August 18, 2010 093-89168

New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials, Region 9
270 Michigan Ave.
Buffalo, New York 14203

Attention: Mr. Stanley Radon, Sr. Engineering Geologist

RE: SNPE - VANDEMARK CHEMICAL
2010 SUPPLEMENTAL DNAPL INVESTIGATION SUMMARY REPORT
VANDEMARK CHEMICAL FACILITY, LOCKPORT, NY

Dear Mr. Radon:

On behalf of SNPE Inc. (SNPE), Golder Associates Inc. (Golder) has prepared this report to summarize the results of recent investigation/characterization activities conducted in June 2010 and implemented as part of the Supplemental Work Plan activities proposed in the December 21, 2009 Dense Non-Aqueous Phase Liquid (DNAPL) Assessment and Supplemental Work Plan Report. SNPE, Inc. as the former site owner, has been conducting the agreed upon supplemental characterization activities with support from the current site owner, VanDeMark Chemical, Inc.

The investigation activities described herein were conducted to further assess and identify the potential source(s), distribution, and quantity of coal tar residual impacts that were first identified and partially remediated along the banks and adjacent slope of Eighteen Mile Creek directly south of the VanDeMark Chemical facility. In addition, this report will present recommendations for the remediation of coal tar residuals and additional monitoring provisions where appropriate.

1.0 BACKGROUND

Based on the information available at that time, the December 2009 DNAPL Assessment and Supplemental Work Plan proposed a detailed slope overburden mapping and survey to better define the slope and creek bank bedrock/overburden geology across the slope and understanding of the DNAPL transport mechanism. However, in April 2010, subsequent to the report issuance and review by the New York State Department of Environmental Conservation (NYSDEC), personnel from VanDeMark Chemical identified previously unknown solidified coal tar seeps along a steeply pitched segment of the creek bank approximately 70 feet long to the east of the creek bank area that was the primary focus of earlier remedial efforts in 2007 and 2008.

At about the same time, new information was obtained from a VanDeMark employee of tar seep observations that had occurred approximately 15 to 20 years ago in a localized paved area northwest of Building B-4 within the VanDeMark Chemical manufacturing facility. In consultation with the NYSDEC, it was agreed that the supplemental investigation activities would be expanded to encompass additional test pits easterly along the toe of the slope and upgradient of the newly observed creek bank coal tar residuals seeps and the performance of a separate soil boring and sampling program within the VanDeMark Chemical facility centered around the area of historical coal tar seeps in the pavement near Building B-4. In both cases the goal of the expanded investigations would be to define the areal and vertical extent of coal tar residuals in both areas

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Therefore, to implement this expanded investigation strategy, Golder conducted the following tasks:

- In-Plant Soil Boring Investigation - Northwest corner of Building B-4;
- Overburden/Bedrock Test Pit Investigation - Eighteen Mile Creek bank and toe of slope
- Slope and Investigation locations survey; and
- Summarization of findings and preparation of Proposed Remedial Strategies

2.0 IN-PLANT SOIL BORING INVESTIGATION

On Tuesday, June 22, 2010, Mr. David Wehn and Mr. Aaron Lange of Golder, along with two Zebra Environmental (Zebra) employees, the subcontracted drilling firm, arrived at the Site to begin the boring program. Mr. Stanley Radon of the NYSDEC was also onsite to observe the delineation program. A total of fifteen (15) direct push borings were advanced to refusal through the pavement to the northwest of building B-4. The borings were advanced utilizing direct-push drilling techniques and a 2-inch soil sampling tool (Geoprobe® Macrocore® sampler). Golder also screened the first 9 cores for volatile organic compounds (VOCs) using a photoionization detector (PID) and collected 4 samples from the borings for laboratory analysis.

2.1 Boring Layout

Based on an approximation of where historical observations of coal tar residuals seeps had occurred, Golder's first boring (B9-N5) was positioned 5 feet north of the northwest corner of building B-4. Borings were then spread out North and West in 5 feet increments. After consistent findings of a fairly uniform potential coal tar layer was discovered in the first 7 borings, the spacing was increased to ten (10) feet to the North and West. Again, after similar findings, Golder increased the distances to observe where coal tar layer diminished. A thin layer of coal tar was discovered in borings B9-W30-N36 and B9-N36. Borings could not be drilled further North or West of those borings due to a concrete wall and concrete tank pads. Also, underground utility locations and information for that area were unavailable making further exploration unsafe. However, the observed trends indicated that the coal tar layer was diminishing in those directions. Plant structures adjacent to or in the vicinity of the investigation area and boring locations are illustrated on Figure 1.

2.2 Boring Installation

The drill rig used by Zebra was a Geoprobe® 6620D with a Macrocore® sampler. All fifteen (15) borings were advanced until refusal, which was assumed to be at bedrock. The investigation determined that the average depth of the bedrock was approximately 5 feet, but varied between 4.5 to 8 feet below ground surface (bgs). The majority of the overburden was non-native fill materials which included crushed brick, concrete, wood, and foundry sands.

After the borings were advanced, the cores were examined by Mr. Radon and Mr. Wehn and then logged. The boring logs are provided as Attachment A. The drill cuttings were returned to the boring hole and the pavement was patched with asphalt.

2.3 Sample Collection and Results

Samples were collected from 4 borings (B9-W5, B9-N10, B9-W5-N10, and B9-W10-N5). Due to the consistency of the coal tar found in each subsequent boring, Mr. Wehn and Mr. Radon decided it was not necessary to collect any more samples for laboratory analysis. The first 9 borings were screened for VOCs by Golder using a PID. No VOCs were detected by the PID. During the 10th boring the PID malfunctioned indicating a "fan error". Olfactory observations were also made for all the borings. All borings exhibited coal tar odor except borings B9-W5, B9-W30-N10, B9-E20-N20, and B9-W24-S10, however, samples B9-W30-N10 and B9-W24-S10 did have a petroleum like odor.

The laboratory analysis was performed by Test America Inc. in Amherst, New York. The soil sample results detected high concentrations of polyaromatic hydrocarbons (PAHs) which are typically associated with coal tar residuals. For example, the following PAH compounds were consistently detected in each of the four samples at relatively high concentrations: anthracene, benzo(a)anthracene, chrysene, flouranthene, naphthalene, phenanthrene and pyrene. Table 1 presents a summary of the four sample results from the laboratory analysis. The full laboratory Analytical Report is provided as Attachment B.

3.0 OVERBURDEN/BEDROCK TEST PIT INVESTIGATION

The purpose of the test pit investigation was to further characterize the geologic aspects of the escarpment slope, define the depth of overburden and to survey the bedrock elevation in the areas down the slope and south of the facility towards Eighteen Mile Creek. The information gathered was used to develop a profile of the slope and the underlying bedrock in order to better quantify and assess the coal tar migration patterns and develop the most appropriate means of remediation for the coal tar contamination.

Mr. David Wehn and Mr. Patrick Martin of Golder deployed to the Site on June 6, 2010. Mr. Wehn observed the nature of the overburden and logged the descriptions for each test pit. A total of fourteen (14) test pits (TP1 through TP14) were dug along the North side of Eighteen Mile Creek as shown on Figure 2, starting at the west side of the historic seep area and working east towards the seeps discovered in the Spring of 2010. All test pits were dug by O'Regan's Landscaping with a small rubber-tracked excavator to refusal (assumed to be bedrock) except for TP10 and TP13 where bedrock was deeper than 7 feet below grade surface (bgs) – the maximum reach of the excavator used. The depths of bedrock at test pits where bedrock was found ranged from 2.4 to 7 feet bgs.

Mr. Wehn also noted where coal tar was found during the excavations. All test pits except for TP2, TP9, and TP14 had evidence of coal tar present. Though no samples or tests were performed on the soils during excavation, based on visual and olfactory evidence, TP7, TP8, TP10 appeared to have the heaviest deposits of coal tar.

The discovery of coal tar residuals in test pits TP10 through TP13 to the east of the previously remediated area is consistent with the understanding of the bedrock geology of the formation. The vertical fracture planes that would act as a conduit for DNAPL/coal tar residuals to be conveyed from the top of bedrock deeper into the formation are expected to be oriented in both a southwest and southeast directions. This would be consistent with the discovery of the two primary deposition areas along the toe of the slope separated by an area that appears to have little or no coal tar residuals (i.e., between TP9 and TP-10). Table C-1 summarizing the field observations noted during the test pit excavations is presented in Attachment C.

4.0 SLOPE AND SUPPLEMENTAL INVESTIGATION LOCATION SURVEY

Concurrent with the In-Plant soil boring and the Test Pit investigations, surveyors from Wendel Duchscherer determined the location and surface elevation of the In-Plant soil borings, the test pits conducted along the Eighteen Mile Creek bank and toe of slope, the edge of Eighteen Mile Creek, and other reference points in the test pit area and service road leading to the test pits. In addition, two north-south traverses of the slope were made.

The In-Plant borehole locations as surveyed are presented on Figure 1. Figure 2 presents the test pit locations, and well as an elevation contour map of the test pit area, service road, and slope area between the two traverses. Note the westernmost traverse was performed approximately along the line of Cross Section B-B' (Figure 3), which shows the slope in profile and passes very near test pit TP2. An East/West cross section of the test pit area is shown on Figure 4, which presents the surface and bedrock elevations

(where they could be determined) in an area roughly parallel to Eighteen Mile Creek from the original remedial area in the east to the west past the newly discovered seep.

5.0 PROPOSED REMEDIAL ALTERNATIVES

5.1 In-Plant Coal Tar Overburden Remediation

The In-Plant soil boring investigation identified a distinct layer of coal tar residuals encompassing an area of approximately 50 feet by 50 feet to the north and northwest of Building B-4 within the VanDeMark Plant. The layer varied in thickness from approximately 12 inches to 2 inches and is estimated to comprise approximately 75 to 100 cubic yards of coal tar based on an average thickness of 9 inches. As described in Section 2, the top of the layer is generally located about 1.0 to 2.5 feet below the paved surface. In several borings (e.g., B9-N10, B9-W10-N10) evidence of small quantities of coal tar residuals was observed at the overburden/bedrock interface.

Based on the accessibility and relative proximity of this layer to the surface, excavation and off-site disposal of these residuals is proposed as the remedial approach. It is estimated based on the delineation volume calculated [and density of 1.5 tons per cubic yard] that approximately 100 to 125 tons of tar residuals mixed with overburden fill would be removed and disposed of utilizing this approach. At the boring locations where coal tar was detected on the top of bedrock, the excavation of this material would proceed until removal of residuals identified at this depth is achieved. It is assumed the existing pavement and overburden fill located above the coal tar residual layer would be removed and disposed of off-site due to the unsuitability for reuse as backfill within the completed excavation (I.e., due to potential compaction and settlement concerns).

If the coal tar residuals layer is found to extend to the north of the concrete barrier wall that defines the gaseous carbon monoxide storage and offloading area, further investigation within this area may be required to better evaluate the extent of removal feasible and these activities will have to be closely coordinated with VanDeMark to address operational and safety considerations.

As stated in the December 2009 Report, it would be impractical and nearly impossible to extract and remove DNAPL which has migrated into the rock fractures below this area of coal tar residuals, without significantly interrupting site operations. There are also considerable technical/cost limitations to removing very viscous liquids from small pore spaces/fractures, with a certain percentage of tar residuals likely to remain in place regardless of the extraction technique attempted.

5.2 Eighteen Mile Creek Slope and Bank Remediation

The creek bank test pit investigation indicates that the area of the creek bank that has been impacted by coal tar residuals extends a significant distance east along the creek bank from the originally delineated and remediated area. Coal tar residuals were found approximately 100 feet east of test pit TP8 (located at the eastern end of the remediated area) beginning with TP10 located near the top of the access road ramp and extending to TP13 about 80 feet further east along the toe of the slope. In general the coal tar was identified beginning five feet below grade surface in this area.

Although solidified coal tar seeps have been identified along an approximately 50 foot portion of the steeply pitched creek bank located south of this newly identified area, the amount/extent of coal tar deposits appears to be significantly less than that encountered to the west (previously remediated), where coal tar residuals were 2.5 to 3.5 feet thick in places. Therefore, based on observed thickness and areal distribution of the residuals in TP-10 through TP13, significant slope stability and slope undermining concerns and highly constrained physical access associated with conducting a major excavation (i.e., removal of over five feet of overburden and former rock structures at the base of the slope), Golder is not recommending the removal of the buried coal tar residuals in this area at this time as a prudent or practical remedial measure. The resulting environmental disruption of the creek bank and associated

riparian area to access and remove a relatively small mass of accumulated coal residuals does not in our opinion warrant the excessive measures and damage that would be incurred to perform the removal.

Alternatively, it is recommended that the implementation of a linear DNAPL cutoff trench (as previously proposed) be performed at the toe of the slope south of monitoring well MW-2D where the majority of the coal tar residuals were found and continue to be exiting the fractured rock (i.e., approximately between TP1 and TP8). This structure would allow for the capture and periodic removal of DNAPL / coal tar residuals from what is confirmed to be an active transmission pathway and represents the most likely exposure pathway of these residuals into the environment. The cutoff mechanism will also allow for accurate tracking of the quantities and rate of DNAPL seepage to assess the potential mass that remains within the fractured bedrock formation.

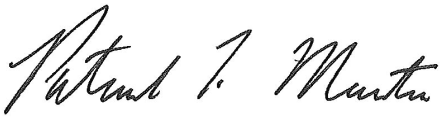
In conjunction with the installation of this cutoff trench, it is proposed that visible coal tar residuals that have accumulated on the creek bank directly south of the test pits TP-10 through TP-13 (upper access road area) be removed at the surface. Quarterly visual monitoring is proposed along the creek bank slope in this area to determine if further seepage is occurring. If significant seepage is observed, additional alternatives for remediation of the coal tar residuals in this area will be reevaluated with the NYSDEC.

Development of detailed remedial design alternatives based on the DNAPL intercepting structure(s) concept presented above is proposed for NYSDEC review within 8 to 10 weeks of concept approval. Assessment of the suitability and effectiveness of each design alternative is anticipated to be a component of the design alternatives submittal with final remedy selection to be determined in conjunction with the NYSDEC.

If you have any questions concerning the investigation findings presented in this report or the proposed remedial strategies, please contact us at 716-215-0650.

Sincerely,

GOLDER ASSOCIATES INC.



