January 6, 2012 093-89168

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

Attention: Mr. Stanley Radon, Sr. Engineering Geologist

RE: SNPE – VANDEMARK CHEMICAL INTERIM CORRECTIVE MEASURES CLOSEOUT REPORT

Dear Mr. Radon:

On behalf of SNPE Inc. (SNPE), Golder Associates Inc. (Golder) has prepared this Interim Corrective Measures (ICM) closeout report to summarize the remediation activities that were conducted in accordance with the New York State Department of Environmental Conservation (NYSDEC) approved ICM Work Plan (Golder, February 2011) to remove coal tar residuals within the VanDeMark Chemical (VanDeMark) Plant Site in the Town of Lockport, New York. The cleanup activities were performed from June 8 to June 27, 2011 under the supervision of Golder personnel.

1.0 BACKGROUND

SNPE and VanDeMark conducted this ICM cleanup in support of the ongoing investigation activities performed 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, as the former corporate parent, has been conducting the agreed upon supplemental characterization activities with support from the current site owner, VanDeMark.

As part of the supplemental DNAPL characterization activities, an In-Plant soil boring investigation was conducted on June 22, 2010 within the boundaries of the operating VanDeMark Chemical facility in a paved area at the northern end of the alley separating the "B" and "C" buildings. The area was selected for further investigation based on employee observations of surface "tar" seepage through the pavement in an area located approximately 5 to 10 feet from the northwest corner of Building B-4.

The results of the June boring investigations were summarized in an August 18, 2010 report to the NYSDEC (refer to Attachment 1). In general, there was strong olfactory evidence of coal tar and a distinct layer of coal tar residuals varying in thickness from 2 to 13 inches thick in 10 borings to the north-northwest of the Building B-4/B-9 complex. At one of the borings a small amount of tar was also found at the bedrock/overburden interface which was 6 feet below grade surface (bgs). Nine of the boring cores were field screened for VOCs with a hand held PID. No VOCs were detected. Discrete samples of coal tar residuals were collected from four of the borings and analyzed for semi-volatile organic compounds. The results consistently indicated high concentrations of polyaromatic hydrocarbons (PAHs) consistent with the chemical footprint typical of coal tar. In addition to the detection of coal tar residuals noted, evidence of petroleum hydrocarbons (suspected fuel oil) impacts were noted in three of the borings located along the western and southern borders of the investigation area.

A supplemental boring investigation of areas to the north and south of the June 2010 investigation area was conducted in October 2010 to address NYSDEC concerns (September 8, 2010 comment letter on

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August 18 Investigation Summary Report –please refer to Attachment 1) that the full extent of coal tar impacts had not been delineated.

The results of the October 5, 2010 supplemental borings were presented in a response letter to the NYSDEC dated November 4, 2010 (please refer to Attachment 1). Coal tar approximately 2.5 inches thick was found in one of the six southern borings as an isolated deposit. Coal tar was not observed in any of the six borings performed north of the June 2010 investigation area, however, petroleum impacts were again noted in 3 of the borings located along the west side of this investigation area. In general these borings were due north and in close alignment with the previous borings conducted in June 2010 that also exhibited petroleum impacts. VanDeMark personnel indicated that these boring locations were probably in the vicinity of the alignment of a former underground fuel oil pipeline that ran north to south along the east side of the C Building complex.

Based on these investigation results the extent of coal tar residuals had been adequately defined within the plant boundaries and NYSDEC requested the preparation of an ICM Work Plan to provide a detailed approach and schedule for the excavation, removal and proper disposal of this source material.

2.0 PURPOSE AND SCOPE

The In-plant ICM remedial activities were performed in accordance with the NYSDEC approved ICM Work Plan dated February 2011 and the provisions of the May 5, 2011 NYSDEC ICM Work Plan Approval letter (refer to Attachment 2 for both documents). This closeout report summarizes and documents the remediation, disposal and restoration activities that were conducted in accordance with the ICM Work Plan to remove coal tar residuals within the VanDeMark Plant Site. The primary location of the remedial excavation occurred in the paved access area located between and north of Buildings B-4 and C-4. In addition, a smaller excavation area centered on Boring C1-45N-13E east of Building C-1 was performed as part of the proposed ICM as requested in the NYSDEC's May 5, 2011 approval of the Work Plan.

3.0 SUMMARY OF IN-PLANT ICM ACTIVITIES

O'Regan's Landscaping (O'Regan's) acted as remedial contractor to SNPE for completion of all on-site ICM activities. Cleanup activities were initiated on June 8, 2011 and substantially completed on June 27, 2011. Pavement restoration work was completed in early July to accommodate VanDeMark plant scheduling requirements for access. Final disposal of stockpiled overburden materials at Modern did not occur until September 2011 due to scheduling conflicts with Modern Disposal. Golder personnel were on-site to observe and document daily field activities. NYSDEC representatives also conducted periodic site visits to observe field activities and check on work progress. A copy of Golder's daily field observation notes and a photographic log illustrating the project progress are presented as Attachment 3.

O'Regan's initiated site work with the removal of the pavement and approximately one to two feet of clean overburden immediately beneath the pavement (primarily select fill and gravel) and within the main excavation area using a rubber track excavator. Please refer to Figure 1 which shows the approximate limits of the main excavation area. The overburden was loaded onto a dump truck and transported to a staging area outside the plant production area located on VanDeMark property (the former paved portion of North Transit Rd near Gooding St.) where two (2) composite samples were taken and analyzed for TCLP RCRA metals, Target Compound List (TCL) volatiles, and TCL semi-volatiles, ignitability, reactivity, and pH. The analytical results were submitted along with the required waste profile application forms for disposal approval to Modern Landfill. Subsequently Modern Disposal received approval from the NYSDEC for acceptance of the overburden spoils as daily cover material at their permitted Part 360 landfill. The laboratory report summarizing the results of the analysis performed is provided in Attachment 4. A copy of the approved overburden waste profile is provided in Attachment 5.

One (1) composite sample was also collected from representative locations along the western edge of the main excavation area of soil/fill that was suspected of being impacted with fuel oil. This sample was analyzed for TCLP benzene, and ignitability. The laboratory results for these samples are also provided in Attachment 4. The results of the fuel oil composite indicated that the fuel oil impacted soils were non-hazardous and were provided to Modern Landfill for approval as part of a waste profile approval for coal tar residuals mixed with inorganic debris. A copy of the Modern disposal waste profile approval for mixed coal tar debris is also included in Attachment 5 and will be described in further detail later in this Section.

Prior to the start of ICM excavation activities, VanDeMark confirmed through their authorized waste broker, WTS Inc., that a previously approved waste profile for coal tar residuals at the Covanta Niagara Falls Facility was still valid and would allow for the disposal of coal tar generated from the proposed ICM. The Covanta waste profile had been previously approved for coal tar residuals generated and disposed of during two separate creek bank removal activities at the VanDeMark site conducted in 2007 and 2008. Due to physical processing limitations at the Covanta Facility, coal tar residuals containing mixed inert debris larger than six inches in any dimension (e.g., rock, brick, concrete) could not be accepted and disposed of at the Covanta Facility under this approved waste profile. A copy of this waste profile approval is included in Attachment 5.

Excavation of the coal tar impacted fill proceeded from east to west within the main excavation area. The depth of the excavation varied depending on the observed presence of coal tar residuals but generally averaged 3 to 4 feet below the surrounding top of pavement elevation. A large concrete foundation was encountered below grade along the majority of the eastern edge of the excavation, this structure appeared to act as a barrier to coal tar migration further east. A relatively uniform pocket of coal tar was encountered at the southeast corner of the main excavation area and appeared to continue east between the previously noted subgrade concrete foundation and the north side of Building B-4. This area was outside the excavation area defined in the Work Plan, therefore VanDeMark personnel were consulted to assess the safety of continuing excavation in this direction. Upon approval from VanDeMark and clearance of underground utilities, excavation of coal tar residuals was performed to the east of the main excavation area along the alley on the north of Building B-4/B-9. The coal tar residuals were found at a shallower depth in this area (approximately 2 to 2.5 feet deep). The total footprint of this additional excavation encompassed an area approximately 4 feet wide by 25 feet long.

All coal tar impacted soil/fill was loaded into dump trucks transported to a staging area on the VanDeMark site (the same general area where the overburden was stockpiled) and stockpiled on a short term basis on pavement, with approval from NYSDEC personnel, and loaded within 24-hours with a skid-steer into roll-offs for disposal at Covanta (without large debris) or Modern Landfill (mixed with large debris). Coal tar residuals were excavated based on visual observation of their presence and final excavation limits were achieved both laterally and vertically when no further coal tar was encountered. This determination was made by Golder representatives. VanDeMark representatives also observed the excavation and removal of coal tar and concurred with excavation limits achieved. One exception was made at the northwest corner of Building B-4 where a small (approximately 1-inch thick) vein of coal tar was observed approaching the foundation of the building at a depth of 3 feet below grade. Golder, VanDeMark, and NYSDEC representatives agreed that continuing to excavate this small residual quantity of coal tar might undermine the stability of Building B-4 structure, therefore this *de minimus* amount was left in place.

In several locations within the main excavation area, coal tar residuals were intermingled with brick, rock, and concrete debris which could not be segregated from the coal tar itself. This mixed debris was segregated and placed in separate roll-offs for disposal. Upon the sufficient removal of coal tar residuals from the main excavation area, Golder collected seven (7) verification samples (4 wall samples, 1 floor sample, 1 blind duplicate floor sample, and 1 MS/MSD north wall sample) for the analysis of TCL semi-volatile compounds. The completed footprint of the main excavation area was approximately 37 by 45 feet which was smaller than the area estimated in the Work Plan's of 80 by 100 feet. Due to this smaller area, only 1 composite floor sample was taken. The work plan also called for separate samples for the matrix spike and the matrix spike duplicate. These two samples were combined into one sample with permission from the laboratory.

Golder also collected one (1) verification sample from the floor of the alley excavation area (north of Building B-4/B9.

At the conclusion of the main excavation area activities, O'Regan's excavated an area approximately 10-feet by 10-feet centered on Boring C1-45N-13E east of Building C-1. Consistent with earlier practices, the overburden was stockpiled onsite and the coal tar impacted fill was disposed of into roll-offs. The excavation area was expanded approximately 2-feet to the west and an additional 8-feet to the north in order to remove all visible coal tar from the Boring C1-45N-13E excavation area. The NYSDEC was consulted and agreed that collection of verification samples from the Boring C1-45N-13E excavation area were not necessary based on the completeness of coal tar removal achieved in this area. See Figure 1 for the approximate excavation limits of the Boring C1-45N-13E excavation area.

After reviewing the results of the verification samples collected from the main excavation area and from the additional excavation performed in the alley north of Building B-4/B-9 with the NYSDEC, all excavated areas were approved for final backfill with crushed stone. The laboratory report containing the verification sample results is provided in Attachment 6.

4.0 OFF-SITE DISPOSAL

The final disposition and off-site disposal of all excavated materials is summarized in Table 1 below.

TABLE 1
SNPE – VANDEMARK CHEMICAL
Summary of In-Plant ICM Waste Disposal

Waste Description	Disposal Quantity (Tons)	Disposal Facility	Notes
Overburden Soil/Fill	143.8	Modern Landfill	
Coal Tar Residuals (no debris)	153.8	Covanta Niagara Falls	
Coal Tar Residuals (with inert debris)	69.7	Modern Landfill	
Fuel-Oil Impacted Soil/Fill	NA (Included as part of 69.7 tons above for coal tar residuals)	Modern Landfill	Approved for co-disposal with Coal Tar Residuals

The overburden soil/fill was shipped and disposed of at Modern Landfill on October 4, 2011. Seven dump truck loads were shipped with a total weight of 143.8 tons of overburden soil/fill. Copies of the shipping manifests and associated scale tickets are provided in Attachment 7.

Coal tar waste (free from large debris) was shipped and disposed of at Covanta Niagara Falls between June 15 and June 23, 2011. Nine roll-offs were shipped with a total weight of 153.8 tons. Copies of the waste shipping manifests are provided in Attachment 7.

Coal tar waste (containing large debris) was shipped and disposed of at Modern Landfill between August 2 and 3, 2011. Five roll-offs were shipped with a total weight of 69.7 tons. These rolls offs also contained the fuel-oil impacted soil/fill excavated from the western portion of the main excavation area which was approved for disposal with the coal tar residuals waste stream. It is estimated that approximately 15 tons of the 69.7 tons total was fuel oil impacted soil/fill. Copies of the waste shipping manifests are provided in Attachment 7.

5.0 SITE RESTORATION

At the conclusion of the excavation activities and subsequent review and approval of the verification sample results with the NYSDEC, O'Regan's backfilled the two separate excavation areas with No.2 crushed stone and compacted the select fill in 12-inch lifts. The areas were then paved with a minimum of 3 inches of asphalt to match or exceed the existing pavement profile and return the areas to pre-excavation conditions.

6.0 CONCLUSIONS

Based on our continuous oversight and observation of the cleanup work performed and routine consultation with the NYSDEC during the completion of the work, we believe that the ICM activities performed to remove and clean-up the coal tar residuals in the areas of concern within the VanDeMark Plant fully addressed the proposed scope of work detailed in the February 15, 2011 Work Plan and the supplemental provision contained in the May5, 2011 NYSDEC approval letter of the Work Plan.

If you have any questions or comments concerning the work performed or the documentation provided, please contact us at (716) 204-5880.

GOLDER ASSOCIATES INC.

Patrick T. Martin

Patrick T. Martin, PE, BCEE
Senior Consultant

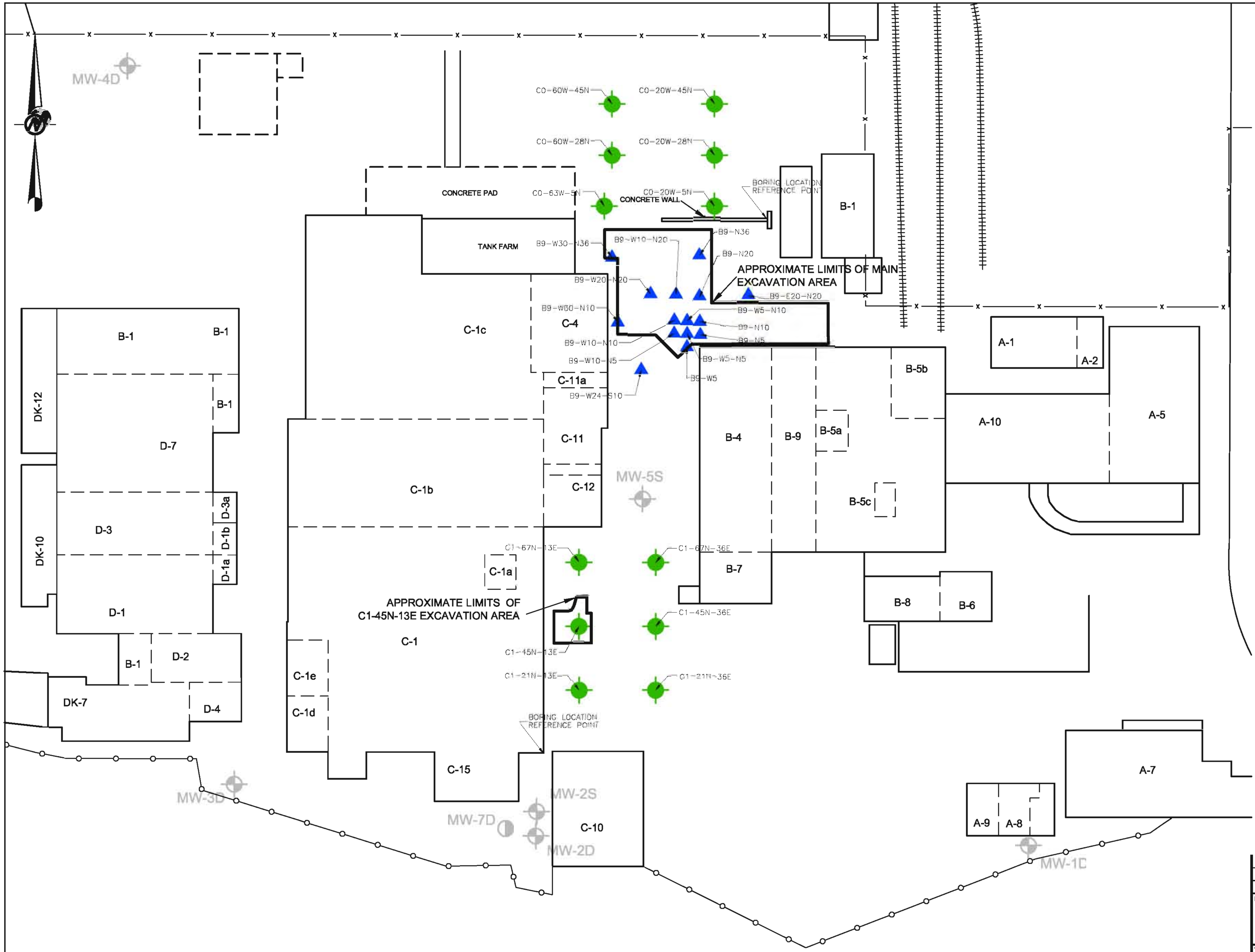
David C. Wehn, CPG
Associate

cc:

Attachments or Enclosures:

AML/PTM:dml

FIGURE



LEGEND

━━━	APPROXIMATE LIMITS OF EXCAVATION
——x——	FENCE
++++++++++	RAILROAD
⊕	1999 INVESTIGATION MONITORING WELL
◐	2006 BEDROCK MONITORING WELL
▲	JUNE 2010 BOREHOLES
●	SUPPLEMENTAL BOREHOLE LOCATIONS

REFERENCE

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

40 0 40
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT
SNPE - VANDEMARK
INTERIM CORRECTIVE MEASURES CLOSEOUT REPORT
LOCKPORT, NEW YORK

TITLE
APPROXIMATE LIMITS OF COAL TAR EXCAVATION AREAS

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

PROJECT No.		093-89168	FILE No.	09389168A018
DESIGN	DCW	09/09/10	SCALE AS SHOWN	REV. 0
CADD	AML	12/21/11	FIGURE 1	
CHECK	PTM	12/29/11		
REVIEW	DCW	12/29/11		

ATTACHMENT 1

AUGUST 17, 2010 SUPPLEMENTAL DNAPL INVESTIGATION SUMMARY AND RECOMMENDATIONS REPORT

SEPTEMBER 8, 2010 NYSDEC COMMENT LETTER ON SUPPLEMENTAL DNAPL SUMMARY REPORT

NOVEMBER 4, 2010 RESPONSE TO NYSDEC SEPT 8 2010 COMMENTS

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.

Sincerely,

GOLDER ASSOCIATES INC.

Patrick T. Martin

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

David C. Wehn, CPG
Associate

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

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

PTM/DCW:dml

TABLES

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

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

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

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

Footnotes:

Analyses performed by Test America Inc.

Qualifications:

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

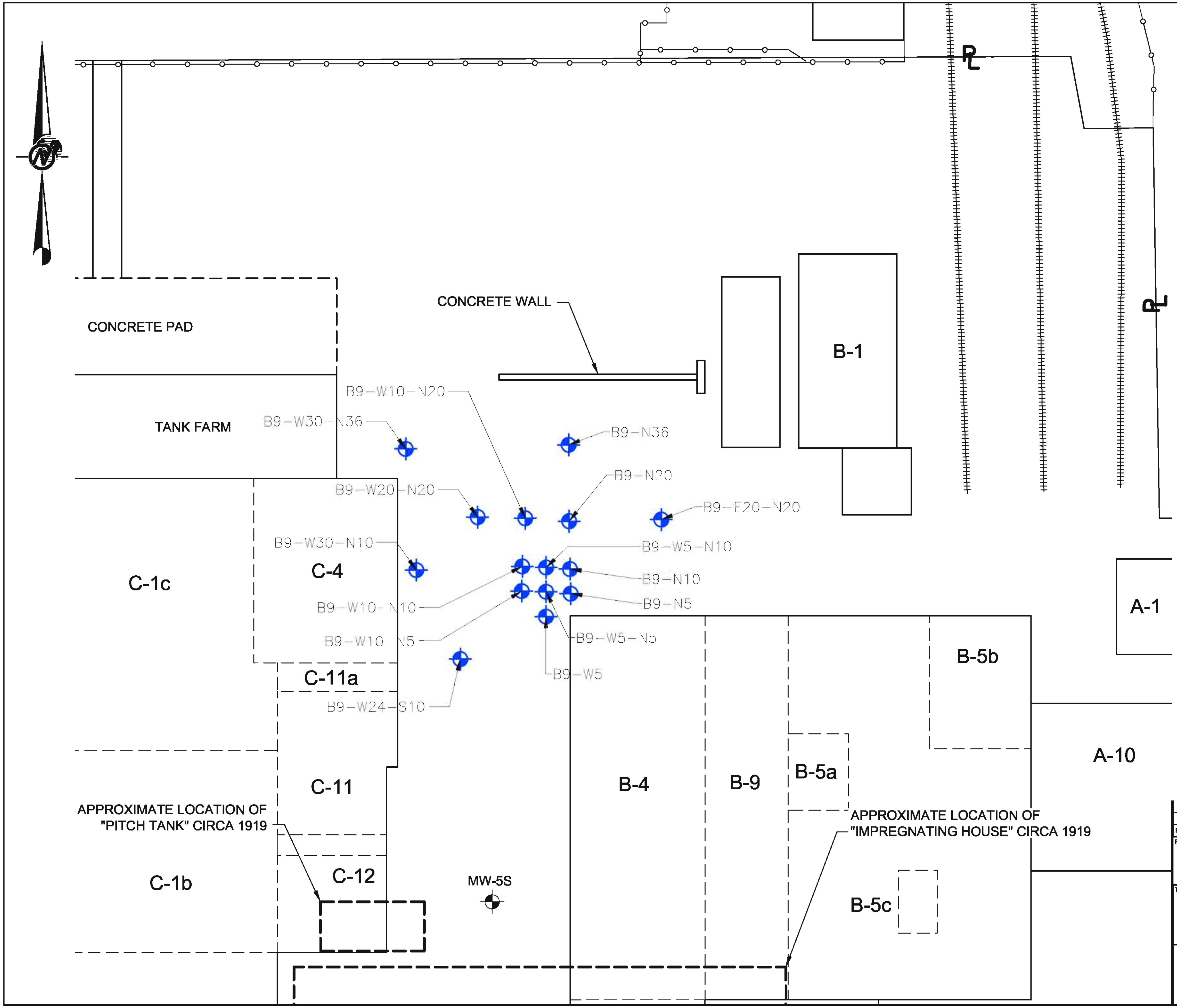
[2] = Dilution required due to high concentration of target analyte.

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

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

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

FIGURES



LEGEND

PL	PROPERTY LINE
—·—·—	FENCE
┼┼┼┼┼┼	RAILROAD
⊕	1999 INVESTIGATION OVERBURDEN MONITORING WELL
⊕	"B9" SERIES BORE HOLES

REFERENCE

1.) "B9" SERIES BORE HOLES SHOWN ON THIS PLAN WERE TAKEN FROM SURVEY FILE xve-vandemark base.dwg, DATED 06-21-2010.

