

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

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.

David C. Wehn, CPG

Associate

Sincerely,

GOLDER ASSOCIATES INC.

Patrick T. Martin, P.E., BCEE

Senior Consultant

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





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:

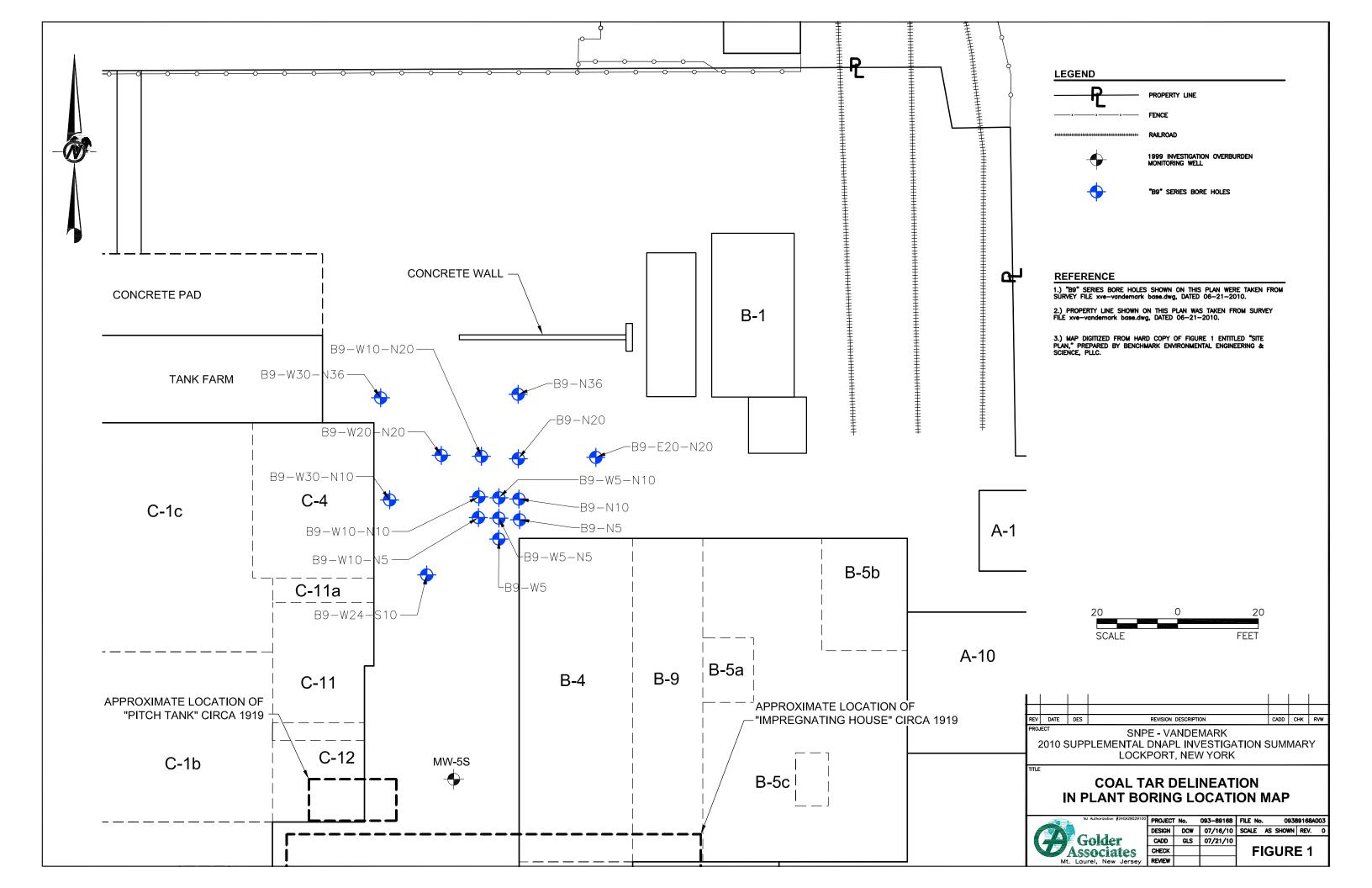
Analyses performed by Test America Inc.

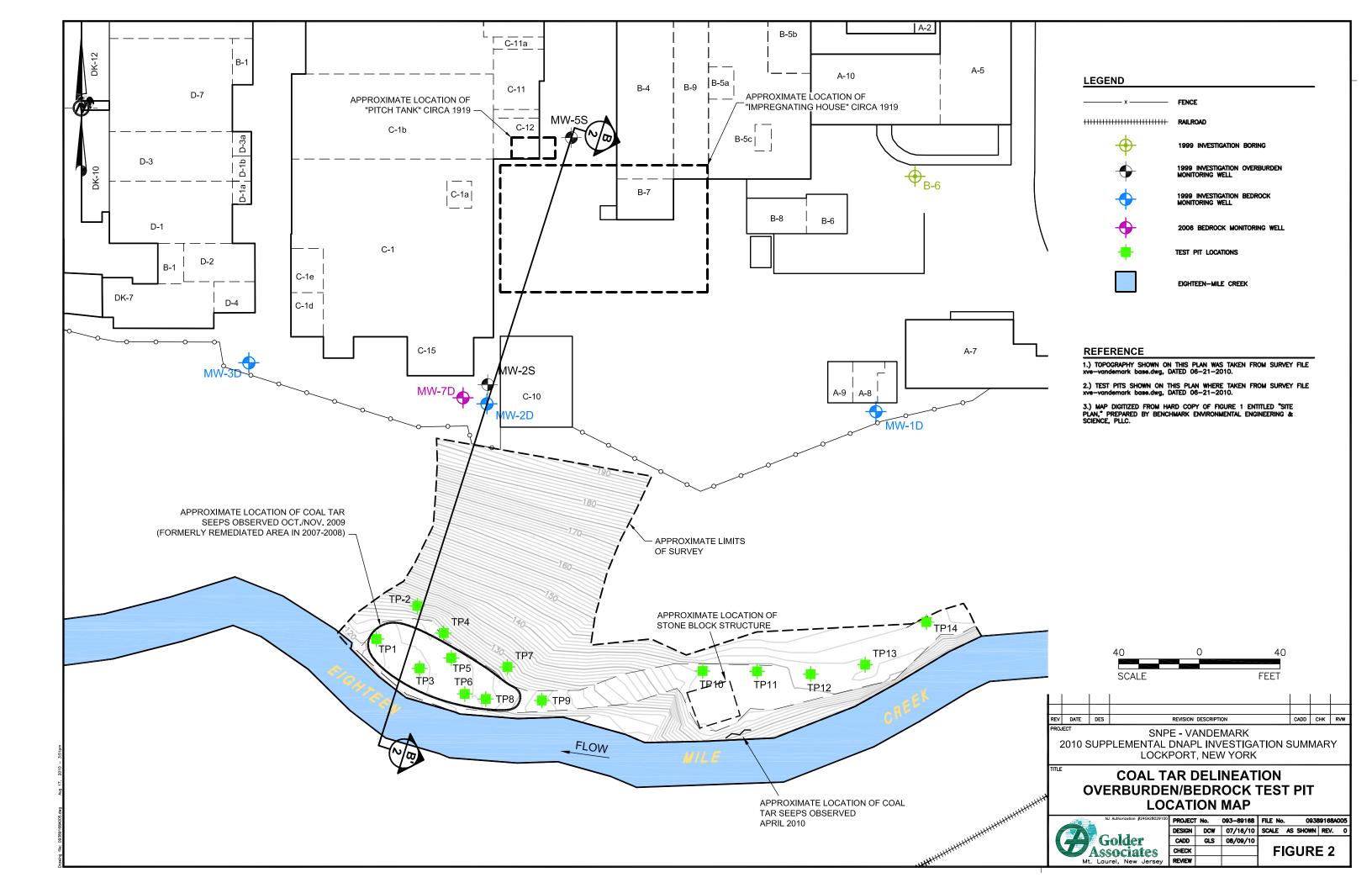
Qualifications:

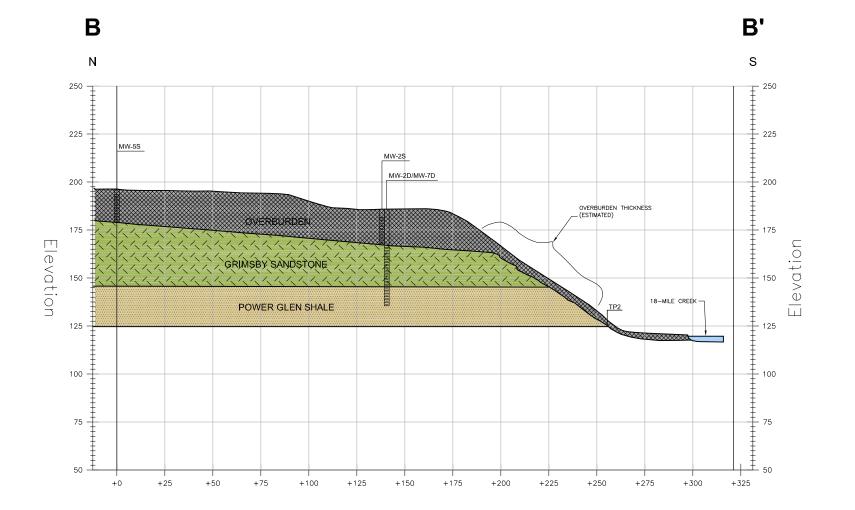
- ¹ = Sample had an adjusted volume during extraction due to extract matrix and/or viscosity.
- $^{2}\,$ = Dilution required due to high concentration of target analyte.
- ³ = Analyte detected at a level less that Reporting Limit and greater than or equal to the Method Detection Limit. Concentrations 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









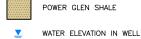
LEGEND



OVERBURDEN

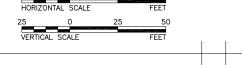


GRIMSBY SANDSTONE



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)