Patrick T. Martin, P.E., BCEE
Senior Consultant

David C. Wehn, CPG
Associate

cc: D. Slick, SNPE, Inc.
P. Cook, VanDeMark Chemical

Attachments: Table 1
Figures 1, 2 and 3
Appendices A, B and C

PTM/DCW:dml

TABLES

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
SNPE VANDEMARK
DNAPL ASSESSMENT
LOCKPORT, NY

Lab ID	RTF1262-01	RTF1262-02	RTF1262-03	RTF1262-04
Sample Date	6/22/2010	6/22/2010	6/22/2010	6/22/2010
Sample ID	B-9-W5-N5	B-9-N-10	B-9-W5-N10	B-9-W10-N5
Units	UG/KG	UG/KG	UG/KG	UG/KG
Semivolatile Organics by GC/MS (US EPA Method 8270C)				
2,4,5-Trichlorophenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
2,4,6-Trichlorophenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
2,4-Dichlorophenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
2,4-Dimethylphenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
2,4-Dinitrophenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
2,4-Dinitrotoluene	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
2,6-Dinitrotoluene	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
2-Chloronaphthalene	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
2-Chlorophenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
2-Methylnaphthalene	2200000 [1, 2]	1500000 [1, 2]	1200000 [1, 2]	530000 [1, 2]
2-Methylphenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
2-Nitroaniline	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
2-Nitrophenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
3 & 4 Methylphenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
3,3'-Dichlorobenzidine	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
3-Nitroaniline	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
4,6-Dinitro-2-methylphenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
4-Bromophenyl phenyl ether	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
4-Chloro-3-methylphenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
4-Chloroaniline	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
4-Chlorophenyl phenyl ether	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
4-Nitroaniline	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
4-Nitrophenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Acenaphthene	2100000 [1, 2]	1500000 [1, 2]	1300000 [1, 2]	830000 [1, 2]
Acenaphthylene	30000 [1, 2, 3]	ND [1, 2]	ND [1, 2]	19000 [1, 2, 3]
Acetophenone	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Anthracene	3000000 [1, 2]	2700000 [1, 2]	1800000 [1, 2]	1300000 [1, 2]
Atrazine	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Benzaldehyde	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Benzo[a]anthracene	2900000 [1, 2]	3400000 [1, 2]	2000000 [1, 2]	1600000 [1, 2]
Benzo[a]pyrene	2000000 [1, 2]	2300000 [1, 2]	1300000 [1, 2]	1000000 [1, 2]
Benzo[b]fluoranthene	1400000 [1, 2]	1600000 [1, 2]	1000000 [1, 2]	1000000 [1, 2]
Benzo[g,h,i]perylene	1000000 [1, 2]	1100000 [1, 2]	720000 [1, 2, 3]	570000 [1, 2]
Benzo[k]fluoranthene	560000 [1, 2, 3]	610000 [1, 2, 3]	360000 [1, 2, 3]	ND [1, 2]
Biphenyl	260000 [1, 2, 3]	160000 [1, 2, 3]	150000 [1, 2, 3]	77000 [1, 2, 3]
Bis(2-chloroethoxy)methane	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Bis(2-chloroethyl)ether	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
SNPE VANDEMARK
DNAPL ASSESSMENT
LOCKPORT, NY

Lab ID	RTF1262-01	RTF1262-02	RTF1262-03	RTF1262-04
Sample Date	6/22/2010	6/22/2010	6/22/2010	6/22/2010
Sample ID	B-9-W5-N5	B-9-N-10	B-9-W5-N10	B-9-W10-N5
Units	UG/KG	UG/KG	UG/KG	UG/KG
Bis(2-chloroisopropyl) ether	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Bis(2-ethylhexyl) phthalate	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Butyl benzyl phthalate	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Caprolactam	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Carbazole	320000 [1, 2, 3]	280000 [1, 2, 3]	200000 [1, 2, 3]	97000 [1, 2, 3]
Chrysene	2800000 [1, 2]	3400000 [1, 2]	2000000 [1, 2]	1500000 [1, 2]
Dibenz[a,h]anthracene	300000 [1, 2, 3]	300000 [1, 2, 3]	200000 [1, 2, 3]	160000 [1, 2, 3]
Dibenzofuran	320000 [1, 2, 3]	260000 [1, 2, 3]	200000 [1, 2, 3]	110000 [1, 2, 3]
Diethyl phthalate	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Dimethyl phthalate	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Di-n-butyl phthalate	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Di-n-octyl phthalate	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Fluoranthene	3900000 [1, 2]	4000000 [1, 2]	2500000 [1, 2]	2000000 [1, 2]
Fluorene	1600000 [1, 2]	1300000 [1, 2]	940000 [1, 2]	640000 [1, 2]
Hexachlorobenzene	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Hexachlorobutadiene	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Hexachlorocyclopentadiene	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Hexachloroethane	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Indeno[1,2,3-cd]pyrene	680000 [1, 2, 3, 4]	790000 [1, 2, 3, 4]	470000 [1, 2, 3, 4]	400000 [1, 2, 3, 4]
Isophorone	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Naphthalene	3000000 [1, 2]	2000000 [1, 2]	1500000 [1, 2]	590000 [1, 2]
Nitrobenzene	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
N-Nitrosodi-n-propylamine	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
N-Nitrosodiphenylamine	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Pentachlorophenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Phenanthrene	9400000 [1, 2]	9400000 [1, 2]	5900000 [1, 2]	4200000 [1, 2]
Phenol	ND [1, 2]	ND [1, 2]	ND [1, 2]	ND [1, 2]
Pyrene	6200000 [1, 2]	7600000 [1, 2]	4300000 [1, 2]	3300000 [1, 2]

Footnotes:

Analyses performed by Test America Inc.

Qualifications:

[1] = Sample had an adjusted volume during extraction due to extract matrix and/or viscosity.

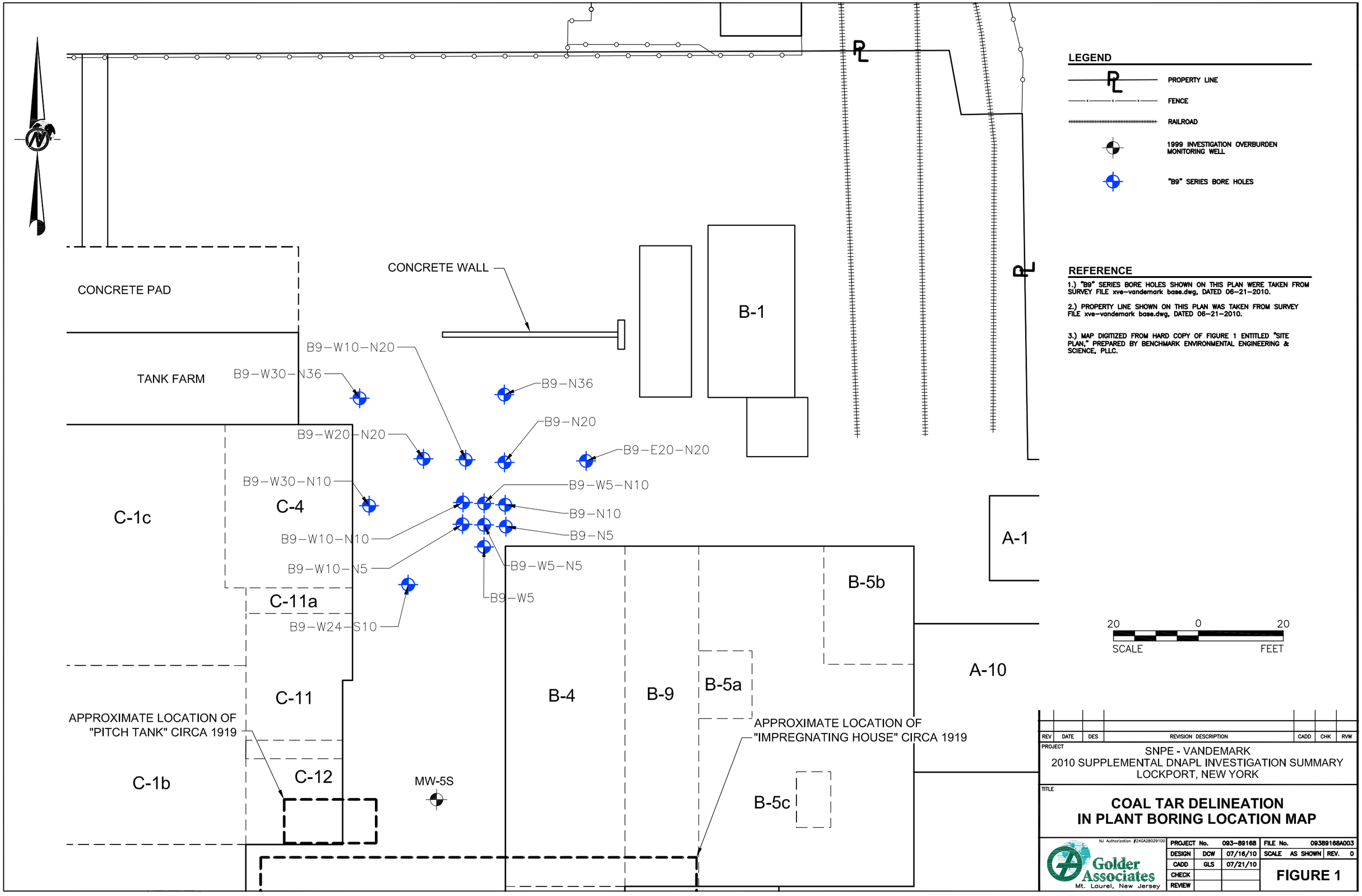
[2] = Dilution required due to high concentration of target analyte.

[3] = Analyte detected at a level less that Reporting Limit and greater than or equal to the Method Detection Limit. Concentrations in

[4] = Laboratory Control Sample and/or laboratory control sample duplicate recovery was below acceptance limits.

Table by: AML
Checked by: JRS
Reviewed by: PTM

FIGURES



REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

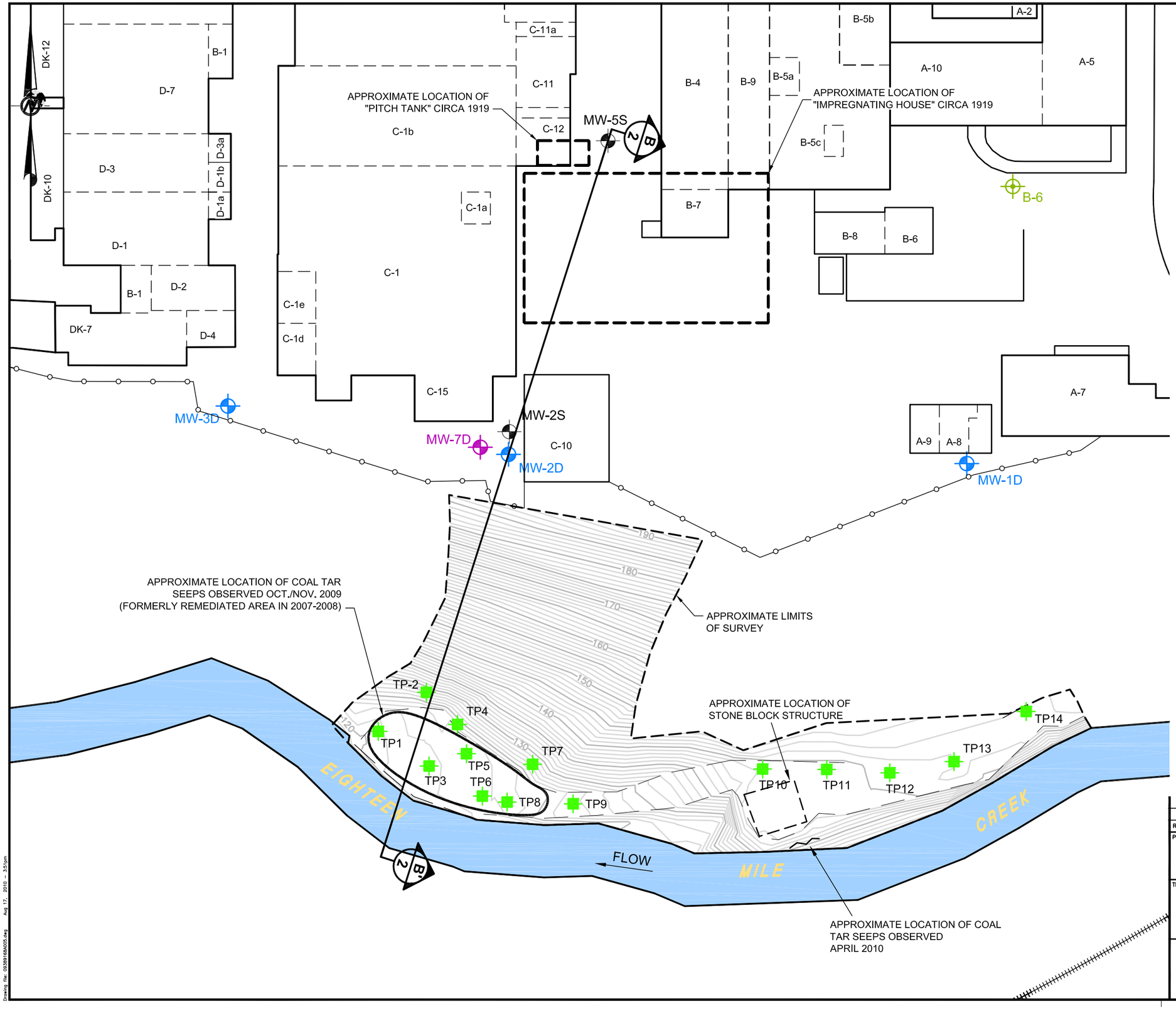
PROJECT
SNPE - VANDEMARK
2010 SUPPLEMENTAL DNAPL INVESTIGATION SUMMARY
LOCKPORT, NEW YORK

TITLE
COAL TAR DELINEATION IN PLANT BORING LOCATION MAP

NJ Authorization #24GA28029100
Golder Associates
Mt. Laurel, New Jersey

PROJECT No.	093–89168		FILE No.	09389168A003	
DESIGN	DCW	07/16/10	SCALE AS SHOWN	REV.	0
CADD	GLS	07/21/10			
CHECK					
REVIEW					

FIGURE 1



LEGEND

- FENCE
- RAILROAD
- 1999 INVESTIGATION BORING
- 1999 INVESTIGATION OVERBURDEN MONITORING WELL
- 1999 INVESTIGATION BEDROCK MONITORING WELL
- 2006 BEDROCK MONITORING WELL
- TEST PIT LOCATIONS
- EIGHTEEN-MILE CREEK

REFERENCE

1.) TOPOGRAPHY SHOWN ON THIS PLAN WAS TAKEN FROM SURVEY FILE xve-vandemark base.dwg, DATED 06-21-2010.

2.) TEST PITS SHOWN ON THIS PLAN WHERE TAKEN FROM SURVEY FILE xve-vandemark base.dwg, DATED 06-21-2010.

3.) MAP DIGITIZED FROM HARD COPY OF FIGURE 1 ENTITLED "SITE PLAN," PREPARED BY BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC.