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

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

20 0 20
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

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

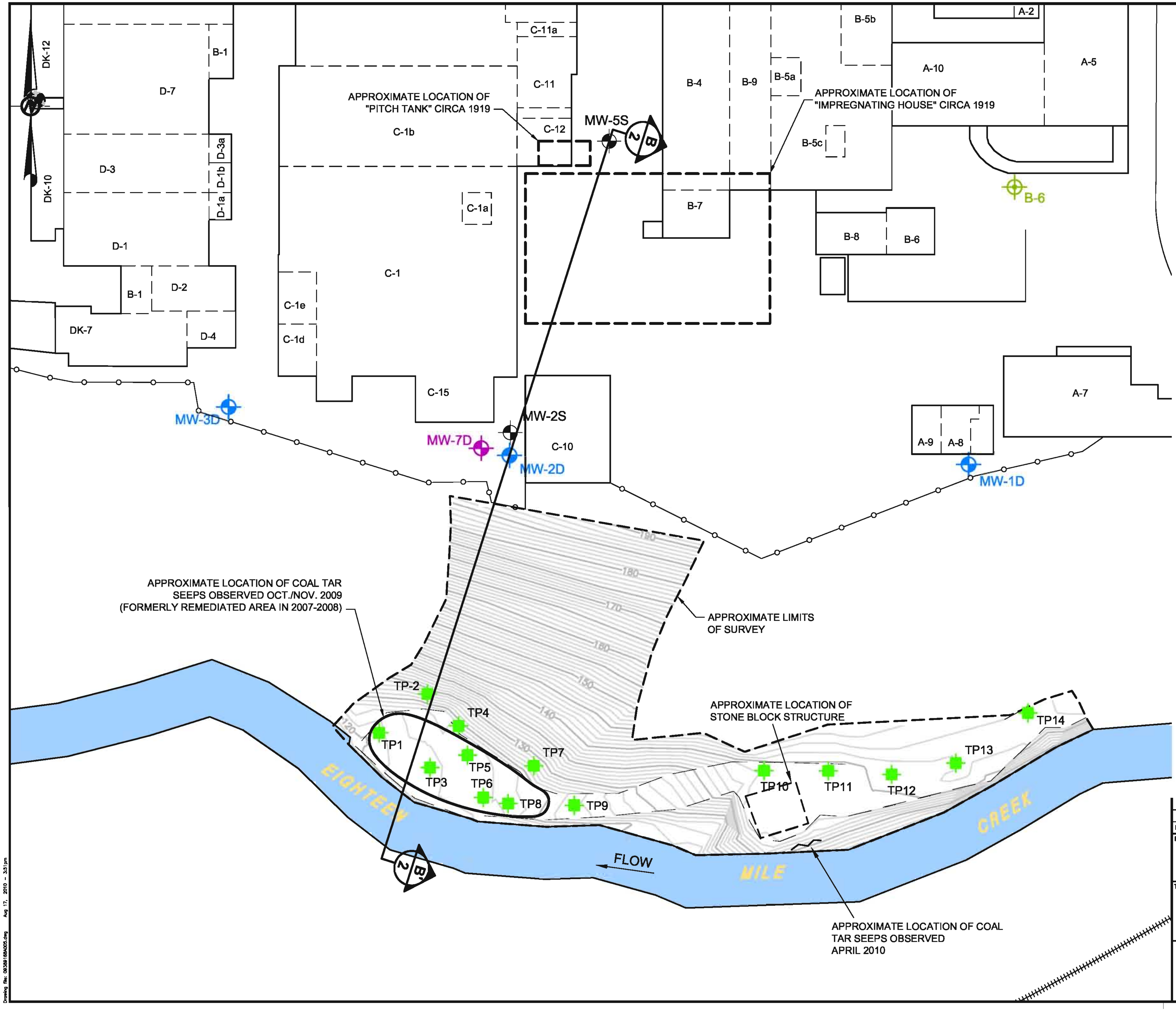
TITLE

COAL TAR DELINEATION IN PLANT BORING LOCATION MAP

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

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

FIGURE 1



LEGEND

——— x ———	FENCE
┼┼┼┼┼┼┼┼┼┼┼┼	RAILROAD
⊕	1999 INVESTIGATION BORING
⊕	1999 INVESTIGATION OVERBURDEN MONITORING WELL
⊕	1999 INVESTIGATION BEDROCK MONITORING WELL
⊕	2006 BEDROCK MONITORING WELL
🟩	TEST PIT LOCATIONS
🟦	EIGHTEEN–MILE CREEK

REFERENCE

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

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

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

40 0 40
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

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

TITLE
COAL TAR DELINEATION OVERBURDEN/BEDROCK TEST PIT LOCATION MAP

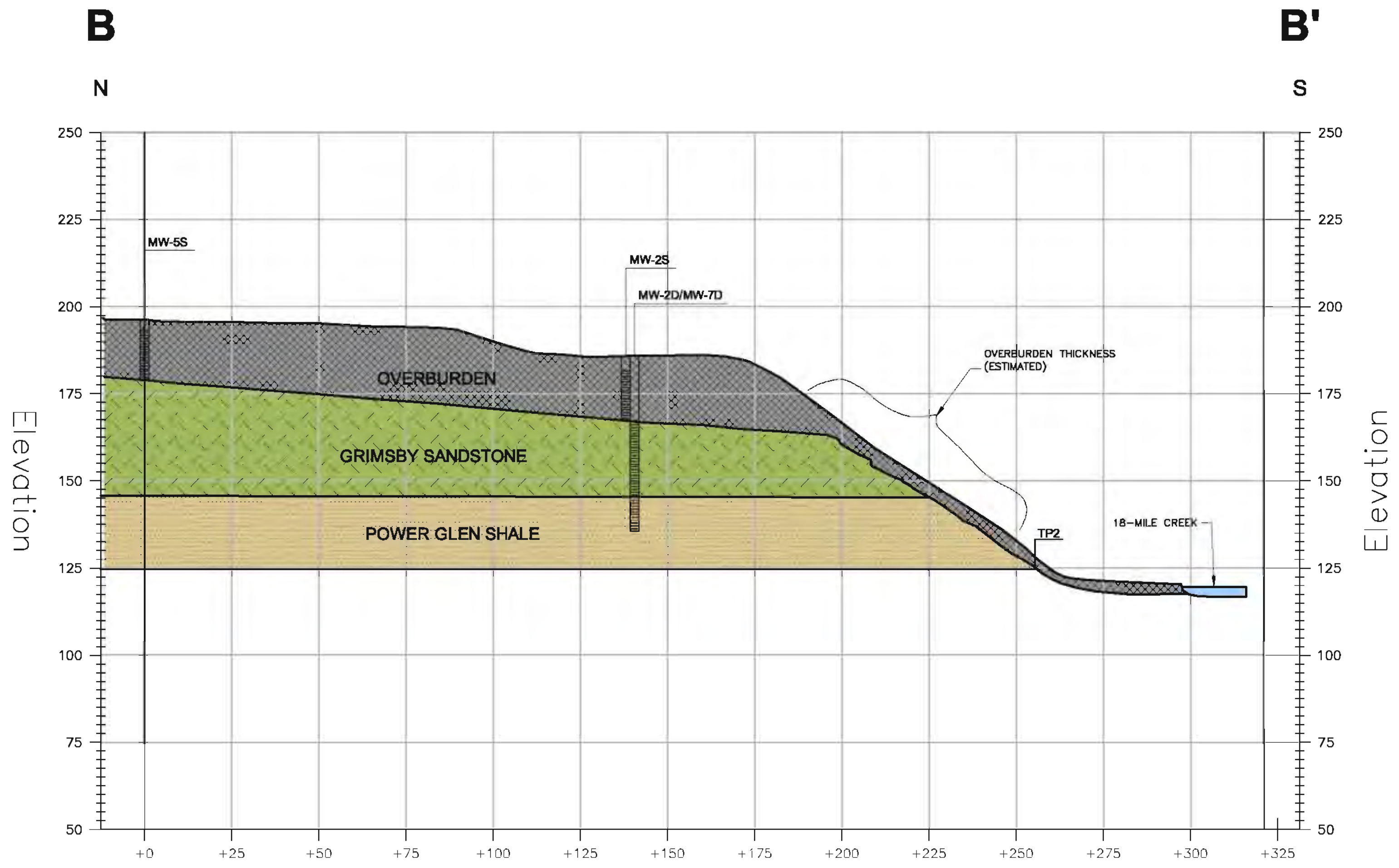
NJ Authorization #24GA28029100
Golder Associates
Mt. Laurel, New Jersey

PROJECT No.	093–89166	
DESIGN	DCW	07/16/10
CADD	GLS	08/09/10
CHECK		
REVIEW		

FILE No. 09389166A005
SCALE AS SHOWN
REV. 0

FIGURE 2

Drawing file: 09389166A005.dwg Aug 17, 2010 - 3:31pm



LEGEND

- ▨ OVERBURDEN
- 🟩 GRIMSBY SANDSTONE
- 🟫 POWER GLEN SHALE
- ▼ WATER ELEVATION IN WELL

REFERENCES

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

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

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

25 0 25 50
HORIZONTAL SCALE FEET

25 0 25 50
VERTICAL SCALE FEET

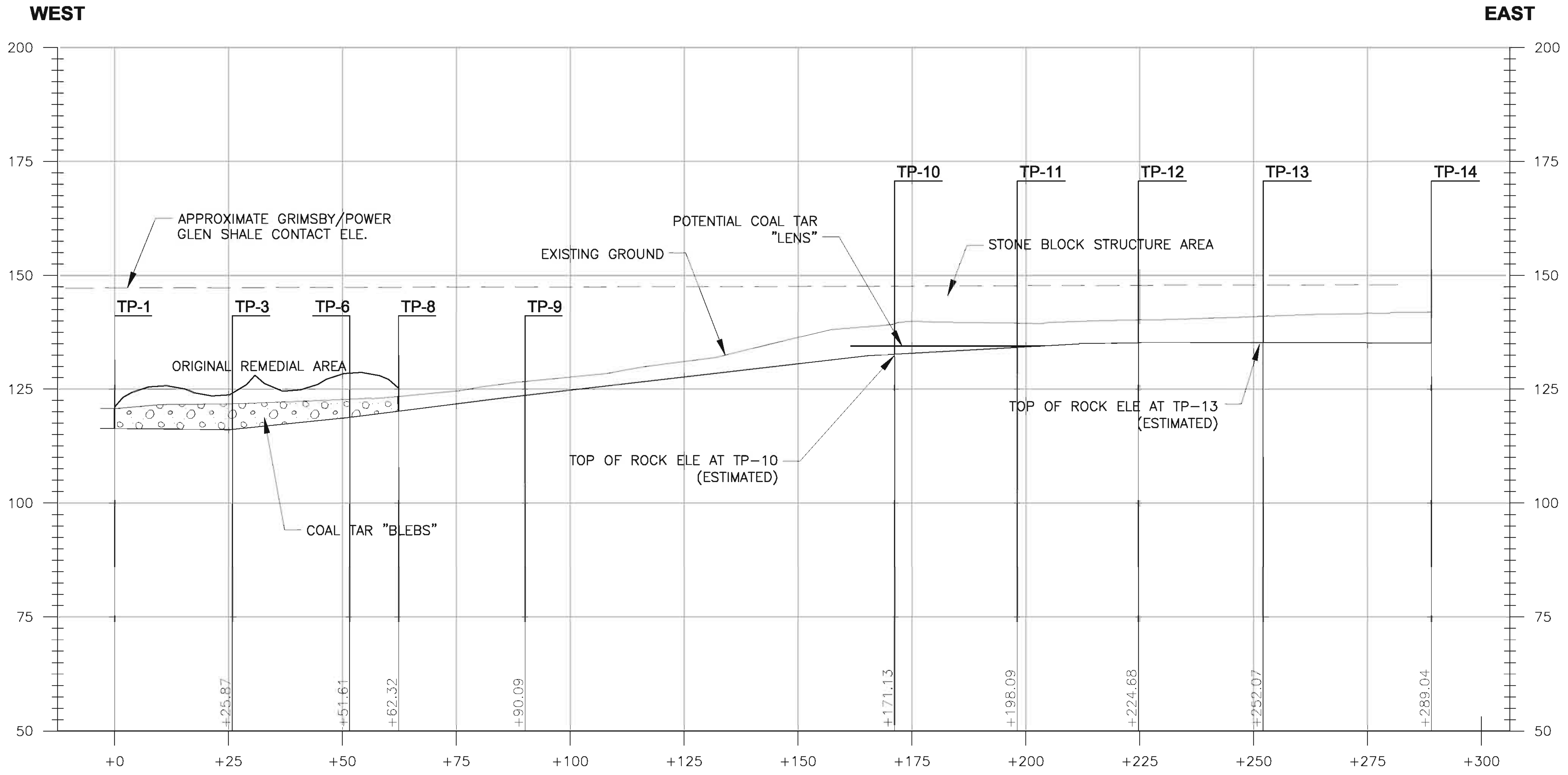
REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

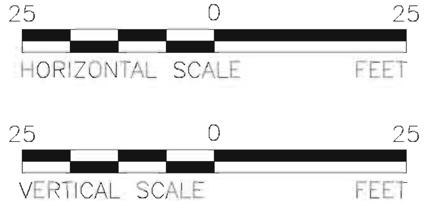
PROJECT
SNPE - VANDEMARK
2010 SUPPLEMENTAL DNAPL INVESTIGATION SUMMARY
LOCKPORT, NEW YORK

TITLE
CROSS SECTION B-B'

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

PROJECT No.		093-89168	FILE No.	09389168A002
DESIGN	DCW	08/09/10	SCALE AS SHOWN	REV. 0
CADD	AM	08/09/10	FIGURE 3	
CHECK				
REVIEW				





REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

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

TITLE

TEST PIT CROSS SECTION

NJ Authorization #24GA28029100

Golder Associates
Mt. Laurel, New Jersey

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

FIGURE 4

ATTACHMENT A
BORING LOGS

Field Boring Log

DEPTH HOLE 7.5 FT JOB NO 093-89168 PROJECT Van DeMark BORING NO. B9-N5
DEPTH SOIL DRILL 7.5FT QA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER L. RAIN DRILLING COMPANY Zebra Env. SURFACE ELEV
NO. DIST SA. 0 UD SA. 2 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM
DEPTH WL N/A HRS. PROD. N/A WT. SAMPLER HAMMER N/A DROP N/A STARTED 9:30, 6/22/10
TIME WL. N/A HRS. DELATED 0 WT. CASING HAMMER N/A DROP N/A COMPLETED 9:45 6/22/10

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0-4	VERY SOFT	VS	EXTRUDES
LOOSE	LS	5-10	SOFT	S	MOLDS EASILY
COMPACT	CP	11-30	FIRM	FM	MOLDS
DENSE	DN	31-50	STIFF	ST	[illegible]
VERY DENSE	VDN	50	VERY STIFF	VST	[illegible]
			HARD	H	RESISTS THUMBNAIL

ELEV. / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
									Boring 5 FT N of NW corner of B9.
1									0.0 - 0.3 FT roadbase GRAVEL.
2				1		PID = 0.0 ppm	4.2 / 5.0		0.3 - 4.2 FT Dark brown to reddish crushed brick, wood, silt, sand, gravel FILL.
3									
4									Slight coal tar odor.
5									
6				2		PID = 0.0 ppm	2.5 / 2.5		5.0 - 7.5 FT Dark brown sand, gravel, silt, FILL with some crushed brick.
7									Slight coal tar odor.
8									Refusal @ 7.5 FT
									Cuttings returned to borehole, tamped, and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 5.0 JOB NO 013-89169 PROJECT Van DeMark BORING NO. B9-W5
DEPTH SOIL DRILL 5.0 GA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER L. RAIN DRILLING COMPANY Zebra Env. SURFACE ELEV
NO. DIST SA 0 UD. SA 1 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM
DEPTH WL N/A HRS. PROD. N/A WT SAMPLER HAMMER N/A DROP N/A STARTED 9:45, 6/22/10
TIME WL N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 9:55, 6/22/10

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

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

Field Boring Log

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

SAMPLE TYPES

A.S AUGER SAMPLE
C.S CHUNK SAMPLE
D.O DRIVE OPEN
D.S DENISON SAMPLE
P.S PITCHER SAMPLE
R.C ROCK CORE
S.T SLOTTED TUBE
T.O THIN-WALLED, OPEN
T.P THIN-WALLED, PISTON
W.S WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE [illegible] SOME [illegible]
LITTLE [illegible] AND [illegible]

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

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

Field Boring Log

DEPTH HOLE 5.0 JOB NO 01389168 PROJECT Van DeMark BORING NO B9-N10
DEPTH SOIL DRILL 5.0 GA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER OVERCAST DRILLING COMPANY Zebra Env. SURFACE ELEV
NO DIST SA 0 UD. SA 1 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM
DEPTH WL N/A HRS. PROD. N/A WT SAMPLER HAMMER N/A DROP N/A STARTED 10:15, 6/22/10
TIME WL N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 10:25 6/22/10

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE	[illegible]	SOME	[illegible]
LITTLE	[illegible]	AND	[illegible]

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0-4	VERY SOFT	VS	[illegible]
LOOSE	LS	4-10	SOFT	S	[illegible]
COMPACT	CP	10-30	FIRM	FM	MOLDS
DENSE	DN	30-50	STIFF	ST	[illegible]
VERY DENSE	VDN	50	VERY STIFF	VST	[illegible]
			HARD	H	[illegible]

ELEV DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH
1								
2						PID =	4.3	
3				1		0.0 ppm	5.0	
4								
5								
6								

SAMPLE DESCRIPTION AND BORING NOTES

Boring 10 FT N of NW corner of B9.

0.0 - 5.0 FT Dark brown to reddish to light tan SILT, SAND + GRAVEL. with some wood + brick. Light tan granular ~~substance~~ sandy substance near bottom of sample (several inches thick).

Coal tar from 2.3 2.8 FT and at tip of sample shoe on top of rock.

Coal tar odor.

Refusal @ 5.0 FT

Collected sample of coal tar.

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

Field Boring Log

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

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - 10% SOME 11 - 30%
LITTLE 1[illegible] - [illegible]% AND 30 - 50%

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

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

Field Boring Log

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

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

RELATIVE DENSITY		BLOWS	CONSISTENCY		THUMB PRESSURE
VERY LOOSE	VL	0-4	VERY SOFT	VS	EXTRUDES
LOOSE	LO	4-10	SOFT	S	MOLDS LIGHTLY
COMPACT	CP	10-30	FIRM	FM	MOLDS
DENSE	DN	30-50	STIFF	ST	THUMB INDENTS
VERY DENSE	VDN	50	VERY STIFF	VST	THUMBNAIL INDENT
			HARD	H	[illegible]

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

Field Boring Log

DEPTH HOLE 6.0 JOB NO 093-89169 PROJECT Van DeMark BORING NO. B9-W10-N10
DEPTH SOIL DRILL 6.0 QA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER L. RAIN DRILLING COMPANY Zebra Env. SURFACE ELEV
NO DIST SA 0 UD. SA 2 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM
DEPTH WL N/A HRS. PROD. N/A WT SAMPLER HAMMER N/A DROP N/A STARTED 10:55 6/22/10
TIME WL. N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 11:05 6/22/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

RELATIVE DENSITY		BLOWS	CONSISTENCY		[illegible]
VERY LOOSE	VLS	0-4	VERY SOFT	VS	[illegible]
LOOSE	LS	4-10	SOFT	S	[illegible]
COMPACT	CP	10-30	FIRM	FM	[illegible]
DENSE	DN	30-50	STIFF	ST	[illegible]
VERY DENSE	VDN	>50	VERY STIFF	VST	[illegible]
			HARD	H	[illegible]

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

Field Boring Log

DEPTH HOLE 5.0 JOB NO 093-89168 PROJECT Van DeMark BORING NO. B9-N20
DEPTH SOIL DRILL 5.0 QA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER L. RAIN DRILLING COMPANY Zebra Env. SURFACE ELEV
NO. DIST SA 0 UD SA 1 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM
DEPTH WL N/A HRS. PROD. N/A WT. SAMPLER HAMMER N/A DROP N/A STARTED 11:05, 6/22/10
TIME WL N/A HRS. DELAYED 0 WT. CASING HAMMER N/A DROP N/A COMPLETED 11:20, 6/22/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE	0 - [illegible]%	SOME	[illegible] - [illegible]%
LITTLE	[illegible] - [illegible]%	AND	[illegible]%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0-4	VERY SOFT	VS	[illegible]
LOOSE	LS	4-10	SOFT	S	[illegible]
COMPACT	CP	10-30	FIRM	FM	[illegible]
DENSE	DN	30-50	STIFF	ST	[illegible]
VERY DENSE	VDN	50	VERY STIFF	VST	[illegible]
			HARD	H	[illegible]

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

Field Boring Log

DEPTH HOLE 4.5 JOB NO 093-89169 PROJECT Van DeMark BORING NO. B9-W10-N20
DEPTH SOIL DRILL 4.5 GA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER L. RAIN DRILLING COMPANY Zebra Env. SURFACE ELEV
NO. DIST SA 0 UD. SA. 1 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM
DEPTH WL N/A HRS. PROG N/A WT SAMPLER HAMMER N/A DROP N/A STARTED 11:20, 6/22/10
TIME WL. N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 11:30 6/22/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
									Boring 10 FT W and 20 FT N of NW corner of B9.
1									0.0-4.5 FT Dark brown SILT SAND + GRAVEL with some brick. Fill.
2						PID =	4.2		
3						0.0 ppm	4.5		Coal tar 2.5-2.9 and 3.2-3.5 FT. Coal tar odor.
4									Refusal @ 4.5 FT
5									
									Cuttings returned to borehole, tamped, and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 4.0 JOB NO 093-89169 PROJECT Van DeMark BORING NO. B9-W20-N20
DEPTH SOIL DRILL 4.0 GA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER ______ DRILLING COMPANY Zebra Env. SURFACE ELEV ______
NO. DIST SA 0 UD SA 1 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM ______
DEPTH WL N/A HRS. PROD. N/A WT SAMPLER HAMMER N/A DROP N/A STARTED 11:30, 6/22/10
TIME WL N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 11:40 6/22/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE	0-[illegible]%	SOME	11-[illegible]%
LITTLE	[illegible]%	AND	[illegible]%

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

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

Field Boring Log

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

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED OPEN
T.P.	THIN-WALLED PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE	0 - [illegible]%	SOME	12 - [illegible]%
LITTLE	[illegible] - 12%	AND	[illegible]

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0-4	VERY SOFT	VS	[illegible]
LOOSE	LS	4-10	SOFT	S	[illegible]
COMPACT	CP	10-30	FIRM	FM	[illegible]
DENSE	DN	30-50	STIFF	ST	[illegible]
VERY DENSE	VDN	>50	VERY STIFF	VST	[illegible]
			HARD	H	[illegible]

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

Field Boring Log

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

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE	0 - 10%	SOME	12 - 30%
LITTLE	[illegible] - 12%	AND	30 - 50%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0 - 4	VERY SOFT	VS	EXTRUDES
LOOSE	LS	5 - 10	SOFT	S	MOLDS EASILY
COMPACT	CP	10 - 30	FIRM	FM	MOLDS
DENSE	DN	30 - 50	STIFF	ST	FINGER INDENTS
VERY DENSE	VDN	>50	VERY STIFF	VST	THUMBNAIL INDENT
			HARD	H	RESISTS THUMBNAIL

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

Field Boring Log

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

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE	0 - [illegible]%	SOME	[illegible] - [illegible]%
LITTLE	[illegible] - [illegible]%	AND	30 - 50%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0 - 4	VERY SOFT	VS	EXTRUDES
LOOSE	LS	4 - 10	SOFT	S	[illegible]
COMPACT	CP	10 - 30	[illegible]	[illegible]	MOLDS
DENSE	DN	30 - 50	STIFF	ST	[illegible]
VERY DENSE	VDN	[illegible]	VERY STIFF	VST	[illegible]
			HARD	H	[illegible]

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

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

Field Boring Log

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

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

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

Field Boring Log

DEPTH HOLE	5.3	JOB NO	093-89168	PROJECT	Van DeMark	BORING NO.	B9-W24-S10
DEPTH SOIL DRILL	5.3	GA INSP	D. WEHN	DRILLING METHOD	Geoprobe Macrocore	SHEET	1 OF 1
DEPTH ROCK CORE	N/A	WEATHER		DRILLING COMPANY	Zebra Env.	SURFACE ELEV	
NO. DIST SA. 0	UD SA. 2	TEMP	75°F	DRILL RIG	6620D	DRILLER	D. Pino
						DATUM	
DEPTH WL	N/A	HRS. PROD.	N/A	WT SAMPLER HAMMER	N/A DROP N/A	STARTED	13:28, 6/22/10
TIME WL	N/A	HRS. DELAYED	0	WT CASING HAMMER	N/A DROP N/A	COMPLETED	13:40, 6/22/10

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHURN SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

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

ATTACHMENT B

LABORATORY ANALYSIS REPORT (TESTAMERICA, JUNE 2010)

Analytical Report

Work Order: RTF1262

Project Description
Golder - Vandermark/Isochem site

For:

Pat Martin

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

Brian Fischer

Project Manager

Brian.Fischer@testamericainc.com

Friday, July 2, 2010

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

TestAmerica Buffalo
Current Certifications

As of 06/17/2010

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

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

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.

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.

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

Work Order: RTF1262

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

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

Executive Summary - Detections

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

Executive Summary - Detections

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

General Chemistry Parameters

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Percent Solids	**79**		0.010	NR	%	1.00	06/24/10 13:48	JRR	10F2079	Dry Weight

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

Semivolatile Organics by GC/MS

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
2-Methylnaphthalene	**1200000**	T10, D08	740000	8900	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Acenaphthene	**1300000**	T10, D08	740000	8600	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Anthracene	**1800000**	T10, D08	740000	19000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[a]anthracene	**2000000**	T10, D08	740000	13000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[a]pyrene	**1300000**	T10, D08	740000	18000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[b]fluoranthene	**1000000**	T10, D08	740000	14000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[g,h,i]perylene	**720000**	T10, D08,J	740000	8800	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Benzo[k]fluoranthene	**360000**	T10, D08,J	740000	8100	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Biphenyl	**150000**	T10, D08,J	740000	46000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Carbazole	**200000**	T10, D08,J	740000	8500	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Chrysene	**2000000**	T10, D08	740000	7300	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Dibenz[a,h]anthracene	**200000**	T10, D08,J	740000	8600	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Dibenzofuran	**200000**	T10, D08,J	740000	7600	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Fluoranthene	**2500000**	T10, D08	740000	11000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Fluorene	**940000**	T10, D08	740000	17000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Indeno[1,2,3-cd]pyrene	**470000**	T10, D08,L2, J	740000	20000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Naphthalene	**1500000**	T10, D08	740000	12000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Phenanthrene	**5900000**	T10, D08	740000	15000	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C
Pyrene	**4300000**	T10, D08	740000	4800	ug/kg dry	200	06/30/10 20:04	MAF	10F2051	8270C

General Chemistry Parameters

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Percent Solids	**92**		0.010	NR	%	1.00	06/24/10 13:50	JRR	10F2079	Dry Weight

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

Semivolatile Organics by GC/MS

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
2-Methylnaphthalene	**530000**	T10, D08	410000	4900	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Acenaphthene	**830000**	T10, D08	410000	4700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Acenaphthylene	**19000**	T10, D08,J	410000	3300	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Anthracene	**1300000**	T10, D08	410000	10000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzo[a]anthracene	**1600000**	T10, D08	410000	7000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzo[a]pyrene	**1000000**	T10, D08	410000	9700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzo[b]fluoranthene	**1000000**	T10, D08	410000	7800	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Benzo[g,h,i]perylene	**570000**	T10, D08	410000	4800	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Biphenyl	**77000**	T10, D08,J	410000	25000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Carbazole	**97000**	T10, D08,J	410000	4700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Chrysene	**1500000**	T10, D08	410000	4000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Dibenz[a,h]anthracene	**160000**	T10, D08,J	410000	4700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Dibenzofuran	**110000**	T10, D08,J	410000	4200	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Fluoranthene	**2000000**	T10, D08	410000	5800	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Fluorene	**640000**	T10, D08	410000	9300	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Indeno[1,2,3-cd]pyrene	**400000**	T10, D08,L2, J	410000	11000	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C
Naphthalene	**590000**	T10, D08	410000	6700	ug/kg dry	100	06/30/10 20:27	MAF	10F2051	8270C

Executive Summary - Detections

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

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	

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

Work Order: RTF1262

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

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

Analytical Report

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

Semivolatile Organics by GC/MS

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

Analytical Report

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

Semivolatile Organics by GC/MS - cont.

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

General Chemistry Parameters

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Percent Solids	**91**		0.010	NR	%	1.00	06/24/10 13:46	JRR	10F2079	Dry Weight

Analytical Report

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

Semivolatile Organics by GC/MS

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

Analytical Report

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

Semivolatile Organics by GC/MS - cont.

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

General Chemistry Parameters

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Percent Solids	**79**		0.010	NR	%	1.00	06/24/10 13:48	JRR	10F2079	Dry Weight

Analytical Report

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

Semivolatile Organics by GC/MS

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

Analytical Report

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

Semivolatile Organics by GC/MS - cont.

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

General Chemistry Parameters

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Percent Solids	**92**		0.010	NR	%	1.00	06/24/10 13:50	JRR	10F2079	Dry Weight

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method

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

Semivolatile Organics by GC/MS

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

Analytical Report

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

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

SAMPLE EXTRACTION DATA

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

LABORATORY QC DATA

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

LABORATORY QC DATA

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

LABORATORY QC DATA

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

LABORATORY QC DATA

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

LABORATORY QC DATA

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

Chain of Custody Record

TAL-4124 (1007)

Temperature on Receipt ______

Drinking Water? Yes ☐ No ☐

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client: Golder Associates

Address: 2221 Niagara Falls Blvd. suite 9

City: Niagara Falls State: NY Zip Code: 14304

Project Name and Location (State): SNPE Van

Contract/Purchase Order/Quote No:

Project Manager: Pat Martin

Telephone Number (Area Code)/Fax Number: 716-215-0650

Site Contact: Pam Cook

Lab Contact:

Carrier/Waybill Number:

Date: 6-22-10

Lab Number:

Chain of Custody Number: 148801

Page 1 of 1

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Matrix: Aqueous	Matrix: Sed.	Matrix: Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis (Attach list if more space is needed): SVOCs	Special Instructions/ Conditions of Receipt
B-9-W5-N5	6-22-10	1005				X								X	
B-9-N10	6-22-10	1025				X								X	
B-9-W5-N10	6-22-10	1035				X								X	
B-9-W10-N15	6-22-10	1045				X								X	

Possible Hazard Identification

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

Sample Disposal

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

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other ______

QC Requirements (Specify)

1. Relinquished By: Date: 6-22-10 Time: 1420

1. Received By: Date: 6/22/10 Time: 1420

2. Relinquished By: Date: Time:

2. Received By: Date: Time:

3. Relinquished By: Date: Time:

3. Received By: Date: Time:

Comments:

3 5 ul

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

ATTACHMENT C

TEST PIT SUMMARY TABLE

TABLE C-1

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

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

New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials, Region 9
270 Michigan Avenue, Buffalo, New York 14203-2915
Phone: (716) 851-7220 • **FAX:** (716) 851-7226
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

September 8, 2010

Patrick Martin, P.E., BCEE
Golder Associates Inc.
2221 Niagara Falls Boulevard
Suite 9
Niagara Falls, New York 14304

SNPE - VanDeMark Chemical DNAPL
2010 Supplemental DNAPL Investigation Summary Report
VanDeMark Chemical Facility, Lockport, New York

Dear Mr. Martin:

The New York State Department of Environmental Conservation (the "Department") has reviewed the SNPE - VanDeMark Chemical DNAPL 2010 Supplemental DNAPL Investigation Summary Report received on August 18, 2010. The purpose of this letter is to provide comments regarding the summary report and to follow up on topics discussed at our meeting between SNPE, VanDeMark, and the Department held on September 1, 2010.