REV	DATE	DES	REVISION DESCRIPTION	CADD	снк	RV
ı						

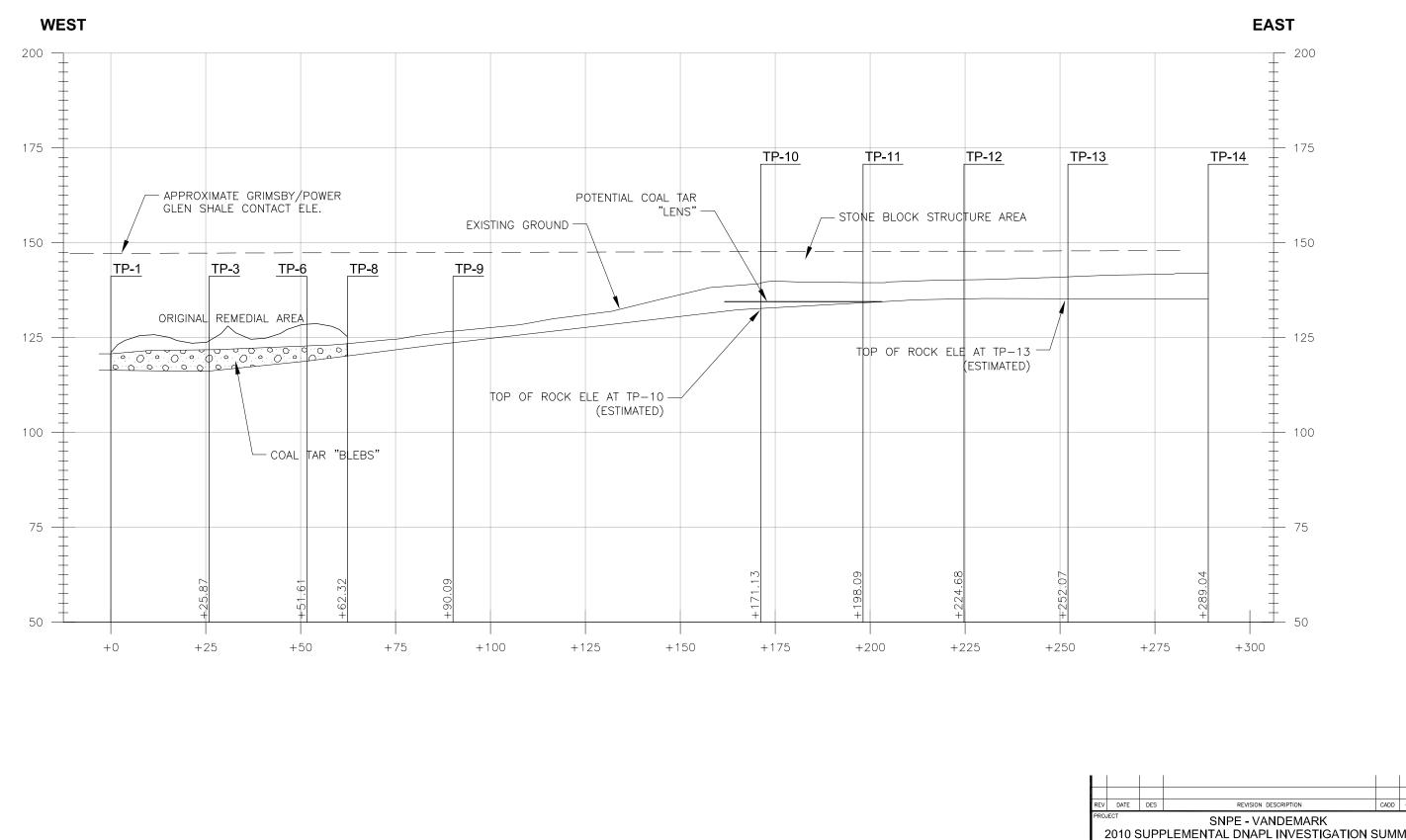
PROJECT

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

CROSS SECTION B-B'

NJ Authorization #24GA28029100	PROJI
	DESIG
Golder Golder	CADE
Associates	CHEC
Mt. Laurel, New Jersey	REVIE

PROJEC1	No.	093-89168	FILE No		09389168A002				
DESIGN	DCW	08/09/10	SCALE	AS	SHOWN	REV.	0		
CADD	AM	08/09/10	_						
CHECK			l FI	G	URE	Ξ3			
	DESIGN CADD	DESIGN DCW CADD AM	DESIGN DCW 08/09/10 CADD AM 08/09/10	DESIGN DCW 08/09/10 SCALE CADD AM 08/09/10	DESIGN DCW 08/09/10 SCALE AS CADD AM 08/09/10	DESIGN DCW 08/09/10 SCALE AS SHOWN CADD AM 08/09/10	DESIGN DCW 08/09/10 SCALE AS SHOWN REV. CADD AM 08/09/10		





TEST PIT CROSS SECTION

NJ Authorization #24GA28029100	PROJECT	No.	093-89
	DESIGN	AL	07/29
Golder	CADD	GLS	08/09
Associates	CHECK		
Mt. Laurel, New Jersey	REVIEW		

FEET

VERTICAL SCALE

28029100	PROJECT	No.	093-89168	FILE No		0938	39168A	006
	DESIGN	AL	07/29/10	SCALE	AS	SHOWN	REV.	0
	CADD	GLS	08/09/10					
es :	CHECK			l Fl	G	URE	Ξ4	
rsev	REVIEW				_			

ATTACHMENT A
BORING LOGS

DEPTH NO. DIST DEPTH TIME W SAMPL AS A	WE NIA HAS. PRO	1) WE L. RA 15°F o. N/A	NN HN	DAIL DAIL VT WT	LING LING L RI SAM CAS	METHOD COMPANY G	Ge Ze DD MER A	600	DMACK BORING NO. BG-NS COVE MACFOCUTE SHEET LOF L DRILLER D. PINO DATUM DROP N/A STARTED 9:30 / 6/32/10 DROP N/A COMPLETED 9:45 / 6/32/10 SOIL DESCRIPTION -RANGE OF PROPORTION SAMPLE TRACE 0 - SOMM 12 NO. SAM
12 7.2 41 D1	OFTED TUBE FRAME F	FINE	178	Pi Pi	H 4 ES	PRESSURE HYDRA PRESSURE MANU- REO RESIDUAL ROCK	ΔL	TR WL WM T	FRACE WATER LEVEL WEIGHT OF HAMMER VEH DENSE VON 10 10 10 10 10 10 10 10 10 10 10 10 10
ELEV. DEPTH	DESCRIPTION	BLOWS		NO.		HAMM BLOWS PER 6 IN IFORCE	REC	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
2 3				-		PID= 0.0 ppm	4,2	-	O.O 0.3 FT roadbase GRAVEL. O.3-4,2 FT Dark brown to redrish crushed brick wood, silt, sanci, grovel FILL. Slight road tar odor.
5 6 7 8				2		P10 = 0.0 ppm	25/25		5.0-75 FT Dark Erown Sand, grovel, Silt, Fill with Some Erished brick. Slight coal far octor. Refosal @ 7.5 FT Cuttings returned to borehole, tamped, and covered with asphall patch.

Fleid Boring Log

DEPTH DEPTH NO. DIST DEPTH TIME W SAMPL AS AU CS CH OO OR OS DE PS MIT AC AD TO IM	SOIL DAILL 5.0 G	IA INSP ENERTHER TO THE TOTAL THE TO	PAIN PAIN SOF	<u>N</u> 0	ROJEC RILLIN RILLIN T. SAI T. CA	OF METHOD OF COMPANY OF COMPANY OF COMPANY OF COMPANY OF COMPANY MEDIUM MICACEOUS MOTILED NOM-PLASTIC ORANGE ORANGE ORANGE RESIDUAL ROCX	Van Ge Ze D ER A	De Ero LA LA SAT SSI SSI SSI SSI SSI SSI SSI SSI SSI SS	MARK BORING NO. B9 - WS OPP MACEOCUSE SHEET OF DRILLER D. PINO DATUM DROP N/A STARTED 7:45 / 612100 OROP N/A COMPLETED 7:55 / 612100 SOIL DESCRIPTION - RANGE OF PROPORTION SAMPLE SALURATED (11TLE 5 1/2 AND 30 30 11. SOME (10OSE 1.5 1.0 SMH 3 MOLID) WASTERLEVEL (20MACE) (20 11.0 SMH 3 MOLID) WASTERLEVEL (20 11
ELEV	DESCRIPTIO	N	BLOWS	1	10. 111	SAMPLES HAMM BLOWS PER 6 IN IFORCE	REC	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
2 3						PiD=	3.5	-	Boring 5 FT W of NW corner of 159. O.O. SO FT Dark Erown to recklish SILT SAND GRAVEL - FILL No coal tar odor. Refusal Q 5.0 FT
ھ ، مىدانىيىلىيىيالىيىيالىيىيالىيىيالىيىيالىيىيا									Cuttings returned to Eurebole, tamped, and sovered with asphall patch.
 المناسيليس استاسي المساسية المساسية									

34 05	DEPTH DEPTH NO. DIST DEPTH TIME W SAMPL AS AU CS CX OO OP OS DE PS PHI RC. PO SST SL TO IN	SOIL DRILL 5.5 ROCK CORE NA SA O UD. SA D WI NIA L. NIA E TYPES GER SAMPLE UNK SAMPLE UNK SAMPLE CK CORE DITED TUBE UNK MALLED. OPEN UNKMALED. OPEN UNKMALED. PSTON	BAINSP ENEATHER TO THE TEMP TO	NEH L. RAH SOF NIA	N DRIL ORIL WT AB	BREVIATIONS MEDIUM MEDIUM MECACOUS MOTILO M	GE Zel	DRILLER D. PING DRICK DROP NA DROP NA DROP NA SOIL DESCRIPTI SA SAMPLE IRACE GITTA SIT SALUPATED SIT SALUPATED SO SAND SI SILT SW SOILT SW SOILE COMPACT CP	1
	ELEV OEPTH	DESCRIPTIO		BLOWS FT	20.	SAMPLES TYPE HAMM FE ON IFORCE PID = O.O. ppm	4.5	Boring S FT N NW J corner of O.O GU FT Dar to reddish SILT FILL, Same (cal tar from Strong road ta	k brown to black SKAD + GRAVEL. Erick. Lib-21 FT odor.
	ال ما الا الاستانيسانيسانيسانيسانيسانيسانيسانيسانيسانيس				Level of the section	PID=0:0	09.05	Cuttings return	d of Cost tar. who sict, SAND to reted. No coal 1.5 FT et to borehole, Covered with tch.
	بتدنهانيينيالا ووالمورا ومتعانية والربر وارتفيا ويرواني								