40 0 40
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT
SNPE - VANDEMARK
2010 SUPPLEMENTAL DNAPL INVESTIGATION SUMMARY
LOCKPORT, NEW YORK

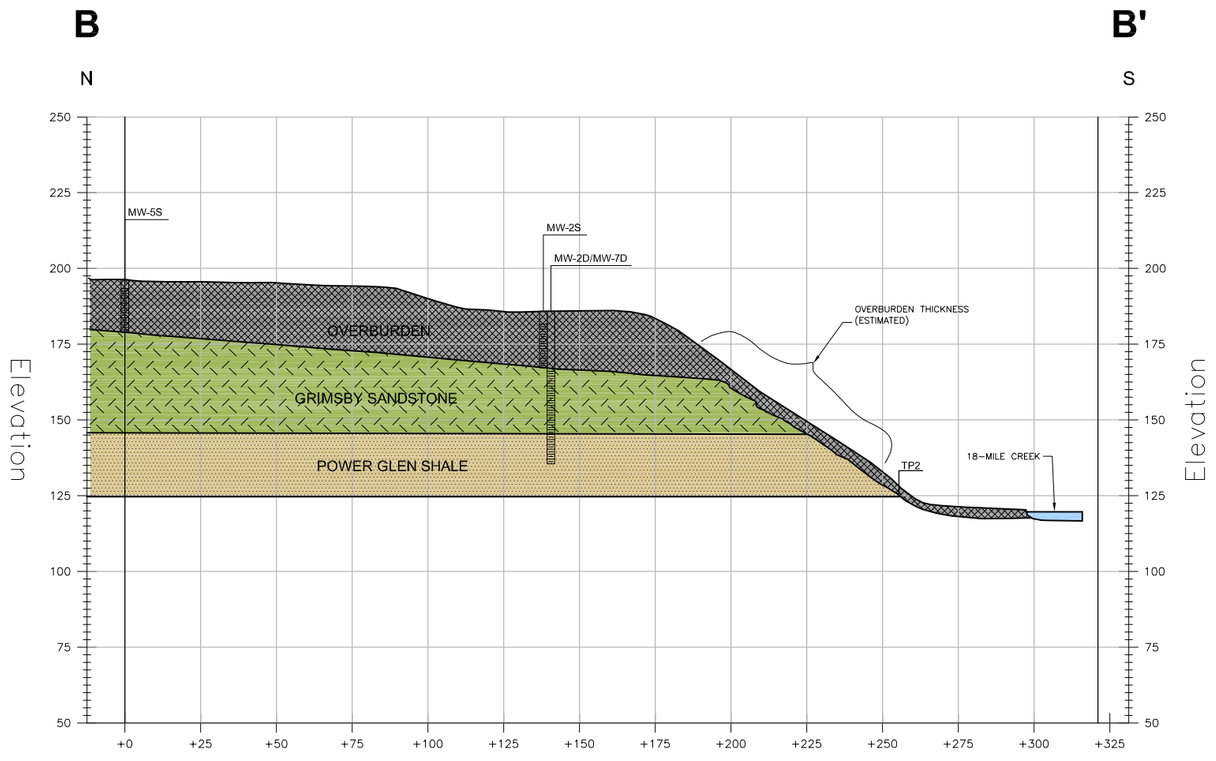
TITLE
COAL TAR DELINEATION OVERBURDEN/BEDROCK TEST PIT LOCATION MAP

NJ Authorization #24GA28029100
Golder Associates
Mt. Laurel, New Jersey

PROJECT No.		093-89168	FILE No.		09389168A005
DESIGN	DCW	07/16/10	SCALE	AS SHOWN	REV. 0
CADD	GLS	08/09/10			
CHECK					
REVIEW					

FIGURE 2

Drawing file: 09389168A005.dwg Aug 17, 2010 - 3:51pm



LEGEND

- OVERBURDEN
- GRIMSBY SANDSTONE
- POWER GLEN SHALE
- WATER ELEVATION IN WELL

REFERENCES

1.) URS CORP. FIGURE 3 – PHASE I/II ENVIRONMENTAL AUDIT – VANDE/MARIL, INC. A VANCHEM, INC. SEPTEMBER 17, 1999.

2.) BENCHMARK BES, PLLC – SUMMARY OF SUPPLEMENTAL FIELD INVESTIGATION AND SAMPLING ACTIVITIES, ISOCHEM INC., NOVEMBER 30, 2006.

3.) U.S.G.S. LOCKPORT QUADRANGLE (FOR ELEVATION OF EIGHTEEN–MILE CREEK)

25 0 25 50
HORIZONTAL SCALE FEET

25 0 25 50
VERTICAL SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

SNPE - VANDEMARK
2010 SUPPLEMENTAL DNAPL INVESTIGATION SUMMARY
LOCKPORT, NEW YORK

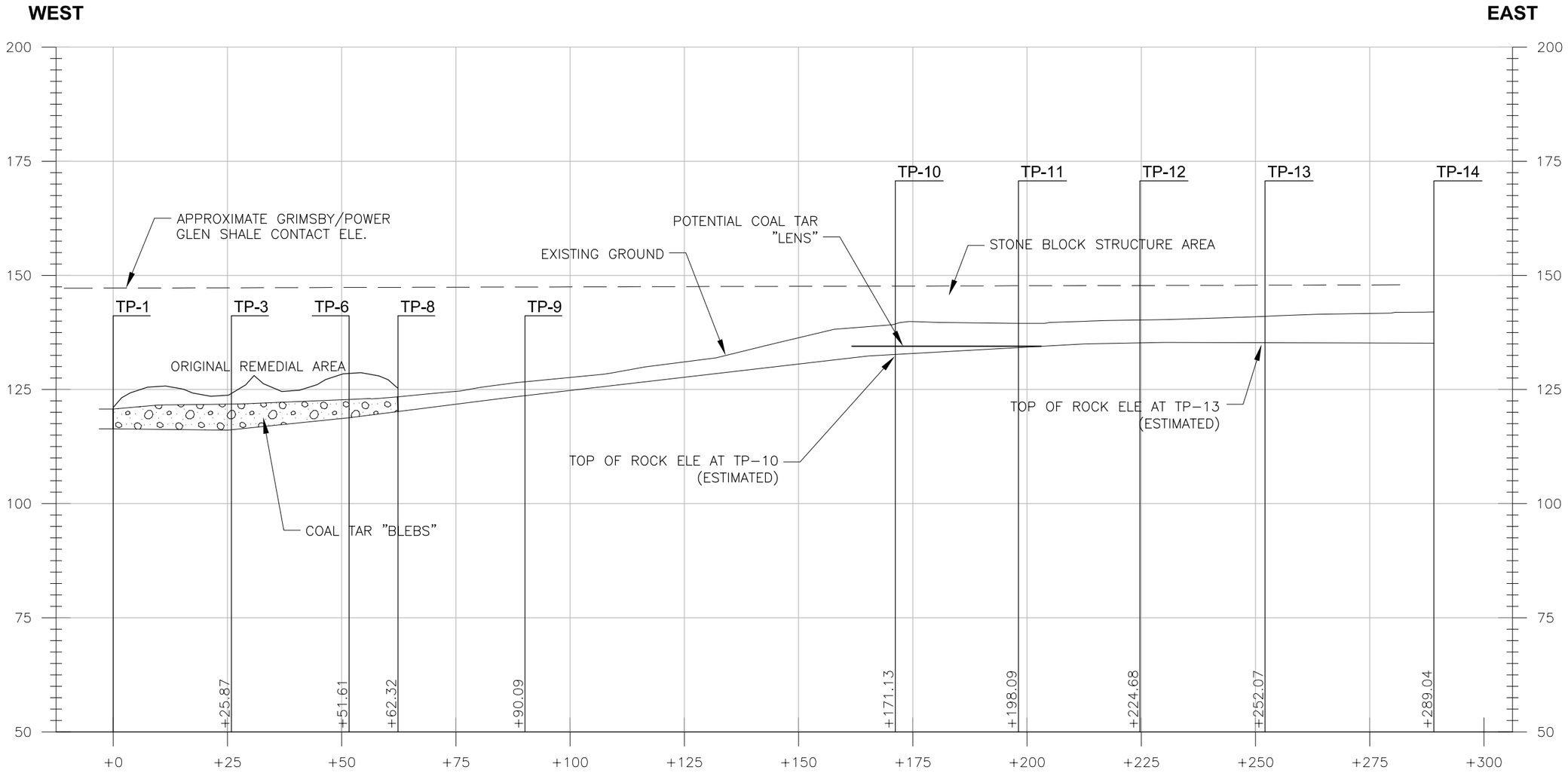
TITLE

CROSS SECTION B-B'

NJ Authorization #24GA28029100
Golder Associates
Mt. Laurel, New Jersey

PROJECT No.	093–89168		FILE No.	09389168A002	
DESIGN	DCW	08/09/10	SCALE	AS SHOWN	REV. 0
CADD	AM	08/09/10			
CHECK					
REVIEW					

FIGURE 3



25 0 25
HORIZONTAL SCALE FEET

25 0 25
VERTICAL SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT
SNPE - VANDEMARK
2010 SUPPLEMENTAL DNAPL INVESTIGATION SUMMARY
LOCKPORT, NEW YOR

TITLE
TEST PIT CROSS SECTION

NJ Authorization #24GA28029100
Golder Associates
Mt. Laurel, New Jersey

PROJECT No.	093-89168		FILE No.	09389168A006	
DESIGN	AL	07/29/10	SCALE	AS SHOWN	REV. 0
CADD	GLS	08/09/10			
CHECK					
REVIEW					

FIGURE 4

ATTACHMENT A

BORING LOGS

Field Boring Log

DEPTH HOLE 7.5 FT | JOB NO 093-89168 | PROJECT Van DeMark | BORING NO. 39-NS
DEPTH SOIL DRILL 7.5FT | GA INSP D. WEHN | DRILLING METHOD Geoprobe Macrocore | SHEET 1 OF 1
DEPTH ROCK CORE N/A | WEATHER L. RAIN | DRILLING COMPANY Zebra Env. | SURFACE ELEV
NO. DIST SA 0 UD. SA 2 | TEMP 75°F | DRILL RIG 6620D | DRILLER D. Pino | DATUM
DEPTH WL N/A | HRS. PROD. N/A | WT. SAMPLER HAMMER N/A | DROP N/A | STARTED 9:30, 6/22/10
TIME WL. N/A | HRS. DELAYED 0 | WT CASING HAMMER N/A | DROP N/A | COMPLETED 9:45, 6/22/10

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
DO	DRIVE OPEN
DS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	Y	YELLOW
LI	LITTLE	RX	ROCK		

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 10% | SOME 10 - 30%
LITTLE 5 - 20% | AND 30-50%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE	
VERY LOOSE	VLS	0-4	VERY SOFT	VS	EASY INCHES	
LOOSE	LS	4-10	SOFT	S	MOLDS EASILY	
COMPACT	CP	10-30	FIRM	FM	MOLDS	
DENSE	DN	31-50	STIFF	ST	THUMB INDENTS	
VERY DENSE	VDN	>50	VERY STIFF	VST	THUMBNAIL INDENT	
			HARD	H	RESISTS THUMBNAIL	

ELEV. / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	SAMPLES TYPE	SAMPLES HAMM. BLOWS PER 6 IN (FORCE)	SAMPLES REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
								Boring 5 FT N of NW corner of J 39.
1								0.0 - 0.3 FT roadbase GRAVEL.
2			1		PID = 0.0 ppm	4.2 / 5.0		0.3 - 4.2 FT Dark brown to reddish crushed brick, wood, silt, sand, gravel FILL.
3								
4								Slight coal tar odor.
5								
6			2		PID = 0.0 ppm	2.5 / 2.5		5.0 - 7.5 FT Dark brown sand, gravel, silt, FILL with some crushed brick.
7								Slight coal tar odor.
8								Refusal @ 7.5 FT
								Cuttings returned to borehole, tamped, and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 5.0 | JOB NO 093-89168 | PROJECT Van DeMark | BORING NO. B9-W5
DEPTH SOIL DRILL 5.0 | GA INSP D. WEHN | DRILLING METHOD Geoprobe Macrocore | SHEET 1 OF 1
DEPTH ROCK CORE N/A | WEATHER L. RAIN | DRILLING COMPANY Zebra Env. | SURFACE ELEV
NO. DIST SA 0 UD. SA 1 | TEMP 75°F | DRILL RIG 6620D | DRILLER D. Pino | DATUM
DEPTH WL N/A | HRS. PROD. N/A | WT SAMPLER HAMMER N/A | DROP N/A | STARTED 9:45 (AM) 6/22/10
TIME WL N/A | HRS. DELAYED 0 | WT CASING HAMMER N/A | DROP N/A | COMPLETED 9:55 (AM) 6/22/10

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
OO	DRIVE OPEN
OS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LTO	LAYERED	RES	RESIDUAL	Y	YELLOW
LI	LITTLE	RX	ROCK		

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 10% | SOME 12 - 30%
LITTLE 5 - 12% | AND 30-50%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0-4	VERY SOFT	VS	EXTRUDES
LOOSE	LS	4-10	SOFT	S	MOLDS EASILY
COMPACT	CP	10-30	FIRM	FM	MOLDS
DENSE	DN	30-50	STIFF	ST	INDENTS EASILY
VERY DENSE	VDN	>50	VERY STIFF	VST	INDENTS WITH DIFFICULTY
			HARD	H	RESISTS THUMBNAIL

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1								Boring 5 FT W of NW corner of B9.
2					PID=			0.0-5.0 FT Dark brown to reddish SILT SAND GRAVEL - FILL.
3			1		0.0 ppm	3.5 / 5.0		No coal tar odor.
4								Refusal @ 5.0 FT
5								
6								Cuttings returned to borehole, tamped, and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 5.5	JOB NO 093-89168	PROJECT Van DeMark			BORING NO. B9-W5-N5
DEPTH SOIL DRILL 5.5	GA INSP D. WEHN	DRILLING METHOD Geoprobe Macrocore			SHEET 1 OF 1
DEPTH ROCK CORE N/A	WEATHER L. RAIN	DRILLING COMPANY Zebra Env.			SURFACE ELEV
NO. DIST SA 0 UD. SA 2	TEMP 75°F	DRILL RIG 6620D		DRILLER D. Pino	DATUM
DEPTH WL N/A	HRS. PROD N/A	WT SAMPLER HAMMER N/A	DROP N/A		STARTED 9:55, 6/22/10
TIME WL N/A	HRS. DELAYED 0	WT CASING HAMMER N/A	DROP N/A		COMPLETED 10:10, 6/22/10

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
OO	DRIVE OPEN
OS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	Y	YELLOW
LI	LITTLE	RX	ROCK		

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 10% SOME 12 - 30%
LITTLE 5 - 12% AND 30-50%

RELATIVE DENSITY	BLOWS	CONSISTENCY	FINGER PRESSURE
VERY LOOSE VLS	0-4	VERY SOFT VS	EXTRUDES
LOOSE LS	4-10	SOFT S	MOLDS EASILY
COMPACT CP	10-30	FIRM F	MOLDS
DENSE DN	30-50	STIFF ST	BARELY INDENTS
VERY DENSE VDN	>50	VERY STIFF VST	INDENTS WITH THUMBNAIL
		HARD H	RESISTS THUMBNAIL

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	SAMPLES TYPE	SAMPLES HAMM. BLOWS PER 6 IN (FORCE)	SAMPLES REC. / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
								Boring 5 FT N and 5 FT W of NW corner of B9.
1								
2			1		PID = 0.0 ppm	4.0 / 5.0		0.0-5.0 FT Dark brown to black to reddish SILT, SAND + GRAVEL. FILL. Some brick. Coal tar from 1.6-2.1 FT. Strong coal tar odor.
3								
4								Sample collected of coal tar.
5			2		PID=0.0 ppm	0.9 / 0.5		5.0-5.5 FT Brown SILT, SAND + GRAVEL. Saturated. No coal tar odor.
6								Refusal @ 5.5 FT.
								Cuttings returned to borehole, tamped, and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 5.0 | JOB NO 093-89168 | PROJECT Van DeMark | BORING NO. B9-N10
DEPTH SOIL DRILL 5.0 | GA INSP D. WEHN | DRILLING METHOD Geoprobe Macrocore | SHEET 1 OF 1
DEPTH ROCK CORE N/A | WEATHER OVERCAST | DRILLING COMPANY Zebra Env. | SURFACE ELEV
NO DIST SA 0 UD. SA 1 | TEMP 75°F | DRILL RIG 6620D | DRILLER D. Pino | DATUM
DEPTH WL N/A | HRS. PROD. N/A | WT SAMPLER HAMMER N/A | DROP N/A | STARTED 10:15, 6/22/10
TIME WL N/A | HRS. DELAYED 0 | WT CASING HAMMER N/A | DROP N/A | COMPLETED 10:25, 6/22/10

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
OO	DRIVE OPEN
DS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK
BR	BROWN
C	COARSE
CA	CASING
CL	CLAY
CLY	CLAYEY
F	FINE
FRAG	FRAGMENTS
GL	GRAVEL
LYD	LAYERED
LI	LITTLE
M	MEDIUM
MIC	MICACEOUS
MOT	MOTTLED
NP	NON-PLASTIC
OG	ORANGE
ORG	ORGANIC
PH	PRESSURE HYDRAULIC
PM	PRESSURE MANUAL
R	RED
RES	RESIDUAL
RX	ROCK
SA	SAMPLE
SAT	SATURATED
SD	SAND
SI	SILT
SLY	SILTY
SM	SOME
TR	TRACE
WL	WATER LEVEL
WH	WEIGHT OF HAMMER
Y	YELLOW