Section 3.0 Overburden/Bedrock Test Pit Investigation - The Department believes that a better understanding of the bedrock geology is important to site characterization. The Department believes that the competent rock encountered in the test pits in the original or western DNAPL breakout area may be the Whirlpool Sandstone. It is possible that the Whirlpool Sandstone, which underlies the Power Glen Shale, may influence the horizontal movement of the DNAPL. The thickness of the Power Glen Shale is about 7.5 meters in this area. This should allow the depth to and elevation of the Whirlpool Sandstone to be determined. With this additional information, the location of the coal tar should be shown in Figure 3 along with the Whirlpool Sandstone in the stratigraphic section.

Section 5.1 In-Plant Coal Tar Overburden Remediation - VanDeMark needs to identify the extent of the coal tar to the north of the identified area and in the suspected location of the former "impregnating" building and pitch tank. A dozen or so geo-probe borings to look for the presence of coal tar is all that should be needed. Visual identification of the coal is all that is needed and no sampling of the coal tar is required. The Department agrees that characterization of the coal tar already in the rock fractures is not necessary. It is the Department's understanding that Golder will submit a work plan for the additional borings during the next weeks.

Section 5.2 Eighteen Mile Creek Slope and Bank Remediation - The previously remediated area must be included in any future remedial action. The Department understands the complexities associated with coal tar removal along the base of the escarpment and along the Eighteen Mile Creek. However, it is the Department's goal to remove all coal tar in the overburden in all areas along the Eighteen Mile Creek slope and creek bank. If VanDeMark can document other factors such as technical implementability issues, safety, etc., the Department may consider alternatives. However, VanDeMark will be required to ensure that the coal tar does not migrate any further.

Collection Trench - The report needs to show the location of the trench and what kind of trench will be constructed. Also, as discussed during our meeting, it appears there is not enough information available to properly design a collection system at this time. This relates to the items commented in Section 3.0 regarding the geology and presence of DNAPL. The Department believes the collection trench cannot be adequately designed until a more thorough understanding of the geology is developed. VanDeMark should design the collection system(s) to ensure that all the coal tar in the rock formation is controlled and contained.

The Department appreciates VanDeMark/SNPE's cooperation regarding this investigation. If you have any questions regarding any of the comments, please feel free to contact me at (716)851-7220.

Sincerely,

Stanley Radon

Stanley Radon, CPG
Senior Engineering Geologist

SR:lg

ecc: Mr. Michael Hinton, NYSDEC
Mr. Gregory Sutton, NYSDEC
Mr. James Strickland, NYSDEC
Ms. Pamela Cook, VanDeMark Chemical, Inc.

Golder Associates

November 4, 2010 093-89168

Mr. Stanley Radon, CPG
New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials – Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

**RE: RESPONSES TO NYSDEC COMMENTS ON THE SNPE – VANDEMARK CHEMICAL 2010 SUPPLEMENTAL DNAPL INVESTIGATION SUMMARY REPORT
VANDEMARK CHEMICAL FACILITY, LOCKPORT, NEW YORK**

Dear Mr. Radon:

On behalf of SNPE Inc. (SNPE), Golder Associates Inc. (Golder) has prepared responses to the comments from the New York State Department of Environmental Conservation (NYSDEC) on the SNPE – VanDeMark Chemical DNPL 2010 Supplemental DNAPL Investigation Summary Report dated August 18, 2010 for the VanDeMark Chemical Facility in Lockport, New York. The comments were presented by the NYSDEC in a memorandum addressed to Golder dated September 8, 2010.

RESPONSE FORMAT

For ease of review, each NYSDEC comment is listed below followed by Golder's response.

RESPONSE TO COMMENTS

1. Section 3.0 Overburden Bedrock Test Pit Investigation - The Department believes that a better understanding of the bedrock geology is important to site characterization. The Department believes that the competent rock encountered in the test pits in the original or western DNAPL breakout area may be the Whirlpool Sandstone. It is possible that the Whirlpool Sandstone, which underlies the Power Glen Shale, may influence the horizontal movement of the DNAPL. The thickness of the Power Glen Shale is about 7.5 meters in this area. This should allow the depth to and elevation of the Whirlpool Sandstone to be determined. With this additional information, the location of the coal tar should be shown in Figure 3 along with the Whirlpool Sandstone in the stratigraphic section.

   Response: A revised cross section (B – B') of the slope bedrock geology that was presented in the August 17, 2010 Supplemental Report has been updated based on more detailed formation thickness data provided by the Department for both the Power Glen Shale and Whirlpool Sandstone formations. As illustrated on the attached Figure 3 (Attachment 1), the location of the contact between the Power Glen and more competent Whirlpool Sandstone formation correlates closely with the surveyed elevation of the bedrock at the toe of the slope and provides further confirmation that this formation is arresting the vertical flow of the DNAPL and influencing it to flow horizontally to the south where it has been observed to exit the formation and accumulate adjacent to the toe of the slope and along the creek bank.

2. Section 5.1 In-Plant Coal Tar Overburden Remediation - VanDeMark needs to identify the extent of the coal tar to the north of the identified area and in the suspected location of the former "impregnating" building and pitch tank. A dozen or so geo-probe borings to look for the presence of coal tar is all that should be needed. Visual identification of the coal is all that is needed and no sampling of the coal tar is required. The Department agrees that characterization of the coal tar already in the rock fractures is not necessary. It is the Department's understanding that Golder will submit a work plan for the additional borings during the next weeks.

   Response: A supplemental boring plan proposal (Figure 2 attached) was submitted to the Department on September 10, 2010 to address the data gaps identified both to the north and south of the June 2010 In-Plant investigation borings. As part of the plan, it was agreed that only visual observation of the soil borings would be conducted to establish the presence or absence of coal tar residuals at each of the boring locations. Collection of additional soil/fill samples for analysis was not planned as part of this investigation. This plan was approved by the Department (email from S. Radon to P. Martin, September 14, 2010).

   The supplemental borings were completed on October 5, 2010 under the direction of Golder Associates. A total of twelve borings were completed to refusal as originally planned. In general, the locations of the completed borings were within +/- 5 feet of the proposed plan locations. Where necessary, borings were moved from their proposed location to avoid potential conflicts with known underground structures or utilities based on VanDeMark records.

   Copies of the boring logs completed for each of the twelve borings and a figure (Figure 2) identifying the final boring locations and designations are provided as Attachment 1 to this letter. Evidence of coal tar was not found in any of the six borings completed to the north of the original June 2010 boring area. The northern borings were initiated approximately 20 feet north of the June 2010 borings and extended an additional 40 feet north to within approximately 25 feet of the north property line.

   Six borings were completed to the east of Building C-1 and north of Building C-10. Coal tar approximately 2.5 inches thick was observed in one of the six borings (C1-45N-13E). Coal tar was not observed to be present in any of the remaining five borings in this group and therefore the area of coal tar observed in Bring C1-45N-13E appears to be localized in its areal extent.

   Based on the results of this supplemental investigation, we believe that the extent of the coal tar residuals within the plant have been sufficiently defined to proceed with the development of an interim corrective measure for the excavation and removal of these residuals within the plant.

3. Section 5.2 Eighteen Mile Creek Slope and Bank Remediation - The previously remediated area must be included in any future remedial action. The Department understands the complexities associated with coal tar removal along the base of the escarpment and along the Eighteen Mile Creek. However, it is the Department's goal to remove all coal tar in the overburden in all areas along the Eighteen Mile Creek slope and creek bank. If VanDeMark can document other factors such as technical implementability issues, safety, etc., the Department may consider alternatives. However, VanDeMark will be required to ensure that the coal tar does not migrate any further.

   Response: We understand the Department's objectives relative to source removal in all areas along the Creek Bank. As discussed previously with the Department, due to the complexities and impacts that may be incurred in implementing potential remedial strategies, it is the intent of SNPE and VanDeMark to conduct a remedial alternatives analysis comparable to a focused Corrective Measures Study (CMS) that will describe and

analyze selected alternatives (e.g. source removal, collection trenches, grout curtains, etc.) for: technical implementability; short and long term effectiveness; degree of public and environmental protection afforded; community acceptance; cost and other relevant evaluation criteria. Based on the analysis performed, a preferred remedial approach will be recommended for implementation. The selected remedial alternative will encompass all areas of the creek bank (including the previously remediated or western area). The results of the alternatives analysis and recommendations will be presented in a report and submitted to the NYSDEC for review and comment. Selection and final agreement on the preferred remedial approach will be negotiated between SNPE, VanDeMark and the NYSDEC after a full review of the alternatives analysis has been completed.

4. Collection Trench - The report needs to show the location of the trench and what kind of trench will be constructed. Also, as discussed during our meeting, it appears there is not enough information available to properly design a collection system at this time. This relates to the items commented in Section 3.0 regarding the geology and presence of DNAPL. The Department believes the collection trench cannot be adequately designed until a more thorough understanding of the geology is developed. VanDeMark should design the collection system(s) to ensure that all the coal tar in the rock formation is controlled and contained.

   Response: Please refer to the responses to Comments No. 1 and 3 above. Based on the proposed approach for more detailed evaluation of remedial strategies outlined above, a detailed design and location of a collection trench system will not be addressed until the analysis of all selected remedial alternatives is complete and agreement on the recommended remedial strategy has been reached between all the parties.

We trust that these responses are satisfactory. If you have any questions regarding these responses or any other aspects of the project, please call the Patrick Martin at (716) 215-0650.

Very truly yours,

GOLDER ASSOCIATES INC.

Patrick T. Martin

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

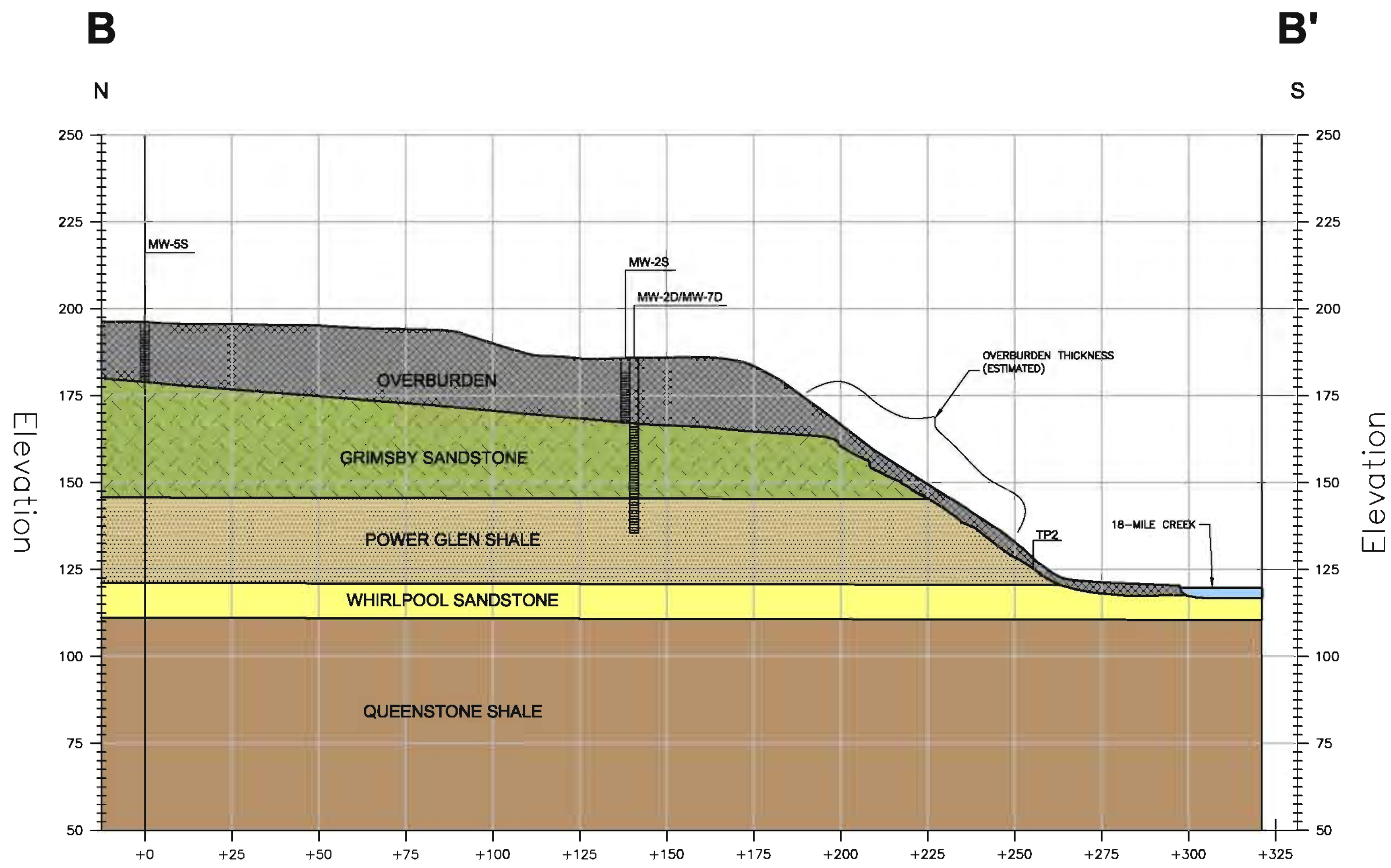
David C. Wehn, CPG
Associate

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

PTM/DCW:dml

ATTACHMENT 1

FIGURE 3: CROSS SECTON B-B’



LEGEND

▩ OVERBURDEN

🟩 GRIMSBY SANDSTONE

▨ POWER GLEN SHALE

🟨 WHIRLPOOL SANDSTONE

🟫 QUEENSTONE SHALE

▼ WATER ELEVATION IN WELL

REFERENCES

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

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

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

25 0 25 50
HORIZONTAL SCALE FEET

25 0 25 50
VERTICAL SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

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

TITLE

CROSS SECTION B-B'

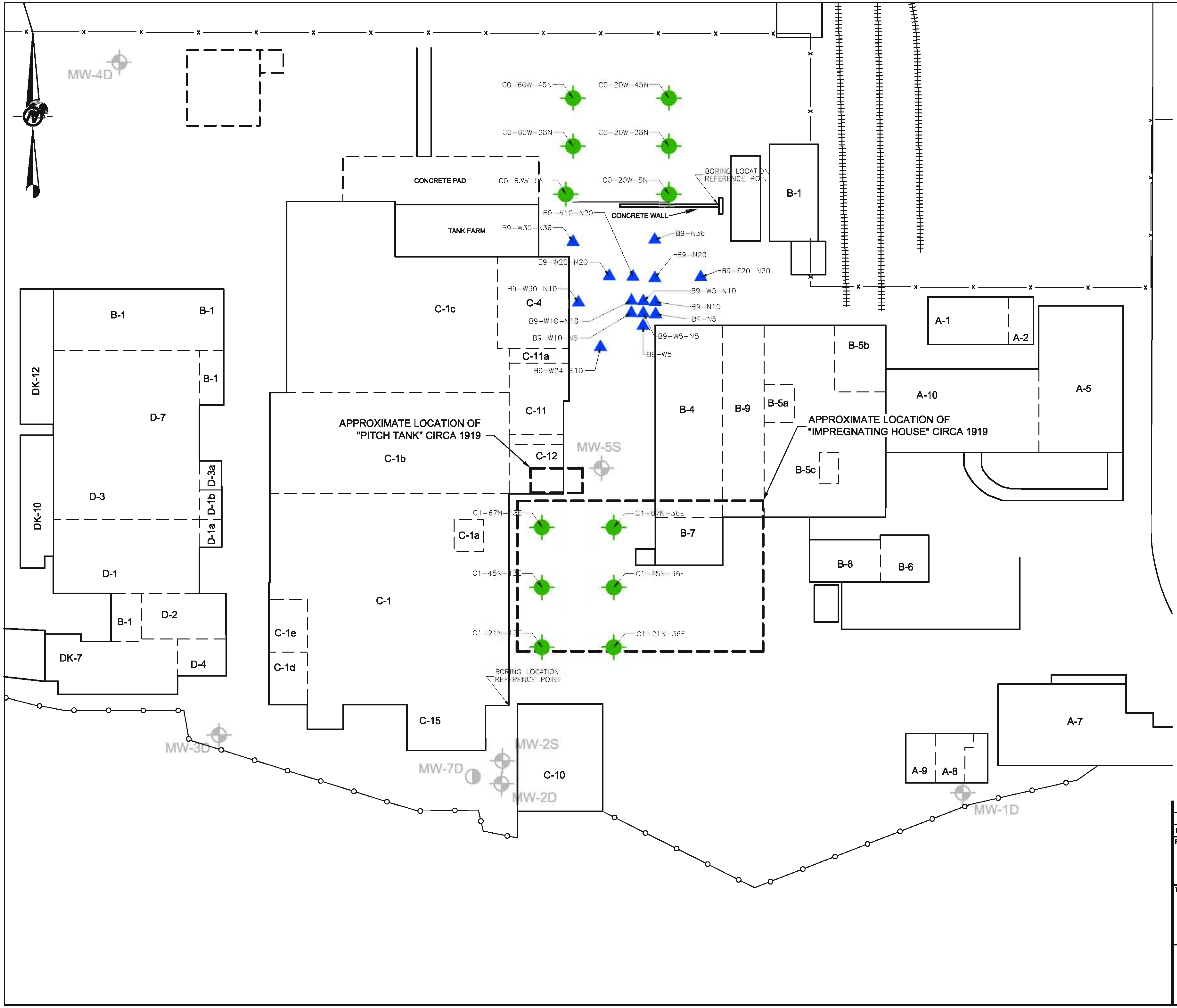
NJ Authorization #24GA28029100
Golder Associates
Mt. Laurel, New Jersey

PROJECT No.	093–89168		FILE No.	09389168A002
DESIGN	DCW	10/20/10	SCALE AS SHOWN	REV. 0
CADD	AM	10/20/10	**FIGURE 3**	
CHECK				
REVIEW				

Drawing file: 09389168A002.dwg Oct 20, 2010 – 9:34am

ATTACHMENT 2

- FIGURE 2: BOREHOLE LOCATION MAP
- FIELD BORING LOGS – OCTOBER 5, 2010



LEGEND

—x—	FENCE
++++++++	RAILROAD
⊕	1999 INVESTIGATION MONITORING WELL
◐	2006 BEDROCK MONITORING WELL
▲	JUNE 2010 BOREHOLE LOCATIONS
●	OCTOBER 2010 SUPPLEMENTAL BOREHOLE LOCATIONS

REFERENCE

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

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

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

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

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

TITLE
COAL TAR DELINEATION OVERBURDEN/BEDROCK BOREHOLE LOCATION MAP

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

PROJECT No.	093-89168		FILE No.	09389168A008
DESIGN	DCW	09/09/10	SCALE AS SHOWN	REV. 0
CADD	GLS	09/09/10		
CHECK				
REVIEW				

FIGURE 2

Field Boring Log

DEPTH HOLE 5.0
JOB NO. 093-89168
PROJECT VDM-2010 SUPP. DNAPL INVESI
BORING NO CO-20W-5N
DEPTH SOIL DRILL 5.0
QA INSP D. WEHN
DRILLING METHOD DIRECT PUSH
SHEET 1 OF 1
DEPTH ROCK CORE N/A
WEATHER RAIN
DRILLING COMPANY ZEBRA ENV.
SURFACE ELEV N/A
NO. DIST SA. 0 UD. SA. 2
TEMP 55°F
DRILL RIG GEOPROBE 5400
DRILLER P. ORSI
DATUM N/A
DEPTH WL. N/A
HRS. PROD. 4
WT. SAMPLER HAMMER N/A
DROP N/A
STARTED 8:30 10/5/10
TIME WL. N/A
HRS. DELAYED 0
WT CASING HAMMER N/A
DROP N/A
COMPLETED 8:40 10/5/10

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV. DEPTH	DESCRIPTION	BLOWS/FT	SAMPLES NO.	SAMPLES TYPE	SAMPLES HAMM. BLOWS PER 6 IN (FORCE)	SAMPLES REC/ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1								0.0-4.0 FT Dark gray crushed stone FILL to 1.0 FT, then rust-red SILT with little clay, little SAND to 2.0 FT then red-brown CLAYEY SILT.
2			1			3.7/4.0		
3								
4			2			1.5/1.0		4.0-5.0 As above grading to weathered red-brown SHALE.
5								Refusal @ 5.0 FT
6								No tar visible or tar odor noted.
7								
8								
9								
10								
11								
12								
13								
14								
15								

Field Boring Log

DEPTH HOLE 5.0
DEPTH SOIL DRILL 5.0
DEPTH ROCK CORE N/A
NO. DIST SA 0 UD. SA 2
DEPTH WL. N/A
TIME WL. N/A

JOB NO 093-89168
QA INSP D. WEHN
WEATHER RAIN
TEMP 55°F
HRS. PROD. 4
HRS. DELAYED 0

PROJECT VDM - 2010 SUPP. DNAPL INVESI
DRILLING METHOD DIRECT PUSH
DRILLING COMPANY ZEBRA ENV.
DRILL RIG GEOPROBE 540C DRILLER P. ORSI
WT. SAMPLER HAMMER N/A DROP N/A
WT. CASING HAMMER N/A DROP N/A

BORING NO. CO-2010-28N
SHEET 1 OF 1
SURFACE ELEV N/A
DATUM N/A
STARTED 8:40, 10/5/10
COMPLETED 8:50, 10/5/10

SAMPLE TYPES

A S	AUGER SAMPLE
C S	CHUNK SAMPLE
D O	DRIVE OPEN
D S	DENISON SAMPLE
P S	PITCHER SAMPLE
R C.	ROCK CORE
S T	SLOTTED TUBE
T O	THIN-WALLED, OPEN
T P	THIN-WALLED, PISTON
W S	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV. / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	SAMPLES TYPE	SAMPLES HAMM. BLOWS PER 6 IN (FORCE)	SAMPLES REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1									0.0-4.0 FT Gray crushed stone FILL to 0.8 FT, then red-brown SILT. Poor recovery.
2				1			1.0 / 4.0		
3									
4				2			2.0 / 1.0		4.0-5.0 FT As above grading to red-brown weathered SHALE. Refusal at 5.0 FT
5									
6									Top of sample "sloughed" from previous interval - borehole saturated.
7									No tar visible or tar odor noted.
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE 4.5 JOB NO. 093-89168 PROJECT VDM - 2010 SUPP. DNAPL INVESI BORING NO. CO-20W-45N
DEPTH SOIL DRILL 4.5 QA INSP D. WEHN DRILLING METHOD DIRECT PUSH SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER RAIN DRILLING COMPANY ZEBRA ENV. SURFACE ELEV N/A
NO. DIST SA 0 UD. SA 1 TEMP 55°F DRILL RIG GEOPROBE 5400 DRILLER P. ORSI DATUM N/A
DEPTH WL. N/A HRS. PROD. 4 WT. SAMPLER HAMMER N/A DROP N/A STARTED 8:55 / 10/5/10
TIME WL. N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 9:00 / 10/5/10

SAMPLE TYPES

A S	AUGER SAMPLE
C S	CHUNK SAMPLE
D O	DRIVE OPEN
D S	DENISON SAMPLE
P S	PITCHER SAMPLE
R C.	ROCK CORE
S T	SLOTTED TUBE
T O.	THIN-WALLED, OPEN
T P	THIN-WALLED, PISTON
W S	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
									0.0- 4.5 FT Gray crushed stone FILL to 1.1 FT, then tan to off-white SAND and SILT FILL with some gravel. Refusal @ 4.5 FT No tar visible or tar odor noted.
1									
2				1			3.1 / 4.5		
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE 4.5 JOB NO. 093-89168 PROJECT VDM-2010 SUPP. DNAPL INVEST. BORING NO. CD-63W-SN
DEPTH SOIL DRILL 4.5 GA INSP D. WEHN DRILLING METHOD DIRECT PUSH SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER RAIN DRILLING COMPANY ZEBRA ENV. SURFACE ELEV N/A
NO. DIST. SA. 0 UD. SA. 2 TEMP 55°F DRILL RIG GEOPROBE 5400 DRILLER P. ORSI DATUM N/A
DEPTH WL. N/A HRS. PROD. 4 WT. SAMPLER HAMMER N/A DROP N/A STARTED 9:05 / 10/5/10
TIME WL. N/A HRS. DELAYED 0 WT. CASING HAMMER N/A DROP N/A COMPLETED 9:15 / 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE	0 [illegible]%	SOME	[illegible] [illegible]%
LITTLE	5 [illegible]%	AND	30 50%

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
									0.0 - 4.0 FT
1									Gray crushed fine stone FILL to 0.7 FT, then dark gray to black coarse SAND and fine GRAVEL. Strong petroliferous odor. Bottom 0.8 FT of sample appears petroleum stained.
2				1			3.4 / 4.0		
3									
4				2			0.3 / 0.5		4.0 - 4.5 FT Dark gray SAND and fine GRAVEL. Strong petroliferous odor. Free petroleum product visible.
5									
6									Refusal at 4.5 FT
7									No tar visible or tar odor noted.
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE 6.0
DEPTH SOIL DRILL 6.0
DEPTH ROCK CORE N/A
NO. DIST SA. 0 UD. SA. 2
DEPTH WL. N/A
TIME WL. N/A

JOB NO 093-89168
GA INSP D. WEHN
WEATHER RAIN
TEMP 55°F
HRS. PROD. 4
HRS. DELAYED 0

PROJECT VDM-2010 SUPP. DNAPL INVEST
DRILLING METHOD DIRECT PUSH
DRILLING COMPANY ZEBRA ENV.
DRILL RIG GEOPROBE 5400
DRILLER P. ORSI
WT. SAMPLER HAMMER N/A DROP N/A
WT CASING HAMMER N/A DROP N/A