COUNTS SAMPLE OF COMMENT AND CONTROL OF CONT	DEPTH S DEPTH S NO DIST DEPTH S TIME W	SOIL DRILL S.O. ROCK CORE WA SA O UD. SA I	WEATHER OTEMP 75. HRS. PROD.	WEH! VERCA VA	N DAI ST DAI DAI WT	LLING LLING LLING LL RI SAM CAS	DEPTHENS AND	Van Ge Ze DD	De Ero LA LA	MACK BORING NO. 139-N10 TOP MACIFOCUSE. SHEET 1 OF 1 DRILLER D. PINO DATUM DROP N/A STARTED 10:15, 6/22/10 DROP N/A COMPLETED 10:25, 6/22/10 SOIL DESCRIPTION -RANGE OF PROPORTION SAMPLE INACE OF SAMPLE 10.
DiD= 43 DiD= 44 DiD= 43 DiD= 43 DiD= 44 DiD	CS CH 00 08 03 06 95 PT 8C. RO ST SLC 10 INI	UNK SAMPLE VE OPEN VISON SAMPLE CHER SAMPLE CHER SAMPLE OFFED TUBE NIVALLED, OPEN NIVALLED, PISTON	C CA CCA CCA CCA CCA CCA CCA CCA CCA CC	Coarse Lasing Clay Clayey The Tragments Gravel Layered		MOT MP OG ORG PH PM RES AX	MOTTLED MONTLASTIC OPANGE OPANGE OPESSURE HYDRA PRESSURE MANUA RED RESHOUAL ROCK	oric	SD SI SIY SM FR WL WH T	SATURATED SATURATED
DID= 43 OO PT Dark brown to re to light ten SILT, SNND + GRAVEL with Some word to Light ten Granvier subtance Sarry substance near be at tip of sample sheet top of rock. Coal tar odor.		DESCRIPTI			NO			REC	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
Cuttings returned to boreho tamper and covered with	-2								_ 	O.O.B.O. FT Dark brown to reldent to light ten SILT SMD + GRAVEL with some word + brick. Light ten granular subtrace. Sombly six stance near bettom a sample (soveral inches thick) Coal tar from 2.3 J.8, FT and
	-									Cuttings returned to boreholf,

Description and Section of the secti	DEPTH	HOLE 5.0 100	но 01	3-89	63 -	HOJE	CT	Van	De	Mark BORING NO. B9-W5-NIO
NO. 0187 3A D. UO SA 1. TEMP TO C. DARLE NO. DEPTH W. NA HAS PRADO ALLA WY SAMPLER HAMMER NIA OROP NIA STARTED 10:30, 10:	DERTH	SOIL DOLL 5/0 GA	INSP I	<u>) المرتبا</u>	IN o	AILLI	NG METHOD .	<u></u>		TORE MACEOCORE SHEET OF _ I
TIME WIL NIA HAS PAGO AIA HAS DELAYED O WT CASING NAMER NIA DAOP NIA STARTED O DISTINGUISH DELAYED SAMPLE TYPES ABBREVIATIONS ABBREVIATIONS ABBREVIATIONS ABBREVIATIONS ABBREVIATIONS SOIL DESCRIPTION - RANGE OF PROPORTION OF COMMENTS OF COMMEN	DEPTH	AOCK CORE NA WE	ATHER C)() - ^ =	<u>471</u> o	RILLI	NG COMPANY LL-17	20	010	5 P
SAMPLE TYPES ABBREVIATIONS ABBREVI	NO. DIST	SA UO. SA TEN	up _/Q	1/2					ila	1/1/20 1/12/10
SAMPLE TYPES ABBREVIATIONS SOIL DESCRIPTION - ARNOE OF PROPORTION ASSOCIATION A	DEPTH	WL NA HR	9. PRQ0.	<u> </u>	~ *	/T 3/	MPLER HAMM	ER	I I A	1984 0 245
SAMPLE TYPES MACE 1	TIME W	t <u>N/A</u> на:	S. DELAY	rED	*	IT CI	ASING HAMME	#/\		OROPCOMPLETED ZOTTO . DANSIE
SAMPLE TYPES MACE 1						ABBI	EVIATIONS			SOIL DESCRIPTION - RANGE OF PROPORTION
COLAME AND COLORED COL	15 40	GER SAMPLE				M	MEDIUM			SAMPLE TRACE! 0 '- SIME IT IU-
PICTURE SAMPLE ST. SOLOTED TORS THE CONTROL OF TH	00 04	IVE OPEN	ć	COARSE		MQT	MOTILED		SO	SAND
SAMPLE DESCRIPTION BLOWS SAMPLES SAMPLE DESCRIPTION AND BORING NOTES PLANTING THE PROPERTY OF THE PROPERTY	PS PI	CHER SAMPLE	CL	CLAY		06	ORANGE ORGANIC		SM	SILTY VERY LOOSE VES U.S. VERY SER! VS (ETHILUES SOME LOOSE LS 410 SOFE > MULUS LABET
The manufacture of the control of th	ST SL	OTTED TUBE IN-WALLED, OPEN	FRAG	FRAGMEN	**	PM	PRESSURE MANUA		WL	WATER LEVEL OFFISE ON MING STAF ST IMMANUSHIS
SAMPLES NO TYPE PROPERTY OF THE PROPERTY OF T	JP TH	IN-WALLED, PISTON	LTO	LAYERED		RES	RESIDUAL			
PID= 13 0.0 ppm 5.0 PiD= 13 0.0 ppm 5.0 PiD= 13 Coal tar from 1.7-2.1 FT Coal tar oder. Sample collected of coal tar. Refusal @ 5 FT Country gand covered with	<u> </u>		u	LITTLE						
PID= 13 0.0 ppm 5.0 PiD= 13 0.0 ppm 5.0 PiD= 13 Coal tar from 1.7-2.1 FT Coal tar oder. Sample collected of coal tar. Refusal @ 5 FT Country gand covered with	FLEV	0.555.0107104	1		\neg			065	PIH	SAMPLE DESCRIPTION AND BORING NOTES
PID= O.O. B.O. FT Dark Frown SILT ShND, GLAVER & Brick, Fice. Saray Sandy material From Si.7-4.3 FT Coal far odor. Sample adjected of coal far. Refusal @ 5 FT Cythings returned to borehole tambér a grid covered with		DESCRIPTION		FT		יד .פא	PER LIN	ATT	DE	
PID= 3 O.O. F.O. FT Dark crown Sitt ShND, GLAVEL + Brick, Fice. Dark gray Sandy material From J. 7-4.3 FT Coal far odor. Sample adjected of coal far. Refusal @ 5 FT Cythings returned to borehole, tamora, and covered with	F		_		1	1	-			
PID: N.3 O.O. ppm St. D. General Erown SIL St. D. General Selection From SiJ-4:3 FT Coal far oder. Sample collected of coal far. Refusal @ 5 FT Coultings returned to borehole, Tamper , and covered with	Ē١		1		4	- 1			-	
Cuttings returned to borehole, tamper and covered with	‡ `]	-				
Cuttings returned to borehole, tarmined, and covered with	Ez						PIDE	N.3	-	
Coal tar from 1.7-2.1 FT Coal tar oder. Sample relected of coal tar. Refusal 6 5 FT Cyttings returned to borehole, tarmed and covered with	F	ļ	1		1	,	0.000			7
Coal Tar trom 1.1-d.1 fl. Coal Tar odor. Sample reflected of coal tar. Refusa (6 5 FT) Cythings returned to borehole, tamped, and covered with	£3	1			4	1	In	5.0	-	
Sample reflected of coal tar. Refusal @ 5 FT Cuttings returned to borehole, tamped, and covered with	ŧ -	!]			_		Coal far from 1.7 - 2.1 FT
Sample collected of coat far. Refusal @ 5 FT Cuttings returned to borehole, tamora, and covered with	E 4				1 -				-	Coal tar oder.
Cuttings returned to borehole, tamped, and covered with	F]		İ		j	2
Cuttings returned to borehole, tamped, and covered with	-54				-	_			_	Sample reflected of rout Tal.
tamora and covered with	Ē]					Refusal @ 5 FT
tamora and covered with	-	1			F				'	
tamora and covered with	Ē						Ì		_	
tamora and covered with	E)]					
tamora and covered with	Ė.				1 3		1			
tamora and covered with	-	1	1]					
tamora and covered with	Ē									
tamora and covered with	F				1 1					
tamora and covered with	E				4	- 1		!	.	Catalog cotacod to bocehola
	ŧ				}		1			
	E		·		-]	[.	
	E						İ			
	F				-]]				
	F]			1 1					
	F	1			-	- {		1	'	
	ļ.	i	:]	- 1				
	F					[1	
	E			}	1					
	F								'	
	E				1					
	-									
	E				1			}		
	Ė]					
				1	<u> </u>					
	E]					
	;		!		Ŀ				Ι.	
	F]]			1		
	Ė				4					
	F									
	Ė				E					
	F									
	E				4		1			
	Ŀ					ļ		[19
	E			<u> </u>	1			1		

Field Roring Fog

DEPTH	HOLE 5.0	108 HQ.	73-89	168	PRO.	JECT		Van	De	Mark BORING NO. B9-W10-NS
DEPTH	HOCK CORE NA	. GA INSP :	LIPA	t IV	DRIL	LING	COMPANY		Era	SURFACE ELEV
NO. DIS	7 84 0 40 34 T	TEMP 7	5°F		DRIL	LAF	0 <u>pp40</u>	<u>دا ۲</u>		DRILLER D. CIDO DATUM
DEPTH	WL NIA	HAS. PAOC	o. <u>A///</u>		w T	MAE	PLER HAMM	er <u>N</u>	<u>IA</u>	DROP N/A STARTED 10:40 , 6/22/10
TIME	*110	HRS. DELA	YED	2_	wT	CAS	SMMAH BNI	в <u>—</u> И	<u>IA</u>	DROPNA COMPLETED 10:50 . 6 4210
<u></u>							_			
	LE TYPES		BLACK		8 4		VIATIONS		SA	SOIL DESCRIPTION - RANGE OF PROPORTION SAMPLE TRACE O - 30M LE IU-
cs o	luger sample Hunk sample Drive open	BL BA C	SROWN COARSE			HC HQT	MICACEOUS MOTILED		547 50	SAMP
05 0	SENISON SAMPLE STOHER SAMPLE	CL CL	CLAY			KG.	NON-PLASTIC ORANGÉ DAGANIC		SIT	SILT RELATIVE DENSITY BLOWS CONSISSIENCY SINCE PRESSURE SILTY VEHY LOGSE VIS U.4 VEHY SUPE VS LATINIUS SOME INTERES IS 4.10 MPE S. MINISTIANEY
AC.	NOCK CORE	GLT F FRAG	GLAYEY FINE FRAGMEN	TS		144	PRESSURE HYDRA PRESSURE HANDA	ULIC	TA WL	TRACE COMPACT OF 10 30 HMM 144 ADCITS WATER LEVEL RANGE DIM 114 CTM 51 (PRIAM INTERNAL
TP 1	MINIWALLED, OPEN MINIWALLED, PISTON NASH SAMPLE	GL LTD	CAYERED CAYERED			ES	AESIDUAL		₩H Y	WEIGHT OF HAMMER YET DENSE YON OF HERE SENS VS INJUMENT HOLES TO HAMMAN A COLOR OF THE SENS OF THE SEN
		U	UFFLE			*	POCH .			
ELEV	DESCRIPT	101	BLOWS FT				AMPLES HAMM, BLOWS PER 6 IN IFORCE	REC	EPTH	SAMPLE DESCRIPTION AND BORING NOTES
DEPTH					NO.	7796	IFORCE)	∕ ATT	9	Boring 10 FT W and 5 FT N
Ē.				1				1	_	of JNW corner of B9.
E']]						0.0-6,0 FT Dark brown SILT
Ez]			0.0-	11.7	_	SAND GRAVEL with some
E				=	1		biD=	4.0		Jan sondy material just
-3] =			0.0pm	5.0	_	above refusal.
E				3			1			Cool tor 1.3-1.15 FT
E4				-					-	Cool far 1.3-1.6 Fl
F									j	Sample collected of coal tar.
-5-					-	+			-	Refusal @ 5.0 FI
Ė										RE 1034
F				:						
E]					١,	
F	}					1			1	
E				-	1				-	<u> </u>
Ē				:	1					
F				-	1				-	
ŧ				:	1			}		
F				7	1				'	Cuttings returned to borehole,
Ē]	1			į	١.	tamped, and covered with
F					1					asphalt parch.
Ė			1] -	1					
Ę					1			1		
-				-	1	1			.	
Ė				'	‡					
<u> </u>				-	1				.	
F					1					
F				-	<u> </u>	1			'	
Ė					1					
E					1		ł		'	
E				-	1] .	
					1					
F				-	1					
F					1					
Ė				-	3					
Ē					1					
F				-	1				[]	
Ė					1					
E				-	1					
Ę					1					
E]	1			1	[]	
Ε				لــــــــــــــــــــــــــــــــــــــ	1_	\perp			<u> </u>	