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 10% | LITTLE 10 - 20% | SOME 20 - 35% | AND 35 - 50%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0 - 4	VERY SOFT	VS	EASY INCH
LOOSE	LS	4 - 10	SOFT	S	MOLDS EASILY
COMPACT	CP	10 - 30	FIRM	FM	MOLDED
DENSE	DN	30 - 50	STIFF	ST	THUMB MARKS
VERY DENSE	VDN	50	VERY STIFF	VST	THUMBNAIL INDENT
			HARD	H	RESISTS THUMBNAIL

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1								Boring 10 FT N of NW corner of B9.
2			1		PID = 0.0 ppm	4.3 / 5.0		0.0 - 5.0 FT Dark brown to reddish to light tan SILT, SAND & GRAVEL. with some wood & brick. Light tan granular substance, sandy substance near bottom of sample (several inches thick).
3								
4								Coal tar from 2.3 - 2.8 FT and at tip of sample shoe on top of rock.
5								Coal tar odor.
6								Refusal @ 5.0 FT
								Collected sample of coal tar.
								Cuttings returned to borehole, tamped, and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 5.0	JOB NO 093-89168	PROJECT Van DeMark		BORING NO. B9-WS-N10	
DEPTH SOIL DRILL 5.0	GA INSP D. WEHN	DRILLING METHOD Geoprobe Macrocore		SHEET 1 OF 1	
DEPTH ROCK CORE N/A	WEATHER OVERCAST	DRILLING COMPANY Zebra Env.		SURFACE ELEV	
NO. DIST SA 0 UD. SA 1	TEMP 75°F	DRILL RIG 6620D	DRILLER D. Pino	DATUM	
DEPTH WL N/A	HRS. PROD. N/A	WT. SAMPLER HAMMER N/A	DROP N/A	STARTED 10:30, 6/22/10	
TIME WL. N/A	HRS. DELAYED 0	WT CASING HAMMER N/A	DROP N/A	COMPLETED 20:40, 6/22/10	

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
DO	DRIVE OPEN
DS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	Y	YELLOW
LI	LITTLE	RK	ROCK		

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 10% SOME 10 - 30%
LITTLE 10 - 20% AND 30 - 50%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE	
VERY LOOSE	VLS	0 - 4	VERY SOFT	VS	EASILY INTO	
LOOSE	LS	4 - 10	SOFT	S	MOLDED EASILY	
COMPACT	CP	10 - 30	FIRM	FM	MOLDED	
DENSE	DN	30 - 50	STIFF	ST	THUMB INDENTS	
VERY DENSE	VDN	>50	VERY STIFF	VST	THUMBNAIL INDENT	
			HARD	H	RESISTS THUMBNAIL	

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
								Boring 5 FT W and 10 FT N of NE corner of B9.
1								
					PID =	4.3		0.0-5.0 FT Dark brown SILT SAND GRAVEL + BRICK. FILL.
2								Dark gray sandy material
			1		0.0 ppm	/		From 3.7 - 4.3 FT
3						5.0		Coal tar from 1.7 - 2.1 FT
4								Coal tar odor.
								Sample collected of coal tar.
5								Refusal @ 5 FT
								Cuttings returned to borehole, tamped and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 5.0	JOB NO 093-89168	PROJECT Van DeMark		BORING NO. B9-W10-N5	
DEPTH SOIL DRILL 5.0	GA INSP D. WEHN	DRILLING METHOD Geoprobe Macrocore		SHEET 1 OF 1	
DEPTH ROCK CORE N/A	WEATHER L. RAIN	DRILLING COMPANY Zebra Env.		SURFACE ELEV	
NO. DIST SA 0 UD SA 1	TEMP 75°F	DRILL RIG 6620D	DRILLER D. Pino	DATUM	
DEPTH WL N/A	HRS. PROD. N/A	WT SAMPLER HAMMER N/A	DROP N/A	STARTED 10:40, 6/22/10	
TIME WL. N/A	HRS. DELAYED 0	WT CASING HAMMER N/A	DROP N/A	COMPLETED 10:50, 6/22/10	

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
DO	DRIVE OPEN
DS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	Y	YELLOW
U	LITTLE	RX	ROCK		

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 5% SOME 12 - 30%
LITTLE 5 - 12% AND 30-50%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0-4	VERY SOFT	VS	EXTRUDES
LOOSE	LS	4-10	SOFT	S	MOLDS EASILY
COMPACT	CP	10-30	FIRM	FM	MOLDS
DENSE	DN	30-50	STIFF	ST	THUMB INDENTS
VERY DENSE	VDN	>50	VERY STIFF	VST	THUMBNAIL INDENT
			HARD	H	RESISTS THUMBNAIL

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	SAMPLES TYPE	SAMPLES HAMM. BLOWS PER 6 IN (FORCE)	SAMPLES REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1								Boring 10 FT W and 5 FT N of NW corner of B9.
2			1		PID = 0.0 ppm	4.0 / 5.0		0.0-6.0 FT Dark brown SILT SAND GRAVEL with some brick and wood. FILL. Top sandy material just above refusal.
3								
4								Coal tar 1.3 - 1.6 FT Coal tar odor Sample collected of coal tar.
5								Refusal @ 5.0 FT
								Cuttings returned to borehole, tamped, and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 6.0 | JOB NO 093-89168 | PROJECT Van DeMark | BORING NO. B9-W10-N10
DEPTH SOIL DRILL 6.0 | GA INSP D. WEHN | DRILLING METHOD Geoprobe Macrocore | SHEET 1 OF 1
DEPTH ROCK CORE N/A | WEATHER L. RAIN | DRILLING COMPANY Zebra Env. | SURFACE ELEV
NO. DIST SA 0 UD. SA 2 | TEMP 75°F | DRILL RIG 6620D | DRILLER D. Pino | DATUM
DEPTH WL N/A | HRS. PROD. N/A | WT. SAMPLER HAMMER N/A | DROP N/A | STARTED 10:55, 6/22/10
TIME WL. N/A | HRS. DELAYED 0 | WT CASING HAMMER N/A | DROP N/A | COMPLETED 11:05, 6/22/10

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
DO	DRIVE OPEN
DS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	Y	YELLOW
LI	LITTLE	RX	ROCK		

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 10% | LITTLE 10 - 20% | SOME 20 - 35% | AND 35 - 50%

RELATIVE DENSITY	BLOWS	CONSISTENCY	FINGER PRESSURE
VERY LOOSE VLS	0 - 4	VERY SOFT VS	EASY INCHES
LOOSE LS	4 - 10	SOFT S	MODERATE
COMPACT CP	10 - 30	FIRM FM	MOLDS
DENSE DN	30 - 50	STIFF ST	DIMPLES THUMB
VERY DENSE VDN	50	VERY STIFF VST	INDENTS THUMBNAIL
		HARD H	RESISTS THUMBNAIL

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
								Boring 10 FT W and 10 FT N of NW corner of B9.
1								0.0 - 5.0 FT
2			1		PID = 0.0 ppm	4.1 / 5.0		Coal tar from 1.0 - 2.1 FT, 3.0 - 3.9 FT and at bottom & shoe. Coal tar odor.
3								
4								Crushed GRAVEL 1.1 - 1.4 FT then crushed brick, SAND + GRAVEL - FILL.
5			2		PID = 0.0 ppm	0.8 / 1.0		5.0 - 6.0 FT Dark brown SAND. Coal tar odor.
6								
								Cuttings returned to borehole, tamped and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 5.0 | JOB NO 093-89163 | PROJECT Van DeMark | BORING NO. B9-N20
DEPTH SOIL DRILL 5.0 | GA INSP D. WEHN | DRILLING METHOD Geoprobe Macrocore | SHEET 1 OF 1
DEPTH ROCK CORE N/A | WEATHER L. RAIN | DRILLING COMPANY Zebra Env. | SURFACE ELEV
NO. DIST SA 0 UD. SA 1 | TEMP 75°F | DRILL RIG 6620D | DRILLER D. Pino | DATUM
DEPTH WL N/A | HRS. PROD. N/A | WT SAMPLER HAMMER N/A | DROP N/A | STARTED 11:05 6/22/10
TIME WL N/A | HRS. DELAYED 0 | WT CASING HAMMER N/A | DROP N/A | COMPLETED 11:20 6/22/10

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
DO	DRIVE OPEN
DS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	Y	YELLOW
LI	LITTLE	RX	ROCK		

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 5% | SOME 12 - 30%
LITTLE 5 - 12% | AND 30 - 50%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0-4	VERY SOFT	VS	EASY INCH
LOOSE	LS	4-10	SOFT	S	MODERATE EASY
COMPACT	CP	10-30	FIRM	FM	MODERATE
DENSE	DN	30-50	STIFF	ST	DIFFICULT
VERY DENSE	VDN	>50	VERY STIFF	VST	EXTREMELY DIFFICULT
			HARD	H	RESISTS THUMBNAIL

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
								Boring 20 FT N of NW corner of B9.
1								0.0-5.0 Dark brown to tan SILT SAND + GRAVEL with some wood. FILL.
2			1		PID= 0.0 ppm	3.1 / 5.0		
3								Coal tar from 1.5-1.9 FT. Coal tar odor
4								
5								Refusal @ 5.0 FT
								Cuttings returned to borehole, tamped, and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 4.5	JOB NO 093-89168	PROJECT Van DeMark		BORING NO. B9-W10-N20	
DEPTH SOIL DRILL 4.5	GA INSP D. WEHN	DRILLING METHOD Geoprobe Macrocore		SHEET 1 OF 1	
DEPTH ROCK CORE N/A	WEATHER L. RAIN	DRILLING COMPANY Zebra Env.		SURFACE ELEV	
NO. DIST SA 0 UD. SA. 1	TEMP 75°F	DRILL RIG 6620D	DRILLER D. Pino	DATUM	
DEPTH WL N/A	HRS. PROD. N/A	WT SAMPLER HAMMER N/A	DROP N/A	STARTED 11:20 / 6/22/10 (TIME / DATE)	
TIME WL. N/A	HRS. DELAYED 0	WT CASING HAMMER N/A	DROP N/A	COMPLETED 11:30 / 6/22/10 (TIME / DATE)	

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
OO	DRIVE OPEN
DS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	Y	YELLOW
LI	LITTLE	RX	ROCK		

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 5% SOME 12 - 30%
LITTLE 5 - 12% AND 30 - 50%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0-4	VERY SOFT	VS	EASY INTO
LOOSE	LS	4-10	SOFT	S	MOLDS EASILY
COMPACT	CP	10-30	FIRM	FM	MOLDS
DENSE	DN	30-50	STIFF	ST	DIGGING NEEDED
VERY DENSE	VDN	>50	VERY STIFF	VST	THUMBNAIL INDENT
			HARD	H	RESISTS THUMBNAIL

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
								Boring 10 FT W and 20 FT N of NW corner of B9.
1								0.0 - 4.5 FT Dark brown SILT SAND + GRAVEL with some brick. FILL.
2					PID = 0.0 ppm	4.2 / 4.5		
3								Coal tar 2.5 - 2.9 and 3.7 - 3.5 FT. Coal tar odor.
4								Refusal @ 4.5 FT
5								Cuttings returned to borehole, tamped, and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 4.0 | JOB NO 073-89168 | PROJECT Van DeMark | BORING NO. B9-W20-N20
DEPTH SOIL DRILL 4.0 | GA INSP D. WEHN | DRILLING METHOD Geoprobe Macrocore | SHEET 1 OF 1
DEPTH ROCK CORE N/A | WEATHER | DRILLING COMPANY Zebra Env. | SURFACE ELEV
NO. DIST SA. 0 UD. SA. 1 | TEMP 75°F | DRILL RIG 6620D | DRILLER D. Pino | DATUM
DEPTH WL N/A | HRS. PROD. N/A | WT. SAMPLER HAMMER N/A | DROP N/A | STARTED 11:30, 6/22/10
TIME WL. N/A | HRS. DELAYED 0 | WT CASING HAMMER N/A | DROP N/A | COMPLETED 11:40, 6/22/10

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
OD	DRIVE OPEN
DS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SLY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	Y	YELLOW
LI	LITTLE	RX	ROCK		

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 10% | SOME 12 - 30%
LITTLE 10 - 12% | AND 30-50%

RELATIVE DENSITY	BLOWS	CONSISTENCY	FINGER PRESSURE
VERY LOOSE VLS	0-4	VERY SOFT VS	EASY INCHES
LOOSE LS	4-10	SOFT S	MODERATELY
COMPACT CP	10-30	FIRM FM	MODERATE
DENSE DN	30-50	STIFF ST	EXCAVATE WITH DIFFICULTY
VERY DENSE VDN	>50	VERY STIFF VST	EXCAVATION MOUNT
		HARD H	NEEDS THUMBNAIL

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
								Boring 20 FT W and 20 FT N of NW corner of building B9.
1								
2						3.0		0.0-4.0 Tan SAND and GRAVEL. FILL. Coal tar from 2.0-2.9 FT. Coal tar odor.
3						4.0		
4								Refusal @ 4.0 FT
5								PID displayed "fan error" - no readings possible for remainder of day.
								Cuttings returned to borehole, tamped and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 7.0 | JOB NO 093 89168 | PROJECT Van DeMark | BORING NO. B9-W30-N10
DEPTH SOIL DRILL 7.0 | GA INSP D. WEHN | DRILLING METHOD Geoprobe Macrocore | SHEET 1 OF 1
DEPTH ROCK CORE N/A | WEATHER OVERCAST | DRILLING COMPANY Zebra Env. | SURFACE ELEV
NO. DIST SA. 0 UD SA. 2 | TEMP 75°F | DRILL RIG 6620D | DRILLER D. Pino | DATUM
DEPTH WL N/A | HRS. PROD. N/A | WT SAMPLER HAMMER N/A | DROP N/A | STARTED 11:45, 6/22/10
TIME WL N/A | HRS. DELAYED 0 | WT CASING HAMMER N/A | DROP N/A | COMPLETED 12:00, 6/22/10

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
DO	DRIVE OPEN
DS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	Y	YELLOW
U	LITTLE	RX	ROCK		

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 5% | SOME 12 - 30%
LITTLE 5 - 12% | AND 30-50%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0 - 4	VERY SOFT	VS	EASY INTO
LOOSE	LS	4 - 10	SOFT	S	MOLDS EASILY
COMPACT	CP	10 - 30	FIRM	FM	MOLDS
DENSE	DN	30 - 50	STIFF	ST	DIMPLES WITH DIFFICULTY
VERY DENSE	VDN	>50	VERY STIFF	VST	DIMPLES WITH DIFFICULTY
			HARD	H	RESISTS THUMBNAIL

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	SAMPLES TYPE	SAMPLES HAMM. BLOWS PER 6 IN (FORCE)	SAMPLES REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
								Boring 30 FT W and 10 FT N of NW corner of B9
1								
2						3.2		0.0 - 5.0 FT Gray to black SAND & GRAVEL. FILL. Some brick.
3			1			5.0		No coal tar or tar odor.
4								Petroliferous odor.
5								
								5.0 - 7.0 FT Reddish brown GRAVEL. Slight petroliferous odor.
6			2			1.8 / 2.0		
7								Refusal @ 7.0 FT.