BORING NO. CO-BOW-28N
SHEET 1 OF 1
SURFACE ELEV N/A
DATUM N/A
STARTED 9:15 10/5/10
TIME DATE
COMPLETED 9:20 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV. / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
0–4			1			2.8 / 4.0		0.0-4.0 FT Grey crushed stone FILL to 0.8 FT, then red-brown SAND and SILT to 1.8 FT then dark red-brown SILTY CLAY. Petroliferous odor.
4–6			2			0.8 / 2.0		4.0-6.0 FT As above grading to weathered SHALE. Refusal at 6.0 FT. Slight petroliferous odor.
6								No tar visible or tar odor noted.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Field Boring Log

DEPTH HOLE 6.0
DEPTH SOIL DRILL 6.0
DEPTH ROCK CORE N/A
NO. DIST. SA 0 UD. SA 2
DEPTH WL N/A
TIME WL. N/A

JOB NO. 093-89168
QA INSP D. WEHN
WEATHER RAIN
TEMP 55°F
HRS. PROD. 4
HRS. DELAYED 0

PROJECT VDM-2010 SUPP. DNAPL INVESI
DRILLING METHOD DIRECT PUSH
DRILLING COMPANY ZEBRA ENV.
DRILL RIG GEOPROBE 5400 DRILLER P. ORSI
WT. SAMPLER HAMMER N/A DROP N/A
WT. CASING HAMMER N/A DROP N/A

BORING NO. CO-60W-45N
SHEET 1 OF 1
SURFACE ELEV N/A
DATUM N/A
STARTED 9:25 / 10/5/10
COMPLETED 9:35 / 10/5/10

SAMPLE TYPES

A S	AUGER SAMPLE
C S	CHUNK SAMPLE
D O	DRIVE OPEN
D S	DENISON SAMPLE
P S	PITCHER SAMPLE
R.C.	ROCK CORE
S T	SLOTTED TUBE
T O	THIN-WALLED, OPEN
T P	THIN-WALLED, PISTON
W S	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	SAMPLES TYPE	SAMPLES HAMM. BLOWS PER 6 IN (FORCE)	SAMPLES REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1									0.0-4.0 FT Gray crushed stone FILL to 1.3 FT, then black SAND and GRAVEL. Petroliferous odor. Visible dark staining and sheen.
2				1			2.8 / 4.0		
3									
4									4.0-6.0 FT As above to 5.0 FT then red-brown SILTY CLAY. SAND / GRAVEL unit has petroliferous odor and visible sheen.
5				2			2.0 / 2.0		
6									Refusal @ 6.0 FT
7									No tar visible or tar odor noted.
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE 12.8
JOB NO 093-89168
PROJECT VDM-2010 SUPP. DNAPL INVESI
BORING NO. C1-21N-13E
DEPTH SOIL DRILL 12.8
QA INSP D. WEHN
DRILLING METHOD DIRECT PUSH
SHEET 1 OF 1
DEPTH ROCK CORE N/A
WEATHER RAIN
DRILLING COMPANY ZEBRA ENV.
SURFACE ELEV N/A
NO. DIST. SA. 0 UD. SA. 4
TEMP 55°F
DRILL RIG GEOPROBE 5400
DRILLER P. ORSI
DATUM N/A
DEPTH WL N/A
HRS. PROD. 4
WT. SAMPLER HAMMER N/A
DROP N/A
STARTED 10:50 / 10/5/10
TIME WL. N/A
HRS. DELAYED 0
WT CASING HAMMER N/A
DROP N/A
COMPLETED 11:10 / 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
									0.0- 4.0 FT Gray crushed stone FILL to 0.7 FT, then dark brown coarse SAND and fine GRAVEL.
1									
2				1			2.5 / 4.0		
3									
4									4.0- 8.0 FT As above.
5									Poor recovery.
6				2			0.9 / 4.0		
7									
8									8.0- 12.0 FT Red-brown CLAYEY SILT with trace gravel.
9									
10				3			2.7 / 4.0		
11									
12				4			0.8 / 0.8		12.0 - 12.8 FT as above
13									
14									No tar visible or tar odor noted.
15									

Field Boring Log

DEPTH HOLE 11.2
DEPTH SOIL DRILL 11.2
DEPTH ROCK CORE N/A
NO. DIST. SA. 0 UD. SA. 3
DEPTH WL. N/A
TIME WL. N/A

JOB NO 093-89168
QA INSP D. WEHN
WEATHER RAIN
TEMP 55°F
HRS. PROD. 4
HRS. DELAYED 0

PROJECT VDM-2010 SUPP. DNAPL INVESI
DRILLING METHOD DIRECT PUSH
DRILLING COMPANY ZEBRA ENV.
DRILL RIG GEOPROBE 54CC
DRILLER P. ORSI
WT. SAMPLER HAMMER N/A
DROP N/A
WT. CASING HAMMER N/A
DROP N/A

BORING NO. CI-2IN-36E
SHEET 1 OF 1
SURFACE ELEV N/A
DATUM N/A
STARTED 11:10, 10/5/16
COMPLETED 11:30, 10/5/16

SAMPLE TYPES

A S	AUGER SAMPLE
C S	CHUNK SAMPLE
D O.	DRIVE OPEN
D S	DENISON SAMPLE
P S	PITCHER SAMPLE
R C	ROCK CORE
S T	SLOTTED TUBE
T O	THIN-WALLED, OPEN
T P	THIN-WALLED, PISTON
W S	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1 2 3				1			2.9 / 4.0		0.0 - 4.0 FT Gray crushed stone FILL to 0.8 FT, then dark brown to black SILT, SAND and fine GRAVEL.
4 5 6 7				2			2.6 / 4.0		4.0 - 8.0 FT Brown SILT, SAND + GRAVEL
8 9 10 11				3			2.9 / 3.2		8.0 - 11.2 FT As above to 9.2 FT, then red brown CLAYEY SILT. Refusal at 11.2 FT
12 13 14 15									No tar visible or tar odor noted.

Field Boring Log

DEPTH HOLE 5.5 JOB NO. 093-89168 PROJECT VDM-2010 SUPP. DNAPL INVEST BORING NO. CI-67N-13E

DEPTH SOIL DRILL 5.5 GA INSP D. WEHN DRILLING METHOD DIRECT PUSH SHEET 1 OF 1

DEPTH ROCK CORE N/A WEATHER RAIN DRILLING COMPANY ZEBRA ENV. SURFACE ELEV N/A

NO. DIST SA. 0 UD. SA. 2 TEMP 55°F DRILL RIG GEOPROBE 5400 DRILLER P. ORSI DATUM N/A

DEPTH WL. N/A HRS PROD. 4 WT. SAMPLER HAMMER N/A DROP N/A STARTED 10:05 / 10/5/10

TIME WL. N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 10:10 10/5/10

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV. DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1									0.0-4.0 FT Gray crushed stone FILL to 0.9 FT, then dark brown to dark gray SAND and fine GRAVEL.
2				1			1.9 / 4.0		
3									
4									4.0-5.5 FT Brown SILT, SAND and GRAVEL.
5				2			1.4 / 1.5		Refusal @ 5.5 FT
6									No tar visible or tar odor noted.
7									
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE 6.0
DEPTH SOIL DRILL 6.0
DEPTH ROCK CORE N/A
NO. DIST. SA 0 UD. SA 2
DEPTH WL N/A
TIME WL N/A

JOB NO 093-89168
QA INSP D. WEHN
WEATHER RAIN
TEMP 55°F
HRS. PROD. 4
HRS. DELAYED 0

PROJECT VDM-2010 SUPP. DNAPL INVESI
DRILLING METHOD DIRECT PUSH
DRILLING COMPANY ZEBRA ENV.
DRILL RIG GEOPROBE 5400 DRILLER P. ORSI
WT. SAMPLER HAMMER N/A DROP N/A
WT CASING HAMMER N/A DROP N/A

BORING NO. C1-67N-36E
SHEET 1 OF 1
SURFACE ELEV N/A
DATUM N/A
STARTED 9:55 / 10/5/10
COMPLETED 10:05 / 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV. DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	SAMPLES TYPE	SAMPLES HAMM. BLOWS PER 6 IN (FORCE)	SAMPLES REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1									0.0-4.0 FT Gray crushed stone FILL to 1.0 FT, then dark gray SILT, SAND and GRAVEL with trace brick.
2				1			3.3 / 4.0		
3									
4									4.0-6.0 FT As above to 4.3 FT, then red-brown weathered SHALE. Refusal @ 6.0 FT
5				2			1.4 / 2.0		
6									No visible tar or tar oder noted.
7									
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE	9.0	JOB NO.	093-89168	PROJECT	VDM - 2010 SUPP. DNAPL INVESI	BORING NO.	C1-45N-BE
DEPTH SOIL DRILL	9.0	GA INSP	D. WEHN	DRILLING METHOD	DIRECT PUSH	SHEET	1 OF 1
DEPTH ROCK CORE	N/A	WEATHER	RAIN	DRILLING COMPANY	ZEBRA ENV.	SURFACE ELEV	N/A
NO. DIST. SA. 0	UD. SA. 2	TEMP	55°F	DRILL RIG	GEOPROBE 5400 DRILLER P. ORSI	DATUM	N/A
DEPTH WL	N/A	HRS. PROD.	4	WT SAMPLER HAMMER	N/A DROP N/A	STARTED	10:30, 10/5/10
TIME WL	N/A	HRS. DELAYED	0	WT CASING HAMMER	N/A DROP N/A	COMPLETED	10:45, 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE	0 - [illegible]	SOME	12 - [illegible]
LITTLE	5 - [illegible]	AND	30-50%

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1									0.0 - 4.0 FT Grey crushed stone FILL to 0.8 FT then dark brown SILT and SAND.
2				1			2.8 / 4.0		Coal tar noted from 2.0 - 2.2 FT with coal tar odor.
3									
4									
5									4.0 - 9.0 FT Brown CLAY, SILT, SAND and GRAVEL to 8.0 FT, then red-brown weathered SHALE.
6									
7				2			2.9 / 5.0		Refusal at 9.0 FT No coal tar visible or tar odor noted in sample No. 2.
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE 8.0
DEPTH SOIL DRILL 8.0
DEPTH ROCK CORE N/A
NO. DIST. SA. 0 UD. SA. 2
DEPTH WL. N/A
TIME WL. N/A

JOB NO 093-89168
QA INSP D. WEHN
WEATHER RAIN
TEMP 55°F
HRS. PROD. 4
HRS. DELAYED 0

PROJECT VDM-2010 SUPP. DNAPL INVESt
DRILLING METHOD DIRECT PUSH
DRILLING COMPANY ZEBRA ENV.
DRILL RIG GEOPROBE 5400 DRILLER P. ORSi
WT. SAMPLER HAMMER N/A DROP N/A
WT. CASING HAMMER N/A DROP N/A

BORING NO. CI-45N-36E
SHEET 1 OF 1
SURFACE ELEV N/A
DATUM N/A
STARTED 10:17 / 10/5/10
COMPLETED 10:30 / 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV. DEPTH	DESCRIPTION	BLOWS/FT		SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC/ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1									0.0-4.0 FT Gray crushed stone FILL to 1.1 FT then dark brown to black coarse SAND and fine GRAVEL.
2				1			2.9/4.0		
3									
4									4.0-8.0 FT Tan to brown SILT, SAND, and GRAVEL.
5									Refusal @ 8.0 FT.
6				2			2.4/4.0		No visible tar or tar odor noted.
7									
8									
9									
10									
11									
12									
13									
14									
15									

ATTACHMENT 2

SNPE-VDM ICM WORK PLAN FOR IN-PLANT REMEDIATION - FEBRUARY 15, 2011

NYSDEC ICM WORK PLAN APPROVAL LETTER – MAY 5, 2011

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, New York 14203-2915
Phone: (716) 851-7220 • **Fax:** (716) 851-7226
Website: www.dec.ny.gov

Joe Martens
Commissioner

May 5, 2011

Patrick Martin, P.E., BCEE
Senior Consultant
Golder Associates Inc.
2430 North Forest Road
Getzville, New York 14068

VanDeMark Chemical Facility, Lockport, New York
Site No. 932149
Interim Corrective Measures Work Plan

Dear Mr. Martin:

The New York State Department of Environmental Conservation (the "Department') has reviewed the Interim Corrective Measures Work Plan dated February 2011. This Work Plan was submitted and revised in response to the Department's comments submitted in a December 7, 2010 email. The following are the Department's comments.

The Department's email from December 7, 2010 states that VanDeMark needs to include the removal of the coal tar observed in the C1-45N-13E boring. Providing VanDeMark removes all of the coal tar found in the vicinity of boring C1-45N-13E, the Department approves of the Work Plan. Upon execution of the Order on Consent, this ICM Work Plan will become an appendix and implementation of the same can commence.

If you have any questions, please call me at (716) 851-7220.

Sincerely,

Stanley Radon

Stanley Radon, CPG
Senior Engineering Geologist

SR:lg

ecc: Mr. David Stever, NYSDEC
Mr. Michael Hinton, NYSDEC
Ms. Pamela Cook, VanDeMark Chemical

REPORT

INTERIM CORRECTIVE MEASURES WORK PLAN

VanDeMark Chemical Facility
Lockport, New York

Submitted To: Stan Radon,
New York State Department of Environmental Conservation
Michigan Ave.
Buffalo, NY 14203

Submitted By: Golder Associates Inc.
2430 North Forest Rd., Suite 100
Getzville, NY 14068

Distribution:

2 copies	NYSDEC – Region 9
1 copy	SNPE Inc.
1 copy	VanDeMark Chemical
1 copy	Golder Associates Inc.

February, 2011 **Project No. 093-89168**

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1.0 INTRODUCTION & BACKGROUND

VanDeMark Chemical Inc. (VanDeMark) owns and operates a phosgene, phosgene derivatives/specialty chemicals manufacturing facility. The facility is located at One North Transit Road in Lockport, New York, please refer to Figure 1-1 (Site Vicinity Map) illustrating the facility's location.

SNPE and VanDeMark Chemical have prepared this Interim Corrective Measures (ICM) Work Plan in support of the ongoing investigation activities performed 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.

As part of the supplemental DNAPL characterization activities, an In-Plant soil boring investigation was conducted on June 22, 2010 within the boundaries of the operating VanDeMark Chemical facility in a paved area at the northern end of the alley separating the "B" and "C" buildings. The area was selected for further investigation based on employee observations of surface "tar" seepage through the pavement in an area located approximately 5 to 10 feet from the northwest corner of Building B-4.

The results of the June boring investigations were summarized in an August 18, 2010 report to the New York State Department of Environmental Conservation (NYSDEC). This report is presented in Appendix A. In general a distinct layer of coal tar residuals varying in thickness from 2 to 13 inches thick was observed in 10 borings to the north-northwest of the Building B-4/B-9 complex. At one of the borings a small amount of tar was also found at the bedrock/overburden interface which was 6 feet below grade surface (bgs). Nine of the boring cores were field screened for VOCs with a hand held PID. No VOCs were detected. Discrete samples of coal tar residuals were collected from four of the borings and analyzed for semi-volatile organic compounds. The results consistently indicated high concentrations of polyaromatic hydrocarbons (PAHs) which are typical constituents of coal tar. In addition to the detection of coal tar residuals noted, evidence of petroleum (suspected fuel oil) impacts were noted in three of the borings located along the western and southern borders of the investigation area.

A supplemental boring investigation of areas to the north and south of the June 2010 investigation area was conducted in October 2010 to address NYSDEC concerns (September 8, 2010 comment letter on August 18 Investigation Summary Report) that the full extent of coal tar impacts had not been delineated.

The results of the October 5, 2010 supplemental borings were presented in a response letter to the NYSDEC dated November 4, 2010 (please refer to Appendix A). Coal tar approximately 2.5 inches thick was found in one of the six southern borings as an isolated deposit. Coal tar was not observed in any of the six borings performed north of the June 2010 investigation area, however, petroleum impacts were again noted in 3 of the borings located along the west side of this investigation area. In general these borings were due north and in close alignment with the previous borings conducted in June 2010 that also exhibited petroleum impacts. VanDeMark personnel indicated that these boring locations were probably following the alignment of a former underground fuel oil pipeline that ran north to south in this vicinity.

Based on these investigation results it was agreed that the extent of coal tar residuals had been adequately defined within the plant boundaries and an interim corrective measure (ICM) to excavate and remove this material would be an appropriate and effective remedy to address this source material.

Golder Associates Inc. (Golder) was retained by SNPE to prepare this ICM Work Plan to address NYSDEC requirements.

1.1 Purpose and Scope

This ICM Work Plan has been prepared to describe the proposed scope of activities and procedures that will be implemented to conduct a focused excavation and removal of coal tar residuals that have been delineated within the VanDeMark Plant Site between and north of Buildings B and C.

Based on the current knowledge of the horizontal and vertical extent of coal tar residuals at the Site within the soil/fill overburden material, it is SNPE / VanDeMark’s intent to conduct an ICM consisting of excavation of visually impacted soil/fill that exhibit the presence of coal tar. In addition, VanDeMark is prepared to include the excavation and removal of petroleum impacted soils (estimated to be approximately 50 cubic yards) along the western side of the planned excavation. It is estimated that an area encompassing approximately 80 feet by 100 feet will be the focus of the excavation activities and up to 250 cubic yards of coal tar and coal tar impacted soil/fill will be removed for off-site disposal. The removal of petroleum impacted soil/fill removal activities may be limited in the westward direction if it jeopardizes undermining the foundations of the existing Building C production and warehousing buildings.

A detailed discussion of the proposed ICM is presented in Section 2.0 of this Work Plan.

2.0 INTERIM CORRECTIVE MEASURES SCOPE OF WORK

As described in Section 1.0, coal tar impacted soil/fill was found to be predominantly concentrated in a distinct layer located within the overburden to the northwest of Building B-4 (refer to Figure 2-1). This layer varied in thickness from 2 to 13 inches and was found from 1 to 2.5 feet below the pavement surface in this area. In general the coal tar layer was thickest in the borings located 10 feet west and 10 feet north of the building corner with the layer appearing to gradually thin out to the north. Coal tar was not detected directly west or to the south to the building corner.

Petroleum impacted soil/fill was also found along the western side of the coal tar impacted area in a linear north-south orientation. The removal of petroleum impacted soil/fill in this area is also proposed in conjunction with the removal of coal tar residuals. Removal of the petroleum-impacted soil/fill along the western perimeter may be physically limited in this direction if lateral or vertical excavation activities impact the structural integrity of the adjacent building or structure foundations.

The remediation of these impacted areas is proposed to be completed as an Interim Corrective Measure (ICM).

2.1 Objectives

The objective of the ICM is to:

- Remove the source of coal tar impacted soil/fill;
- Reduce the potential for coal tar residuals in the overburden to migrate into the underlying bedrock formation and further contribute to potential long-term impacts from other exposure pathways (e.g., seepage from south slope to creek bank area).

The proposed approach for the implementation of the ICM includes:

A. Removal and off-site disposal of asphalt debris and non-impacted soil/fill overburden

B. Removal and off-site disposal of impacted soil/fill within the delineated ICM area

C. Post-excavation sampling to establish that the restricted industrial SCOs for SVOCs has been achieved

D. Backfill placement and repaving of area

Each of these tasks is discussed below:

2.1.1 Removal of Existing Pavement and Non-Impacted Fill

The upper pavement and soil/fill overburden above the layer of coal tar residuals will initially be excavated, stockpiled and tested/characterized for off-site disposal as a non-hazardous industrial waste in accordance with the selected disposal facility's waste characterization procedures. Documentation of the testing results and approved waste profile that demonstrates that this overburden material is non-hazardous and meets the disposal criteria for industrial waste disposal will be provided to the NYSDEC. VanDeMark has determined that re-use of the heterogeneous non-impacted soil/fill was not desirable due to critical plant production related traffic in this area and the necessity to achieve uniform compaction over a potentially significant depth to minimize long term settlement of the backfill in the area.

2.1.2 Removal of Coal Tar Residuals and Impacted Soil/Fill

Removal of the pavement and non-impacted overburden (varying from 1 to 2.5 feet bgs) is anticipated to expose the layer of coal tar residuals observed in the soil borings. The removal of the non-impacted soil/fill overburden will proceed in approximately six inch lifts. It is anticipated that a clear delineation between the non-impacted and coal tar impacted soil/fill will be difficult to achieve and caution will be exercised to segregate any soil/fill that exhibits visual or odor evidence of coal tar impact.

As previously noted, the area delineated for coal tar and coal tar impacted soil/fill is estimated to encompass an area approximately 80 feet by 100 feet to the north – northwest of Building B-4. Excavation and removal of coal tar residuals and coal tar impacted soil/fill will proceed vertically and horizontally until no visual or olfactory evidence of coal tar remains. Based on the boring log observations, the majority of the borings identified a relatively discrete coal tar residuals layer varying in depth from 2 to 13 inches. However at two borings (B9-W10-N10 and B9-W10-N20) impacts at two different depths and near the bedrock interface in one location were observed. In this area it is anticipated that excavation to bedrock (approximately 5 to 6 ft bgs) may be required to remove all coal tar impacts.

The horizontal boundary of the proposed excavation area has been established as the distance either equidistant between a boring with observed impacts and one with no evidence of impacts or half the distance between a boring and the edge of a building. In the case of the western excavation boundary a distance of 7 feet east of the structures was established as a uniform separation along the entire west boundary. This distance was calculated as equidistant between impacted borings B9-W10-N20 and the eastern edge of the tank farm structure and similarly half the distance between Boring B9-W20-N20 and Building C-4.

If visual or olfactory evidence of coal tar residuals are observed at the boundaries of the initial excavation area, excavation will continue laterally and vertically as required to remove coal tar, coal tar impacted and petroleum impacted soil/fill until Golder and NYSDEC representatives agree that all reasonable efforts have been made which will not adversely impact the structural or operational integrity of the adjacent VanDeMark buildings and structures.

The impacted soil/fill will be removed using an excavator and placed either directly into roll-off containers trucks for off-site disposal, or stockpiled on 6-mil polyethylene sheeting adjacent to the excavation pending characterization, if necessary, and subsequent disposal. The coal tar residuals and coal tar impacted soil/fill have been previously characterized as non-hazardous waste and have an approved waste profile with Covanta Niagara, LP for disposal at this waste-to-energy facility (refer to Appendix B).

To prevent potential run-off in the event of precipitation, stockpiled soil/fill will be covered at the end of each day's excavation activities with 6-mil polyethylene sheeting. In the event the stockpiled material remains on site for more than 5 days pending receipt of analytical data, erosion control silt fencing will be installed around the perimeter of the stockpile.

2.1.3 Removal of Fuel Oil Impacted Soil/Fill

As discussed in the introduction to Section 2.0, petroleum impacted soil/fill was also found along the western side of the coal tar impacted area (B9-W30-N10 and B9-W30-N36) in a linear north-south orientation. The excavation and segregation of petroleum impacted soil/fill in this area is planned in conjunction with the removal of coal tar residuals. It is anticipated that there will some overlap in the excavation of coal tar and petroleum impacted soil/fill based on the findings of the investigatory borings. However, to the extent feasible, petroleum impacted soil/fill will segregated in discrete stockpiles or roll-off containers for waste characterization, disposal approvals and tracking of disposal quantities of this material. Removal of the petroleum-impacted soil/fill along the western perimeter will proceed vertically toward bedrock and horizontally to the west to the extent practical; however removal may be physically limited in this direction if lateral or vertical excavation activities impact the structural integrity of the adjacent building or structure foundations.

2.1.4 Post Excavation Soil Sampling

Upon completion of excavation of the coal tar and petroleum impacted areas based on visual/olfactory criteria, composite soil/fill samples will be collected from the bottom and sidewalls of the excavation. The verification sample results combined with visual and olfactory observations will confirm achievement of remedial objectives for subsurface soils relative to the Restricted Industrial Use SCO for SVOCs. VOCs will not be analyzed as no evidence of VOCs were detected in the photoionization detector (PID) field screening of soil borings which is consistent with the consistent with the composition of the observed contaminants.

One composite soil sample per 2500 square feet grid area (approx. 50 ft. by 50 ft.) will be collected from the upper 4 to 6 inches at the base of the excavation and analyzed for TCL SVOCs (Method 8270). In addition, one sidewall composite sample representative of each of the four perimeter excavation boundaries will also be analyzed for TCL SVOCs. If analytical results at any of the composite sampling locations detect concentrations in excess of the Industrial SCOs for SVOCs, an additional 6-inch layer of soil/fill will be removed from the bottom or sidewall of the area in which the sample was located and it will be subsequently re-sampled for TCL SVOCs. Analyses of these samples will be performed in an expedited manner (one or two day turnaround), in order to coordinate additional excavation and subsequent backfilling operations based on achievement of SCO goals.

Table 2-1 presents the proposed minimum number of environmental and quality control samples to be collected and analyzed as part of the post-excavation verification sampling program of the excavated areas.

TABLE 2-1
1755 Dale Road BCP Parcel
IRM Post-Excavation Verification Soil Samples

Parameter	Method	Soil	Matrix Spike	Matrix Spike Duplicate	Duplicate	Total
TCL SVOCs	SW846 8270	6	1	1	1	9

2.1.5 *Excavation Backfill and Paving*

Clean granular backfill is required based on the traffic design requirements for this area. Material imported to the Site for use as backfill shall be comprised of soil or other unregulated materials as defined in NYCRR Part 375 6.7(d) which states that the soil not exceed the applicable soil cleanup objectives for the use of the Site, as set forth in Tables 375-6.8(b), the lower of the protection of groundwater or the protection of public health soil cleanup objectives, for the identified use of the Site.

Analytical data is required to demonstrate that the imported material complies with these requirements. The number of samples required to confirm compliance is as follows:

- Virgin soils (soils that are known to have not been developed upon or moved since their formation) should be subject to collection of one representative composite sample per source. The sample should be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, and TAL metals plus cyanide.
- Non-virgin soils will be tested via collection of one composite sample per 500 cubic yards of material from each source area. If more than 1,000 cubic yards of soil are imported from a single off-Site, non-virgin soil source area and both samples of the first 1,000 cubic yards meet the criteria specified above, the sample collection frequency will be reduced to one composite for every 2,500 cubic yards of additional soils from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the specified criteria.

Site specific exemptions for the analytical testing requirements described above may be requested due to the planned use of virgin quarried granular stone or gravel backfill material, based upon documentation of the origin and composition of the proposed imported material.

3.0 INTERIM CORRECTIVE MEASURES REPORT

Upon completion of the ICM fieldwork, an ICM Report will be completed summarizing the tasks completed as described below.

The ICM Report will include the following information and documentation, consistent with the NYSDEC's DER-10 Technical Guidance for Site Investigation and Remediation (Ref. 1).