DEPTH S DEPTH F NO. DIST DEPTH Y TIME WI SAMPLE AS AUCCS CHIH DO OH DO OH ST SCO IO THIH	SA DUD. SA TE	EATHER LIKE	HN C	PROJ DRILI DRILI WT :	ECT LING LING SAM CAS	G GOMPANY G BOTC PLER HAMM ING HAMME ING HAMME VIATIONS MEDIUM MICACEOUS MOTILED ORANGE ORGANIC PRESSURE HANDA RESURE HAND	GER A	De E CO E CO E CO E CO E CO E CO E CO E CO	Mark BORING NO. B9-WIO-NIO
ELEV	DESCRIPTION	BLOWS		NO.		AMPLES MAMM. BLOWS PER 6 IN IFORCE	REC	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
2 3				١		P10 =	4.1 5.0	-	Bering 10 FT Wand 10 FT N of MW corner of B9. 6.0-5.0 FT Caal tar From 1.0-2.1 FT, 3.0-39 FT, and at bottom d shoe. Coal tar odor. Crushed GPAVEL 1.1-1.4 FT then crushed Ericle, SAND + GRAVEL- FILL.
 -5 -				2		P10 =	0.8		5.0-100 FT Dork Stown SAND.
ا ما									Cuttings returned to borehole, tamped, and covered with as the patch.

Fleid Boring Log

DEPTH Y DEPTH Y TIME WI SAMPLE AS AM C1 CM D3 DEPTH Y AC AD D5 DEPTH Y AC AD TAC AD	SOIL DRILL SID GA INSI ROCK CORE WA WEATH SA DUO. 3A TEMP NL NA HRS. PI NA HRS. DI E TYPES GER SAMPLE UNE OPEN INSON SAMPLE CHEP SAMPLE CH	BL BLACK BROWN C COARSE CL CLAYED CL CLAYEY FINE FRAGG FRAGMENTS GA GARNEL CL CLAYEY FINE FRAGG FRAGMENTS GA GARNEL CL CLAYEY FINE FRAGG FRAGMENTS GA GARNEL CL CLAYEY FINE CL CLAYEY FINE FRAGG FRAGMENTS GA GARNEL CLYTO LAYERED UTTLE	ORILL ORILL WT S ABE	LING COMPANY L RIG 600 SAMPLER HAMM CASING HAMME BREVIATIONS MICHOEOUS OF MOPILISTIC ORANGE ORANGE ORANGE ORANGE RESSURE MANUA RESSURE MANUA RESSURE NORANGE RESSURE MANUA RESSURE MANU	GE Zel	SOIL DESCRIPTION -RANGE OF PROPORTION SA SAMPLE SALDRATED SECTION -RANGE OF PROPORTION SA SAMPLE SALDRATED SECTION -RANGE OF PROPORTION SA SAMPLE SALDRATED SECTION -RANGE OF PROPORTION SALT SALDRATED SECTION - RANGE OF PROPORTION SI SALT SECTION - SALDRATE OF PRESSURE SI SALT SECTION -RANGE OF PROPORTION SAM SOME LOOSE 12 A 10 SOFT SHOULD -RANGE OF PROPORTION MATERIAL SECTION -RANGE OF PROPORTION SAM SOME LOOSE 12 A 10 SOFT SHOULD -RANGE OF PROPORTION MATERIAL SECTION - RANGE OF PROPORTION SAM SAMPLE SALT SHOULD - SAM SAM SAM SAM SAM SAM SAM SAM SAM SAM
ELEV DEPTH	DESCRIPTION	BLOWS	NO.	TYPE PER 6 IN	REC	SAMPLE DESCRIPTION AND BORING NOTES
- 2 3 4 5				PID= 0.0 _{ppm}	3.1	Boring 20 FT N of NW corner of B9. OD-50 Dark Grown to ten SILT SAND & GRAVEL with Some wood. FILL. Cool far from 15-19 FT. Cool far odor
ليتريطينين البينيانين والتنزل وباستماء يتبايين والتنزيلين والتريط ويتراوي والتروط والتروط						Cuttings returned to borehole, tamped and covered with asphalt patch.

Fleid Boring Loy

DEPTH F NO. DIST DEPTH F TIME WI SAMPLE AS AUC CS CHI DO DM DS DEP PS PHIF RC ADD ST SUC TO THE	SOIL DRILL 4.5 GA INSP S ROCK CORE WA WEATHER SA OUD SA TEMP 7. VL NA HRS. PROD	BLACK BROWN COARSE CLAFT CLAFT FINE	PROJECT ORILL DRILL WT. S	ING METHOD ING COMPANY RIG 602 AMPLER HAM! A SING HAMME REVIATION 3 MEDIUM MICACEOUS IN MOTIED NORMALSTIC ORANGE ORGANIC PRESSURE MANUARED	Jan Ge Ze D AER A	De CON Era	MARK BORING NO. B9-W10-N20 OF MACEOCUSE. SHEET OF I ENV. SURFACE ELEV DRILLER D. PINO DATUM DROP N/A STARTED II:20 6/32 IO OROP N/A COMPLETED II:30 6/42/IO SAMPLE IRACE 0 - 30MM II N/ SAMPLE IRACE 0 - 30MM II N/ SAMPLE IRACE 0 - 30MM II N/ SAMPLE IRACE 0 - 30MM II N/ SAMPLE IRACE 0 - 30MM II N/ SAMPLE IRACE 0 - 30MM II N/ SAMPLE IRACE 0 - 30MM II N/ SAMPLE IRACE 0 - 30MM II N/ SAMPLE IRACE 0 - 30MM II N/ SAMPLE IRACE 0 - 30MM II N/ SILT RESAMPLE DEMENT BLOWS COMMARTENCY PRESSURE IRACE COMPACT CP III 30 10MM IA MOLITO ANT IN THE INTERPRESSURE IRACE COMPACT CP III 30 10MM IA MOLITO ANT IN THE IRACE OPENSE IN N/ N/ O STREET ST TRUMMIN SIRM SET TRUMMIN SIRM SET TRUMMIN SET TRUMIN SET TRUMMIN SET TRUMMIN SET TRUMMIN
ELEV. DEPTH	DESCRIPTION	BLOWS FT	NO. T	SAMPLES HAMM BLOW: PEREIN IFORCE	REC	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
2 3 4			***************************************	PID= 0.0ppm	4.2	-	Social 10 FT W and 20 FT N of NW Corner of B9. 0.0-4.5 FT Dark frown SILT SAND + GRAVEC with Some brick, Fill. Coal tar 2.5-2.9 and 3.7-35 FT. (val tar odor.
- 40							Cuttings returned to borehold, tamped, and sovered with asphalt patch.

DEPTH IN NO. DIST	SOIL DRILL 4.0 GA INSP ROCK CORE WA WEATHER SA QUD. SA TEMP NIA HRS. DEI TYPES SER SAMPLE BL	D. WEHA	DRILLI DRILLI DRILL WY SA	NG METHOD NG COMPANY RIG 600 AMPLER HAMM ASING HAMME REVIATIONS MEDIUM	GE ZED D HER _N	era LIA LIA	MARK BORING NO. B9-W20-N20 OCP MACCOCCE SHEET OF ENV. SURFACE ELEV DRILLER D. PINO DATUM DROP N/A STARTED 11:30, 6/22/10 DROP N/A COMPLETED 11:40 6/22/10 SOIL DESCRIPTION -RANGE OF PROPORTION TRACE OF SOME 12 NOW 12
0.0 0RI 0.5 06/ 0.5 PIT A.C. ADI 5.T SLC 7.O fine 1.P. the	VE OPEN G HISON SAMPLE GA CHÉR SAMPLE CL CK COME GL DITTED TUBE P	CDARSE CASING CLAT Y CLAYEY FINE AG FRAGMENTS GRAVEL D LAYERED	MOT NP ORG ORG PM PM R RES RES	MOTILED MOH-PLASTIC ORANGE DAGANIC PRESSURE HYDRA PRESSURE MANU/ RED	ULIC U	SI 5 SIV 5 SM 5 TA 1	SAMD RIT AGLATIVE DEMBETY 0-LOWS CUMSISTENCT FONCE PRESSURE SLIPY VERY LODGE VIS U - VERY SLIP V S EXTROLS FRACE COOSE C - 4 (0 SDE - 0 MAN AM AM AMOUNT ASAN'S FRACE CENSE NA 11-40 STAR ST FRACENT-MAINTS WEIGHT DE NAMMER VENT DEMSE VON 30 VERY SLIP VIS FRAMMAN AMOUNT FELLOW HARD N 4ESD: 15 FRAMMENA
ENTH 1 2 3 4 5	DESCRIPTION	BLOWS FT	20. 1	SAMPLES HAMM BLOWS PER SIN IFORCES	3.0	DEPTH.	Borine 30 FT W and 30 FT N of JNW corner of exilding Da. C.O. 4.0 Tan Shall and GPANBL. FILL Coal for from 2.0-2.9 FT. Coal for odos. Relosal & 4.0 FT PID displayed for error"- no reading 2 possible for remainder of day. Cuttings returned to be chele, tamping and covered with as ghalf parch.
<u> </u>	<u> </u>		1				