Cuttings returned to borehole, tamped and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 8.0 | JOB NO 093-89168 | PROJECT Van DeMark | BORING NO. B9-W30-N36
DEPTH SOIL DRILL 8.0 | GA INSP D. WEHN | DRILLING METHOD Geoprobe Macrocore | SHEET 1 OF 1
DEPTH ROCK CORE N/A | WEATHER OVERCAST | DRILLING COMPANY Zebra Env. | SURFACE ELEV
NO. DIST SA 0 UD SA 2 | TEMP 75°F | DRILL RIG 6620D | DRILLER D. Pino | DATUM
DEPTH WL N/A | HRS. PROD. N/A | WT SAMPLER HAMMER N/A | DROP N/A | STARTED 12:45, 6/22/10
TIME WL N/A | HRS. DELAYED 0 | WT CASING HAMMER N/A | DROP N/A | COMPLETED 13:00, 6/22/10

SAMPLE TYPES: AS AUGER SAMPLE; CS CHUNK SAMPLE; DO DRIVE OPEN; DS DENISON SAMPLE; PS PITCHER SAMPLE; RC ROCK CORE; ST SLOTTED TUBE; TO THIN-WALLED, OPEN; TP THIN-WALLED, PISTON; WS WASH SAMPLE

ABBREVIATIONS: BL BLACK; BR BROWN; C COARSE; CA CASING; CL CLAY; CLY CLAYEY; F FINE; FRAG FRAGMENTS; GL GRAVEL; LYD LAYERED; U LITTLE; M MEDIUM; MIC MICACEOUS; MOT MOTTLED; NP NON-PLASTIC; OG ORANGE; ORG ORGANIC; PH PRESSURE HYDRAULIC; PM PRESSURE MANUAL; R RED; RES RESIDUAL; RX ROCK; SA SAMPLE; SAT SATURATED; SD SAND; SI SILT; SLY SILTY; SM SOME; TR TRACE; WL WATER LEVEL; WH WEIGHT OF HAMMER; Y YELLOW

SOIL DESCRIPTION - RANGE OF PROPORTION
TRACE 0 - 5% | SOME 12 - 30% | LITTLE 5 - 12% | AND 30 - 50%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FIELD PRESSURE
VERY LOOSE	VLS	0-4	VERY SOFT	VS	EXTRUDES
LOOSE	LS	4-10	SOFT	S	MOLDS EASILY
COMPACT	CP	10-30	FIRM	FM	MOLDS
DENSE	DN	30-50	STIFF	ST	THUMB MARKS
VERY DENSE	VDN	>50	VERY STIFF	VST	INDENTED BY THUMBNAIL
			HARD	H	MARKS BY THUMBNAIL

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
								Boring 30 FT W and 36 FT N of NW corner of B9
1								0.0-5.0 FT Dark brown to black gravelly SAND. FILL.
2			1			4.2 / 5.0		Crushed brick ~~2.0-2.7 FT~~ 2.9-3.7 FT
3								Coal tar 1.8 - 2.0 FT. Coal tar odor.
4								
5								5.0-8.0 FT Dark brown coarse SAND + GRAVEL.
6			2			1.8 / 3.0		Petroliferas odor.
7								Refusal @ 8.0 FT
8								
								Cuttings returned to borehole, tamped and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 4.5 | JOB NO 093-89168 | PROJECT Van DeMark | BORING NO. B9-N36
DEPTH SOIL DRILL 4.5 | GA INSP D. WEHN | DRILLING METHOD Geoprobe Macrocore | SHEET 1 OF 1
DEPTH ROCK CORE N/A | WEATHER OVERCAST | DRILLING COMPANY Zebra Env. | SURFACE ELEV
NO. DIST SA 0 UD. SA 1 | TEMP 75°F | DRILL RIG 6620D | DRILLER D. Pino | DATUM
DEPTH WL N/A | HRS. PROD. N/A | WT. SAMPLER HAMMER N/A | DROP N/A | STARTED 13:05, 6/22/10
TIME WL N/A | HRS. DELAYED 0 | WT. CASING HAMMER N/A | DROP N/A | COMPLETED 13:15, 6/22/10

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
OO	DRIVE OPEN
DS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	Y	YELLOW
LI	LITTLE	RX	ROCK		

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 10% | SOME 12 - 30%
LITTLE 5 - 12% | AND 30-50%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0 - 4	VERY SOFT	VS	EASILY INTO
LOOSE	LS	4 - 10	SOFT	S	MOLDS EASILY
COMPACT	CP	10 TO 30	FIRM	FM	MOLDS
DENSE	DN	30 TO 50	STIFF	ST	INDENTS EASILY
VERY DENSE	VDN	>50	VERY STIFF	VST	INDENTS WITH DIFFICULTY
			HARD	H	NEEDS A THUMBNAIL

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
								Boring 36 FT N of NW corner of J B9.
1								0.0 - 4.5 FT
2			1			3.5 / 4.5		Black to dark gray SAND + GRAVEL to 1.9 FT, then reddish SILT + CLAY.
3								Coal tar 1.3 - 1.7 FT; Coal tar odor.
4								Refusal @ 4.5 FT
5								Cuttings returned to borehole, tamped, and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 5.0 | JOB NO 093-89168 | PROJECT Van De Mark | BORING NO. B9-E20-N20
DEPTH SOIL DRILL 5.0 | GA INSP D. WEHN | DRILLING METHOD Geoprobe Macrocore | SHEET 1 OF 1
DEPTH ROCK CORE N/A | WEATHER OVERCAST | DRILLING COMPANY Zebra Env. | SURFACE ELEV
NO DIST SA 0 UD. SA 1 | TEMP 75°F | DRILL RIG 6620D | DRILLER D. Pino | DATUM
DEPTH WL N/A | HRS. PROD. N/A | WT. SAMPLER HAMMER N/A | DROP N/A | STARTED 13:16, 6/22/10
TIME WL N/A | HRS. DELAYED 0 | WT CASING HAMMER N/A | DROP N/A | COMPLETED 13:25, 6/22/10

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
DO	DRIVE OPEN
DS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	Y	YELLOW
U	LITTLE	RX	ROCK		

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 5% | SOME 12 - 30%
LITTLE 5 - 12% | AND 30-50%

RELATIVE DENSITY	BLOWS	CONSISTENCY	FINGER PRESSURE
VERY LOOSE VLS	0-4	VERY SOFT VS	EXTRUDES
LOOSE LS	4-10	SOFT S	MOLDED EASILY
COMPACT CP	10-30	FIRM FM	MOLDS
DENSE DN	30-50	STIFF ST	LEAVES THUMBNAIL
VERY DENSE VDN	>50	VERY STIFF VST	INDENTED THUMBNAIL
		HARD H	RESISTS THUMBNAIL

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	SAMPLES TYPE	SAMPLES HAMM. BLOWS PER 6 IN (FORCE)	SAMPLES REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
								Boring 20 FT E and 20 FT N of NW corner of B9
1								
2			1			3.9 / 5.0		0-1.4 FT crushed concrete.
3								1.4-3.9 FT reddish brown SILT with some sand.
4								
5								Cuttings returned to borehole, tamped and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 5.3	JOB NO 093-89163	PROJECT Van DeMark		BORING NO. B9-W34-S10	
DEPTH SOIL DRILL 5.3	GA INSP D. WEHN	DRILLING METHOD Geoprobe Macrocore		SHEET 1 OF 1	
DEPTH ROCK CORE N/A	WEATHER	DRILLING COMPANY Zebra Env.		SURFACE ELEV	
NO. DIST SA 0 UD SA 2	TEMP 75°F	DRILL RIG 6620D	DRILLER D. Pino	DATUM	
DEPTH WL N/A	HRS. PROD. N/A	WT. SAMPLER HAMMER N/A	DROP N/A	STARTED 13:28, 6/22/10	
TIME WL N/A	HRS. DELAYED 0	WT CASING HAMMER N/A	DROP N/A	COMPLETED 13:40, 6/22/10	

SAMPLE TYPES

AS	AUGER SAMPLE
CS	CHUNK SAMPLE
DO	DRIVE OPEN
DS	DENISON SAMPLE
PS	PITCHER SAMPLE
RC	ROCK CORE
ST	SLOTTED TUBE
TO	THIN-WALLED, OPEN
TP	THIN-WALLED, PISTON
WS	WASH SAMPLE

ABBREVIATIONS

BL	BLACK	M	MEDIUM	SA	SAMPLE
BR	BROWN	MIC	MICACEOUS	SAT	SATURATED
C	COARSE	MOT	MOTTLED	SD	SAND
CA	CASING	NP	NON-PLASTIC	SI	SILT
CL	CLAY	OG	ORANGE	SIY	SILTY
CLY	CLAYEY	ORG	ORGANIC	SM	SOME
F	FINE	PH	PRESSURE HYDRAULIC	TR	TRACE
FRAG	FRAGMENTS	PM	PRESSURE MANUAL	WL	WATER LEVEL
GL	GRAVEL	R	RED	WH	WEIGHT OF HAMMER
LYD	LAYERED	RES	RESIDUAL	Y	YELLOW
LI	LITTLE	RX	ROCK		

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 5% SOME 12 - 30%
LITTLE 5 - 12% AND 30 - 50%

RELATIVE DENSITY	BLOWS	CONSISTENCY	FINGER PRESSURE
VERY LOOSE VLS	0-4	VERY SOFT VS	EXTRUDES
LOOSE LS	4-10	SOFT S	MOLDS EASILY
COMPACT CP	10-30	FIRM F	MOLDS
DENSE DN	30-50	STIFF ST	INDENTS EASILY
VERY DENSE VDN	>50	VERY STIFF VST	INDENTS WITH DIFFICULTY
		HARD H	RESISTS THUMBNAIL

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
								Boring 24 FT W and 10 FT S of NW corner of B9
1								
2						3.8		0.0-5.0 FT Gray GRAVEL and SAND to 1.6 FT then black GRAVEL and SAND.
3			1			5.0		Petroliferous odor
4								
5			2			0.3 / 0.3		5.0-5.3 FT Black SAND + GRAVEL
6								
								Cuttings returned to borehole, tamped and covered with asphalt patch.

ATTACHMENT B

LABORATORY ANALYSIS REPORT (TESTAMERICA, JUNE 2010)

Analytical Report

Work Order: RTF1262

Project Description

Golder - Vandermark/Isochem site

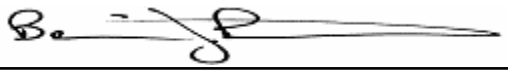
For:

Pat Martin

Golder Associates, Inc. - Niagara Falls, NY

2221 Niagara Falls Blvd., Ste 9

Niagara Falls, NY 14304



Brian Fischer

Project Manager

Brian.Fischer@testamericainc.com

Friday, July 2, 2010

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exception to NELAP requirements are noted in this report. Persuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project manager who has signed this report.

Golder Associates, Inc. - Niagara Falls, NY
2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

TestAmerica Buffalo
Current Certifications

As of 06/17/2010

STATE	Program	Cert # / Lab ID
Arkansas	CWA, RCRA, SOIL	88-0686
California*	NELAP CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida*	NELAP CWA, RCRA	E87672
Georgia*	SDWA,NELAP CWA, RCRA	956
Illinois*	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas*	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana*	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY0044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	SDWA,CWA, RCRA	036-999-337
New Hampshire*	NELAP SDWA, CWA	233701
New Jersey*	NELAP,SDWA, CWA, RCRA,	NY455
New York*	NELAP, AIR, SDWA, CWA, RCRA,CLP	10026
North Dakota	CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Oregon*	CWA,RCRA	NY200003
Pennsylvania*	NELAP CWA,RCRA	68-00281
Tennessee	SDWA	02970
Texas*	NELAP CWA, RCRA	T104704412-08-TX
USDA	FOREIGN SOIL PERMIT	S-41579
Virginia	SDWA	278
Washington*	NELAP CWA,RCRA	C1677
Wisconsin	CWA, RCRA	998310390
West Virginia	CWA,RCRA	252

*As required under the indicated accreditation, the test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report.

Golder Associates, Inc. - Niagara Falls, NY
2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

CASE NARRATIVE

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. field-pH), they were not analyzed immediately, but as soon as possible after laboratory receipt.

A pertinent document is appended to this report, 1 page, is included and is an integral part of this report.

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TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Golder Associates, Inc. - Niagara Falls, NY
2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
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DATA QUALIFIERS AND DEFINITIONS

D08	Dilution required due to high concentration of target analyte(s)
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
L2	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below acceptance limits.
T10	Sample had an adjusted final volume during extraction due to extract matrix and / or viscosity.
Z3	The sample required a dilution, the surrogate spike concentration in the sample are reduced to a level where the recovery calculation does not provide useful information.
NR	Any inclusion of NR indicates that the project specific requirements do not require reporting estimated values below the laboratory reporting limit.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

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Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTF1262-01 (B-9-W5-N5 - Solid)						**Sampled: 06/22/10 10:05**		**Recvd: 06/22/10 14:20**		
Semivolatile Organics by GC/MS										
2-Methylnaphthalene	**2200000**	T10, D08	740000	8900	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Acenaphthene	**2100000**	T10, D08	740000	8600	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Acenaphthylene	**30000**	T10, D08,J	740000	6000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Anthracene	**3000000**	T10, D08	740000	19000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Benzo[a]anthracene	**2900000**	T10, D08	740000	13000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Benzo[a]pyrene	**2000000**	T10, D08	740000	18000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Benzo[b]fluoranthene	**1400000**	T10, D08	740000	14000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Benzo[g,h,i]perylene	**1000000**	T10, D08	740000	8800	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Benzo[k]fluoranthene	**560000**	T10, D08,J	740000	8100	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Biphenyl	**260000**	T10, D08,J	740000	46000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Carbazole	**320000**	T10, D08,J	740000	8500	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Chrysene	**2800000**	T10, D08	740000	7300	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Dibenz[a,h]anthracene	**300000**	T10, D08,J	740000	8600	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Dibenzofuran	**320000**	T10, D08,J	740000	7600	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Fluoranthene	**3900000**	T10, D08	740000	11000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Fluorene	**1600000**	T10, D08	740000	17000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Indeno[1,2,3-cd]pyrene	**680000**	T10, D08,L2, J	740000	20000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Naphthalene	**3000000**	T10, D08	740000	12000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Phenanthrene	**9400000**	T10, D08	740000	15000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Pyrene	**6200000**	T10, D08	740000	4800	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	06/24/10 13:46	JRR	10F2079	Dry Weight
Sample ID: RTF1262-02 (B-9-N-10 - Solid)						**Sampled: 06/22/10 10:25**		**Recvd: 06/22/10 14:20**		
Semivolatile Organics by GC/MS										
2-Methylnaphthalene	**1500000**	T10, D08	840000	10000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Acenaphthene	**1500000**	T10, D08	840000	9800	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Anthracene	**2700000**	T10, D08	840000	21000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Benzo[a]anthracene	**3400000**	T10, D08	840000	14000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Benzo[a]pyrene	**2300000**	T10, D08	840000	20000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Benzo[b]fluoranthene	**1600000**	T10, D08	840000	16000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Benzo[g,h,i]perylene	**1100000**	T10, D08	840000	10000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Benzo[k]fluoranthene	**610000**	T10, D08,J	840000	9200	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Biphenyl	**160000**	T10, D08,J	840000	52000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Carbazole	**280000**	T10, D08,J	840000	9700	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Chrysene	**3400000**	T10, D08	840000	8400	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Dibenz[a,h]anthracene	**300000**	T10, D08,J	840000	9800	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Dibenzofuran	**260000**	T10, D08,J	840000	8700	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Fluoranthene	**4000000**	T10, D08	840000	12000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Fluorene	**1300000**	T10, D08	840000	19000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Indeno[1,2,3-cd]pyrene	**790000**	T10, D08,L2, J	840000	23000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Naphthalene	**2000000**	T10, D08	840000	14000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Phenanthrene	**9400000**	T10, D08	840000	18000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Pyrene	**7600000**	T10, D08	840000	5400	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C