- Introduction and background.
- A description of the site and the overall scope of the interim corrective measure activities.
- A description of the field procedures, methods and remediation performed during the ICM.
- A discussion of the nature and rationale for any significant variances from the scope of work described in this Work Plan.
- A discussion of contaminant fate and transport. This will provide a description of the hydrologic parameters of the Site, and an evaluation of the lateral and vertical movement of groundwater.
- Conclusions regarding the extent and character of environmental impact in the media remediated.
- The conclusions of the qualitative exposure assessment and fish and wildlife impact analysis, if applicable.
- Conclusions regarding the effectiveness of the Interim Corrective Measures conducted with respect to the comparative criteria and remedial action objectives (RAOs), if any, established for the Site.
- Supporting ICM data. These will include boring logs, monitoring well construction diagrams, laboratory analytical reports, field inspection forms and measurement data, disposal documentation, etc.

4.0 INVESTIGATION SUPPORT DOCUMENTS

4.1 Quality Assurance Project Plan (QAPP)

A Quality Assurance Project Plan (QAPP) has been prepared as Appendix C of this Work Plan for the ICM verification sampling activities described herein. A Sampling and Analysis Plan (SAP) identifying methods for sample collection, decontamination, handling, and shipping, is provided as Section 4.0 of the QAPP. The ICM project management methods, organizational structure, and schedule are also included in the QAPP.

The QAPP will assure the accuracy and precision of data collection during the ICM and data interpretation periods. The QAPP identifies procedures for sample collection to mitigate the potential for cross-contamination, as well as analytical requirements necessary to assure compliance with USEPA SW-846 methodology. The QAPP has been prepared in accordance with USEPA's Requirements for Quality Assurance Project Plans for Environmental Data Operations (EPA QA/R-5); the EPA Region II CERCLA Quality Assurance Manual, and NYSDEC's December 2002 draft DER-10 Technical Guidance for Site Investigation and Remediation.

4.2 Health and Safety Plan (HASP)

A Site Health and Safety Plan (HASP) has been prepared in accordance with 40 CFR 300.150 of the NCP and 29 CFR 1910.120 for the proposed ICM activities. A copy of the HASP is included as Appendix D of this Work Plan. The HASP will be enforced by Golder and any Golder subcontractors engaged in ICM field activities in accordance with the requirements of 29 CFR 1910.120. The HASP covers on-site interim corrective measures activities. Subcontractors will be required to develop and implement a HASP as or more stringent than Golder's HASP. Health and safety activities will be monitored throughout the ICM. A member of the field team will be designated to serve as the on-site Health and Safety Officer throughout the field program. This person will report directly to the Project Manager and the Corporate Health and Safety Coordinator. The HASP will be subject to revision as necessary, based on new information that is discovered during the field investigation.

The HASP also includes a contingency plan that addresses potential site-specific emergencies.

4.3 Community Air Monitoring Plan (CAMP)

A Community Air Monitoring Plan (CAMP) that describes required particulate and vapor monitoring to protect the neighboring community during intrusive site activities is provided in Appendix E. The CAMP is consistent with the requirements for community air monitoring at remediation sites as established by the New York State Department of Health (NYSDOH) and NYSDEC. Accordingly, it follows procedures and practices outlined under NYSDOH's Generic Community Air Monitoring Plan (dated December 2002) and NYSDEC Technical Assistance and Guidance Memorandum (TAGM) 4031: Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites.

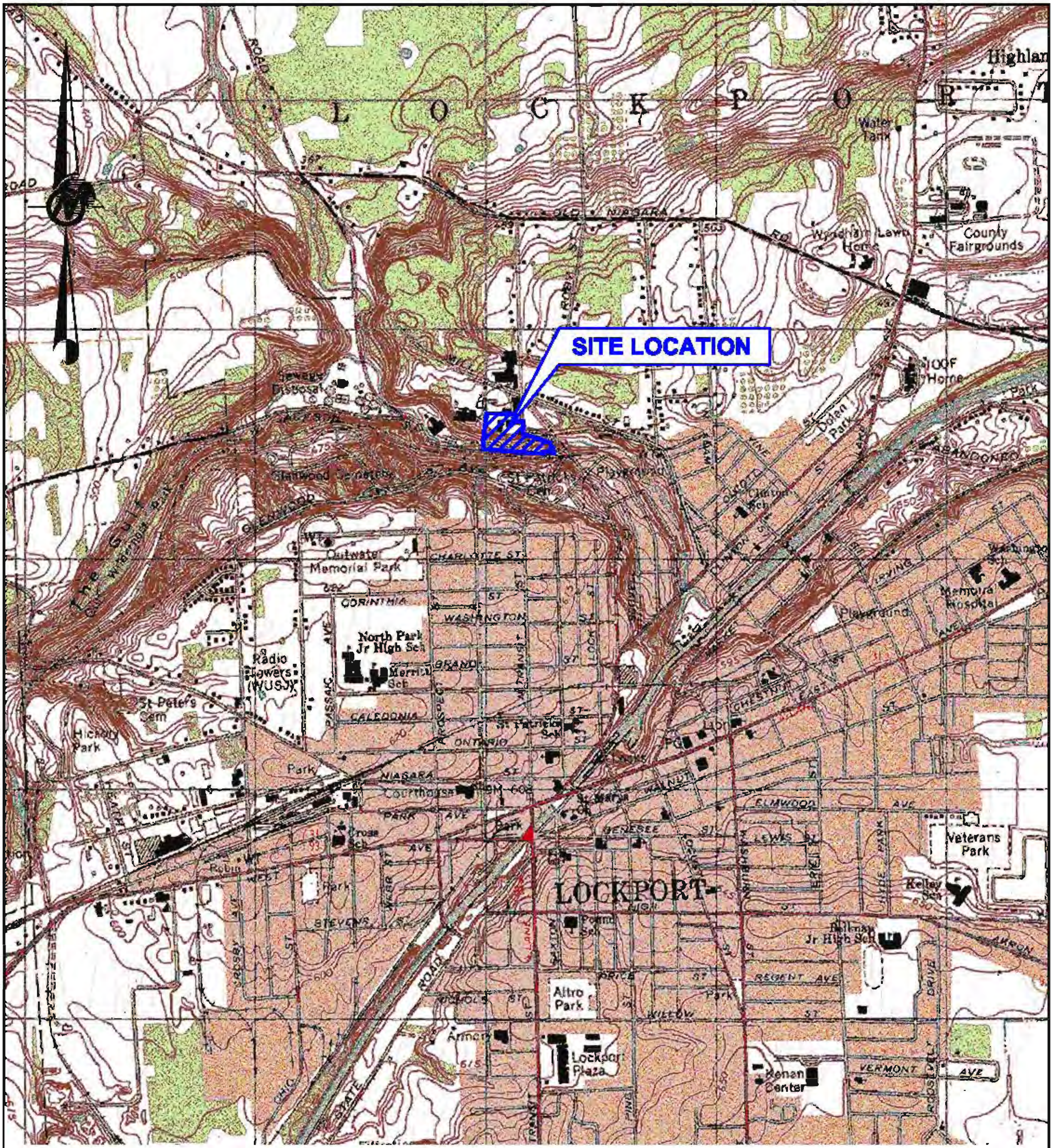
5.0 PROJECT SCHEDULE AND SEQUENCE OF THE WORK

Based on the estimated volume of soil/fill excavation, backfill placement and repaving it is anticipated that the ICM activities will occur over a 2 week period. Upon NYSDEC approval of the ICM Work Plan, the start date for the ICM activities is unknown at this time and will be dependent on close coordination with VanDeMark production scheduling and general facility access requirements.

6.0 REFERENCES

1. New York State Department of Environmental Conservation, *Draft DER-10; Technical Guidance for Site Investigation and Remediation*, December 2002.

FIGURES



REFERENCES

1.) BASE MAP TAKEN FROM U.S.G.S. 7.5 MINUTE QUADRANGLE OF LOCKPORT, NEW YORK DATED 1980.

2000 0 2000
SCALE FEET

NJ Authorization #24GA28029100

Golder Associates
Buffalo, New York

FILE No. 09389168A011
PROJECT No. 093-89168 REV. 0

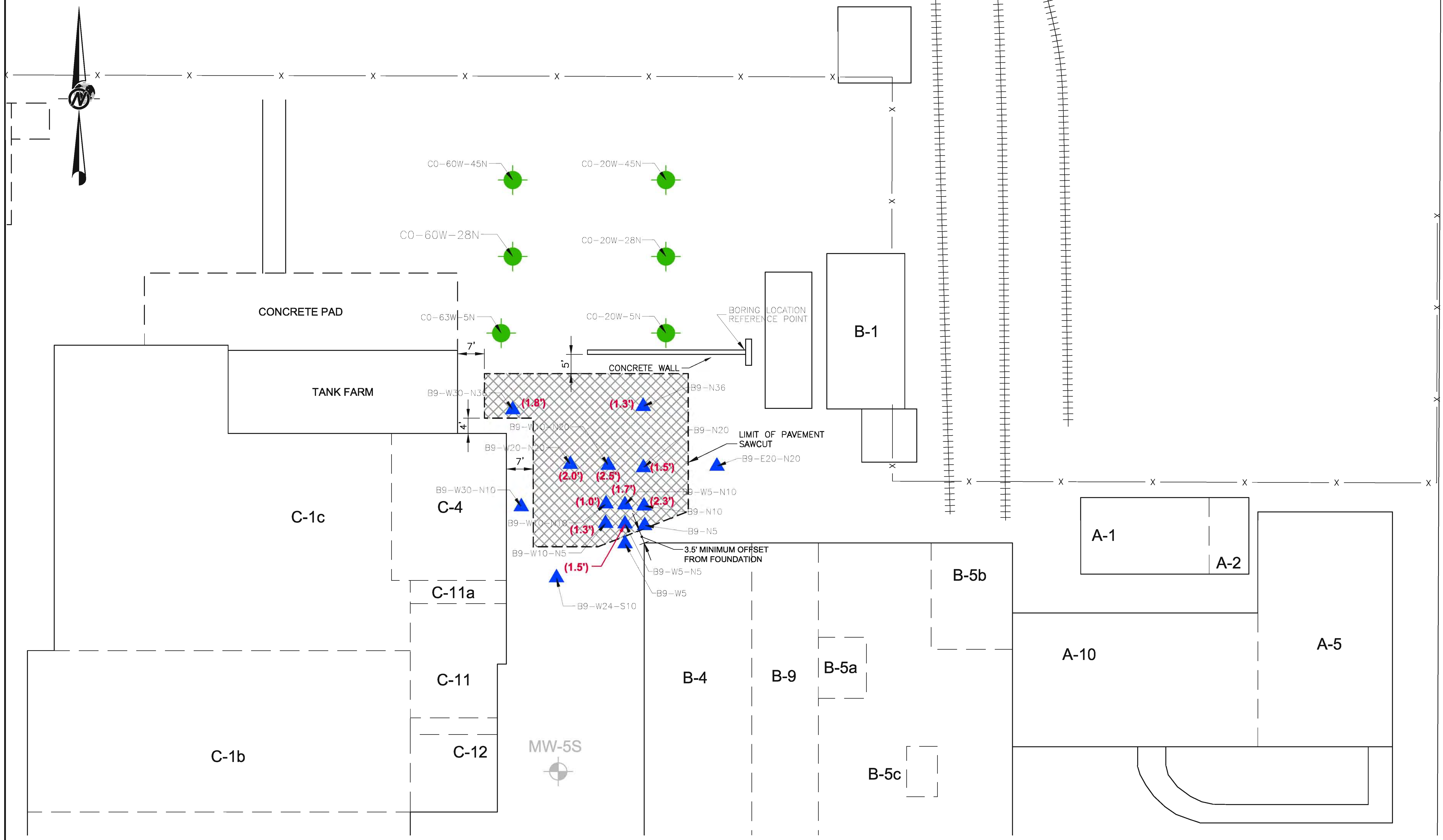
SCALE AS SHOWN
DATE 02/04/11
DESIGN AML
CADD GLS
CHECK
REVIEW

TITLE

SITE LOCATION MAP

VANDEMARK CHEMICAL

FIGURE 1-1



LEGEND

——x——	FENCE
++++++++	RAILROAD
⊕	1999 INVESTIGATION MONITORING WELL
▲	JUNE 2010 BOREHOLE LOCATIONS
●	OCTOBER 2010 BOREHOLE LOCATIONS
▨	LIMIT OF REMEDIATION AREA
(1.8')	DEPTH FROM GRADE TO TOP OF COAL TAR RESIDUALS

REFERENCE

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

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

INTERIM CORRECTIVE MEASURES - CONSTRUCTION NOTES

1.) SAWCUT AND REMOVE ASPHALT PAVEMENT WITHIN LIMITS OF SHADED REMEDIATION AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL AND/OR RECYCLING OF REMOVED PAVEMENT IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.

2.) EXCAVATE AND SEGREGATE UPPER OVERBURDEN FILL FOR REMOVAL AND OFFSITE DISPOSAL AS A NON-HAZARDOUS CONSTRUCTION AND DEMOLITION WASTE IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. DEPTH OF THE OVERBURDEN ABOVE COAL TAR LAYER OBSERVED IN BORINGS IS PROVIDED FOR INFORMATIONAL PURPOSES. ALL OVERBURDEN FILL MUST BE FREE OF COAL TAR RESIDUALS PRIOR TO REMOVAL FROM SITE AS DETERMINED BY ENGINEER.

3.) EXCAVATE AND SEGREGATE ALL VISIBLE COAL TAR RESIDUALS AS DIRECTED BY ENGINEER. COAL TAR IS GENERALLY EXPECTED TO BE CONFINED TO A LAYER OR MULTIPLE LAYERS VARYING FROM2-12 INCHES THICK, HOWEVER IN SEVERAL AREAS OF THE EXCAVATION, COAL TAR IS ANTICIPATED TO BE FOUND AND REMOVED DOWN TO THE TOP OF BEDROCK, IN PARTICULAR, IN THE VICINITY OF BORINGS B9-W5-N10 AND B9-W10-N10.

4.) EXCAVATED COAL TAR RESIDUALS SHALL BE PLACED DIRECTLY IN ROLL-OFF BOXES PROVIDED BY VANDEMARK/SNPE. DISPOSAL OF COAL TAR RESIDUALS WILL BE THE RESPONSIBILITY OF VANDEMARK/SNPE. ALL OTHER NON-HAZARDOUS WASTE DISPOSAL IS THE RESPONSIBILITY OF THE CONTRACTOR.

5.) EXCAVATE AND SEGREGATE ALL VISIBLE FUEL OIL IMPACTED SOIL/FILL AS DIRECTED BY ENGINEER. FUEL OIL IMPACTS ARE ANTICIPATED ALONG THE WESTERN EDGE OF THE PLANNED EXCAVATION AREA. FUEL OIL IMPACTED SOIL/FILL SHALL BE PLACED DIRECTLY IN SEPARATE ROLL-OFFS PROVIDED BY VANDEMARK CHEMICAL. DISPOSAL OF THE IMPACTED SOIL/FILL WILL BE THE RESPONSIBILITY OF VANDEMARK.

6.) EXCAVATION AND REMOVAL OF FUEL OIL IMPACTED SOIL/FILL OBSERVED AT THE NORTH OR SOUTH ENDS OF THE EXCAVATION EXTENDING BEYOND THE PLANNED LIMITS WILL NOT BE PERFORMED AS PART OF THIS CONTRACT. CONTRACTOR SHALL PLACE A LAYER OF GEOTEXTILE BETWEEN CLEAN BACKFILL AND REMAINING FUEL OIL IMPACTED RESIDUALS FOR DELINEATION PURPOSES.

7.) ALL EXCAVATIONS SHALL BE BACKFILLED WITH TYPE 2 STONE (NYSDOT ITEM 304.12). BACKFILL SHALL BE PLACED AND COMPACTED IN 12-INCH LIFTS. FINAL LIFT SHALL BE COMPACTED WITH A SMOOTH DRUM ROLLER.

8.) PLACE TWO LAYERS OF ASPHALTIC PAVEMENT: 3-INCH BASE LAYER(NYSDOT TYPE 1 BASE) AND A 1-INCH LAYER OF NYSDOT TYPE 3 BINDER. FINAL GRADE SHALL MATCH ADJACENT PAVEMENT.

30 0 30
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT
SNPE - VANDEMARK
LOCKPORT, NEW YORK

TITLE
IN-PLANT COAL TAR EXCAVATION PLAN
ICM WORK PLAN

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

PROJECT No.	093-89168		FILE No.	09389168A010
DESIGN	AL	11/17/10	SCALE AS SHOWN	REV. 0
CADD	AML	2/3/11	**FIGURE 2-1**	
CHECK				
REVIEW				

APPENDIX A

PREVIOUS INVESTIGATION REPORTS
(GOLDER ASSOCIATES AUGUST 18, 2010 & NOV. 4, 2010)

Golder Associates

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.

Sincerely,

GOLDER ASSOCIATES INC.

Patrick T. Martin

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

David C. Wehn, CPG
Associate

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

<u>Attachments</u>: Table 1
Figures 1, 2 and 3
Appendices A, B and C

PTM/DCW:dml

TABLES

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

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

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

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

Footnotes:

Analyses performed by Test America Inc.

Qualifications:

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

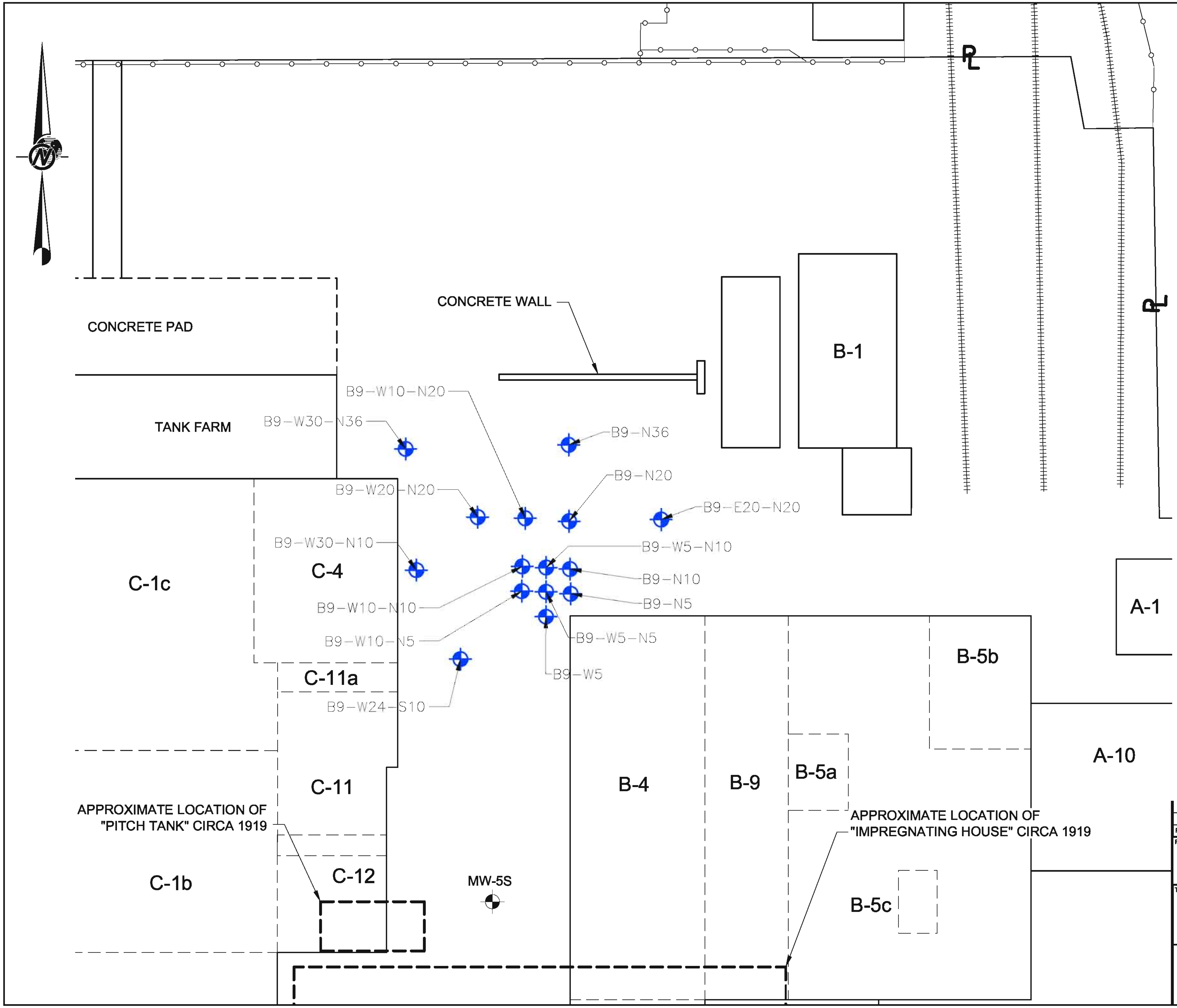
[2] = Dilution required due to high concentration of target analyte.

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

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

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

FIGURES



LEGEND

PL	PROPERTY LINE
—x—x—x—	FENCE
++++++++	RAILROAD
◐	1999 INVESTIGATION OVERBURDEN MONITORING WELL
◐	"B9" SERIES BORE HOLES

REFERENCE

1.) "B9" SERIES BORE HOLES SHOWN ON THIS PLAN WERE TAKEN FROM SURVEY FILE xve-vandemark base.dwg, DATED 06-21-2010.

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

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

20 0 20
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

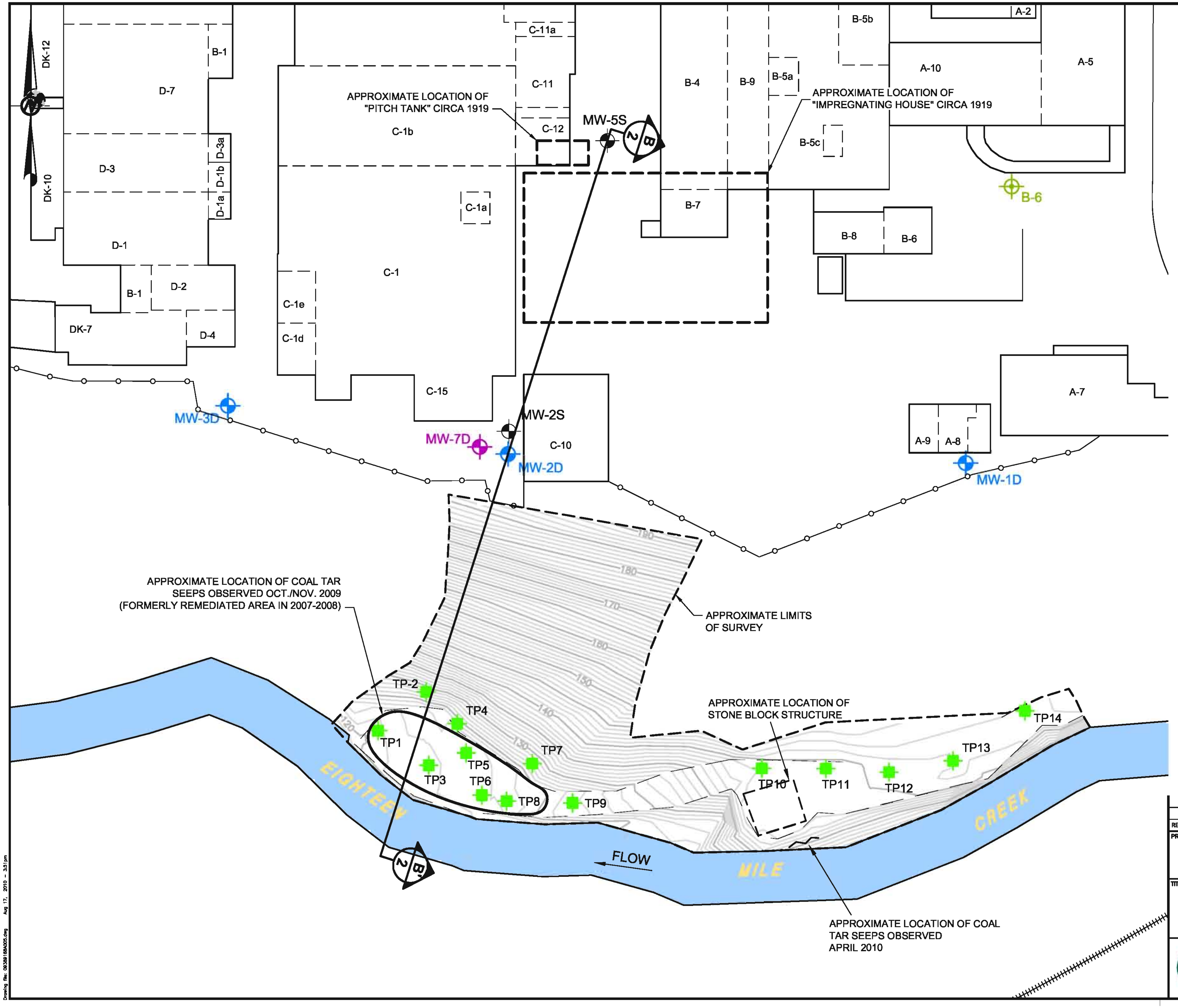
PROJECT
SNPE - VANDEMARK
2010 SUPPLEMENTAL DNAPL INVESTIGATION SUMMARY
LOCKPORT, NEW YORK

TITLE
COAL TAR DELINEATION IN PLANT BORING LOCATION MAP

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

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

FIGURE 1



LEGEND

- ——x—— FENCE
- ┼┼┼┼┼┼ RAILROAD
- ⊕ 1999 INVESTIGATION BORING
- ⊕ 1999 INVESTIGATION OVERBURDEN MONITORING WELL
- ⊕ 1999 INVESTIGATION BEDROCK MONITORING WELL
- ⊕ 2006 BEDROCK MONITORING WELL
- 🟩 TEST PIT LOCATIONS
- 🟦 EIGHTEEN-MILE CREEK