DEPTH SOLDER THE WILL SAMPLE AS AUDICS CHOSE OF PIT AC. ROLLER TE SECOND ST SC. TO THE SECOND ST SC. TO THE SECOND	GOIL DRILL 7.0 GA INSP GOCK CORE MA WEATHER SA QUD SA 2 TEMP 7 VL NA HRS. DELA TYPES GER SAMPLE JIMK SAMPLE USON SAMPLE USON SAMPLE USON SAMPLE USON SAMPLE USON GAMPLE UN CORE TYPED TUBE INWALLED. OPEN INWALLED. OPEN GA GA GA GA GA GA GA GA GA GA	D. WEHL OVEOCH SOF WED BLACK SHOWN COARSE CLANG CLAN	N DRILL ST DRILL DRILL WT WT AB	LING METHOD LING COMPANY LING DODA LING COMPANY LING DODA AMPLER HAMM BREVIATIONS MEDIUM MICACEOUS MI		SOIL DESCRIPTION - RANGE OF PROPORTION A STARTED 11:45 / 6/2/10 NIA DROP NIA COMPLETED 12:00 / 6/2/10 SOIL DESCRIPTION - RANGE OF PROPORTION A SAMPLE TRACE 0 - 7 20 mm 12 mm SA SAMPLE TRACE 1 / 7 20 mm 12 mm SO SAMU SI SALURATED TRACE 1 / 7 20 mm 12 mm SO SAMU SI SILT RELATIVE DENSITY BLOWS CONSISTENCY 7 mIGLA PRESSURE SIV SILT VARY COSSE VIS 0 - VERY SUR! 2 mIGLA PRESSURE VARY COSSE 12 4 10 20 mm 1 mm 1 mm 12 mm VARY COSSE 12 4 10 20 mm 1 mm 1 mm 12 mm VIEW WATER LEVEL COMPACT CP 10 20 10 mm 1 mm 1 mm 1 mm 1 mm 1 mm VIEW WORLD OF MARMARE VIEW DENSE DAY 30 VIEW SIJOF 31 TIMULIA PRESSURE VIEW WORLD OF MARMARE VIEW DENSE DAY 30 VIEW SIJOF 31 TIMULIA PRESSURE VIEW WATER LEVEL COMPACT CP 10 20 0 mm 1 mm
	SH SAMPLE LYO	BLOWS		RES RESIDUAL AN ROCK		Y TELLOW HAND IN HISTORY STRANGALA
ELEV DEPTH	DESCRIPTION	FI	NO.	TYPE HAMM. BLOWS	RECATY	Boring 30 FT Wand 10 FT N
1 2 3 4			مساسساسيدانساس		3.2	O.O. S.O. FT Gray to Elack SNND + GPAVEL. FILL.
۶ - ا			- 2		1.8	Standard Petronament
 						Cuttings returned to borehole, tamped and covered with as phall patch.

				20.00	11-			ild Bo			
	DEPTH	HOLE 40	108 HOQ	3 54	[6 3 :	PRO-	ECT.		<u>i/an</u>	<u>De</u>	Mark BORING NO. BT- W30-N36
	DEPTH :	SOIL DRILL RO	GA INSP &	J. W.C.	<u>.57</u>	DAIL	LING		20	60	
				50E				1. (- 1.0		Corre	ORILLER D. PINO DATUM
	i	SA O UD SAG		116		DAIL				ITA	DROP N/A STARTED 12145 6/1210
	DEPTH	NI NIA	HRS. PROD					PLER HAMM		IA	OROP NA COMPLETED 13:00 61210
	TIME W	NIA	HAS. DELA	YED	<u> </u>	W 1	CAS	ING HAMME	H		UNOV TO THE TOTAL THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TOT
						AA	BRE	VIATIONS		_	SOIL DESCRIPTION - RANGE OF PROPORTION
	45 40	E TYPES Gersample	BL	BLACK				MEDIUM MICACEOUS		SA Sai	SAMPLE
	00 00	UNK SAMPLE IVE OPEN	E C CA	BROWN COARSE CASING			OT	MOTILED MOHPLASTIC		50 Si	SANO SILT AMATIVE DENEITY BLOWS CONSISTENCY FINGER PRESSURE
	PS PIT	NISON SAMPLE CHER SAMPLE CK CORE	CL CLY	CLAY		۰	G RG	DAGANIC		SIV SM	SILTY VEHY LOOSE VES U.4 VEHY SEPT VS (STREETS SOME CODES AS A 10 SOME S MALES BASET
	ST SLO	OFFED FUSE W.WALLED, OPEN	FRAG	FINE FRAGMEN	71	P1	₩	PRESSURE HYDRA PRESSURE MANUA	NL .	WL.	TRACE COMPACT CP IU 30 1000 144 MQIIIS WATER LEVEL DENSE ON 10 40 5105 ST (MUNH-HIGHES
	FP THI	M-WALLED, PISTOM SM SAMPLE	GL 170	GRAVEL LAYERED LITTLE		A A	€5	RESIDUAL ROCX		WH T	AERCM NEW AFFA GENZE ADM 30 NEWS 21115 AZT INTURNATIVELY AREA OF AERS ADM 30 NEWS 21115 AZT INTURNATIVELY
	Ļ		U	CHICE			_				
	ELEV	DESCRIPT	101	BLOW3		NO.		HAMM. BLOWS PER 6 IN IFORCE	REC	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
	DEPTH					NO.		(FORCE)	-ATT	٥	Boring 30 FT Wand 36 FT N of
	E :										NW COFFER OF B9
	Li i				-					-	100-50 FT Dark brown to black
	-			1	=						grovely SAND FILL
	-1				-				11.2	-	grovelly Grite.
	ξ :	1			1	1			4,2		Chahed Erick 129-3.7FT
	-3				=				5.0	-	(nel tac 18 - 20 FT, Cost
	Ę			1	1 1				٦,٠		Tor odos.
	Ę٧				=				1	-	
	ļ.				Ιį		'				
	-5				-						5.0-8.0 FT Dark brown Coarse
1	E,]						SAND + GRAVEL.
¥	<u>L</u> b				ΕI	2			1.8	'	
	Ē,					_		İ			Hetroliteras odar.
200	£7	}			=				3.0	'	
	E8-										Kerusal (8.0 FT
	F°-				1 3					1	
	Ė				=						
	}			1	1 3						
	Ē	,			4						Cuttines returned to Eurehole.
	E	ţ			3			}	1	1	tamped, and covered with
	£] -					.	as shalf patch.
	Ė] =						
	F.			1	-			İ			
	Ē				:						
	1	1			-					•	
	E				:						
	F				=					} '	
	F				3		1	1			
	F				=			-			
	È										
	F				-					Ι΄	
	E										
	E				=						
100, 101, 1	E				:						
	Ē				3						
	Ē]] .	
	F				:					1	
	ŧ			3.5	=	1				.	
	E										
	Ė				1 3	1				Ι.	
	E				=						
	E				1 -	1				[.	
	Ē	}			:	1					79
	F	l				1_	<u>L.</u>	<u> </u>			

DEPTH	HOLE 4.5	JOB NO	13-89	68	PRO.	JECT		ilan	D	Mark 8081115 HO. 39 - N36
DEPTH	SOIL DRILL 4,5	GA INSP) . <u>ಉಲ</u>	M	DRIL	LING	METHOO .	<u>G</u> e		rote Macrocure sheet 1 of 1
DEPTH	ROCK CORE NA	WEATHER	OVERC	ASI	OAIL	LING	COMPANY	<u> Ze</u>	6/6	SUAFACE ELEV
NO. DIS1	1 44 0 40 34 1	. TEMP	5° E	_	ORIL					ORILLER D. PINO DATUM
DEPTH	WE NA	HRS. PROC		_	wT.	MAE	PLER HAMM	ЕЯ <u>- №</u>	<u> </u>	DROP N/A STARTED 3:05 6 22 10
TIME W	NIA	HAS. DELA	ک ۵۶۲	2	wT	CAS	ING HAMME	a <u> </u>	<u>(/A</u>	OROP NA COMPLETED 13:15 614110
SAMPL	E TYPES						PROITAL			SOIL DESCRIPTION -RANGE OF PROPORTION SAMPLE TRACE O - SIMM 12 No.
cs c	IGER SAMPLE HUNK SAMPLE	8F.	BLACK			HC	MEDIUM MICACEOUS MOTILED		5A 5A! 5D	SAMPLE STATE SOUTH
D S D	nve open Enison sample	CA CL	COARSE CASING CLAY		H	NB.	NON-PLASTIC ORANGE		\$4 \$17	SILT ABLATIVE DEMSITY BLOWS CONSISTENCY FINGLE PRESSURE SILTY VERY COOSE VSS U4 VERY SUF YS (ALINIOUS
AC. R	TCHER SAMPLE DCX CORE .OTTED TUBE	CLY	GLAVEY		۰	IRG H	ORGANIC PRESSURE HYDRA	VLIC	MZ A1	SOME LOOSE LS 6-10 SOM S SHOULDS LSSHIT TRACE COMPACT CP 10 30 SHM IN MOUTS
i to 19	UN-WALLED, OPEN	FRAG GL	FRAGMEN GRAVEL	15	я		PRESSURE MANUA RED		WE	WEIGHT OF MAMMER YEAR OLD DC MON BEACH PORTION BOTTOM BOTTOM BEACH OF MANAGEMENT TEN STATE OF MON BEACH PORTION OF
	ash samplé	170 U	LITTLE		A		AESIDUAL ROCX		۲	TELLOW MANU M 4555 % THUMBRAG
							AMPLES		z	
ELEV	DESCRIPT	104	BLOWS				HAMM. BLOWS	REC	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
DEPTH							(FORCE)	FAII	-	Boging 36 FT N of NW Corner
E	1									OF J BC.
-1				-		1				
E				-						Black to dark gray SAND+ GRAVEL
<u> </u>				-	1			3.5	٠	to 19 FT they reddish SILT+
E				=	١,			11 6		CLAY.
-3				-				4,5	١ .	101111111111111111111111111111111111111
E				:		1				Coal tar 1.3- 1.7 FT, Coal tar
<u> </u>			1	-	1				1	- 0 0
£			 	-	 	╁				[Letusal @ 4.5 FT
-5			1	-	1					
Ę				:	1				-	
F			1	-	1					
ļ.					1					
F	1		}	1 3	1		l			
Ė			ĺ	:	1		1			
F				-	3					6.0
E]	1					
F	Ì		i]						
ţ				} }	3					
E	1			;	1		ļ			Cultinas returned to borchole,
E				-]					tamped and covered with
F					1					
È			1] -	1		1	1		
F					1	1		,		
E.				-	4					
Ė					1					
E				-	1					
E					1					
-				-	1		ļ			
E			i		‡					
-				-	3					
E			İ		‡					
F				-	‡					
					3	İ				
F				-	1					
F]					
F				"	1					
Ē					1					
F			'	-	1					
E					1					
F				1 -	1					Ţ
Ē					‡					
F				-	3					
Ē					1	i				
L				_	-	_	·	•	_	N. C. C. C. C. C. C. C. C. C. C. C. C. C.