Golder Associates, Inc. - Niagara Falls, NY
2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTF1262-02 (B-9-N-10 - Solid) - cont.						**Sampled: 06/22/10 10:25**			**Recvd: 06/22/10 14:20**	
General Chemistry Parameters										
Percent Solids	**79**		0.010	NR	%	1.00	06/24/10 13:48	JRR	10F2079	Dry Weight
Sample ID: RTF1262-03 (B-9-W5-N10 - Solid)						**Sampled: 06/22/10 10:35**			**Recvd: 06/22/10 14:20**	
Semivolatile Organics by GC/MS										
2-Methylnaphthalene	**1200000**	T10, D08	740000	8900	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Acenaphthene	**1300000**	T10, D08	740000	8600	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Anthracene	**1800000**	T10, D08	740000	19000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[a]anthracene	**2000000**	T10, D08	740000	13000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[a]pyrene	**1300000**	T10, D08	740000	18000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[b]fluoranthene	**1000000**	T10, D08	740000	14000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[g,h,i]perylene	**720000**	T10, D08,J	740000	8800	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[k]fluoranthene	**360000**	T10, D08,J	740000	8100	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Biphenyl	**150000**	T10, D08,J	740000	46000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Carbazole	**200000**	T10, D08,J	740000	8500	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Chrysene	**2000000**	T10, D08	740000	7300	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Dibenz[a,h]anthracene	**200000**	T10, D08,J	740000	8600	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Dibenzofuran	**200000**	T10, D08,J	740000	7600	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Fluoranthene	**2500000**	T10, D08	740000	11000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Fluorene	**940000**	T10, D08	740000	17000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Indeno[1,2,3-cd]pyrene	**470000**	T10, D08,L2, J	740000	20000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Naphthalene	**1500000**	T10, D08	740000	12000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Phenanthrene	**5900000**	T10, D08	740000	15000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Pyrene	**4300000**	T10, D08	740000	4800	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
General Chemistry Parameters										
Percent Solids	**92**		0.010	NR	%	1.00	06/24/10 13:50	JRR	10F2079	Dry Weight
Sample ID: RTF1262-04 (B-9-W10-N5 - Solid)						**Sampled: 06/22/10 10:45**			**Recvd: 06/22/10 14:20**	
Semivolatile Organics by GC/MS										
2-Methylnaphthalene	**530000**	T10, D08	410000	4900	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Acenaphthene	**830000**	T10, D08	410000	4700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Acenaphthylene	**19000**	T10, D08,J	410000	3300	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Anthracene	**1300000**	T10, D08	410000	10000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzo[a]anthracene	**1600000**	T10, D08	410000	7000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzo[a]pyrene	**1000000**	T10, D08	410000	9700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzo[b]fluoranthene	**1000000**	T10, D08	410000	7800	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzo[g,h,i]perylene	**570000**	T10, D08	410000	4800	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Biphenyl	**77000**	T10, D08,J	410000	25000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Carbazole	**97000**	T10, D08,J	410000	4700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Chrysene	**1500000**	T10, D08	410000	4000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Dibenz[a,h]anthracene	**160000**	T10, D08,J	410000	4700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Dibenzofuran	**110000**	T10, D08,J	410000	4200	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Fluoranthene	**2000000**	T10, D08	410000	5800	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Fluorene	**640000**	T10, D08	410000	9300	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Indeno[1,2,3-cd]pyrene	**400000**	T10, D08,L2, J	410000	11000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Naphthalene	**590000**	T10, D08	410000	6700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C

Golder Associates, Inc. - Niagara Falls, NY
2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTF1262-04 (B-9-W10-N5 - Solid) - cont.						**Sampled: 06/22/10 10:45**		**Recvd: 06/22/10 14:20**		
Semivolatile Organics by GC/MS - cont.										
Phenanthrene	**4200000**	T10, D08	410000	8500	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Pyrene	**3300000**	T10, D08	410000	2600	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
General Chemistry Parameters										
Percent Solids	**82**		0.010	NR	%	1.00	06/24/10 13:52	JRR	10F2079	Dry Weight

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Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

Sample Summary

Sample Identification	Lab Number	Client Matrix	Date/Time Sampled	Date/Time Received	Sample Qualifiers
B-9-W5-N5	RTF1262-01	Solid	06/22/10 10:05	06/22/10 14:20	
B-9-N-10	RTF1262-02	Solid	06/22/10 10:25	06/22/10 14:20	
B-9-W5-N10	RTF1262-03	Solid	06/22/10 10:35	06/22/10 14:20	
B-9-W10-N5	RTF1262-04	Solid	06/22/10 10:45	06/22/10 14:20	

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Received: 06/22/10
Reported: 07/02/10 11:35

Analytical Report

Sample ID: RTF1262-01 (B-9-W5-N5 - Solid) — **Sampled: 06/22/10 10:05** — **Recvd: 06/22/10 14:20**

Semivolatile Organics by GC/MS

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
2,4,5-Trichlorophenol	ND	T10, D08	740000	160000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2,4,6-Trichlorophenol	ND	T10, D08	740000	48000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2,4-Dichlorophenol	ND	T10, D08	740000	39000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2,4-Dimethylphenol	ND	T10, D08	740000	200000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2,4-Dinitrophenol	ND	T10, D08	1400000	260000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2,4-Dinitrotoluene	ND	T10, D08	740000	110000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2,6-Dinitrotoluene	ND	T10, D08	740000	180000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2-Chloronaphthalene	ND	T10, D08	740000	49000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2-Chlorophenol	ND	T10, D08	740000	37000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2-Methylnaphthalene	**2200000**	T10, D08	740000	8900	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2-Methylphenol	ND	T10, D08	740000	23000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2-Nitroaniline	ND	T10, D08	1400000	240000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2-Nitrophenol	ND	T10, D08	740000	34000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
3 & 4 Methylphenol	ND	T10, D08	1400000	41000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
3,3'-Dichlorobenzidine	ND	T10, D08	740000	640000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
3-Nitroaniline	ND	T10, D08	1400000	170000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
4,6-Dinitro-2-methylphenol	ND	T10, D08	1400000	250000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
4-Bromophenyl phenyl ether	ND	T10, D08	740000	230000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
4-Chloro-3-methylphenol	ND	T10, D08	740000	30000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
4-Chloroaniline	ND	T10, D08	740000	220000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
4-Chlorophenyl phenyl ether	ND	T10, D08	740000	16000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
4-Nitroaniline	ND	T10, D08	1400000	82000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
4-Nitrophenol	ND	T10, D08	1400000	180000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Acenaphthene	**2100000**	T10, D08	740000	8600	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Acenaphthylene	**30000**	T10, D08,J	740000	6000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Acetophenone	ND	T10, D08	740000	38000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Anthracene	**3000000**	T10, D08	740000	19000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Atrazine	ND	T10, D08	740000	33000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Benzaldehyde	ND	T10, D08	740000	81000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Benzo[a]anthracene	**2900000**	T10, D08	740000	13000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Benzo[a]pyrene	**2000000**	T10, D08	740000	18000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Benzo[b]fluoranthene	**1400000**	T10, D08	740000	14000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Benzo[g,h,i]perylene	**1000000**	T10, D08	740000	8800	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Benzo[k]fluoranthene	**560000**	T10, D08,J	740000	8100	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Biphenyl	**260000**	T10, D08,J	740000	46000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Bis(2-chloroethoxy)methane	ND	T10, D08	740000	40000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Bis(2-chloroethyl)ether	ND	T10, D08	740000	63000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Bis(2-chloroisopropyl) ether	ND	T10, D08	740000	77000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Bis(2-ethylhexyl) phthalate	ND	T10, D08	740000	240000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Butyl benzyl phthalate	ND	T10, D08	740000	200000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Caprolactam	ND	T10, D08	740000	320000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Carbazole	**320000**	T10, D08,J	740000	8500	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Chrysene	**2800000**	T10, D08	740000	7300	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Dibenz[a,h]anthracene	**300000**	T10, D08,J	740000	8600	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Dibenzofuran	**320000**	T10, D08,J	740000	7600	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C

Golder Associates, Inc. - Niagara Falls, NY
2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

Analytical Report

Sample ID: RTF1262-01 (B-9-W5-N5 - Solid) - cont. **Sampled: 06/22/10 10:05** **Recvd: 06/22/10 14:20**

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Semivolatile Organics by GC/MS - cont.										
Diethyl phthalate	ND	T10, D08	740000	22000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Dimethyl phthalate	ND	T10, D08	740000	19000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Di-n-butyl phthalate	ND	T10, D08	740000	250000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Di-n-octyl phthalate	ND	T10, D08	740000	17000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Fluoranthene	**3900000**	T10, D08	740000	11000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Fluorene	**1600000**	T10, D08	740000	17000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Hexachlorobenzene	ND	T10, D08	740000	36000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Hexachlorobutadiene	ND	T10, D08	740000	38000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Hexachlorocyclopentadiene	ND	T10, D08	740000	220000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Hexachloroethane	ND	T10, D08	740000	57000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Indeno[1,2,3-cd]pyrene	**680000**	T10, D08,L2, J	740000	20000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Isophorone	ND	T10, D08	740000	37000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Naphthalene	**3000000**	T10, D08	740000	12000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Nitrobenzene	ND	T10, D08	740000	33000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
N-Nitrosodi-n-propylamine	ND	T10, D08	740000	58000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
N-Nitrosodiphenylamine	ND	T10, D08	740000	40000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Pentachlorophenol	ND	T10, D08	1400000	250000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Phenanthrene	**9400000**	T10, D08	740000	15000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Phenol	ND	T10, D08	740000	77000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Pyrene	**6200000**	T10, D08	740000	4800	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2,4,6-Tribromophenol	*	*T10, D08,Z3*	*Surr Limits: (39-146%)*				*06/30/10 19:16*	*MAF*	*10F2051*	*8270C*
2-Fluorobiphenyl	*360 %*	*T10, D08,Z3*	*Surr Limits: (37-120%)*				*06/30/10 19:16*	*MAF*	*10F2051*	*8270C*
2-Fluorophenol	*	*T10, D08,Z3*	*Surr Limits: (18-120%)*				*06/30/10 19:16*	*MAF*	*10F2051*	*8270C*
Nitrobenzene-d5	*	*T10, D08,Z3*	*Surr Limits: (34-132%)*				*06/30/10 19:16*	*MAF*	*10F2051*	*8270C*
Phenol-d5	*	*T10, D08,Z3*	*Surr Limits: (11-120%)*				*06/30/10 19:16*	*MAF*	*10F2051*	*8270C*
p-Terphenyl-d14	*360 %*	*T10, D08,Z3*	*Surr Limits: (58-147%)*				*06/30/10 19:16*	*MAF*	*10F2051*	*8270C*
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	06/24/10 13:46	JRR	10F2079	Dry Weight

Golder Associates, Inc. - Niagara Falls, NY
2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

Analytical Report

Sample ID: RTF1262-02 (B-9-N-10 - Solid) — **Sampled: 06/22/10 10:25** — **Recvd: 06/22/10 14:20**

Semivolatile Organics by GC/MS

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
2,4,5-Trichlorophenol	ND	T10, D08	840000	180000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
2,4,6-Trichlorophenol	ND	T10, D08	840000	55000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
2,4-Dichlorophenol	ND	T10, D08	840000	44000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
2,4-Dimethylphenol	ND	T10, D08	840000	230000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
2,4-Dinitrophenol	ND	T10, D08	1600000	290000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
2,4-Dinitrotoluene	ND	T10, D08	840000	130000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
2,6-Dinitrotoluene	ND	T10, D08	840000	200000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
2-Chloronaphthalene	ND	T10, D08	840000	56000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
2-Chlorophenol	ND	T10, D08	840000	43000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
2-Methylnaphthalene	**1500000**	T10, D08	840000	10000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
2-Methylphenol	ND	T10, D08	840000	26000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
2-Nitroaniline	ND	T10, D08	1600000	270000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
2-Nitrophenol	ND	T10, D08	840000	38000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
3 & 4 Methylphenol	ND	T10, D08	1600000	47000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
3,3'-Dichlorobenzidine	ND	T10, D08	840000	730000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
3-Nitroaniline	ND	T10, D08	1600000	190000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
4,6-Dinitro-2-methylphenol	ND	T10, D08	1600000	290000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
4-Bromophenyl phenyl ether	ND	T10, D08	840000	270000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
4-Chloro-3-methylphenol	ND	T10, D08	840000	34000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
4-Chloroaniline	ND	T10, D08	840000	250000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
4-Chlorophenyl phenyl ether	ND	T10, D08	840000	18000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
4-Nitroaniline	ND	T10, D08	1600000	93000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
4-Nitrophenol	ND	T10, D08	1600000	200000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Acenaphthene	**1500000**	T10, D08	840000	9800	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Acenaphthylene	ND	T10, D08	840000	6800	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Acetophenone	ND	T10, D08	840000	43000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Anthracene	**2700000**	T10, D08	840000	21000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Atrazine	ND	T10, D08	840000	37000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Benzaldehyde	ND	T10, D08	840000	92000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Benzo[a]anthracene	**3400000**	T10, D08	840000	14000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Benzo[a]pyrene	**2300000**	T10, D08	840000	20000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Benzo[b]fluoranthene	**1600000**	T10, D08	840000	16000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Benzo[g,h,i]perylene	**1100000**	T10, D08	840000	10000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Benzo[k]fluoranthene	**610000**	T10, D08,J	840000	9200	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Biphenyl	**160000**	T10, D08,J	840000	52000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Bis(2-chloroethoxy)methane	ND	T10, D08	840000	46000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Bis(2-chloroethyl)ether	ND	T10, D08	840000	72000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Bis(2-chloroisopropyl) ether	ND	T10, D08	840000	87000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Bis(2-ethylhexyl) phthalate	ND	T10, D08	840000	270000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Butyl benzyl phthalate	ND	T10, D08	840000	220000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Caprolactam	ND	T10, D08	840000	360000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Carbazole	**280000**	T10, D08,J	840000	9700	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Chrysene	**3400000**	T10, D08	840000	8400	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Dibenz[a,h]anthracene	**300000**	T10, D08,J	840000	9800	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Dibenzofuran	**260000**	T10, D08,J	840000	8700	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C

Golder Associates, Inc. - Niagara Falls, NY
2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

Analytical Report

Sample ID: RTF1262-02 (B-9-N-10 - Solid) - cont. **Sampled: 06/22/10 10:25** **Recvd: 06/22/10 14:20**