REFERENCE

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

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

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

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

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

TITLE

COAL TAR DELINEATION OVERBURDEN/BEDROCK TEST PIT LOCATION MAP

NJ Authorization #24GA28029100

Golder Associates
Mt. Laurel, New Jersey

PROJECT No.	093-89166	
DESIGN	DCW	07/16/10
CADD	GLS	08/09/10
CHECK		
REVIEW		

FILE No.	09389166A005
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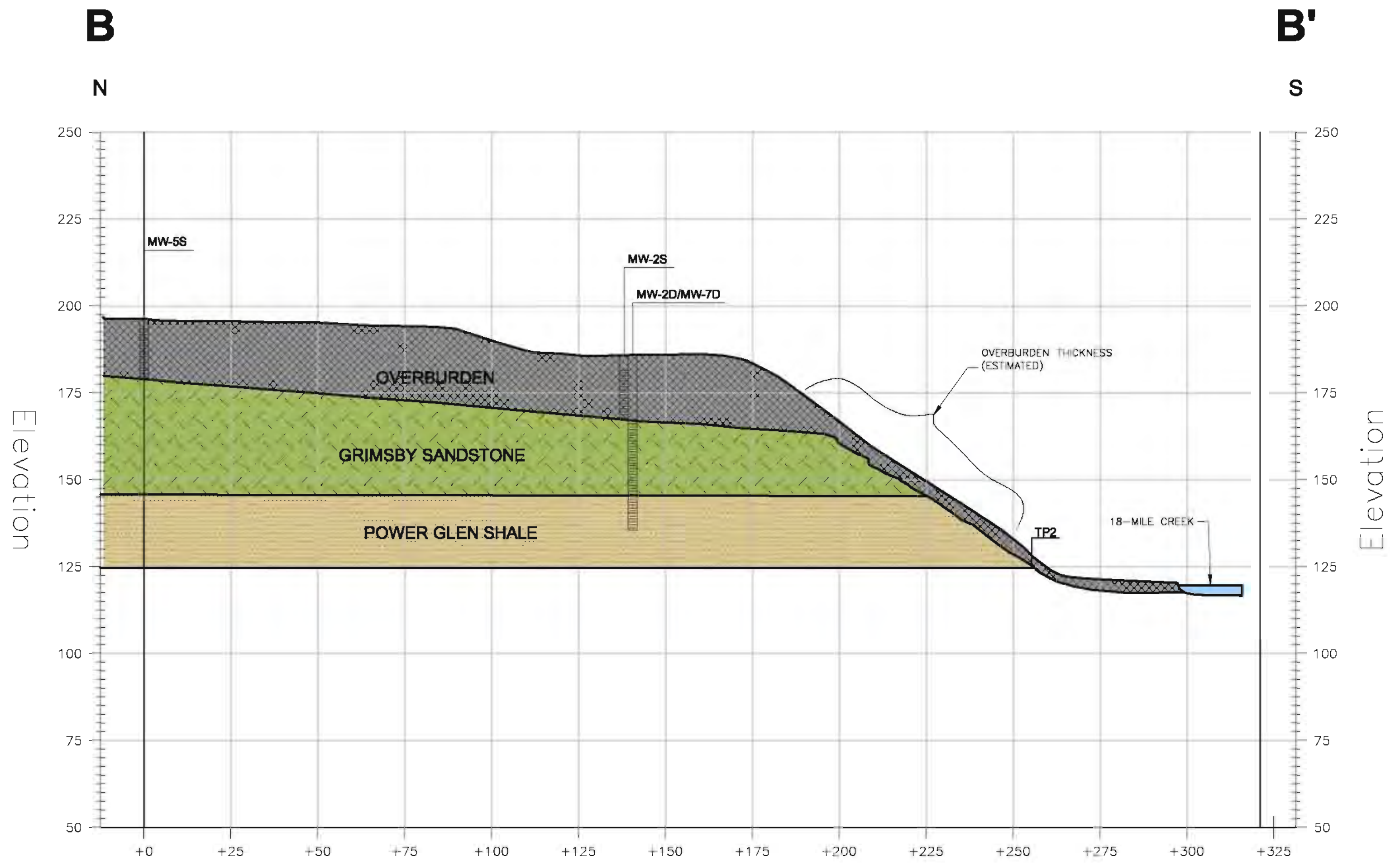
FIGURE 2

Drawing file: 09389166A005.dwg Aug 17, 2010 - 3:31pm



LEGEND

▨	OVERBURDEN
🟩	GRIMSBY SANDSTONE
🟨	POWER GLEN SHALE
▼	WATER ELEVATION IN WELL

REFERENCES

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

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

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

25 0 25 50
HORIZONTAL SCALE FEET

25 0 25 50
VERTICAL SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

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

TITLE

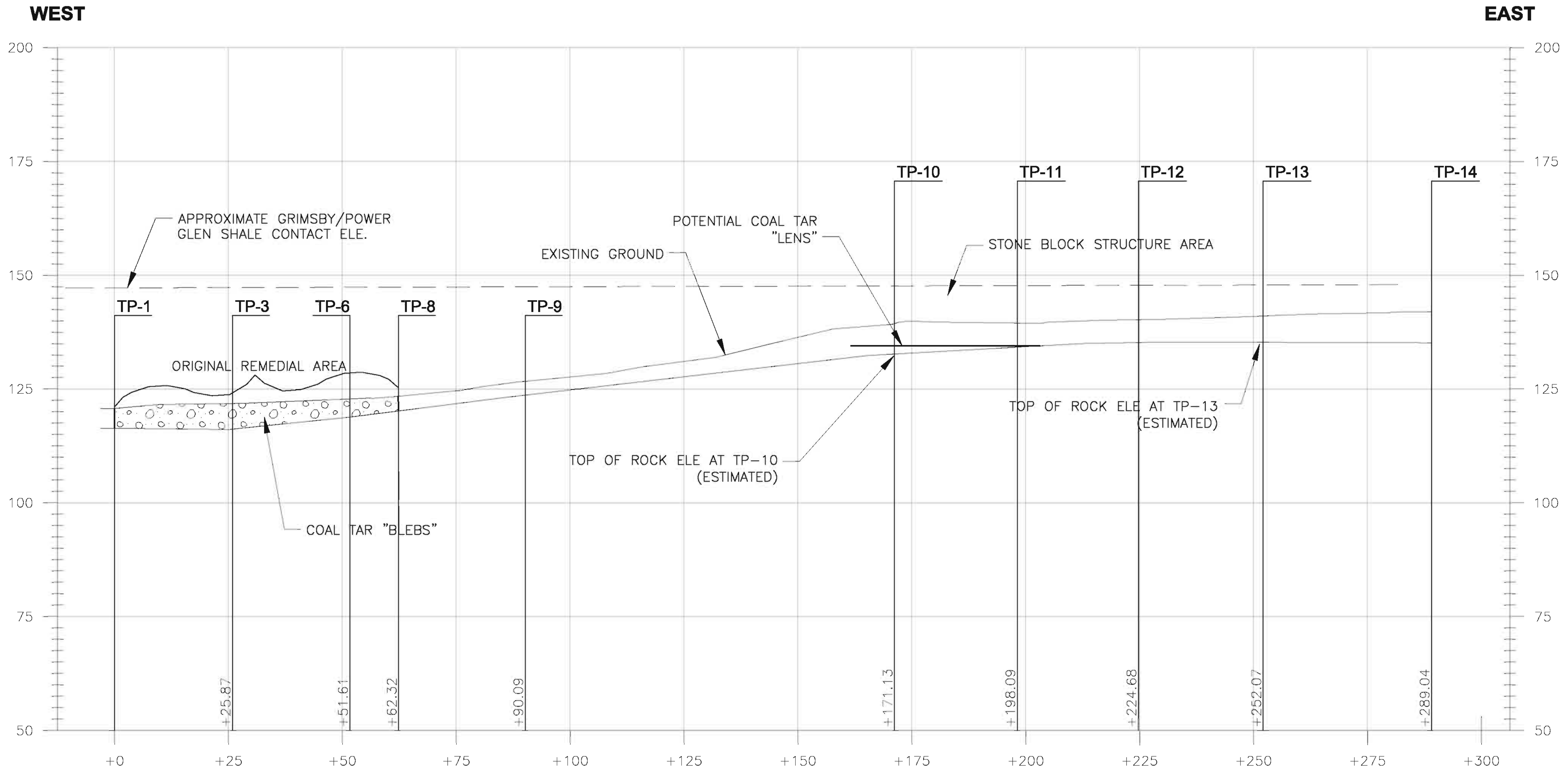
CROSS SECTION B-B'

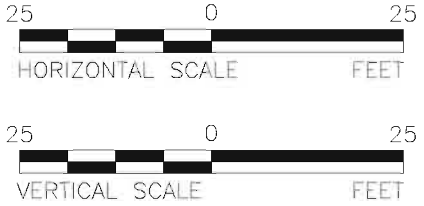
NJ Authorization #24GA28029100

Golder Associates
Mt. Laurel, New Jersey

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

FIGURE 3





REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

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

TITLE

TEST PIT CROSS SECTION

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

PROJECT No.		093-89168
DESIGN	AL	07/29/10
CADD	GLS	08/09/10
CHECK		
REVIEW		

FILE No. 09389168A006
SCALE AS SHOWN REV. 0

FIGURE 4

ATTACHMENT A
BORING LOGS

Field Boring Log

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

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0 4	VERY SOFT	VS	EXTRUDES
LOOSE	LS	5 10	SOFT	S	MOLDS EASILY
COMPACT	CP	10 30	FIRM	FM	MOLDS
DENSE	DN	30 50	STIFF	ST	THUMB INDENTS
VERY DENSE	VDN	50	VERY STIFF	VST	THUMBNAIL INDENT
			HARD	H	RESISTS THUMBNAIL

ELEV. DEPTH	DESCRIPTION	BLOWS/FT		SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC/ATT	DEPTH
1								
2				1		PID = 0.0 ppm	4.2/5.0	
3								
4								
5								
6				2		PID = 0.0 ppm	2.5/2.5	
7								
8								

SAMPLE DESCRIPTION AND BORING NOTES

Boring 5 FT N of NW corner of J39.

0.0 - 0.3 FT roadbase GRAVEL.

0.3 - 4.2 FT Dark brown to reddish crushed brick, wood, silt, sand, gravel FILL.

Slight coal tar odor.

5.0 - 7.5 FT Dark brown sand, gravel, silt, Fill with some crushed brick.

Slight coal tar odor.

Refusal @ 7.5 FT

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

Field Boring Log

DEPTH HOLE 5.0 JOB NO 013-89168 PROJECT Van De Mark BORING NO. B9-W5
DEPTH SOIL DRILL 5.0 GA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER L. RAIN DRILLING COMPANY Zebra Env. SURFACE ELEV
NO. DIST SA 0 UD. SA 1 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM
DEPTH WL N/A HRS. PROG. N/A WT SAMPLER HAMMER N/A DROP N/A STARTED 9:45, 6/22/10
TIME WL N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 9:55, 6/22/10

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

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

Field Boring Log

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

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THINWALLED, OPEN
T.P.	THINWALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

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

Field Boring Log

DEPTH HOLE 5.0 JOB NO 01389168 PROJECT Van DeMark BORING NO B9-N10
DEPTH SOIL DRILL 5.0 GA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER OVERCAST DRILLING COMPANY Zebra Env. SURFACE ELEV
NO DIST SA 0 UD. SA 1 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM
DEPTH WL N/A HRS. PROD. N/A WT SAMPLER HAMMER N/A DROP N/A STARTED 10:15, 6/22/10
TIME WL N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 10:25 6/22/10

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHUNK SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE	0-[illegible]%	SOME	[illegible]%
LITTLE	[illegible]%	AND	[illegible]%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0-4	VERY SOFT	VS	[illegible]
LOOSE	LS	4-10	SOFT	S	[illegible]
COMPACT	CP	10-30	FIRM	FM	MOLDS
DENSE	DN	30-50	STIFF	ST	[illegible]
VERY DENSE	VDN	[illegible]	VERY STIFF	VST	[illegible]
			HARD	H	[illegible]

ELEV DEPTH	DESCRIPTION	BLOWS/FT	SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC/ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1								
2			1		PID = 0.0 ppm	4.3/5.0		
3								
4								
5								
6								

Boring 10 FT N of NW corner of B9.

0.0 - 5.0 FT Dark brown to reddish to light tan SILT, SAND + GRAVEL. with some wood + brick. Light tan granular ~~substance~~ sandy substance near bottom of sample (several inches thick).

Coal tar from 2.3 - 2.8 FT and at tip of sample shoe on top of rock.

Coal tar odor.

Refusal @ 5.0 FT

Collected sample of coal tar.

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

Field Boring Log

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

SAMPLE TYPES

A S	AUGER SAMPLE
C S	CHUNK SAMPLE
D O	DRIVE OPEN
D S	DENISON SAMPLE
P S	PITCHER SAMPLE
R C	ROCK CORE
S T	SLOTTED TUBE
T O	THIN-WALLED, OPEN
T P	THIN-WALLED, PISTON
W S	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

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

Field Boring Log

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

SAMPLE TYPES

A S	AUGER SAMPLE
C S	CHUNK SAMPLE
D O	DRIVE OPEN
D S	DENISON SAMPLE
P S	PITCHER SAMPLE
R C	ROCK CORE
S T	SLOTTED TUBE
T O	THIN-WALLED, OPEN
T P	THIN-WALLED, PISTON
W S	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

RELATIVE DENSITY		BLOWS	CONSISTENCY		THUMB PRESSURE
VERY LOOSE	VLO	0-4	VERY SOFT	VS	EXTRUDES
LOOSE	LO	4-10	SOFT	S	MOLDS EASILY
COMPACT	CP	10-30	FIRM	FM	MOLDS
DENSE	DN	30-50	STIFF	ST	THUMB INDENTS
VERY DENSE	VDN	50	VERY STIFF	VST	THUMBNAIL INDENTS
			HARD	H	[illegible]

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

Field Boring Log

DEPTH HOLE 6.0 JOB NO 093-89169 PROJECT Van DeMark BORING NO. B9-W10-N10
DEPTH SOIL DRILL 6.0 QA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER L. RAIN DRILLING COMPANY Zebra Env. SURFACE ELEV
NO DIST SA 0 UD. SA 2 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM
DEPTH WL N/A HRS. PROD. N/A WT SAMPLER HAMMER N/A DROP N/A STARTED 10:55 6/22/10
TIME WL. N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 11:05 6/22/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - [illegible] SOME [illegible]
LITTLE [illegible] AND [illegible]

RELATIVE DENSITY		BLOWS	CONSISTENCY		[illegible]
VERY LOOSE	VLS	0-4	VERY SOFT	VS	[illegible]
LOOSE	LS	4-10	SOFT	S	[illegible]
COMPACT	CP	10-30	FIRM	FM	[illegible]
DENSE	DN	30-50	STIFF	ST	[illegible]
VERY DENSE	VDN	50	VERY STIFF	VST	[illegible]
			HARD	H	[illegible]

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

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

Field Boring Log

DEPTH HOLE 5.0 JOB NO 093-89168 PROJECT Van DeMark BORING NO. B9- N20
DEPTH SOIL DRILL 5.0 GA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER L. RAIN DRILLING COMPANY Zebra Env. SURFACE ELEV
NO. DIST SA 0 UD. SA 1 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM
DEPTH WL N/A HRS. PROD. N/A WT. SAMPLER HAMMER N/A DROP N/A STARTED 11:05 . 6/22/10
TIME WL N/A HRS. DELAYED 0 WT. CASING HAMMER N/A DROP N/A COMPLETED 11:20 . 6/22/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - [illegible] SOME [illegible]
LITTLE [illegible] AND [illegible]

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	[illegible]	VERY SOFT	VS	[illegible]
LOOSE	LS	[illegible]	SOFT	S	[illegible]
COMPACT	CP	10-30	FIRM	FM	[illegible]
DENSE	DN	[illegible]	STIFF	ST	[illegible]
VERY DENSE	VDN	50	VERY STIFF	VST	[illegible]
			HARD	H	[illegible]

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

Field Boring Log

DEPTH HOLE 4.5 JOB NO 093-89169 PROJECT Van DeMark BORING NO. B9-W10-N20
DEPTH SOIL DRILL 4.5 GA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER L. RAIN DRILLING COMPANY Zebra Env. SURFACE ELEV
NO. DIST SA 0 UD. SA 1 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM
DEPTH WL N/A HRS. PROG N/A WT SAMPLER HAMMER N/A DROP N/A STARTED 11:20, 6/22/10
TIME WL. N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 11:30 6/22/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE	0 - [illegible]%	SOME	[illegible]
LITTLE	[illegible]	AND	[illegible]

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
									Boring 10 FT W and 20 FT N of NW corner of B9.
1									0.0- 4.5 FT Dark brown SILT SAND + GRAVEL with some brick. Fill.
2						PID =	4.2 /		
3						0.0ppm	4.5		Coal tar 2.5-2.9 and 3.2-35 FT. Coal tar odor.
4									Refusal @ 4.5 FT
5									
									Cuttings returned to borehole, tamped, and covered with asphalt patch.

Field Boring Log

DEPTH HOLE 4.0 JOB NO 093-89163 PROJECT Van DeMark BORING NO. B9-W20-N20
DEPTH SOIL DRILL 4.0 GA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER ____ DRILLING COMPANY Zebra Env. SURFACE ELEV ____
NO. DIST SA 0 UD SA 1 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM ____
DEPTH WL N/A HRS. PROD. N/A WT SAMPLER HAMMER N/A DROP N/A STARTED 11:30, 6/22/10
TIME WL N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 11:40 6/22/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

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

Field Boring Log

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

SAMPLE TYPES

A.S. AUGER SAMPLE
C.S. CHUNK SAMPLE
D.O. DRIVE OPEN
D.S. DENISON SAMPLE
P.S. PITCHER SAMPLE
R.C. ROCK CORE
S.T. SLOTTED TUBE
T.O. THIN-WALLED OPEN
T.P. THIN-WALLED PISTON
W.S. WASH SAMPLE

ABBREVIATIONS

BL BLACK
BR BROWN
C COARSE
CA CASING
CL CLAY
CLY CLAYEY
F FINE
FRAC FRAGMENTS
GL GRAVEL
LYD LAYERED
LI LITTLE

M MEDIUM
MIC MICACEOUS
MOT MOTTLED
NP NON-PLASTIC
OG ORANGE
ORG ORGANIC
PH PRESSURE HYDRAULIC
PM PRESSURE MANUAL
R RED
RES RESIDUAL
RK ROCK

SA SAMPLE
SAT SATURATED
SD SAND
SI SILT
SIY SILTY
SM SOME
TR TRACE
WL WATER LEVEL
WH WEIGHT OF HAMMER
Y YELLOW

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE 0 - [illegible]% SOME 12 - [illegible]%
LITTLE [illegible] - [illegible]% AND [illegible]%

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

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

Field Boring Log

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

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0-4	VERY SOFT	VS	EXTRUDES
LOOSE	LS	5-10	SOFT	S	MOLDS EASILY
COMPACT	CP	10-30	FIRM	FM	MOLDS
DENSE	DN	30-50	STIFF	ST	FINGER INDENTS
VERY DENSE	VDN	>50	VERY STIFF	VST	THUMBNAIL INDENT
			HARD	H	RESISTS THUMBNAIL

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

Field Boring Log

DEPTH HOLE 4.5
JOB NO 093-89169
PROJECT Van DeMark
BORING NO. B9-N36
DEPTH SOIL DRILL 4.5
SA INSP D. WEHN
DRILLING METHOD Geoprobe Macrocore
SHEET 1 OF 1
DEPTH ROCK CORE N/A
WEATHER OVERCAST
DRILLING COMPANY Zebra Env.
SURFACE ELEV
NO. DIST SA 0 UD SA 1
TEMP 75°F
DRILL RIG 6620D
DRILLER D. Pino
DATUM
DEPTH WL N/A
HRS. PROD. N/A
WT SAMPLER HAMMER N/A
DROP N/A
STARTED 13:05, 6/22/10
TIME WL N/A
HRS. DELAYED 0
WT CASING HAMMER N/A
DROP N/A
COMPLETED 13:15 6/22/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0-4	VERY SOFT	VS	EXTRUDES
LOOSE	LS	4-10	SOFT	S	[illegible]
COMPACT	CP	10-30	FIRM	FM	MOLDS
DENSE	DN	30-50	STIFF	ST	[illegible]
VERY DENSE	VDN	50	VERY STIFF	VST	[illegible]
			HARD	H	[illegible]

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

Field Boring Log

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

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

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

Field Boring Log

DEPTH HOLE 5.3 JOB NO 093-89169 PROJECT Van DeMark BORING NO. B9-W24-S10
DEPTH SOIL DRILL 5.3 GA INSP D. WEHN DRILLING METHOD Geoprobe Macrocore SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER ______ DRILLING COMPANY Zebra Env. SURFACE ELEV ______
NO. DIST SA. 0 UD. SA. 2 TEMP 75°F DRILL RIG 6620D DRILLER D. Pino DATUM ______
DEPTH WL N/A HRS. PROD. N/A WT SAMPLER HAMMER N/A DROP N/A STARTED 13:28, 6/22/10
TIME WL N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 13:40, 6/22/10

SAMPLE TYPES

A.S.	AUGER SAMPLE
C.S.	CHURN SAMPLE
D.O.	DRIVE OPEN
D.S.	DENISON SAMPLE
P.S.	PITCHER SAMPLE
R.C.	ROCK CORE
S.T.	SLOTTED TUBE
T.O.	THIN-WALLED, OPEN
T.P.	THIN-WALLED, PISTON
W.S.	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE	0 - [illegible]%	SOME	12 - 30%
LITTLE	5 - [illegible]%	AND	30 - 50%

RELATIVE DENSITY		BLOWS	CONSISTENCY		FINGER PRESSURE
VERY LOOSE	VLS	0-4	VERY SOFT	VS	[illegible]
LOOSE	LS	4-10	SOFT	S	[illegible]
COMPACT	CP	10-30	FIRM	FM	MOLDS
DENSE	DN	30-50	STIFF	ST	THUMB INDENTS
VERY DENSE	VDN	50	VERY STIFF	VST	[illegible]
			HARD	H	[illegible]

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

ATTACHMENT B

LABORATORY ANALYSIS REPORT (TESTAMERICA, JUNE 2010)

Analytical Report

Work Order: RTF1262

Project Description
Golder - Vandermark/Isochem site

For:

Pat Martin

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

Brian Fischer

Project Manager

Brian.Fischer@testamericainc.com

Friday, July 2, 2010

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

TestAmerica Buffalo
Current Certifications

As of 06/17/2010

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

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

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.

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.

Executive Summary - Detections

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

Executive Summary - Detections

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

Executive Summary - Detections

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

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	

Analytical Report

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

Semivolatile Organics by GC/MS

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

Analytical Report

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) - cont.						**Sampled: 06/22/10 10:05**		**Recvd: 06/22/10 14:20**		
Semivolatile Organics by GC/MS - cont.										
Diethyl phthalate	ND	T10, D08	740000	22000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Dimethyl phthalate	ND	T10, D08	740000	19000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Di-n-butyl phthalate	ND	T10, D08	740000	250000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Di-n-octyl phthalate	ND	T10, D08	740000	17000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Fluoranthene	**3900000**	T10, D08	740000	11000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Fluorene	**1600000**	T10, D08	740000	17000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Hexachlorobenzene	ND	T10, D08	740000	36000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Hexachlorobutadiene	ND	T10, D08	740000	38000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Hexachlorocyclopentadiene	ND	T10, D08	740000	220000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Hexachloroethane	ND	T10, D08	740000	57000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Indeno[1,2,3-cd]pyrene	**680000**	T10, D08,L2, J	740000	20000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Isophorone	ND	T10, D08	740000	37000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Naphthalene	**3000000**	T10, D08	740000	12000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Nitrobenzene	ND	T10, D08	740000	33000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
N-Nitrosodi-n-propylamine	ND	T10, D08	740000	58000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
N-Nitrosodiphenylamine	ND	T10, D08	740000	40000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Pentachlorophenol	ND	T10, D08	1400000	250000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Phenanthrene	**9400000**	T10, D08	740000	15000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Phenol	ND	T10, D08	740000	77000	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
Pyrene	**6200000**	T10, D08	740000	4800	ug/kg dry	200	06/30/10 19:16	MAF	10F2051	8270C
2,4,6-Tribromophenol	*	*T10, D08,Z3*	*Surr Limits: (39-146%)*				*06/30/10 19:16*	*MAF*	*10F2051*	*8270C*
2-Fluorobiphenyl	*360 %*	*T10, D08,Z3*	*Surr Limits: (37-120%)*				*06/30/10 19:16*	*MAF*	*10F2051*	*8270C*
2-Fluorophenol	*	*T10, D08,Z3*	*Surr Limits: (18-120%)*				*06/30/10 19:16*	*MAF*	*10F2051*	*8270C*
Nitrobenzene-d5	*	*T10, D08,Z3*	*Surr Limits: (34-132%)*				*06/30/10 19:16*	*MAF*	*10F2051*	*8270C*
Phenol-d5	*	*T10, D08,Z3*	*Surr Limits: (11-120%)*				*06/30/10 19:16*	*MAF*	*10F2051*	*8270C*
p-Terphenyl-d14	*360 %*	*T10, D08,Z3*	*Surr Limits: (58-147%)*				*06/30/10 19:16*	*MAF*	*10F2051*	*8270C*
General Chemistry Parameters										
Percent Solids	**91**		0.010	NR	%	1.00	06/24/10 13:46	JRR	10F2079	Dry Weight

Analytical Report

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

Semivolatile Organics by GC/MS

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

Analytical Report

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

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

Analytical Report

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

Semivolatile Organics by GC/MS

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

Analytical Report

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

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

Analytical Report

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

Semivolatile Organics by GC/MS

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

Analytical Report

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

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

SAMPLE EXTRACTION DATA

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

LABORATORY QC DATA

Semivolatile Organics by GC/MS

Blank Analyzed: 06/30/10 (Lab Number:10F2051-BLK1, Batch: 10F2051)

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

LABORATORY QC DATA

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

LABORATORY QC DATA

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

LABORATORY QC DATA

Semivolatile Organics by GC/MS

LCS Analyzed: 06/30/10 (Lab Number:10F2051-BS1, Batch: 10F2051)

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

LABORATORY QC DATA

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

Chain of Custody Record

TAL-4124 (1007)

Temperature on Receipt ______

Drinking Water? Yes ☐ No ☐

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client: Golder Associates

Address: 2221 Niagara Falls Blvd. suite 9

City: Niagara Falls State: NY Zip Code: 14304

Project Name and Location (State): SNPE Van

Contract/Purchase Order/Quote No:

Project Manager: Pat Martin

Telephone Number (Area Code)/Fax Number: 716-215-0650

Site Contact: Pam Cook

Lab Contact:

Carrier/Waybill Number:

Date: 6-22-10

Lab Number:

Chain of Custody Number: 148801

Page 1 of 1

Analysis (Attach list if more space is needed)

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Matrix: Aqueous	Matrix: Sed.	Matrix: Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	SVOCs	Special Instructions/ Conditions of Receipt
B-9-W5-N5	6-22-10	1005				X							X	
B-9-N10	6-22-10	1025				X							X	
B-9-W5-N10	6-22-10	1035				X							X	
B-9-W10-N15	6-22-10	1045				X							X	

Possible Hazard Identification

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

Sample Disposal

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

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other ______

QC Requirements (Specify)

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

Comments

[illegible]

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

ATTACHMENT C

TEST PIT SUMMARY TABLE

TABLE C-1

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

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

November 4, 2010 093-89168

Mr. Stanley Radon, CPG
New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials – Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

RE: RESPONSES TO NYSDEC COMMENTS ON THE SNPE – VANDEMARK CHEMICAL 2010 SUPPLEMENTAL DNAPL INVESTIGATION SUMMARY REPORT VANDEMARK CHEMICAL FACILITY, LOCKPORT, NEW YORK

Dear Mr. Radon:

On behalf of SNPE Inc. (SNPE), Golder Associates Inc. (Golder) has prepared responses to the comments from the New York State Department of Environmental Conservation (NYSDEC) on the SNPE – VanDeMark Chemical DNPL 2010 Supplemental DNAPL Investigation Summary Report dated August 18, 2010 for the VanDeMark Chemical Facility in Lockport, New York. The comments were presented by the NYSDEC in a memorandum addressed to Golder dated September 8, 2010.