SAMPLE TYPES SAMPLE TYPES ABBREVIATIONS ABBREVIATIONS ABBREVIATIONS SOIL DESCRIPTION -PANCE OF PROPOR INCOMPSIANTS B. BLACK B. B	DEPTH HOCK CORE WA	WEATHER OVER	AST DRILLING COMPAN	- George V Zebra 100	TORE MACTOCUTE SHEET OF
SAMPLE TYPES *** - *** *** *** *** *** *** *** ***	DEPTH WL INTA	HRS. DELAYED	2 WT CASING HAMN	ER NIA	
DEFIN DESCRIPTION FT NO. TYPE FORCE SALE SCATT SALE DESCRIPTION AND BORING NOTES DEFIN 20 FT and 20 FT N of NUM representations of BA O-1 M FT Croshed concrete. 1.4-39 FT reddish frown Site with Some Sand. Cuttings returned to bereticle tamped, and covered with	AS AUGER SAMPLE CS CHUMR SAMPLE DO ORVE OPEN DS DENISON SAMPLE PS PICTOREP SAMPLE AC ROCK CORE ST SLOTTED TUBE TO PHIN WALLED. PSTON	GR AROWN C COARSE CA CASMG CL CLAY CLY CLATEY F FINE FRAG FRAGME GL GRAVEL LYO LATERED	M MEDIUM MICL CEGUS MOT MOTTLED NP MON-PLASTIC OG GRANIC PM PRESSURE HYD PM ARESURE HYD RES ARESULAL	SA SAT SO SI SIY SM IRAULIC TR WL	SAMPATED SAMD SALTMATED SILT MELATIVE DEMISTY BLOWS CONSISTENCY FINGLE PRESSURE SILT VERY COOSE VS 0 4 VERY SLPT VS EXTRIBUTE SAMP TRACE COMPACT CP 10 30 3001 3 MACLIDI RAMY COMPACT CP 10 30 300 3 MACLIDI RAMY WATER SALVE VM 70 5104 51 IMMANY RAMEN
2 3.9 0-1.4 FT croshed concrete. 1.4-39 FT reddish brown Site with some Sand. Cuttings returned to borehole tamper, and covered with	ELEY DESCRIPT			NS REC ATT	
5.0 T.4-39 FT redain grown site with some sand. Cyttings returned to bereheld tamper and covered with	-1		1	-	Nw corner of B9
Cyttings returned to borehole tampéd, and covered with	E		411		1.4-39 FT reddish brown SILT
Cyttings returned to borehole tamped and covered with	Ē			-	
	5				tamped, and covered with

	DEPTH NO. DIST DEPTH TIME WITH SAMPLE	SOIL DRILL 5.3 G	VEATHER_ VEMP75 HRS. PROD.	OF NA	N	PROJECT ORILLI ORILLi ORilli ORilli ORilli ORilli ORilli ORilli ORilli Orilli O	LING LING CASI	METHOD. COMPANY G BOAC PLER HAMME VIATIONS MEDIUM MICACEOUS	Van Ge Ze D BER A	De coprobera	Mark BORING NO. 139-WHY-SIO
	ELEV DEPTH	DESCRIPTIO	N	BLOWS		NO.		AMPLES HAMM, BLOWS PER 6 IN IFORCE	REC	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
	1 2 3 4 5 b					,			3/50		Sociac 24 FT W and 10 FT S of NW J COLOR of 199. O.D. S.O. FT Gray GRAVEL and SAND TO JUDE FT. Then black GRAVEL and SAND. Petroliferous and Societies with asphalt patch.
1	<u> </u>					<u> </u>	_				

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

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number: [none]

TestAmerica Buffalo Current Certifications

As of 06/17/2010

STATE	Program	Cert # / Lab ID
Arkansas	CWA, RCRA, SOIL	88-0686
California*	NELAP C WA, 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	N Y 0 0 4 4
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 p arameters 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

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number: [none]

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.

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

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

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number: [none]

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.



Niagara Falls, NY 14304

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

Work Order: RTF1262

Received: 06/22/10

Reported:

07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number: [none]

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			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		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 Param	<u>eters</u>										
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,	840000	23000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C	
	00000	D08,L2, J	0.40005	4.00-	_		00/00/40 15 15		10500=:	00700	
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

Received: 06/22/10

07/02/10 11:35 Reported:

Project: Golder - Vandermark/Isochem site

Project Number: [none]

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 Para	ameters									
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 I	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		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		10F2051	8270C
Carbazole	200000	T10, D08,J	740000	8500	ug/kg dry	200	06/30/10 20:04		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,	740000	20000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
N. 141.1	4500000	D08,L2, J	740000	40000		000	00/00/10 00 01		4050054	20722
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	WAF	10F2051	8270C
General Chemistry Para			0.040	ND	%	4.00	00/04/40 42:50		405070	Dm. Mainht
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 I	by GC/MS									
2-Methylnaphthalene	530000	T10, D08	410000	4900	ug/kg dry	100	06/30/10 20:27		10F2051	8270C
Acenaphthene	830000	T10, D08	410000	4700	ug/kg dry	100	06/30/10 20:27		10F2051	8270C
Acenaphthylene	19000	T10, D08,J	410000	3300	ug/kg dry	100	06/30/10 20:27		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		10F2051	8270C
Benzo[b]fluoranthene	1000000	T10, D08	410000	7800	ug/kg dry	100	06/30/10 20:27		10F2051	8270C
Benzo[g,h,i]perylene	570000	T10, D08	410000	4800	ug/kg dry	100	06/30/10 20:27		10F2051	8270C
Biphenyl	77000	T10, D08,J	410000	25000	ug/kg dry	100	06/30/10 20:27		10F2051	8270C
Carbazole	97000	T10, D08,J	410000	4700	ug/kg dry	100	06/30/10 20:27		10F2051	8270C
Chrysene	1500000	T10, D08	410000	4000	ug/kg dry	100	06/30/10 20:27		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		10F2051	8270C
Fluoranthene	2000000	T10, D08	410000	5800	ug/kg dry	100	06/30/10 20:27		10F2051	8270C
Fluorene	640000	T10, D08	410000	9300	ug/kg dry	100	06/30/10 20:27		10F2051	8270C
Indeno[1,2,3-cd]pyrene	400000	T10,	410000	11000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Naphthalene	590000	D08,L2, J T10, D08	410000	6700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C



Work Order: RTF1262

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Executive	Summary	y - 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	Sampled: 06/22/10 10:45 Recvd: 06/22/10 14:20								
Semivolatile Organi	cs by GC/MS - co	ont.								
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 I	Parameters Parameters									
Percent Solids	82		0.010	NR	%	1.00	06/24/10 13:52	JRR	10F2079	Drv Weigh



Work Order: RTF1262

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number: [none]

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	



Niagara Falls, NY 14304

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

Work Order: RTF1262

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number: [none]

Analytical Report

			, , ,	idiy tiodi i	topolt	ъ	5 /			
A b . 4 -	Sample	Data	DI	MDI	11!4	Dil	Date	Lab	D-4-1-	
Analyte	Result	Qualifiers	RL	MDL	Units	Fac	Analyzed	Tech	Batch	Method
Sample ID: RTF1262-01 (B-9-W5-N5 -	Solid)			Samp	led: 06/	/22/10 10:05	Rec	vd: 06/22/1	0 14:20
Semivolatile Organics by	y GC/MS									
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		10F2051	8270C
3-Nitroaniline	ND	T10, D08	1400000	170000	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
4,6-Dinitro-2-methylphen ol	ND	T10, D08	1400000	250000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
4-Bromophenyl phenyl	ND	T10, D08	740000	230000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
ether	ND	T10 D00	740000	30000	ualka dar	200	06/20/10 10:16	NAAF	10F2051	8270C
4-Chloro-3-methylphenol	ND ND	T10, D08			ug/kg dry	200	06/30/10 19:16		10F2051 10F2051	8270C 8270C
4-Chloroaniline	ND ND	T10, D08 T10, D08	740000 740000	220000 16000	ug/kg dry	200 200	06/30/10 19:16 06/30/10 19:16		10F2051 10F2051	8270C 8270C
4-Chlorophenyl phenyl ether	ND	110, 000	740000	10000	ug/kg dry	200	00/30/10 19.10	IVIAL	1002051	02/UC
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		10F2051	8270C
Acenaphthene	2100000	T10, D08	740000	8600	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Acenaphthylene	30000	T10, D08,J	740000	6000	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Acetophenone	ND	T10, D08	740000	38000	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Anthracene	3000000	T10, D08	740000	19000	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Atrazine	ND	T10, D08	740000	33000	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Benzaldehyde	ND	T10, D08	740000	81000	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Benzo[a]anthracene	2900000	T10, D08	740000	13000	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Benzo[a]pyrene	2000000	T10, D08	740000	18000	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Benzo[b]fluoranthene	1400000	T10, D08	740000	14000	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Benzo[g,h,i]perylene	1000000	T10, D08	740000	8800	ug/kg dry	200			10F2051	8270C
Benzo[k]fluoranthene	560000	T10, D08,J	740000	8100	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Biphenyl	260000	T10, D08,J	740000	46000	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Bis(2-chloroethoxy)metha	ND	T10, D08	740000	40000	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
ne		-,			-3 3 - 7					
Bis(2-chloroethyl)ether	ND	T10, D08	740000	63000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Bis(2-chloroisopropyl)	ND	T10, D08	740000	77000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
ether 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 ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Carbazole	320000	T10, D08,J	740000	8500	ug/kg dry ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Chrysene	2800000	T10, D00,3	740000	7300	ug/kg dry ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Dibenz[a,h]anthracene	300000	T10, D08,J	740000	8600	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
Dibenzofuran	320000	T10, D08,J	740000	7600	ug/kg dry	200	06/30/10 19:16		10F2051	8270C