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Semivolatile Organics by GC/MS - cont.										
Diethyl phthalate	ND	T10, D08	840000	25000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Dimethyl phthalate	ND	T10, D08	840000	22000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Di-n-butyl phthalate	ND	T10, D08	840000	290000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Di-n-octyl phthalate	ND	T10, D08	840000	20000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Fluoranthene	**4000000**	T10, D08	840000	12000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Fluorene	**1300000**	T10, D08	840000	19000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Hexachlorobenzene	ND	T10, D08	840000	42000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Hexachlorobutadiene	ND	T10, D08	840000	43000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Hexachlorocyclopentadiene	ND	T10, D08	840000	250000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Hexachloroethane	ND	T10, D08	840000	65000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Indeno[1,2,3-cd]pyrene	**790000**	T10, D08,L2, J	840000	23000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Isophorone	ND	T10, D08	840000	42000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Naphthalene	**2000000**	T10, D08	840000	14000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Nitrobenzene	ND	T10, D08	840000	37000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
N-Nitrosodi-n-propylamine	ND	T10, D08	840000	66000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
N-Nitrosodiphenylamine	ND	T10, D08	840000	46000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Pentachlorophenol	ND	T10, D08	1600000	290000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Phenanthrene	**9400000**	T10, D08	840000	18000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Phenol	ND	T10, D08	840000	88000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Pyrene	**7600000**	T10, D08	840000	5400	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
2,4,6-Tribromophenol	*	*T10, D08,Z3*	*Surr Limits: (39-146%)*				*06/30/10 19:40*	*MAF*	*10F2051*	*8270C*
2-Fluorobiphenyl	*440 %*	*T10, D08,Z3*	*Surr Limits: (37-120%)*				*06/30/10 19:40*	*MAF*	*10F2051*	*8270C*
2-Fluorophenol	*	*T10, D08,Z3*	*Surr Limits: (18-120%)*				*06/30/10 19:40*	*MAF*	*10F2051*	*8270C*
Nitrobenzene-d5	*	*T10, D08,Z3*	*Surr Limits: (34-132%)*				*06/30/10 19:40*	*MAF*	*10F2051*	*8270C*
Phenol-d5	*	*T10, D08,Z3*	*Surr Limits: (11-120%)*				*06/30/10 19:40*	*MAF*	*10F2051*	*8270C*
p-Terphenyl-d14	*120 %*	*T10, D08*	*Surr Limits: (58-147%)*				*06/30/10 19:40*	*MAF*	*10F2051*	*8270C*
General Chemistry Parameters										
Percent Solids	**79**		0.010	NR	%	1.00	06/24/10 13:48	JRR	10F2079	Dry Weight

Golder Associates, Inc. - Niagara Falls, NY
2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

Analytical Report

Sample ID: RTF1262-03 (B-9-W5-N10 - Solid) — **Sampled: 06/22/10 10:35** — **Recvd: 06/22/10 14:20**

Semivolatile Organics by GC/MS

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
2,4,5-Trichlorophenol	ND	T10, D08	740000	160000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2,4,6-Trichlorophenol	ND	T10, D08	740000	48000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2,4-Dichlorophenol	ND	T10, D08	740000	39000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2,4-Dimethylphenol	ND	T10, D08	740000	200000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2,4-Dinitrophenol	ND	T10, D08	1400000	260000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2,4-Dinitrotoluene	ND	T10, D08	740000	110000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2,6-Dinitrotoluene	ND	T10, D08	740000	180000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2-Chloronaphthalene	ND	T10, D08	740000	49000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2-Chlorophenol	ND	T10, D08	740000	37000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2-Methylnaphthalene	**1200000**	T10, D08	740000	8900	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2-Methylphenol	ND	T10, D08	740000	23000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2-Nitroaniline	ND	T10, D08	1400000	240000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2-Nitrophenol	ND	T10, D08	740000	34000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
3 & 4 Methylphenol	ND	T10, D08	1400000	41000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
3,3'-Dichlorobenzidine	ND	T10, D08	740000	640000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
3-Nitroaniline	ND	T10, D08	1400000	170000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
4,6-Dinitro-2-methylphenol	ND	T10, D08	1400000	250000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
4-Bromophenyl phenyl ether	ND	T10, D08	740000	230000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
4-Chloro-3-methylphenol	ND	T10, D08	740000	30000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
4-Chloroaniline	ND	T10, D08	740000	220000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
4-Chlorophenyl phenyl ether	ND	T10, D08	740000	16000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
4-Nitroaniline	ND	T10, D08	1400000	82000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
4-Nitrophenol	ND	T10, D08	1400000	180000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Acenaphthene	**1300000**	T10, D08	740000	8600	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Acenaphthylene	ND	T10, D08	740000	6000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Acetophenone	ND	T10, D08	740000	38000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Anthracene	**1800000**	T10, D08	740000	19000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Atrazine	ND	T10, D08	740000	33000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzaldehyde	ND	T10, D08	740000	81000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[a]anthracene	**2000000**	T10, D08	740000	13000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[a]pyrene	**1300000**	T10, D08	740000	18000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[b]fluoranthene	**1000000**	T10, D08	740000	14000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[g,h,i]perylene	**720000**	T10, D08,J	740000	8800	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[k]fluoranthene	**360000**	T10, D08,J	740000	8100	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Biphenyl	**150000**	T10, D08,J	740000	46000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Bis(2-chloroethoxy)methane	ND	T10, D08	740000	40000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Bis(2-chloroethyl)ether	ND	T10, D08	740000	63000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Bis(2-chloroisopropyl) ether	ND	T10, D08	740000	77000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Bis(2-ethylhexyl) phthalate	ND	T10, D08	740000	240000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Butyl benzyl phthalate	ND	T10, D08	740000	200000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Caprolactam	ND	T10, D08	740000	320000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Carbazole	**200000**	T10, D08,J	740000	8500	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Chrysene	**2000000**	T10, D08	740000	7300	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Dibenz[a,h]anthracene	**200000**	T10, D08,J	740000	8600	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Dibenzofuran	**200000**	T10, D08,J	740000	7600	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C

Golder Associates, Inc. - Niagara Falls, NY
2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

Analytical Report

Sample ID: RTF1262-03 (B-9-W5-N10 - Solid) - cont. **Sampled: 06/22/10 10:35** **Recvd: 06/22/10 14:20**

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Semivolatile Organics by GC/MS - cont.										
Diethyl phthalate	ND	T10, D08	740000	22000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Dimethyl phthalate	ND	T10, D08	740000	19000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Di-n-butyl phthalate	ND	T10, D08	740000	250000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Di-n-octyl phthalate	ND	T10, D08	740000	17000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Fluoranthene	**2500000**	T10, D08	740000	11000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Fluorene	**940000**	T10, D08	740000	17000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Hexachlorobenzene	ND	T10, D08	740000	36000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Hexachlorobutadiene	ND	T10, D08	740000	38000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Hexachlorocyclopentadiene	ND	T10, D08	740000	220000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Hexachloroethane	ND	T10, D08	740000	57000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Indeno[1,2,3-cd]pyrene	**470000**	T10, D08,L2, J	740000	20000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Isophorone	ND	T10, D08	740000	37000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Naphthalene	**1500000**	T10, D08	740000	12000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Nitrobenzene	ND	T10, D08	740000	33000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
N-Nitrosodi-n-propylamine	ND	T10, D08	740000	58000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
N-Nitrosodiphenylamine	ND	T10, D08	740000	40000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Pentachlorophenol	ND	T10, D08	1400000	250000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Phenanthrene	**5900000**	T10, D08	740000	15000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Phenol	ND	T10, D08	740000	77000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Pyrene	**4300000**	T10, D08	740000	4800	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2,4,6-Tribromophenol	*	*T10, D08,Z3*	*Surr Limits: (39-146%)*				*06/30/10 20:04*	*MAF*	*10F2051*	*8270C*
2-Fluorobiphenyl	*440 %*	*T10, D08,Z3*	*Surr Limits: (37-120%)*				*06/30/10 20:04*	*MAF*	*10F2051*	*8270C*
2-Fluorophenol	*	*T10, D08,Z3*	*Surr Limits: (18-120%)*				*06/30/10 20:04*	*MAF*	*10F2051*	*8270C*
Nitrobenzene-d5	*	*T10, D08,Z3*	*Surr Limits: (34-132%)*				*06/30/10 20:04*	*MAF*	*10F2051*	*8270C*
Phenol-d5	*	*T10, D08,Z3*	*Surr Limits: (11-120%)*				*06/30/10 20:04*	*MAF*	*10F2051*	*8270C*
p-Terphenyl-d14	*200 %*	*T10, D08,Z3*	*Surr Limits: (58-147%)*				*06/30/10 20:04*	*MAF*	*10F2051*	*8270C*
General Chemistry Parameters										
Percent Solids	**92**		0.010	NR	%	1.00	06/24/10 13:50	JRR	10F2079	Dry Weight

Golder Associates, Inc. - Niagara Falls, NY
2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

Analytical Report

Sample ID: RTF1262-04 (B-9-W10-N5 - Solid) **Sampled: 06/22/10 10:45** **Recvd: 06/22/10 14:20**

Semivolatile Organics by GC/MS

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
2,4,5-Trichlorophenol	ND	T10, D08	410000	88000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
2,4,6-Trichlorophenol	ND	T10, D08	410000	27000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
2,4-Dichlorophenol	ND	T10, D08	410000	21000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
2,4-Dimethylphenol	ND	T10, D08	410000	110000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
2,4-Dinitrophenol	ND	T10, D08	790000	140000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
2,4-Dinitrotoluene	ND	T10, D08	410000	62000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
2,6-Dinitrotoluene	ND	T10, D08	410000	99000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
2-Chloronaphthalene	ND	T10, D08	410000	27000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
2-Chlorophenol	ND	T10, D08	410000	21000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
2-Methylnaphthalene	**530000**	T10, D08	410000	4900	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
2-Methylphenol	ND	T10, D08	410000	12000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
2-Nitroaniline	ND	T10, D08	790000	130000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
2-Nitrophenol	ND	T10, D08	410000	18000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
3 & 4 Methylphenol	ND	T10, D08	790000	22000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
3,3'-Dichlorobenzidine	ND	T10, D08	410000	350000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
3-Nitroaniline	ND	T10, D08	790000	93000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
4,6-Dinitro-2-methylphenol	ND	T10, D08	790000	140000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
4-Bromophenyl phenyl ether	ND	T10, D08	410000	130000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
4-Chloro-3-methylphenol	ND	T10, D08	410000	17000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
4-Chloroaniline	ND	T10, D08	410000	120000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
4-Chlorophenyl phenyl ether	ND	T10, D08	410000	8600	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
4-Nitroaniline	ND	T10, D08	790000	45000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
4-Nitrophenol	ND	T10, D08	790000	98000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Acenaphthene	**830000**	T10, D08	410000	4700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Acenaphthylene	**19000**	T10, D08,J	410000	3300	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Acetophenone	ND	T10, D08	410000	21000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Anthracene	**1300000**	T10, D08	410000	10000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Atrazine	ND	T10, D08	410000	18000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzaldehyde	ND	T10, D08	410000	44000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzo[a]anthracene	**1600000**	T10, D08	410000	7000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzo[a]pyrene	**1000000**	T10, D08	410000	9700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzo[b]fluoranthene	**1000000**	T10, D08	410000	7800	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzo[g,h,i]perylene	**570000**	T10, D08	410000	4800	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzo[k]fluoranthene	ND	T10, D08	410000	4400	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Biphenyl	**77000**	T10, D08,J	410000	25000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Bis(2-chloroethoxy)methane	ND	T10, D08	410000	22000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Bis(2-chloroethyl)ether	ND	T10, D08	410000	35000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Bis(2-chloroisopropyl) ether	ND	T10, D08	410000	42000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Bis(2-ethylhexyl) phthalate	ND	T10, D08	410000	130000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Butyl benzyl phthalate	ND	T10, D08	410000	110000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Caprolactam	ND	T10, D08	410000	170000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Carbazole	**97000**	T10, D08,J	410000	4700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Chrysene	**1500000**	T10, D08	410000	4000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Dibenz[a,h]anthracene	**160000**	T10, D08,J	410000	4700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Dibenzofuran	**110000**	T10, D08,J	410000	4200	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C

Golder Associates, Inc. - Niagara Falls, NY
2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

Analytical Report

Sample ID: RTF1262-04 (B-9-W10-N5 - Solid) - cont. **Sampled: 06/22/10 10:45** **Recvd: 06/22/10 14:20**

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Semivolatile Organics by GC/MS - cont.										
Diethyl phthalate	ND	T10, D08	410000	12000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Dimethyl phthalate	ND	T10, D08	410000	11000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Di-n-butyl phthalate	ND	T10, D08	410000	140000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Di-n-octyl phthalate	ND	T10, D08	410000	9400	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Fluoranthene	**2000000**	T10, D08	410000	5800	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Fluorene	**640000**	T10, D08	410000	9300	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Hexachlorobenzene	ND	T10, D08	410000	20000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Hexachlorobutadiene	ND	T10, D08	410000	21000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Hexachlorocyclopentadiene	ND	T10, D08	410000	120000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Hexachloroethane	ND	T10, D08	410000	31000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Indeno[1,2,3-cd]pyrene	**400000**	T10, D08,L2, J	410000	11000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Isophorone	ND	T10, D08	410000	20000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Naphthalene	**590000**	T10, D08	410000	6700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Nitrobenzene	ND	T10, D08	410000	18000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
N-Nitrosodi-n-propylamine	ND	T10, D08	410000	32000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
N-Nitrosodiphenylamine	ND	T10, D08	410000	22000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Pentachlorophenol	ND	T10, D08	790000	140000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Phenanthrene	**4200000**	T10, D08	410000	8500	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Phenol	ND	T10, D08	410000	42000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Pyrene	**3300000**	T10, D08	410000	2600	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
2,4,6-Tribromophenol	*	*T10, D08,Z3*	*Surr Limits: (39-146%)*				*06/30/10 20:27*	*MAF*	*10F2051*	*8270C*
2-Fluorobiphenyl	*240 %*	*T10, D08,Z3*	*Surr Limits: (37-120%)*				*06/30/10 20:27*	*MAF*	*10F2051*	*8270C*
2-Fluorophenol	*	*T10, D08,Z3*	*Surr Limits: (18-120%)*				*06/30/10 20:27*	*MAF*	*10F2051*	*8270C*
Nitrobenzene-d5	*	*T10, D08,Z3*	*Surr Limits: (34-132%)*				*06/30/10 20:27*	*MAF*	*10F2051*	*8270C*
Phenol-d5	*	*T10, D08,Z3*	*Surr Limits: (11-120%)*				*06/30/10 20:27*	*MAF*	*10F2051*	*8270C*
p-Terphenyl-d14	*60 %*	*T10, D08,Z3*	*Surr Limits: (58-147%)*				*06/30/10 20:27*	*MAF*	*10F2051*	*8270C*
General Chemistry Parameters										
Percent Solids	**82**		0.010	NR	%	1.00	06/24/10 13:52	JRR	10F2079	Dry Weight

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2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracte	Units	Extract Volume	Units	Date Prepared	Lab Tech	Extraction Method
General Chemistry Parameters									
Dry Weight	10F2079	RTF1262-01	10.00	g	10.00	g	06/24/10 09:56	JRR	Dry Weight
Dry Weight	10F2079	RTF1262-02	10.00	g	10.00	g	06/24/10 09:56	JRR	Dry Weight
Dry Weight	10F2079	RTF1262-03	10.00	g	10.00	g	06/24/10 09:56	JRR	Dry Weight
Dry Weight	10F2079	RTF1262-04	10.00	g	10.00	g	06/24/10 09:56	JRR	Dry Weight
Semivolatile Organics by GC/MS									
8270C	10F2051	RTF1262-03	30.04	g	20.00	mL	06/24/10 08:00	CJM	3550B MB
8270C	10F2051	RTF1262-01	30.25	g	20.00	mL	06/24/10 08:00	CJM	3550B MB
8270C	10F2051	RTF1262-02	30.63	g	20.00	mL	06/24/10 08:00	CJM	3550B MB
8270C	10F2051	RTF1262-04	30.65	g	20.00	mL	06/24/10 08:00	CJM	3550B MB