RESPONSE FORMAT

For ease of review, each NYSDEC comment is listed below followed by Golder's response.

RESPONSE TO COMMENTS

1. Section 3.0 Overburden Bedrock Test Pit Investigation - The Department believes that a better understanding of the bedrock geology is important to site characterization. The Department believes that the competent rock encountered in the test pits in the original or western DNAPL breakout area may be the Whirlpool Sandstone. It is possible that the Whirlpool Sandstone, which underlies the Power Glen Shale, may influence the horizontal movement of the DNAPL. The thickness of the Power Glen Shale is about 7.5 meters in this area. This should allow the depth to and elevation of the Whirlpool Sandstone to be determined. With this additional information, the location of the coal tar should be shown in Figure 3 along with the Whirlpool Sandstone in the stratigraphic section.

   Response: A revised cross section (B – B') of the slope bedrock geology that was presented in the August 17, 2010 Supplemental Report has been updated based on more detailed formation thickness data provided by the Department for both the Power Glen Shale and Whirlpool Sandstone formations. As illustrated on the attached Figure 3 (Attachment 1), the location of the contact between the Power Glen and more competent Whirlpool Sandstone formation correlates closely with the surveyed elevation of the bedrock at the toe of the slope and provides further confirmation that this formation is arresting the vertical flow of the DNAPL and influencing it to flow horizontally to the south where it has been observed to exit the formation and accumulate adjacent to the toe of the slope and along the creek bank.

2. Section 5.1 In-Plant Coal Tar Overburden Remediation - VanDeMark needs to identify the extent of the coal tar to the north of the identified area and in the suspected location of the former "impregnating" building and pitch tank. A dozen or so geo-probe borings to look for the presence of coal tar is all that should be needed. Visual identification of the coal is all that is needed and no sampling of the coal tar is required. The Department agrees that characterization of the coal tar already in the rock fractures is not necessary. It is the Department's understanding that Golder will submit a work plan for the additional borings during the next weeks.

   Response: A supplemental boring plan proposal (Figure 2 attached) was submitted to the Department on September 10, 2010 to address the data gaps identified both to the north and south of the June 2010 In-Plant investigation borings. As part of the plan, it was agreed that only visual observation of the soil borings would be conducted to establish the presence or absence of coal tar residuals at each of the boring locations. Collection of additional soil/fill samples for analysis was not planned as part of this investigation. This plan was approved by the Department (email from S. Radon to P. Martin, September 14, 2010).

   The supplemental borings were completed on October 5, 2010 under the direction of Golder Associates. A total of twelve borings were completed to refusal as originally planned. In general, the locations of the completed borings were within +/- 5 feet of the proposed plan locations. Where necessary, borings were moved from their proposed location to avoid potential conflicts with known underground structures or utilities based on VanDeMark records.

   Copies of the boring logs completed for each of the twelve borings and a figure (Figure 2) identifying the final boring locations and designations are provided as Attachment 1 to this letter. Evidence of coal tar was not found in any of the six borings completed to the north of the original June 2010 boring area. The northern borings were initiated approximately 20 feet north of the June 2010 borings and extended an additional 40 feet north to within approximately 25 feet of the north property line.

   Six borings were completed to the east of Building C-1 and north of Building C-10. Coal tar approximately 2.5 inches thick was observed in one of the six borings (C1-45N-13E). Coal tar was not observed to be present in any of the remaining five borings in this group and therefore the area of coal tar observed in Bring C1-45N-13E appears to be localized in its areal extent.

   Based on the results of this supplemental investigation, we believe that the extent of the coal tar residuals within the plant have been sufficiently defined to proceed with the development of an interim corrective measure for the excavation and removal of these residuals within the plant.

3. Section 5.2 Eighteen Mile Creek Slope and Bank Remediation - The previously remediated area must be included in any future remedial action. The Department understands the complexities associated with coal tar removal along the base of the escarpment and along the Eighteen Mile Creek. However, it is the Department's goal to remove all coal tar in the overburden in all areas along the Eighteen Mile Creek slope and creek bank. If VanDeMark can document other factors such as technical implementability issues, safety, etc., the Department may consider alternatives. However, VanDeMark will be required to ensure that the coal tar does not migrate any further.

   Response: We understand the Department's objectives relative to source removal in all areas along the Creek Bank. As discussed previously with the Department, due to the complexities and impacts that may be incurred in implementing potential remedial strategies, it is the intent of SNPE and VanDeMark to conduct a remedial alternatives analysis comparable to a focused Corrective Measures Study (CMS) that will describe and

analyze selected alternatives (e.g. source removal, collection trenches, grout curtains, etc.) for: technical implementability; short and long term effectiveness; degree of public and environmental protection afforded; community acceptance; cost and other relevant evaluation criteria. Based on the analysis performed, a preferred remedial approach will be recommended for implementation. The selected remedial alternative will encompass all areas of the creek bank (including the previously remediated or western area). The results of the alternatives analysis and recommendations will be presented in a report and submitted to the NYSDEC for review and comment. Selection and final agreement on the preferred remedial approach will be negotiated between SNPE, VanDeMark and the NYSDEC after a full review of the alternatives analysis has been completed.

4. Collection Trench - The report needs to show the location of the trench and what kind of trench will be constructed. Also, as discussed during our meeting, it appears there is not enough information available to properly design a collection system at this time. This relates to the items commented in Section 3.0 regarding the geology and presence of DNAPL. The Department believes the collection trench cannot be adequately designed until a more thorough understanding of the geology is developed. VanDeMark should design the collection system(s) to ensure that all the coal tar in the rock formation is controlled and contained.

   Response: Please refer to the responses to Comments No. 1 and 3 above. Based on the proposed approach for more detailed evaluation of remedial strategies outlined above, a detailed design and location of a collection trench system will not be addressed until the analysis of all selected remedial alternatives is complete and agreement on the recommended remedial strategy has been reached between all the parties.

We trust that these responses are satisfactory. If you have any questions regarding these responses or any other aspects of the project, please call the Patrick Martin at (716) 215-0650.

Very truly yours,

GOLDER ASSOCIATES INC.

Patrick T. Martin

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

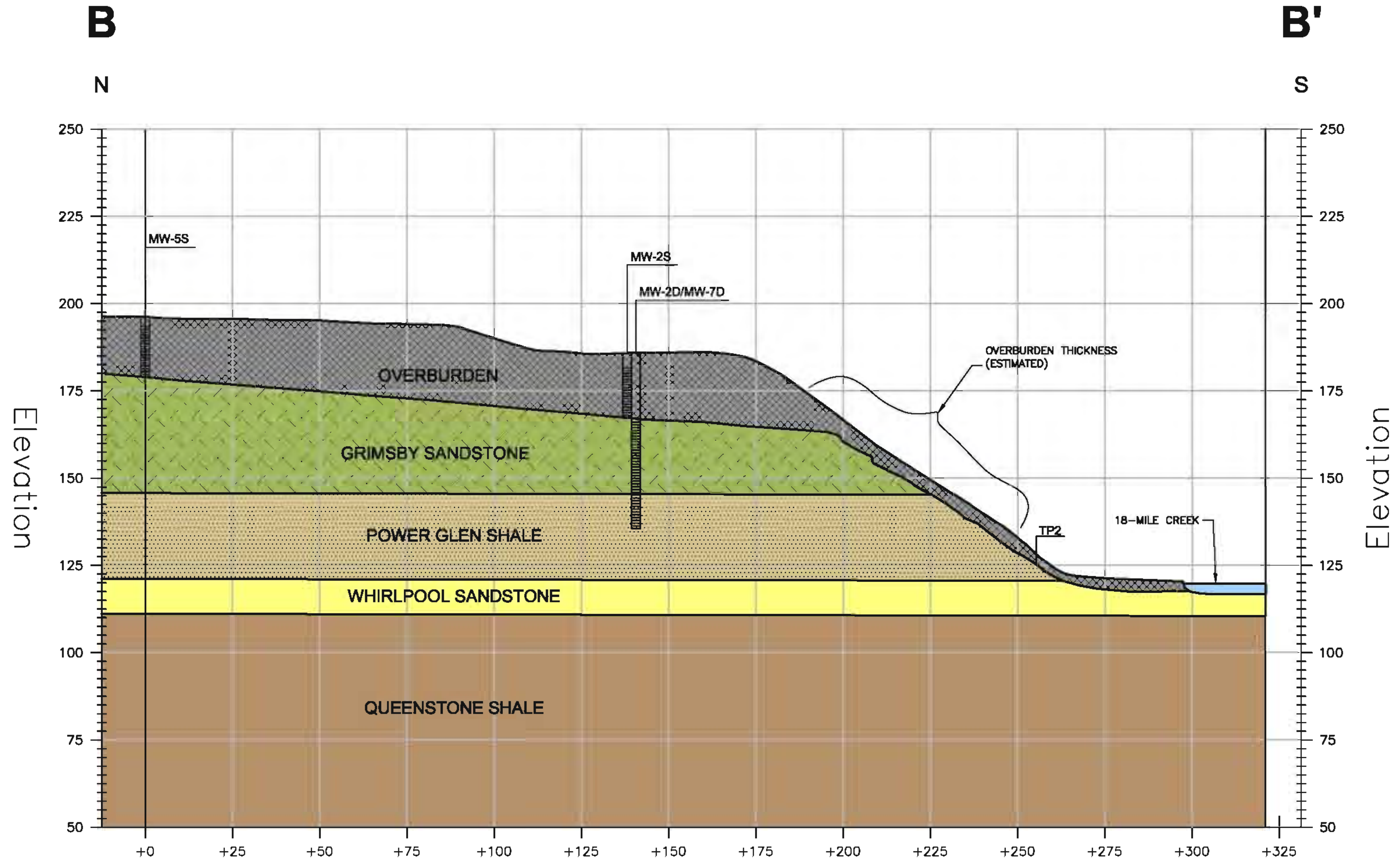
David C. Wehn, CPG
Associate

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

PTM/DCW:dml

ATTACHMENT 1

FIGURE 3: CROSS SECTON B-B’



LEGEND

▨	OVERBURDEN
🟩	GRIMSBY SANDSTONE
▨	POWER GLEN SHALE
🟨	WHIRLPOOL SANDSTONE
🟫	QUEENSTONE SHALE
▼	WATER ELEVATION IN WELL

REFERENCES

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

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

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

25 0 25 50
HORIZONTAL SCALE FEET

25 0 25 50
VERTICAL SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

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

TITLE
CROSS SECTION B-B'

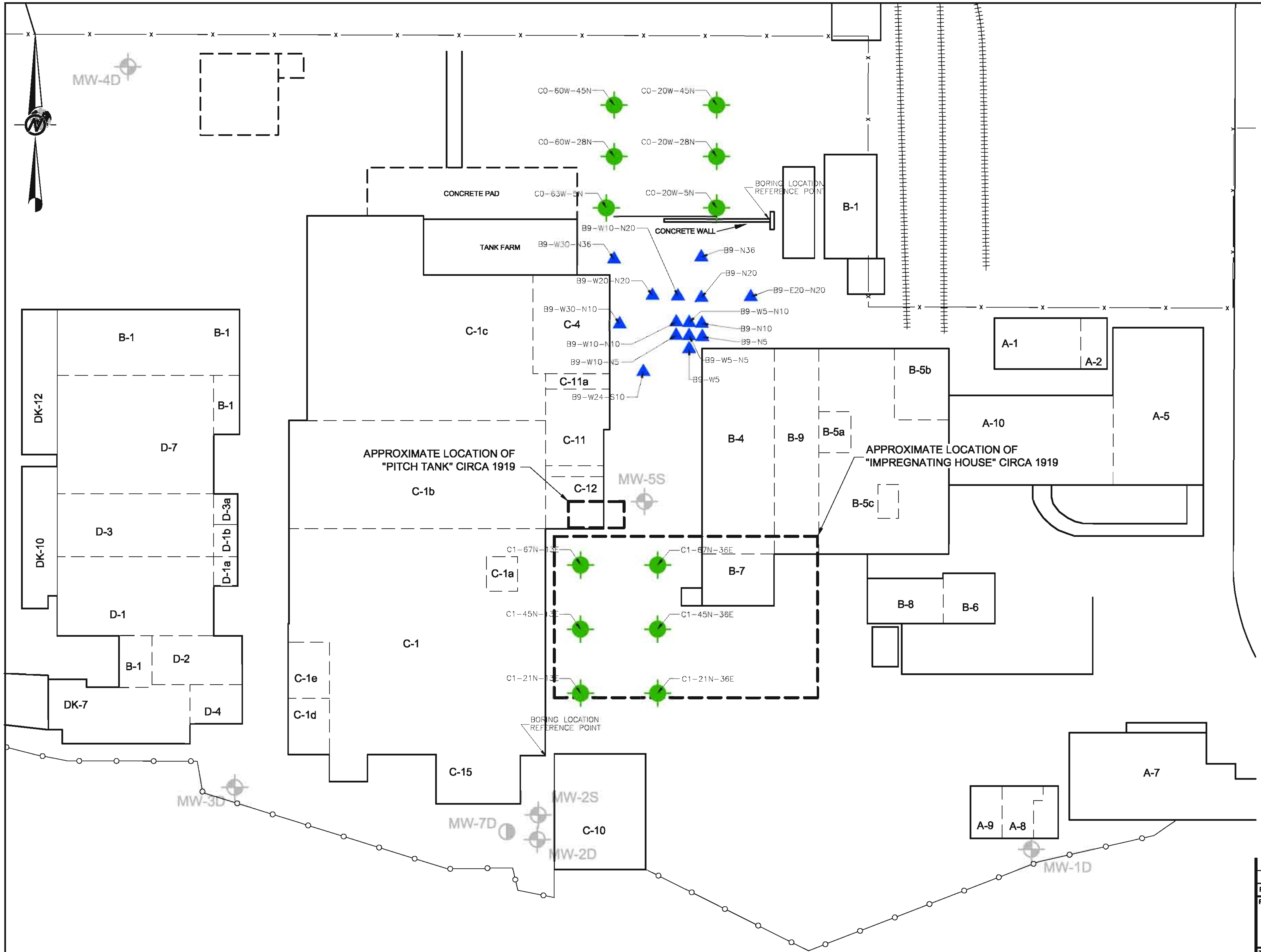
NJ Authorization #24GA28029100
Golder Associates
Mt. Laurel, New Jersey

PROJECT No.		093–89168	FILE No.	09389168A002
DESIGN	DCW	10/20/10	SCALE AS SHOWN	REV. 0
CADD	AM	10/20/10	**FIGURE 3**	
CHECK				
REVIEW				

Drawing file: 09389168A002.dwg Oct 20, 2010 – 9:34am

ATTACHMENT 2

- FIGURE 2: BOREHOLE LOCATION MAP
- FIELD BORING LOGS – OCTOBER 5, 2010



LEGEND

——x——	FENCE
++++++++	RAILROAD
⊕	1999 INVESTIGATION MONITORING WELL
◐	2006 BEDROCK MONITORING WELL
▲	JUNE 2010 BOREHOLE LOCATIONS
●	OCTOBER 2010 SUPPLEMENTAL BOREHOLE LOCATIONS

REFERENCE

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

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

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

40 0 40
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

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

TITLE
COAL TAR DELINEATION OVERBURDEN/BEDROCK BOREHOLE LOCATION MAP

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

PROJECT No.		093-89168	FILE No.	09389168A008
DESIGN	DCW	09/09/10	SCALE AS SHOWN	REV. 0
CADD	GLS	09/09/10	FIGURE 2	
CHECK				
REVIEW				

Field Boring Log

DEPTH HOLE 5.0 JOB NO. 093-89168 PROJECT VDM-2010 SUPP. DNAPL INVESt BORING NO. CO-20W-5N
DEPTH SOIL DRILL 5.0 GA INSP D. WEHN DRILLING METHOD DIRECT PUSH SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER RAIN DRILLING COMPANY ZEBRA ENV. SURFACE ELEV N/A
NO. DIST SA. 0 UD. SA. 2 TEMP 55°F DRILL RIG GEOPROBE 5400 DRILLER P. ORSI DATUM N/A
DEPTH WL. N/A HRS. PROD. 4 WT. SAMPLER HAMMER N/A DROP N/A STARTED 8:30 , 10/5/10
TIME WL. N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 8:40 , 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT	SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH
1							
2			1			3.7 / 4.0	
3							
4							
5			2			1.5 / 1.0	
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

SAMPLE DESCRIPTION AND BORING NOTES

0.0 - 4.0 FT Dark gray crushed stone FILL to 1.1 FT, then rust-red SILT with little clay, little SAND to 2.0 FT, then red - brown CLAYEY SILT.

4.0 - 5.0 As above grading to weathered red - brown SHALE.

Refusal @ 5.0 FT

No tar visible or tar odor noted.

Field Boring Log

DEPTH HOLE 5.0
JOB NO. 093-89168
PROJECT VDM-2010 SUPP. DNAPL INVESI
BORING NO. CO-2010-28N
DEPTH SOIL DRILL 5.0
GA INSP D. WEHN
DRILLING METHOD DIRECT PUSH
SHEET 1 OF 1
DEPTH ROCK CORE N/A
WEATHER RAIN
DRILLING COMPANY ZEBRA ENV.
SURFACE ELEV N/A
NO. DIST SA 0
UD. SA 2
TEMP 55°F
DRILL RIG GEOPROBE 5400
DRILLER P. ORSI
DATUM N/A
DEPTH WL N/A
HRS. PROD. 4
WT. SAMPLER HAMMER N/A
DROP N/A
STARTED 8:40, 10/5/10
TIME WL. N/A
HRS. DELAYED 0
WT CASING HAMMER N/A
DROP N/A
COMPLETED 8:50, 10/5/10

TIME DATE

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV. DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
									0.0-4.0 FT Grey crushed stone FILL to 0.8 FT, then red-brown SILT. Poor recovery.
1									
2				1			1.0 / 4.0		
3									
4				2			2.0 / 1.0		4.0-5.0 FT As above grading to red-brown weathered SHALE. Refusal at 5.0 FT
5									
6									Top of sample "sloughed" from previous interval - borehole saturated.
7									No tar visible or tar odor noted.
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE	4.5	JOB NO.	093-89168	PROJECT	VDM-2010 SUPP. DNAPL INVESt	BORING NO.	CO-2010-45N
DEPTH SOIL DRILL	4.5	QA INSP	D. WEHN	DRILLING METHOD	DIRECT PUSH	SHEET	1 OF 1
DEPTH ROCK CORE	N/A	WEATHER	RAIN	DRILLING COMPANY	ZEBRA ENV.	SURFACE ELEV	N/A
NO. DIST. SA 0	UD. SA 1	TEMP	55°F	DRILL RIG	GEOPROBE 5400 · DRILLER P. ORSi	DATUM	N/A
DEPTH WL	N/A	HRS. PROD.	4	WT SAMPLER HAMMER	N/A · DROP N/A	STARTED	8:55 / 10/5/10
TIME WL	N/A	HRS. DELAYED	0	WT CASING HAMMER	N/A · DROP N/A	COMPLETED	9:00 / 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV. / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1									0.0 - 4.5 FT Gray crushed stone FILL to 1.1 FT, then tan to off-white SAND and SILT FILL with some gravel. Refusal @ 4.5 FT
2				1			3.1 / 4.5		No tar visible or tar odor noted.
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE	4.5	JOB NO	093-89168	PROJECT	VDM - 2010 SUPP. DNAPL INVESI
DEPTH SOIL DRILL	4.5	GA INSP	D. WEHN	DRILLING METHOD	DIRECT PUSH
DEPTH ROCK CORE	N/A	WEATHER	RAIN	DRILLING COMPANY	ZEBRA ENV.
NO. DIST SA	0	UD. SA	2	TEMP	55°F
DEPTH WL.	N/A	HRS. PROD.	4	WT SAMPLER HAMMER	N/A
TIME WL.	N/A	HRS. DELAYED	0	WT CASING HAMMER	N/A

DRILL RIG GEOPROBE 5400

DRILLER P. ORSI

DROP N/A

DROP N/A

BORING NO. CD-63W-SN

SHEET 1 OF 1

SURFACE ELEV N/A

DATUM N/A

STARTED 9:05, 10/5/10

COMPLETED 9:15, 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	SAMPLES TYPE	SAMPLES HAMM BLOWS PER 6 IN (FORCE)	SAMPLES REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
									0.0 - 4.0 FT
1									Gray crushed fine stone Fill to 0.7 FT, then dark gray to black coarse SAND and fine GRAVEL.
2				1			3.4 / 4.0		Strong petroliferous odor. Bottom 0.8 FT of sample appears petroleum stained.
3									
4				2			0.3 / 0.5		4.0-4.5 FT Dark grey SAND and fine GRAVEL. Strong petroliferous odor. Free petroleum product visible
5									
6									Refusal at 4.5 FT
7									No tar visible or tar odor noted.
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE 6.0
DEPTH SOIL DRILL 6.0
DEPTH ROCK CORE N/A
NO. DIST SA 0 UD. SA 2
DEPTH WL N/A
TIME WL N/A

JOB NO 093-89168
QA INSP D. WEHN
WEATHER RAIN
TEMP 55°F
HRS. PROD. 4
HRS. DELAYED 0

PROJECT VDM-2010 SUPP. DNAPL INVEST
DRILLING METHOD DIRECT PUSH
DRILLING COMPANY ZEBRA ENV.
DRILL RIG GEOPROBE 5400 DRILLER P. ORSI
WT. SAMPLER HAMMER N/A DROP N/A
WT. CASING HAMMER N/A DROP N/A

BORING NO. CO-LOW-28N
SHEET 1 OF 1
SURFACE ELEV N/A
DATUM N/A
STARTED 9:15 10/5/10
COMPLETED 9:20 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV. / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1 2 3				1			2.8 / 4.0		0.0-4.0 FT Grey crushed stone FILL to 0.8 FT, then red-brown SAND and SILT to 1.8 FT then dark red-brown SILTY CLAY. Petroliferous odor.
4 5				2			0.8 / 2.0		4.0-6.0 FT As above grading To weathered SHALE. Refusal at 6.0 FT. Slight petroliferous odor.
6 7 8 9 10 11 12 13 14 15									No tar visible or tar odor noted.

Field Boring Log

DEPTH HOLE 6.0 JOB NO. 093-89168 PROJECT VDM-2010 SUPP. DNAPL INVEST. BORING NO. CO-60W-45N
DEPTH SOIL DRILL 6.0 QA INSP D. WEHN DRILLING METHOD DIRECT PUSH SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER RAIN DRILLING COMPANY ZEBRA ENV. SURFACE ELEV N/A
NO. DIST SA 0 UD. SA 2 TEMP 55°F DRILL RIG GEOPROBE 5400 DRILLER P. ORSI DATUM N/A
DEPTH WL N/A HRS. PROD. 4 WT. SAMPLER HAMMER N/A DROP N/A STARTED 9:25 / 10/5/10
TIME WL. N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 9:35 / 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV. / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1									0.0-4.0 FT Gray crushed stone FILL to 1.3 FT, then black SAND and GRAVEL. Petroliferous odor. Visible dark staining and sheen.
2				1			2.8 / 4.0		
3									
4									4.0-6.0 FT As above to 5.0 FT, then red-brown SILTY CLAY. SAND / GRAVEL unit has petroliferous odor and visible sheen.
5				2			2.0 / 2.0		
6									Refusal @ 6.0 FT
7									No tar visible or tar odor noted.
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE 12.8 JOB NO 093-89168 PROJECT VDM-2010 SUPP. DNAPL INVESI BORING NO. CI-21N-13E
DEPTH SOIL DRILL 12.8 GA INSP D. WEHN DRILLING METHOD DIRECT PUSH SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER RAIN DRILLING COMPANY ZEBRA ENV. SURFACE ELEV N/A
NO. DIST SA 0 UD. SA 4 TEMP 55°F DRILL RIG GEOPROBE 5400 DRILLER P. ORSI DATUM N/A
DEPTH WL N/A HRS. PROD. 4 WT. SAMPLER HAMMER N/A DROP N/A STARTED 10:50 / 10/5/10
TIME WL. N/A HRS. DELAYED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 11:10 / 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES				DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
				NO.	TYPE	HAMM BLOWS PER 6 IN (FORCE)	REC / ATY		
1 2 3				1			2.5/4.0		0.0-4.0 FT Gray crushed stone FILL to 0.7 FT, then dark brown coarse SAND and fine GRAVEL.
4 5 6 7				2			0.9/4.0		4.0-8.0 FT As above. Poor recovery.
8 9 10 11				3			2.7/4.0		8.0-12.0 FT Red-brown CLAYEY SILT with trace gravel.
12				4			0.8/0.8		12.0-12.8 FT as above
13 14 15									No tar visible or tar odor noted.