Work Order: RTF1262

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Ana	lytical	Report

	Sample	Data	-			Dil	Date	Lab		
Analyte	Result	Qualifiers	RL	MDL	Units	Fac	Analyzed	Tech	Batch	Method
Sample ID: RTF1262-01 (B-9-W5-N5 -	Solid) - cont	t.		Samp	led: 06	/22/10 10:05	Recv	/d: 06/22/1	0 14:20
Semivolatile Organics by	y GC/MS - c	ont.								
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
Hexachlorocyclopentadie	ND	T10, D08	740000	220000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
ne 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, D00	740000	20000	ug/kg dry ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
indeno[1,2,5-cd]pyrene	000000	D08.L2. J	740000	20000	ug/kg ury	200	00/30/10 19.10	IVIAI	101 200 1	02700
sophorone	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-propylamin	ND	T10, D08	740000	58000	ug/kg dry	200	06/30/10 19:16		10F2051	8270C
9-1411103001-11-propylai11111	115	1 10, 200	7 10000	00000	ag/itg ary		00/00/10 10:10		101 200 1	02,00
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,	Surr Limits:	(39-146%)			06/30/10 19:16	MAF	10F2051	8270C
		D08,Z3								
2-Fluorobiphenyl	360 %	T10,	Surr Limits:	(37-120%)			06/30/10 19:16	MAF	10F2051	8270C
	*	D08,Z3		(10 1000()			00/00//0 /0 /0			
2-Fluorophenol	*	T10,	Surr Limits:	(18-120%)			06/30/10 19:16	MAF	10F2051	8270C
N" 1		D08,Z3	0 1: "	(0.4.4000()			00/00/40 40 40		1050051	00700
Nitrobenzene-d5	^	T10,	Surr Limits:	(34-132%)			06/30/10 19:16	MAF	10F2051	8270C
Dhanal dE	*	D08,Z3	Cours I insite.	(44.4000()			06/00/40 40:46	1405	1050051	00700
Phenol-d5	-	T10,	Surr Limits:	(11-120%)			06/30/10 19:16	MAF	10F2051	8270C
n Tornhonyl d11	360 %	D08,Z3	Curr Limita	/50 1470/\			06/30/10 19:16	MAG	10F2051	8270C
p-Terphenyl-d14	300 %	T10, D08,Z3	Surr Limits:	(JO-14/70)			00/30/10 19.10	IVIAF	10F2051	02/00
General Chemistry Para	meters									
Percent Solids	91		0.010	NR	%	1.00	06/24/10 13:46	JRR	10F2079	Dry Weigh



Niagara Falls, NY 14304

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

Work Order: RTF1262

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number: [none]

Analytical Report

	0	5 /	,	iaiy iioai .	topo.t	D:I	Data			
Analysta	Sample	Data	RL	MDL	Unito	Dil Fac	Date	Lab	Dotob	Mada al
Analyte	Result	Qualifiers	NL	WIDE	Units	гас	Analyzed	Tech	Batch	Method
Sample ID: RTF1262-02 (B-9-N-10 - S	olid)			Samp	led: 06/	/22/10 10:25	Rec	vd: 06/22/10	0 14:20
Semivolatile Organics by	GC/MS									
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-methylphen ol	ND	T10, D08	1600000	290000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
4-Bromophenyl phenyl	ND	T10, D08	840000	270000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
ether	ND	T40 D00	0.40000	0.4000		000	00/00/40 40 40		1050051	00700
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	ND	T10, D08	840000	18000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
ether 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 ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C 8270C
Acenaphthene	1500000	T10, D08	840000	9800	ug/kg dry ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Acenaphthylene	ND	T10, D08	840000	6800		200	06/30/10 19:40	MAF	10F2051	8270C 8270C
Acetophenone	ND	T10, D08	840000	43000	ug/kg dry ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C 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 ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C 8270C
Benzaldehyde	ND	T10, D08	840000	92000	ug/kg dry ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C 8270C
Benzo[a]anthracene	3400000	T10, D08	840000	14000	0 0 ,	200	06/30/10 19:40	MAF	10F2051	8270C 8270C
Benzo[a]pyrene	2300000	T10, D08	840000	20000	ug/kg dry ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C 8270C
Benzo[b]fluoranthene	1600000	T10, D08	840000	16000	ug/kg dry ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C 8270C
Benzo[g,h,i]perylene	1100000	T10, D08	840000	10000	ug/kg dry ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
	610000	T10, D08,J	840000	9200			06/30/10 19:40		10F2051	8270C 8270C
Benzo[k]fluoranthene Biphenyl	160000	T10, D08,J	840000	52000	ug/kg dry	200 200	06/30/10 19:40	MAF MAF	10F2051 10F2051	8270C 8270C
	ND	T10, D08,3	840000	46000	ug/kg dry		06/30/10 19:40	MAF	10F2051 10F2051	8270C 8270C
Bis(2-chloroethoxy)metha	ND	110, 000	640000	40000	ug/kg dry	200	00/30/10 19.40	IVIAL	1002031	0270C
ne Bis(2-chloroethyl)ether	ND	T10, D08	840000	72000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
Bis(2-chloroisopropyl)	ND	T10, D08	840000	87000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
ether	ND	110, 200	040000	07000	ug/kg ury	200	00/00/10 10.40	IVI/-XI	101 200 1	02700
Bis(2-ethylhexyl)	ND	T10, D08	840000	270000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
phthalate	NID	T10 D00	940000	220000	المراادم عليه	200	06/20/40 40:40	N 4 A F	1052054	02700
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



Work Order: RTF1262

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

				. ,						
	Sample	Data	D.	MDL		Dil	Date	Lab	5.11	
Analyte	Result	Qualifiers	RL	MDL	Units	Fac	Analyzed	Tech	Batch	Method
Sample ID: RTF1262-02 (B-9-N-10 - S	olid) - cont.			Samp	led: 06	/22/10 10:25	Recv	/d: 06/22/1	0 14:20
Semivolatile Organics by	y GC/MS - co	ont.								
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
Hexachlorocyclopentadie	ND	T10, D08	840000	250000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
ne					0 0 ,					
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,	840000	23000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
		D08,L2, J								
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-propylamin	ND	T10, D08	840000	66000	ug/kg dry	200	06/30/10 19:40	MAF	10F2051	8270C
e										
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,	Surr Limits:	(39-146%)			06/30/10 19:40	MAF	10F2051	8270C
		D08,Z3								
2-Fluorobiphenyl	440 %	T10,	Surr Limits:	(37-120%)			06/30/10 19:40	MAF	10F2051	8270C
		D08,Z3								
2-Fluorophenol	*	T10,	Surr Limits:	(18-120%)			06/30/10 19:40	MAF	10F2051	8270C
		D08,Z3								
Nitrobenzene-d5	*	T10,	Surr Limits:	(34-132%)			06/30/10 19:40	MAF	10F2051	8270C
		D08,Z3								
Phenol-d5	*	T10,	Surr Limits:	(11-120%)			06/30/10 19:40	MAF	10F2051	8270C
		D08,Z3								
p-Terphenyl-d14	120 %	T10, D08	Surr Limits:	(58-147%)			06/30/10 19:40	MAF	10F2051	8270C
General Chemistry Para	meters									
Percent Solids	79		0.010	NR	%	1.00	06/24/10 13:48	JRR	10F2079	Dry Weight



Work Order: RTF1262

Received: 06/22/10

Reported:

07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number:

[none]

Analy	tical.	Ren	ort
Allal	v u Gai	1/CD	υıι

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTF1262-03 (IXE						vd: 06/22/1	
Sample ID. KTT 1202-03 (D-3-443-1410	- 30liu)			Samp	nea: ub/	/22/10 10:35	Rec	va: 06/22/1	0 14:20
Semivolatile Organics by	y GC/MS									
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		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-methylphen	ND	T10, D08	1400000	250000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
ol	ND	110, 200	1400000	230000	ug/kg ury	200	00/30/10 20:04	IVI/-XI	101 200 1	02700
4-Bromophenyl phenyl	ND	T10, D08	740000	230000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
ether	ND	110, 200	740000	200000	ug/kg ury	200	00/30/10 20:04	IVI/-XI	101 200 1	02700
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
	ND	T10, D08	740000	16000	ug/kg dry ug/kg dry	200	06/30/10 20:04		10F2051	8270C
4-Chlorophenyl phenyl	ND	110, 000	740000	10000	ug/kg ury	200	00/30/10 20.04	IVIAL	1002031	0270C
ether 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 ug/kg dry	200	06/30/10 20:04		10F2051	8270C
Acenaphthene	1300000	T10, D08	740000	8600	ug/kg dry ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
•		T10, D08	740000	6000					10F2051 10F2051	8270C 8270C
Acenaphthylene	ND				ug/kg dry	200	06/30/10 20:04	MAF		
Acetophenone	ND	T10, D08	740000	38000	ug/kg dry	200	06/30/10 20:04		10F2051	8270C
Anthracene	1800000	T10, D08	740000	19000	ug/kg dry	200	06/30/10 20:04		10F2051	8270C
Atrazine	ND	T10, D08	740000	33000	ug/kg dry	200	06/30/10 20:04		10F2051	8270C
Benzaldehyde	ND	T10, D08	740000	81000	ug/kg dry	200	06/30/10 20:04		10F2051	8270C
Benzo[a]anthracene	2000000	T10, D08	740000	13000	ug/kg dry	200	06/30/10 20:04		10F2051	8270C
Benzo[a]pyrene	1300000	T10, D08	740000	18000	ug/kg dry	200	06/30/10 20:04		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		10F2051	8270C
Biphenyl	150000	T10, D08,J	740000	46000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Bis(2-chloroethoxy)metha	ND	T10, D08	740000	40000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
ne										
Bis(2-chloroethyl)ether	ND	T10, D08	740000	63000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Bis(2-chloroisopropyl)	ND	T10, D08	740000	77000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
ether										
Bis(2-ethylhexyl)	ND	T10, D08	740000	240000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
phthalate										
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		10F2051	8270C
Chrysene	2000000	T10, D08	740000	7300	ug/kg dry	200	06/30/10 20:04		10F2051	8270C
Dibenz[a,h]anthracene	200000	T10, D08,J	740000	8600	ug/kg dry	200	06/30/10 20:04		10F2051	8270C
Dibenzofuran	200000	T10, D08,J	740000	7600	ug/kg dry	200	06/30/10 20:04		10F2051	8270C