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Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
Semivolatile Organics by GC/MS											
Blank Analyzed: 06/30/10 (Lab Number:10F2051-BLK1, Batch: 10F2051)											
2,4,5-Trichlorophenol			170	36	ug/kg wet	ND					
2,4,6-Trichlorophenol			170	11	ug/kg wet	ND					
2,4-Dichlorophenol			170	8.7	ug/kg wet	ND					
2,4-Dimethylphenol			170	45	ug/kg wet	ND					
2,4-Dinitrophenol			330	58	ug/kg wet	ND					
2,4-Dinitrotoluene			170	26	ug/kg wet	ND					
2,6-Dinitrotoluene			170	41	ug/kg wet	ND					
2-Chloronaphthalene			170	11	ug/kg wet	ND					
2-Chlorophenol			170	8.5	ug/kg wet	ND					
2-Methylnaphthalene			170	2.0	ug/kg wet	ND					
2-Methylphenol			170	5.1	ug/kg wet	ND					
2-Nitroaniline			330	54	ug/kg wet	ND					
2-Nitrophenol			170	7.6	ug/kg wet	ND					
3 & 4 Methylphenol			330	9.3	ug/kg wet	ND					
3,3'-Dichlorobenzidine			170	150	ug/kg wet	ND					
3-Nitroaniline			330	38	ug/kg wet	ND					
4,6-Dinitro-2-methylphenol			330	58	ug/kg wet	ND					
4-Bromophenyl phenyl ether			170	53	ug/kg wet	ND					
4-Chloro-3-methylphenol			170	6.9	ug/kg wet	ND					
4-Chloroaniline			170	49	ug/kg wet	ND					
4-Chlorophenyl phenyl ether			170	3.6	ug/kg wet	ND					
4-Nitroaniline			330	19	ug/kg wet	ND					
4-Nitrophenol			330	40	ug/kg wet	ND					
Acenaphthene			170	2.0	ug/kg wet	ND					
Acenaphthylene			170	1.4	ug/kg wet	ND					
Acetophenone			170	8.6	ug/kg wet	ND					
Anthracene			170	4.3	ug/kg wet	ND					
Atrazine			170	7.4	ug/kg wet	ND					
Benzaldehyde			170	18	ug/kg wet	ND					
Benzo[a]anthracene			170	2.9	ug/kg wet	ND					
Benzo[a]pyrene			170	4.0	ug/kg wet	ND					
Benzo[b]fluoranthene			170	3.2	ug/kg wet	ND					
Benzo[g,h,i]perylene			170	2.0	ug/kg wet	ND					
Benzo[k]fluoranthene			170	1.8	ug/kg wet	ND					
Biphenyl			170	10	ug/kg wet	ND					

Golder Associates, Inc. - Niagara Falls, NY
2221 Niagara Falls Blvd., Ste 9
Niagara Falls, NY 14304

Work Order: RTF1262

Project: Golder - Vandermark/Isochem site
Project Number: [none]

Received: 06/22/10
Reported: 07/02/10 11:35

LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
Semivolatile Organics by GC/MS											
Blank Analyzed: 06/30/10 (Lab Number:10F2051-BLK1, Batch: 10F2051)											
Bis(2-chloroethoxy)methane			170	9.1	ug/kg wet	ND					
Bis(2-chloroethyl)ether			170	14	ug/kg wet	ND					
Bis(2-chloroisopropyl) ether			170	17	ug/kg wet	ND					
Bis(2-ethylhexyl) phthalate			170	54	ug/kg wet	ND					
Butyl benzyl phthalate			170	45	ug/kg wet	ND					
Caprolactam			170	72	ug/kg wet	ND					
Carbazole			170	1.9	ug/kg wet	ND					
Chrysene			170	1.7	ug/kg wet	ND					
Dibenz[a,h]anthracene			170	2.0	ug/kg wet	ND					
Dibenzofuran			170	1.7	ug/kg wet	ND					
Diethyl phthalate			170	5.0	ug/kg wet	ND					
Dimethyl phthalate			170	4.4	ug/kg wet	ND					
Di-n-butyl phthalate			170	58	ug/kg wet	ND					
Di-n-octyl phthalate			170	3.9	ug/kg wet	ND					
Fluoranthene			170	2.4	ug/kg wet	ND					
Fluorene			170	3.8	ug/kg wet	ND					
Hexachlorobenzene			170	8.3	ug/kg wet	ND					
Hexachlorobutadiene			170	8.5	ug/kg wet	ND					
Hexachlorocyclopentadiene			170	50	ug/kg wet	ND					
Hexachloroethane			170	13	ug/kg wet	ND					
Indeno[1,2,3-cd]pyrene			170	4.6	ug/kg wet	ND					
Isophorone			170	8.3	ug/kg wet	ND					
Naphthalene			170	2.8	ug/kg wet	ND					
Nitrobenzene			170	7.4	ug/kg wet	ND					
N-Nitrosodi-n-propylamine			170	13	ug/kg wet	ND					
N-Nitrosodiphenylamine			170	9.1	ug/kg wet	ND					
Pentachlorophenol			330	57	ug/kg wet	ND					
Phenanthrene			170	3.5	ug/kg wet	ND					
Phenol			170	18	ug/kg wet	ND					
Pyrene			170	1.1	ug/kg wet	ND					
Surrogate: 2,4,6-Tribromophenol					*ug/kg wet*		*106*	*39-146*			
Surrogate: 2-Fluorobiphenyl					*ug/kg wet*		*99*	*37-120*			
Surrogate: 2-Fluorophenol					*ug/kg wet*		*79*	*18-120*			

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Work Order: RTF1262

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Received: 06/22/10
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LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
Semivolatile Organics by GC/MS											
Blank Analyzed: 06/30/10 (Lab Number:10F2051-BLK1, Batch: 10F2051)											
Surrogate: Nitrobenzene-d5					*ug/kg wet*		*87*	*34-132*			
Surrogate: Phenol-d5					*ug/kg wet*		*85*	*11-120*			
Surrogate: p-Terphenyl-d14					*ug/kg wet*		*101*	*58-147*			
LCS Analyzed: 06/30/10 (Lab Number:10F2051-BS1, Batch: 10F2051)											
2,4,5-Trichlorophenol			170	36	ug/kg wet	ND		59-126			
2,4,6-Trichlorophenol			170	11	ug/kg wet	ND		59-123			
2,4-Dichlorophenol			170	8.7	ug/kg wet	ND		52-120			
2,4-Dimethylphenol			170	45	ug/kg wet	ND		36-120			
2,4-Dinitrophenol			330	58	ug/kg wet	ND		35-146			
2,4-Dinitrotoluene		3290	170	26	ug/kg wet	3140	95	55-125			
2,6-Dinitrotoluene			170	41	ug/kg wet	ND		66-128			
2-Chloronaphthalene			170	11	ug/kg wet	ND		57-120			
2-Chlorophenol		3290	170	8.5	ug/kg wet	2490	76	38-120			
2-Methylnaphthalene			170	2.0	ug/kg wet	ND		47-120			
2-Methylphenol			170	5.1	ug/kg wet	ND		48-120			
2-Nitroaniline			330	53	ug/kg wet	ND		61-130			
2-Nitrophenol			170	7.6	ug/kg wet	ND		50-120			
3 & 4 Methylphenol			330	9.3	ug/kg wet	ND		50-119			
3,3'-Dichlorobenzidine			170	150	ug/kg wet	ND		48-126			
3-Nitroaniline			330	38	ug/kg wet	ND		61-127			
4,6-Dinitro-2-methylphenol			330	58	ug/kg wet	ND		49-155			
4-Bromophenyl phenyl ether			170	53	ug/kg wet	ND		58-131			
4-Chloro-3-methylphenol		3290	170	6.9	ug/kg wet	2790	85	49-125			
4-Chloroaniline			170	49	ug/kg wet	ND		49-120			
4-Chlorophenyl phenyl ether			170	3.6	ug/kg wet	ND		63-124			
4-Nitroaniline			330	19	ug/kg wet	ND		63-128			
4-Nitrophenol		3290	330	40	ug/kg wet	2850	87	43-137			
Acenaphthene		3290	170	2.0	ug/kg wet	3020	92	53-120			
Acenaphthylene			170	1.4	ug/kg wet	ND		58-121			
Acetophenone			170	8.6	ug/kg wet	ND		66-120			
Anthracene			170	4.3	ug/kg wet	ND		62-129			
Atrazine			170	7.4	ug/kg wet	ND		73-133			
Benzaldehyde			170	18	ug/kg wet	ND		21-120			
Benzo[a]anthracene			170	2.9	ug/kg wet	ND		65-133			
Benzo[a]pyrene			170	4.0	ug/kg wet	ND		64-127			

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LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
Semivolatile Organics by GC/MS											
LCS Analyzed: 06/30/10 (Lab Number:10F2051-BS1, Batch: 10F2051)											
Benzo[b]fluoranthene			170	3.2	ug/kg wet	ND		64-135			
Benzo[g,h,i]perylene			170	2.0	ug/kg wet	ND		50-152			
Benzo[k]fluoranthene			170	1.8	ug/kg wet	ND		58-138			
Biphenyl			170	10	ug/kg wet	ND		71-120			
Bis(2-chloroethoxy)methane			170	9.1	ug/kg wet	ND		61-133			
Bis(2-chloroethyl)ether			170	14	ug/kg wet	ND		45-120			
Bis(2-chloroisopropyl) ether			170	17	ug/kg wet	ND		44-120			
Bis(2-ethylhexyl) phthalate		3290	170	54	ug/kg wet	3710	113	61-133			
Butyl benzyl phthalate			170	45	ug/kg wet	ND		61-129			
Caprolactam			170	72	ug/kg wet	ND		54-133			
Carbazole			170	1.9	ug/kg wet	ND		59-129			
Chrysene			170	1.7	ug/kg wet	ND		64-131			
Dibenz[a,h]anthracene			170	2.0	ug/kg wet	ND		54-148			
Dibenzofuran			170	1.7	ug/kg wet	ND		56-120			
Diethyl phthalate			170	5.0	ug/kg wet	ND		66-126			
Dimethyl phthalate			170	4.3	ug/kg wet	ND		65-124			
Di-n-butyl phthalate			170	58	ug/kg wet	ND		58-130			
Di-n-octyl phthalate			170	3.9	ug/kg wet	ND		62-133			
Fluoranthene			170	2.4	ug/kg wet	ND		62-131			
Fluorene			170	3.8	ug/kg wet	ND		63-126			
Hexachlorobenzene			170	8.3	ug/kg wet	ND		60-132			
Hexachlorobutadiene			170	8.5	ug/kg wet	ND		45-120			
Hexachlorocyclopentadiene			170	50	ug/kg wet	ND		31-120			
Hexachloroethane		3290	170	13	ug/kg wet	2300	70	41-120			
Indeno[1,2,3-cd]pyrene		3290	170	4.6	ug/kg wet	2310	70	56-149			L2
Isophorone			170	8.3	ug/kg wet	ND		56-120			
Naphthalene			170	2.8	ug/kg wet	ND		46-120			
Nitrobenzene			170	7.4	ug/kg wet	ND		49-120			
N-Nitrosodi-n-propylamine		3290	170	13	ug/kg wet	2760	84	46-120			
N-Nitrosodiphenylamine			170	9.1	ug/kg wet	ND		20-119			
Pentachlorophenol		3290	330	57	ug/kg wet	2500	76	33-136			
Phenanthrene			170	3.5	ug/kg wet	ND		60-130			
Phenol		3290	170	18	ug/kg wet	2440	74	36-120			
Pyrene		3290	170	1.1	ug/kg wet	3930	119	51-133			

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LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
Semivolatile Organics by GC/MS											
LCS Analyzed: 06/30/10 (Lab Number:10F2051-BS1, Batch: 10F2051)											
Surrogate: 2,4,6-Tribromophenol					*ug/kg wet*		*102*	*39-146*			
Surrogate: 2-Fluorobiphenyl					*ug/kg wet*		*91*	*37-120*			
Surrogate: 2-Fluorophenol					*ug/kg wet*		*67*	*18-120*			
Surrogate: Nitrobenzene-d5					*ug/kg wet*		*77*	*34-132*			
Surrogate: Phenol-d5					*ug/kg wet*		*76*	*11-120*			
Surrogate: p-Terphenyl-d14					*ug/kg wet*		*108*	*58-147*			

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☐

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client: Gobler Associates	Project Manager: Pat Martin	Date: 6-22-10	Chain of Custody Number: 148801
Address: 2221 Niagara Falls Blvd, Suite 9	Telephone Number (Area Code)/Fax Number: 716-215-0650	Lab Number:	Page 1 of 1
City: Niagara Falls / State: NY / Zip Code: 14304	Site Contact: Pam Cook	Lab Contact:	
Project Name and Location (State): SNPE Van	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No:			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	SVOCs	Special Instructions/ Conditions of Receipt
B-9-W5-N5	6-22-10	1005				X							X	
B-9-N10	6-22-10	1025				X							X	
B-9-W5-N10	6-22-10	1035				X							X	
B-9-W10-N5	6-22-10	1045				X							X	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

1. Relinquished By	Date: 6-22-10	Time: 1420	1. Received By	Date: 6/22/10	Time: 1420
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

ATTACHMENT C

TEST PIT SUMMARY TABLE

TABLE C-1

SNPE - VANDEMARK
2010 SUPPLEMENTAL DNAPL INVESTIGATION
SUMMARY OF TEST PIT OBSERVATIONS – JUNE 9, 2010

Test Pit No.	Observations/Notes	Total Depth (ft)
TP-1	Test pit located in West end of the remedial area. Several 6-inch coal tar chunks were observed. Test pit was excavated to refusal at 4 feet below ground surface (bgs).	4
TP-2	Test pit located in West end of the remedial area just North (i.e. upslope) of the toe of the slope. No tar was observed. Test pit was excavated to refusal at 3 feet bgs.	3
TP-3	Test pit located in West-central area of the remedial area. Several 6-inch diameter coal tar chunks were observed. Test pit was excavated to refusal at 5.5 feet bgs.	5.5
TP-4	Test pit located in North-central area of the remedial area just upslope from the toe of the slope. A small number of tar blebs, a few inches in diameter, were observed. Test pit was excavated to refusal at 4.5 feet bgs.	4.5
TP-5	Test pit located in North-central area of the remedial area. Several fist-sized tar blebs were present. Test pit was excavated to refusal at 4 feet bgs.	4
TP-6	Test pit located in South-central area of remedial area. Several fist-sized tar blebs were present. Test pit was excavated to refusal at 4.7 feet bgs.	4.7
TP-7	Test pit located in Eastern end of remedial area North of the top of the slope. A large amount of tar was observed and estimated to be 5-10% of the total material excavated. Test pit was excavated to refusal at 2.4 feet bgs.	2.4
TP-8	Test pit located in the flat portion of the Eastern end of the remedial area. A large amount of tar was observed and estimated to be 10% of the total material excavated. Test pit was excavated to refusal at 3.6 feet bgs.	3.6
TP-9	Test pit located near the roadway at the Eastern end of the remedial area. No tar was observed. Test pit was excavated to refusal at 3.2 feet bgs.	3.2
TP-10	Test pit located near the upper seep area near the stone block structure. Tar was observed and estimated to be 2% of the total material excavated. The tar was observed approximately 5-6 feet bgs. Due to the limits of the excavation equipment, the test pit was dug to 7 feet bgs without reaching the bedrock (max reach of excavator). The final pit size was approximately 2 feet wide and 10 feet long. Bedrock was not encountered at 7 feet bgs.	7
TP-11	Test pit located near the upper seep area. A tar vein was observed approximately 5-6 feet bgs. There was also greenish sand present. The final pit size was approximately 2 feet wide and 8 feet long. Bedrock was not encountered at 7 feet bgs.	7
TP-12	Test pit located near the upper seep area. Several tar blebs were observed on the top of the bedrock at 5.6 feet bgs. There was also some greenish granular material present.	5.6
TP-13	Test pit located East of the stone block structure on the road. A few tar blebs were observed but appear to have been placed there as fill and not having flowed to that location. The pit was excavated to a depth of 7 feet bgs without encountering bedrock.	7
TP-14	Test pit located East of the stone block structure on the road. No tar was observed. Some pieces of green pipe were present. The final depth to refusal was 6.5 feet bgs.	6.5