estimated value.

U - Not present at or above the associated value.

UJ - Estimated reporting limit.

-- - Not analyzed.

TABLE 4

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO VIOLATION OF INITIAL CALIBRATION ACCEPTANCE CRITERIA
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE

<i>Parameter</i>	<i>Analyte</i>	<i>Calibration Date</i>	<i>RRF</i>	<i>Associated Sample ID</i>	<i>Qualified Result</i>	<i>Units</i>
TCL SVOC	Benzaldehyde	1/19/2010	110.9	SO-17338-010510-GP21-MM-007	410 UJ	µg/kg
				SO-17338-010510-GP21-MM-008	390 UJ	µg/kg
				SO-17338-010510-GP22-MM-004	370 UJ	µg/kg
				SO-17338-010510-GP22-MM-005	400 UJ	µg/kg
				SO-17338-010510-GP23-MM-010	2000 UJ	µg/kg
				SO-17338-010510-GP23-MM-011	390 UJ	µg/kg
				SO-17338-010510-GP24-MM-001	370 UJ	µg/kg
				SO-17338-010510-GP24-MM-002	380 UJ	µg/kg
TCL SVOC	Benzaldehyde	1/19/10	107.2	GW-017338-012110-ACH-001	10 UJ	µg/L
				GW-017338-012110-ACH-002	10 UJ	µg/L
				GW-017338-012110-ACH-003	10 UJ	µg/L
				GW-017338-012110-ACH-004	10 UJ	µg/L

Notes:

UJ - Non-detect with an Estimated Report Limit
RRF - Relative Response Factor

TABLE 5

**QUALIFIED SAMPLE RESULTS DUE TO VIOLATION OF CONTINUING CALIBRATION REQUIREMENTS
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE**

<i>Parameter</i>	<i>Analyte</i>	<i>Calibration Date</i>	<i>% Recovery or %D</i>	<i>Associated Sample ID</i>	<i>Qualified Result</i>	<i>Units</i>
TCL SVOC	2,4-Dinitrophenol	1/19/2010	-62.3	SO-17338-010510-GP21-MM-007	1200 UJ	µg/kg
				SO-17338-010510-GP21-MM-008	1200 UJ	µg/kg
				SO-17338-010510-GP22-MM-004	1100 UJ	µg/kg
				SO-17338-010510-GP22-MM-005	1200 UJ	µg/kg
				SO-17338-010510-GP23-MM-010	6100 UJ	µg/kg
				SO-17338-010510-GP23-MM-011	1200 UJ	µg/kg
				SO-17338-010510-GP24-MM-001	1100 UJ	µg/kg
TCL SVOC	4,6-Dinitro-2-methylphenol	1/19/2010	-38.5	SO-17338-010510-GP24-MM-002	1100 UJ	µg/kg
				SO-17338-010510-GP21-MM-007	1200 UJ	µg/kg
				SO-17338-010510-GP21-MM-008	1200 UJ	µg/kg
				SO-17338-010510-GP22-MM-004	1100 UJ	µg/kg
				SO-17338-010510-GP22-MM-005	1200 UJ	µg/kg
				SO-17338-010510-GP23-MM-010	6100 UJ	µg/kg
				SO-17338-010510-GP23-MM-011	1200 UJ	µg/kg
TCL SVOC	Benzaldehyde	1/26/2010	31.1	SO-17338-010510-GP24-MM-001	1100 UJ	µg/kg
				SO-17338-010510-GP24-MM-002	1100 UJ	µg/kg
				GW-017338-012110-ACH-001	10 UJ	µg/L
				GW-017338-012110-ACH-002	10 UJ	µg/L
				GW-017338-012110-ACH-003	10 UJ	µg/L
				GW-017338-012110-ACH-004	10 UJ	µg/L

Notes:

UJ - Non-detect with an Estimated Report Limit
%D - Percent Difference

TABLE 6

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO OUTLYING
MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES AND/OR RELATIVE PERCENT DIFFERENCE
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE

<i>Parameter</i>	<i>Analyte</i>	<i>MS Recovery (percent)</i>	<i>MSD Recovery (percent)</i>	<i>RPD</i>	<i>Control Limits</i>		<i>Associated Sample ID</i>	<i>Qualified Result</i>	<i>Units</i>
					<i>Recovery (percent)</i>	<i>RPD (percent)</i>			
TCL SVOC	2,4-Dinitrophenol	0	0	0	10-129	30	SO-17338-010510-GP22-MM-004	1100 R	µg/kg
	4,6-Dinitro-2-methylphenol	5	4	16	10-110	30		1100 R	µg/kg
	Benzo(a)pyrene	91	87	4	36-89	30		37 UJ	µg/kg
	Benzo(b)fluoranthene	98	94	4	33-96	30		37 UJ	µg/kg
	Naphthalene	95	91	3	53-94	30		370 UJ	µg/kg
TCL SVOC	Naphthalene	20	23	2	64-110	30	GW-017338-012110-ACH-001	140 J	µg/L

Notes:

- J - Estimated Concentration
- UJ - Non-detect with an Estimated Report Limit
- R - Rejected

TABLE 7

TENTATIVELY IDENTIFIED COMPOUNDS
WAP SOIL/GROUNDWATER INVESTIGATION
GENERAL MOTORS WILMINGTON SITE
WILMINGTON, DELAWARE

<i>Associated Sample ID</i>	<i>Semi-Volatile Organics</i>	<i>Estimated Concentration</i>		<i>Units</i>
GW-017338-012110-ACH-001	2,4,6-Trimethyl-benzoicacid A	11	NJ	µg/L
	Bisphenol A A	31	NJ	µg/L
	Indane A	110	NJ	µg/L
	Unknown 1	10	J	µg/L
	Unknown 2	29	J	µg/L
	Unknown 3	190	J	µg/L
	Unknown 4	60	J	µg/L
	Unknown 5	25	J	µg/L
	Unknown 6	17	J	µg/L

Notes:

- NJ - Presumptive evidence of the compound exists, the reported concentration is estimated
J - Estimated Concentration