Work Order: RTF1262

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Ana	lytical	Report

	01-		•	u.you.	. topoit	D:I	D-4-			
Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RTF1262-03 (B-9-W5-N10		nt.		Samp	oled: 06	/22/10 10:35		vd: 06/22/1	
Semivolatile Organics by	v GC/MS - co	ont.								
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		10F2051	8270C
Di-n-octyl phthalate	ND	T10, D08	740000	17000	ug/kg dry	200	06/30/10 20:04		10F2051	8270C
Fluoranthene	2500000	T10, D08	740000	11000	ug/kg dry	200	06/30/10 20:04		10F2051	8270C
Fluorene	940000	T10, D08	740000	17000	ug/kg dry	200	06/30/10 20:04		10F2051	8270C
Hexachlorobenzene	ND	T10, D08	740000	36000	ug/kg dry	200	06/30/10 20:04		10F2051	8270C
Hexachlorobutadiene	ND	T10, D08	740000	38000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Hexachlorocyclopentadie	ND	T10, D08	740000	220000	ug/kg dry	200	06/30/10 20:04		10F2051	8270C
ne		, 2			~g/g ~.,		00,00,10 20.0 .			02.00
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,	740000	20000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
2.7		D08.L2. J			0 0 7					
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-propylamin	ND	T10, D08	740000	58000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
e										
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,	Surr Limits:	(39-146%)			06/30/10 20:04	MAF	10F2051	8270C
		D08,Z3								
2-Fluorobiphenyl	440 %	T10,	Surr Limits:	(37-120%)			06/30/10 20:04	MAF	10F2051	8270C
		D08,Z3								
2-Fluorophenol	*	T10,	Surr Limits:	(18-120%)			06/30/10 20:04	MAF	10F2051	8270C
		D08,Z3								
Nitrobenzene-d5	*	T10,	Surr Limits:	(34-132%)			06/30/10 20:04	MAF	10F2051	8270C
Dharal de	+	D08,Z3	0	(44.4000()			00/00/40 00:04		4050054	00700
Phenol-d5	^	T10,	Surr Limits:	(11-120%)			06/30/10 20:04	MAF	10F2051	8270C
n Tornhanyl d11	200 %	D08,Z3	Curr I imaita.	(50 1/70/)			06/20/40 20:04	1.4.A.E	1050054	00700
p-Terphenyl-d14	200 %	T10, D08,Z3	Surr Limits:	(38-14/%)			06/30/10 20:04	WAF	10F2051	8270C
General Chemistry Para	meters									
Percent Solids	92		0.010	NR	%	1.00	06/24/10 13:50	JRR	10F2079	Dry Weigh



Niagara Falls, NY 14304

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

Work Order: RTF1262

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number: [none]

Analytical Report

	Sample	Data	ъ.	MDI		Dil	Date	Lab		
Analyte	Result	Qualifiers	RL	MDL	Units	Fac	Analyzed	Tech	Batch	Method
Sample ID: RTF1262-04 (E	3-9-W10-N5	- Solid)			Samp	led: 06/	22/10 10:45	Recv	/d: 06/22/10	0 14:20
Semivolatile Organics by	GC/MS									
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-methylphen ol	ND	T10, D08	790000	140000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
4-Bromophenyl phenyl	ND	T10, D08	410000	130000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
ether 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 ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
4-Chlorophenyl phenyl	ND	T10, D08	410000	8600	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
ether	ND	110, 000	410000	0000	ug/kg ury	100	00/30/10 20.27	IVIZ	101 200 1	02100
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		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		10F2051	8270C
Benzo[k]fluoranthene	ND	T10, D08	410000	4400	ug/kg dry	100		MAF	10F2051	8270C
Biphenyl	77000	T10, D08,J	410000	25000	ug/kg dry	100	06/30/10 20:27		10F2051	8270C
' '	ND	T10, D00,3	410000	22000	ug/kg dry ug/kg dry	100	06/30/10 20:27		10F2051	8270C
Bis(2-chloroethoxy)metha	ND	110, 000	410000	22000	ug/kg ury	100	00/30/10 20.27	IVIAI	101 203 1	02700
ne Bis(2-chloroethyl)ether	ND	T10, D08	410000	35000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Bis(2-chloroisopropyl)	ND	T10, D08	410000	42000	ug/kg dry	100	06/30/10 20:27		10F2051	8270C
ether	ND	110, 200	410000	42000	ag/kg ary	100	00/00/10 20:27	IVII (I	101 200 1	02100
Bis(2-ethylhexyl)	ND	T10, D08	410000	130000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
phthalate	-	-,			5 5 7			-		
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		10F2051	8270C
Chrysene	1500000	T10, D08	410000	4000	ug/kg dry	100	06/30/10 20:27		10F2051	8270C
Dibenz[a,h]anthracene	160000	T10, D08,J	410000	4700	ug/kg dry	100	06/30/10 20:27		10F2051	8270C
Dibenzofuran	110000	T10, D08,J	410000	4200	ug/kg dry	100	06/30/10 20:27		10F2051	8270C
		, _ 50,0			-55 41.7					



Work Order: RTF1262

Received: 06/22/10

Reported:

07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number: [none]

Analytical Report

			A	Analytical	Report					
	Sample	Data				Dil	Date	Lab		
Analyte	Result	Qualifiers	RL	MDL	Units	Fac	Analyzed	Tech	Batch	Method
Sample ID: RTF1262-04 (B-9-W10-N5	- Solid) - co	nt.		Samp	led: 06	/22/10 10:45	Recv	/d: 06/22/1	0 14:20
Semivolatile Organics by	y GC/MS - co	ont.								
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
Hexachlorocyclopentadie	ND	T10, D08	410000	120000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
ne .										
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,	410000	11000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
		D08,L2, J								
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-propylamin	ND	T10, D08	410000	32000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
e										
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,	Surr Limits:	(39-146%)			06/30/10 20:27	MAF	10F2051	8270C
		D08,Z3								
2-Fluorobiphenyl	240 %	T10,	Surr Limits:	(37-120%)			06/30/10 20:27	MAF	10F2051	8270C
		D08,Z3								
2-Fluorophenol	*	T10,	Surr Limits:	(18-120%)			06/30/10 20:27	MAF	10F2051	8270C
		D08,Z3								
Nitrobenzene-d5	*	T10,	Surr Limits:	(34-132%)			06/30/10 20:27	MAF	10F2051	8270C
		D08,Z3								
Phenol-d5	*	T10,	Surr Limits:	(11-120%)			06/30/10 20:27	MAF	10F2051	8270C
		D08,Z3								
p-Terphenyl-d14	60 %	T10,	Surr Limits:	(58-147%)			06/30/10 20:27	MAF	10F2051	8270C
		D08,Z3								
General Chemistry Para	meters									
Percent Solids	82		0.010	NR	%	1.00	06/24/10 13:52	JRR	10F2079	Dry Weight
										. •



Work Order: RTF1262

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number: [none]

SAMPLE EXTRACTION DATA

			Wt/Vol		Extract			Lab	
Parameter	Batch	Lab Number	Extracte	Units	Volume	Units	Date Prepared	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



Work Order: RTF1262

Received: 06/22/10

07/02/10 11:35 Reported:

Project: Golder - Vandermark/Isochem site

Project Number: [none]

	Source	Spike	DI	AADI			%	% REC	%	RPD	Data
Analyte	Result	Level	RL	MDL	Units	Result	REC	Limits	RPD	Limit	Qualifiers
Semivolatile Organics by	GC/MS										
Blank Analyzed: 06/30/10	(Lab Num	nber:10F20	51-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-methylphen ol			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					



Work Order: RTF1262

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number: [none]

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 Num	nber:10F20	51-BLK1. I	3atch: 10F2051)						
Bis(2-chloroethoxy)metha	(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					
Hexachlorocyclopentadie ne			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-propylamin e			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			



Work Order: RTF1262

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number: [none]

Analysis	Source Result	Spike Level	RL	MDL	11-24-	D 14	% DE0	% REC	% RPD	Data
Analyte Semivolatile Organics by		Levei		WIDL	Units	Result	REC	Limits	RPD Limit	Qualifiers
Semivolatile Organics by	GC/IVIS									
Blank Analyzed: 06/30/10	(Lab Num	ber:10F20	51-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 Numb	er:10F205				ND		50.400		
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	0.5	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	70	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-methylphen ol			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		
TestAmerica Buffalo - 10	Hazelwoo	d Drive An	nherst, NY	14228 tel 716-6	691-2600 fax 7	16-691-799	91			



Work Order: RTF1262

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

Reported:

Project: Golder - Vandermark/Isochem site

Project Number: [none]

			LF	BURATURT	QC DATA					
	Source	Spike	D.				%	% REC	% RPD	Data
Analyte	Result	Level	RL	MDL	Units	Result	REC	Limits	RPD Limit	Qualifiers
Semivolatile Organics by	/ GC/MS									
LCS Analyzed: 06/30/10	(Lab Numb	er:10F205	51-BS1, Bat	ch: 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)metha ne			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		
Hexachlorocyclopentadie ne			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-propylamin e		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		



Work Order: RTF1262

Received: 06/22/10

Reported: 07/02/10 11:35

Project: Golder - Vandermark/Isochem site

Project Number: [none]

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RI RPD Lir	PD Data nit Qualifiers
Semivolatile Organics b	y GC/MS									
LCS Analyzed: 06/30/10	(Lab Numb	er:10F2051	l-BS1, Ba	tch: 10F2051)						
Surrogate:					ug/kg wet		102	39-146		
2,4,6-Tribromophenol Surrogate:					ug/kg wet		91	37-120		
2-Fluorobiphenyl 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 □

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

i	- Horizel Manager	12.50	Charles of Canada Absent
Gother Assertates	72+	6-22-10	148801
2/ 1/2	Code)Fax	Leb Member	Page
Fa/15	Sue Contect Pay Cook Cameri Way with Number	Analysis (Attach list if more space is needed)	
Contract Purchase Order Cucts No	Containers A Netrus Presentatives		Special Instructions/ Conditions of Receipt
ample I.D. No. and Description or one fine) or each sample may be combined on one fine)	HOS > HOS > HOS > HOS >		
8-9- W6- N5 16-22-10 1005 8-9- NHO 1625	1905 X X X X X X X X X X X X X X X X X X X		!
W5-NO 6-22-10			
8-4-WD-NS	X X X X X X X X X X X X X X X X X X X		
	+ -		
			[
! !			
Prositive Hazard Contribustion According Hazard Contribustion Not Many Contribution Poison B	Sample Disposal Sample Disposal Chinama Annow Far	seeza ed year eel k)	(A ties may be a preaced if samples are retained through a travial)
9 Required 7 Cays X 14 Cays 21 Ca	Consequence (Sp.	1	
de Com Later	1 1900 1 1900 1 1 1900 1 1 1900 1 1 1900 1 1 1 1		Stalia 1420
3. Redinaushed By	DBIS 3 Recorded By		Date
Cannons			
DISTRIBUTION: THATE REFUNDED CHEM WITH PROCET. CANARY - SUBJE WITH ON SURVEY. PINK - FIRST COPY	WITH ONE SAMPLING FRANCIODY		

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