Field Boring Log

DEPTH HOLE 11.2 JOB NO 093-89168 PROJECT VDM-2010 SUPP. DNAPL INVESI BORING NO. CI-21N-36E
DEPTH SOIL DRILL 11.2 QA INSP D.WEHN DRILLING METHOD DIRECT PUSH SHEET 1 OF 1
DEPTH ROCK CORE N/A WEATHER RAIN DRILLING COMPANY ZEBRA ENV. SURFACE ELEV N/A
NO. DIST SA. 0 UD. SA. 3 TEMP 55°F DRILL RIG GEOPROBE 540C DRILLER P. ORSI DATUM N/A
DEPTH WL N/A HRS. PROD. 4 WT. SAMPLER HAMMER N/A DROP N/A STARTED 11:10 / 10/5/10
TIME WL. N/A HRS. DELATED 0 WT CASING HAMMER N/A DROP N/A COMPLETED 11:30 / 10/5/10

SAMPLE TYPES

A S	AUGER SAMPLE
C S	CHUNK SAMPLE
D O	DRIVE OPEN
D S	DENISON SAMPLE
P S	PITCHER SAMPLE
R C	ROCK CORE
S T	SLOTTED TUBE
T O	THIN-WALLED, OPEN
T P	THIN-WALLED, PISTON
W S	WASH SAMPLE

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1 2 3				1			2.9 / 4.0		0.0-4.0 FT Gray crushed stone FILL to 0.8 FT, then dark brown to black SILT, SAND and fine GRAVEL.
4 5 6 7				2			2.6 / 4.0		4.0-8.0 FT Brown SILT, SAND + GRAVEL
8 9 10 11				3			2.9 / 3.2		8.0-11.2 FT As above to 9.2 FT, then red brown CLAYEY SILT. Refusal at 11.2 FT No tar visible or tar odor noted.
12 13 14 15									

Field Boring Log

DEPTH HOLE 5.5
JOB NO 093-89168
PROJECT VDM-2010 SUPP. DNAPL INVESI
BORING NO. CI-67N-IJE
DEPTH SOIL DRILL 5.5
GA INSP D. WEHN
DRILLING METHOD DIRECT PUSH
SHEET 1 OF 1
DEPTH ROCK CORE N/A
WEATHER RAIN
DRILLING COMPANY ZEBRA ENV.
SURFACE ELEV N/A
NO. DIST SA 0 UD. SA 2
TEMP 55°F
DRILL RIG GEOPROBE 5400
DRILLER P. ORSI
DATUM N/A
DEPTH WL. N/A
HRS. PROD. 4
WT SAMPLER HAMMER N/A
DROP N/A
STARTED 10:05 / 10/5/10
TIME WL. N/A
HRS. DELAYED 0
WT CASING HAMMER N/A
DROP N/A
COMPLETED 10:10 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV. / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1									0.0 - 4.0 FT Gray crushed stone FILL to 0.9 FT, then dark brown to dark gray SAND and fine GRAVEL.
2				1			1.9 / 4.0		
3									
4									4.0 - 5.5 FT Brown SILT, SAND and GRAVEL.
5				2			1.4 / 1.5		Refusal @ 5.5 FT
6									No tar visible or tar odor noted.
7									
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE 6.0
JOB NO 093-89168
PROJECT VDM-2010 SUPP. DNAPL INVESI
BORING NO. CI-67N-36E
DEPTH SOIL DRILL 6.0
QA INSP D.WEHN
DRILLING METHOD DIRECT PUSH
SHEET 1 OF 1
DEPTH ROCK CORE N/A
WEATHER RAIN
DRILLING COMPANY ZEBRA ENV.
SURFACE ELEV N/A
NO. DIST SA 0
UD. SA 2
TEMP 55°F
DRILL RIG GEOPROBE 5400
DRILLER P. ORSI
DATUM N/A
DEPTH WL N/A
HRS. PROD. 4
WT. SAMPLER HAMMER N/A
DROP N/A
STARTED 9:55 / 10/5/10
TIME WL. N/A
HRS. DELAYED 0
WT CASING HAMMER N/A
DROP N/A
COMPLETED 10:05 / 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	SAMPLES TYPE	SAMPLES HAMM BLOWS PER 6 IN (FORCE)	SAMPLES REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
									0.0-4.0 FT Gray crushed stone FILL to 1.0 FT, then dark gray SILT, SAND and GRAVEL with trace brick.
1									
2				1			3.3 / 4.0		
3									
4									4.0-6.0 FT As above to 4.3 FT, then red-brown weathered SHALE. Refusal @ 6.0 FT
5				2			1.4 / 2.0		
6									No visible tar or tar odor noted.
7									
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE 9.0
DEPTH SOIL DRILL 9.0
DEPTH ROCK CORE N/A
NO. DIST. SA. 0 UD. SA. 2
DEPTH WL N/A
TIME WL. N/A

JOB NO. 093-89168
QA INSP D. WEHN
WEATHER RAIN
TEMP 55°F
HRS. PROD. 4
HRS. DELAYED 0

PROJECT VDM-2010 SUPP. DNAPL INVESI
DRILLING METHOD DIRECT PUSH
DRILLING COMPANY ZEBRA ENV.
DRILL RIG GEOPROBE 5400 DRILLER P. ORSI
WT SAMPLER HAMMER N/A DROP N/A
WT CASING HAMMER N/A DROP N/A

BORING NO. CI-45N-BE
SHEET 1 OF 1
SURFACE ELEV N/A
DATUM N/A
STARTED 10:30 / 10/5/10
COMPLETED 10:45 / 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

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

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

ELEV / DEPTH	DESCRIPTION	BLOWS / FT		SAMPLES NO.	TYPE	HAMM BLOWS PER 6 IN (FORCE)	REC / ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
1									0.0-4.0 FT Grey crushed stone FILL to 0.8 FT then dark brown SILT and SAND.
2				1			2.8 / 4.0		Coal tar noted from 2.0-2.2 FT with coal tar odor.
3									
4									
5									4.0-9.0 FT Brown CLAY, SILT, SAND and GRAVEL to 8.0 FT, then red-brown weathered SHALE.
6									Refusal at 9.0 FT
7				2			2.9 / 5.0		No coal tar visible or tar odor noted in sample No. 2.
8									
9									
10									
11									
12									
13									
14									
15									

Field Boring Log

DEPTH HOLE 8.0
DEPTH SOIL DRILL 8.0
DEPTH ROCK CORE N/A
NO. DIST SA. 0 UD. SA. 2
DEPTH WL. N/A
TIME WL. N/A

JOB NO. 093-89168
QA INSP D. WEHN
WEATHER RAIN
TEMP 55°F
HRS. PROD. 4
HRS. DELAYED 0

PROJECT VDM-2010 SUPP. DNAPL INVESi
DRILLING METHOD DIRECT PUSH
DRILLING COMPANY ZEBRA ENV.
DRILL RIG GEOPROBE 5400 DRILLER P. ORSi
WT SAMPLER HAMMER N/A DROP N/A
WT CASING HAMMER N/A DROP N/A

BORING NO. C1-45N-36E
SHEET 1 OF 1
SURFACE ELEV N/A
DATUM N/A
STARTED 10:17, 10/5/10
COMPLETED 10:30, 10/5/10

SAMPLE TYPES

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

ABBREVIATIONS

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

SOIL DESCRIPTION - RANGE OF PROPORTION

TRACE	0 - [illegible]%	SOME	[illegible] - [illegible]%
LITTLE	[illegible] - [illegible]%	AND	[illegible] - 50%

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

ELEV. DEPTH	DESCRIPTION	BLOWS/FT		SAMPLES NO.	SAMPLES TYPE	HAMM. BLOWS PER 6 IN (FORCE)	REC/ATT	DEPTH	SAMPLE DESCRIPTION AND BORING NOTES
									0.0-4.0 FT Gray crushed stone FILL TO 1.1 FT then dark brown TO black coarse SAND and fine GRAVEL.
1									
2				1			2.9/4.0		
3									
4									4.0-8.0 FT Tan to brown SILT, SAND, and GRAVEL. Refusal @ 8.0 FT. No visible tar or tar odor noted.
5									
6				2			2.4/4.0		
7									
8									
9									
10									
11									
12									
13									
14									
15									

APPENDIX B
COAL TAR WASTE MATERIAL CHARACTERIZATION FORM (COVANTA)

MHG

COVANTA

MATERIAL CHARACTERIZATION FORM

WTS# 25104

Instruc ions: A complete Material Characterization Form (Sections 1 - 9) must be submitted for each waste stream requested for disposal. Sectior l to Section 6 must be completed for each distinct process generating a waste stream and Section 7 to Section 9 must be completed for each c rresponding individual waste. Example: A pharmaceutical company with expired products would complete Section I- 6 once (since all the wa te is generated in the same manner- i.e., expired), and submit a separate Section 7 - 9 for each individual expired product being dispos d.

SECT ION 1 - GENERATOR INFORMATION (If multiple locations, *include a* listing of *the* locations as an attachment)

Gener tor Name *: ISOCHEM, Inc.
SIC Code (if known): 2869
Addre s: One North Transit Road
City / tate / Zip Code: Lockport, NY 14094
Phone 716-433-6764
Fax: 716-433-2850
E-mail:

Te hnical Contact

Pri t Name: Jim Weber
Co npany: WTS, inc.
Ph ne: 716-754-5400

* - The Generator is the person or company whose act or process first causes the material to be a solid waste. If a Service Company is being used, please complete the Service Company Information Form.

SECT ON 2 - GENERAL WASTE STREAM INFORMATION

2.1 Name of waste: *(provide list if needed)* Coal Tar

2.2 **General Waste Classification** *Please specify if any of the below is applicable to the waste. If so, provide the addendum noted.*
☐ Oily Waste .... Complete the Oily Waste Addendum Form
☐ California Destination .... Complete the California Destination Addendum Form

SECT ON 3 - SHIPPING INFORMATION

3.1	Container ype:	☐ Palletized & Shrink-wrapped ☐ Yd3 Box ☐ Super Sack ☐ Pails, ____ Gal ☐ Fiber Drums, ____ Gal ☐ Poly Drums, ____ Gal ☐ Steel Drums, ____ Gal ☒ Roll-off, 20 yd3 ☐ Other:
3.2	uantity Per elivery:	20 Tons ____ Gallons ____ Pounds Other:
3.3	requency:	☐ Daily ☐ Weekly ☐ Monthly ☐ Quarterly ☐ One Time ☒ Other: annually
3.4	elivery ehicle:	☐ Box Truck ☒ Roll-off ☐ Van Trailer ☐ Tanker Truck ☐ Other:

SECT ON 4 - PROCESS DESCRIPTION

4.1 rovide a detailed description of the process that generates the waste. Describe the materials used to generate the vaste, as well as, any other chemical or physical constituents that may be present in the waste stream as a result of ommingling or contamination. Make a definitive statement as to whether or not any of the constituents, which are oted in Section 8.1, are present if possible, provide a process flow diagram. *(attach additional pages if needed)*

excavation of coal tar deposit

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WTS# 25104

Name of Waste: (as noted in Section 2.1) Coal Tar

SECTION 4 - PROCESS DESCRIPTION (CONTINUED)

4.2 Will the properties of the waste be consistent from delivery to delivery? ☒ Yes ☐ No

If no, how can the properties of the waste differ: (attach additional pages if needed)

4.3 Provide an explanation of how the waste was characterized from the chemical perspective: (check all that apply)

☒ Analytical--- Data. -Specify type and attach as back-up documentation:

☐ Generator Knowledge: (specify)

- ☐ Information provided in reference materials
- ☐ Information describing the process generating the waste
- ☐ Information developed through prior testing of the waste
- ☐ Information describing the materials used in the process that generates the waste
- ☐ Other, specify:

SECTION 5 - REGULATORY WASTE CLASSIFICATION

5.1 Is the waste an EPA Listed Hazardous Waste per 40 CFR 261 ? ☐ No ☒ Yes - STOP, waste is unacceptable

5.2 Is the waste an EPA Characteristic Hazardous Waste per 40 CFR 261? ☐ No ☒ Yes - STOP, waste is unacceptable

5.3 Is the waste exempt from being an EPA Hazardous Waste due to any of the following exclusions: (* - attach certification)

☒ Not Applicable ☐ Aqueous Solution (<24% Alcohol *and* >50% Water) * ☐ Non-terne Plated Used Oil Filters *

☐ RCRA Empty* ☐ Small Quantity Generator including, conditionally exempt (STOP- Unacceptable)

☐ Other, specify:

5.4 Is the waste a "Hazardous Waste" as defined by the State of Origin? ☒ No ☐ Yes, specify State ID#:

5.5 Is the waste any of the following in the State of Origin?

☒ None ☐ Special Waste ☐ Residual Waste ☐ Regulated Waste ☐ Other, specify:

State Waste Code (if assigned):

5.6 The regulatory classification determinations for Sections 5.1 to 5.5 above were based upon: (check all that apply)

☒ Analytical Data. Specify type and attach as back-up documentation:

☒ Generator Knowledge: (specify).

- ☒ Knowledge of the applicable regulations
- ☐ Information developed through prior testing of the waste
- ☐ Information provided in reference materials
- ☒ Information describing the process generating the waste
- ☐ Information describing the materials used in the process that generates the waste
- ☐ Other, specify:

SECTION 6 - ATTACHMENTS

- Covanta Secure Services, Inc. requires supporting documentation to verify the characterization and composition information of all waste(s) profiled for disposal to any Covanta waste-to-energy facility. Please attach all applicable supporting, documentation.

Please identify all the. back-up information which is provided With this waste profile: ☐ None

☐ Formulation/Product Specification Sheet	☐ Product Insert	☐ State Application:
☐ Memo/Letter	☐ QA/QC SOP	☐ Non-Terne Filter Exclusion Certification
☐ MSDS Ingredient Specific	☐ Waste Analysis Plan	☐ Aqueous Solution Exclusion Certification
☐ MSDS Waste Specific	☐ RCRA Empty Certification	

☒ Analytical Data, specify: See attached report

☐ Other, specify:

ISSUED 0/01 PAGE 2 OF 2 CSS REQUEST #

WTS# 25104

Name o ' Waste: (as noted in Section 2.1) Coal Tar

SECTIO N 7 - WASTE CHARACTERISTICS

7.1 P ysical F rm

7.1.1 Indicate the form(s) in which the waste will be shipped.

- ☐ Consumer packaged (CSS Class A)
- ☒ 100% Bulk active/inactive solid ingredients (CSS Class B1)
- ☐ Bulk finished formulation/powders/granules (CSS ClassB2)
- ☐ Bulk intermediate solid waste and filters (CSS Class B3)
- ☐ Bulk pressed pills/tablets (CSS Class C)
- ☐ Bulk creams/pastes/liquids (CSS Class D)
- ☐ Debris/production scrap/packaging scrap (CSS ClassE)
- ☐ Non-Hazardous re-packs, QA/QC Samples (CSS Class F)

7.1.2 - Specify, the physical form of the waste without packaging.

- ☒ Solid
- ☐ Waxy Solid
- ☐ Granular
- ☐ Powder
- ☐ Other, specify:
- ☐ Cream / Paste
- ☐ Slurry
- ☐ Liquid, Pourable
- ☐ Liquid, Non-Pourable

7.2 P ysical Ch aracteristics

Please specify the following characteristics of the waste:

Color - Describe: black Odor - Describe: typical of coal tar Flashpoint: >200 F

Higher Heating Value (HHV) - Specify: >5,000 BTU/lb. ☒ estimated ☐ measured ☐ unknown

Paint Filter Test: ☐ Pass ☐ Fail ☐ Not Tested ☒ Not Applicable. Waste is not/does not contain liquid(s).

7.3 A dditional W aste I formation

- ☐ Compressed Gas/Aerosol
- ☐ Radioactive
- ☐ Dioxin Containing.
- ☐ PCB Containing (≥2ppm)
- ☐ FIFRA Regulated Material
- ☐ DOT Regulated-Placard Required
- ☐ Contains fibers problematic if inhaled
- ☐ Contains crystalline forms of silica
- ☐ Requires special storage requirements
- ☐ Requires special engineering controls or personal protective equipment during handling

Comments:

SECTIC N 8 - WASTE COMPOSITION

8.1 C onstituents:

* -Do not r port TCLP r sults in this S ction. If T CLP a alytical was p rformed, a tach as b ck-up i formation.)

Identify the total* concentration of the below constituents present in the waste as weight percent or ppm (as noted), including *all* the contributions of all compounds. Do not consider packaging. If a constituent not present, please identify this by noting "N/A" in the space provided. (N/A = not applicable)

-Bromine	0	ppm	-Arsenic	0	ppm	-Lead	0	ppm	-Zinc	0	Ppm
-Chlorine	0	wt.%	-Barium	0	ppm	-Manganese	0	ppm	-Aluminum Oxide	0	wt.%
-Fluorine.	0	ppm	-Beryllium	0	ppm	-Mercury	0	ppm	-Silicates	0	wt.%
-Iodine	0	ppm	-Cadmium	0	ppm	-Nickel	0	ppm	-Silicone	0	wt.%
-Nitrogen	0	wt.%	-Chromium	0	ppm	-Selenium	0	ppm	-Soil	0	wt.%
-Sulfur	0	wt.%	-Cobalt	0	ppm	-Silver	0	ppm	-Titanium Dioxide	0	wt.%
-Antimony	0	ppm	-Copper	0	Ppm	-Vanadium	0	ppm			

The above was determined based upon: ☒ Analytical Data ☒ Generator Knowledge

8.2 C omposition:

(* - The total w .% range m ust be ≥100)

Please complete the below table. Do not consider packaging. Attach additional pages if needed. All substances regulated by 29 CFR 191 0.1 000 Subpart Z and 29 CFR 1910.1200 must be listed.

Component	CAS # (if known)	Chemical Formula (if known)	Range (wt. %)
coal tar	n/a	n/a	50-100
soil from excavation of coal tar	n/a	n/a	50-100

8.3 P ackaging:

Specify the weight percentage of packaging: 0 Wt. %

Specify the type of packaging: ☐ paper ☐ plastic, specify type- ☐ other n/a rolloff

SECTIC N 9 - NON-HAZARDOUS CERTIFICATION

I certify an Authorized Representative of the Generator, that this document, including all completed forms and all pertinent addend , accurately represent and describe the waste stream outlined. The information submitted is true, accurate and complet , and no available information has been omitted or falsified. I further certify that the material is non-hazardous based upon F deral, State and Local Regulations.

Pamel Cook, Env. Engineer, ISOCHEM, Inc.
Author ed Representative - Name, Title & Company (Printed)

Authorized Representative - Signature

6/18/07
Date

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47-19-7 (10/86) - Text 12

WTS #25104 MHG

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDOUS WASTE - BUREAU OF HAZARDOUS WASTE OPERATIONS
325 BROADWAY, ALBANY, NEW YORK 12233-4017

APPLICATION FOR TREATMENT OR DISPOSAL OF AN INDUSTRIAL WASTE STREAM

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY

SITE NO.	APPLICATION NO.	DATE RECEIVED
DEPARTMENT ACTION ☐ Approved ☐ Disapproved		DATE

1 - NAME OF PROJECT/FACILITY: Covanta of Niagara

2. COUNTY: Niagara

3. SITE NUMBER: 32-E-01

4- NAME OF OWNER: Covanta Energy

5. ADDRESS (Street, City, State Zip Code): 100 Energy Blvd. & 56 Street

6. TELEPHONE NO.: (716) 278-8509

7. NAME OF OPERATOR: Covanta Niagara

8. ADDRESS (Street City, State, Zip Code): Niagara Falls, NY 14304

9. TELEPHONE NO.: (716) 278-8509

10 METHOD OF TREATMENT OR DISPOSAL: INCINERATION

11. COMPANY GENERATING WASTE: ISOCHEM, inc.

12. ADDRESS OF FACILITY GENERATING WASTE (Street, City, State, Zip Code: One North Transit Road, Lockport, NY 14094

13. REPRESENTATIVE OF WASTE GENERATOR: Jim Weber

14. MAILING ADDRESS OF REPRESENTATIVE: WTS, 435 N. 2nd Street, Lewiston, NY 14092

15. TELEPHONE NO.: (716) 754 - 5400

16. DESCRIPTION OF PROCESS PRODUCING WASTE: excavation of coal tar deposit

17. EXPECTED ANNUAL WASTE PRODUCTION: 20-30 Tons/Year ________ Gallons/Year

18. WASTE HAULED IN: ☐ Drums ☐ Bulk Tank ☒ Roll-Off Container ☐ Other ________

19. WASTE COMPOSITION
19a. Average Percent Solids: 100

19b. PHYSICAL STATE: ☐ Liquid ☐ Slurry ☐ Sludge ☒ Solid ☐ Contained Gas

19c pH Range: 5 to 9

19. COMPONENTS — CONCENTRATION (Dry Weight) — UNIT (Check One)

	COMPONENTS	Upper %	Lower %	Typical %	Wt.%	PPM
1)	coal tar	100	50	75	☒	☐
2)	soil from coal tar excavation	100	50	25	☒	☐
3)					☐	☐
4)					☐	☐

20. IS AN ANALYSIS OF WASTE ATTACHED? ☒ Yes ☐ No

21. WAS AN EP TOXICITY TEST CONDUCTED ON THE WASTE? ☒ Yes ☐ No If "Yes", attach results

22. MATERIAL IS: ☐ Hazardous ☒ Non-Hazardous

23. DETAIL ALL HAZARD AND NUISANCE PROBLEMS ASSOCIATED WITH THE WASTES. List necessary safety, handling, treatment, and disposal precautions.

24. WHERE WAS MATERIAL DISPOSED OF PREVIOUSLY? First Time Disposal

25. NAME OF WASTE TRANSPORTER: Hazmat Environmental Group

26. ADDRESS (Street City, State, Zip Code): 60 Commerce Drive, Buffalo, NY 14210

27. NYSDEC PERMIT NO.: 9A-278

28. TELEPHONE NO.: (716) 827 - 7200

29. CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

a. SIGNATURE AND TITLE OF REPRESENTATIVE OF WASTE GENERATOR
× Env Eng
DATE 6/18/07

b. SIGNATURE AND TITLE OF REPRESENTATIVE OF TREATMENT OR DISPOSAL FACILITY
×
DATE

COVANTA
SECURE SERVICES

PRESHIPMENT NOTIFICATION

Ship From/Scheduling Information

Delivery Date:		Time:	Estimated Tons:
Company:	**ISOCHEM, Inc.**	Address:	**One North Transit Road**
Contact:	**Jim Weber 716-282-4100**	City, State:	**Lockport, NY 14094**
Transporter:	**Direct**	Generator WTS#:	**COV14817** Location #: **1**
Shipment Pickup Date/Time:			

Waste Information

Approval #:	Add #	Waste Description	Quantity	Class	Packaging
7397		Contaminated Soils			
Additional Approval #'s					
			Ship Container #:		
			Booking #:		

Billing Information

Company:	Waste Technology Services	Bill to WTS #:	COV10703 Location #: 1
Contact:	Jim Weber	Telephone:	716-282-4100
Address:	435 North 2nd Street	Fax:	716-282-6986
City, State Zip:	Lewiston, NY 14092	Purchase Order #:	

COMMENTS:

Certificate of Disposal

To the exclusion of the following comments, the listed material has been received and delivered to the refuse pit or feed chute for combustion in the unit(s) in accordance with the conditions of the approval to accept said wastes as provided for in the Supplemental Waste Disposal Agreement. The listed material has been processed for energy recovery at Covanta Niagara , L.P. in accordance with all applicable local, state, and federal regulations. The placement of these materials into the pit or feed chute was witnessed by:

Company:	Covanta Niagara , L.P.
Address:	100 Energy Blvd
City, State,Zip:	Niagara Falls, NY 14304
Contact Name:	Teresa Lepiane
Telephone:	716-278-8512

X ____________________ / /

Witness Signature: Date

COMMENTS:

For further assistance please contact your Customer Representative: **Rowena Montalvo** **(973) 882-4121**

Note: Some or all of the information contained in this document constitutes trade secret information of the generator, broker or distributor named herein or confidential, proprietary customer subsidiaries or affiliates. Disclosure of this information to any third-parties without prior notice to all parties named on this form, and an opportunity of those parties to request a hearing regarding said disclosure may be prohibited under applicable federal and state laws.

Visit Our Online Customer Center, created with you in mind

REV. 06/2003

www.CovantaSecureServices.com/CustomerCenter

COVANTA
SECURE SERVICES

THIS FORM MUST BE COMPLETED AND
ACCOMPANY EACH LOAD OF WASTE DELIVERED FOR DISPOSAL.

NON-HAZARDOUS CERTIFICATION

Approval #: 7397 Add #: Ship Container Number:

Company: ISOCHEM, Inc. Address: One North Transit Road

Fax: 716-282-6986 City, State Lockport, NY 14094

Generator WTS#: COV14817 Location #: 1

Waste Description: Contaminated Soils

As an authorized representative of ISOCHEM, Inc., I certify that the materials consigned to

Covanta Niagara , L.P. 100 Energy Blvd Niagara Falls, NY 14304

for destruction by incineration are not subject to regulations as hazardous waste under the Federal Resource Conservation and Recovery Act (RCRA) Regulations, 40 CFR Part 260 et seq., State and Local Regulations.

The materials are non-hazardous, non-TSCA, and non-RCRA hazardous waste. Only those materials described above shall be delivered on this load.

Generator's Authorized Representative

Name: Jim Weber Signature:

Print Title: Date:

Note: Some or all of the information contained in this document constitutes trade secret information of the generator, broker or distributor named herein or confidential, proprietary customer subsidiaries or affiliates. Disclosure of this information to any third-parties without prior notice to all parties named on this form, and an opportunity of those parties to request a hearing regarding said disclosure may be prohibited under applicable federal and state laws.

Find out more about our services @
www.CovantaSecureServices.com/CustomerCenter

REV. 06/2003

APPENDIX C
QUALITY ASSURANCE PROJECT PLAN

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PLAN

1.0 INTRODUCTION

This Quality Assurance/Quality Control Plan is designed to provide an overview of QA/QC procedures. It will give specific methods and QA/QC procedures for chemical testing of verification or characterization samples obtained from the site. In addition, it will ensure the quality of the data produced.

The Project Manager will be responsible for verifying that QA procedures are followed in the field. This will provide for the valid collection of representative samples. The Project Manger will be in direct contact with the analytical laboratory to monitor laboratory activities to help ensure that holding times and other QA/QC requirements are met.

In addition to overall project coordination, the Project Manager will be responsible for overseeing both the analytical and field QA/QC activities. The ultimate responsibility for maintaining quality throughout the project rests with the Project Manager.

TABLE 1

ANALYTICAL SUMMARY TABLE – CHARACTERIZATION AND POST EXCAVATION SAMPLES

PARAMETER	EPA SW-846 METHOD	POST EXC. SAMPLES [1]	DISPOSAL CHARACTERIZATION [1]
TCL Volatiles	8260		6
TCL Semi-Volatiles	8270	9	5
TCLP VOCs/Semi-VOCs	1311-8260 / 1311 -8270		3
TAL Metals	6010		5

(1) – Includes 1 MS/MSD, 1 Duplicate sample and 1 Trip Blank (Volatiles Only)

The analytical laboratory proposed for use for the analysis of samples will be a certified NYSDOH ELAP laboratory for the appropriate categories. The QA Manager of the laboratory will be responsible for performing project-specific audits and for overseeing the quality control data generated.

2.0 DATA QUALITY OBJECTIVES

2.1 Background

Data quality objectives (DQOs) are qualitative and quantitative statements, which specify the quality of data required to support the investigation of the Site. DQOs focus on the identification of the end use of the data to be collected. The project DQOs will be achieved utilizing the definitive data category, as outlined in *Guidance for the Data Quality Objectives Process*, EPA QA/G-4 (September 1994). All sample analyses will provide definitive data, which are generated using rigorous analytical methods, such as the reference methods approved by the United States Environmental Protection Agency (USEPA). The purpose of this remediation is to remove the impacted soil/fill at the site.

Within the context of the purpose stated above, the project DQOs for data collected during this remediation are:

- To characterize the subsurface soil/fill for disposal offsite and to verify that cleanup objectives have been achieved.
- To maintain the highest possible scientific/professional standards for each procedure.
- To develop enough information to assess if the levels of contaminates identified in the media sampled are hazardous or non-hazardous.

2.2 QA Objectives for Chemical Data Measurement

Sample analytical methodology for the media sampled and data deliverables will meet the requirements in the most recent NYSDEC Analytical Services Protocol (ASP). Laboratories will be instructed that completed **Sample Preparation and Analysis Summary forms** are to be submitted with the analytical data packages. The laboratory also will be instructed that matrix interferences must be cleaned up, to the extent practicable. In order to achieve the definitive data category described above, the data quality indicators of precision, accuracy, representativeness, comparability, and completeness will be measured during offsite chemical analysis.

2.2.1 Precision

Precision examines the distribution of the reported values about their mean. The distribution of reported values refers to how different the individual reported values are from the average reported value. Precision may be affected by the natural variation of the matrix or contamination within that matrix, as well as by errors made in field and/or laboratory handling procedures. Precision is evaluated using analyses of a laboratory matrix spike/matrix spike duplicate (for organics) and matrix duplicates (for inorganics), which not only exhibit sampling and analytical precision, but indicate analytical precision through the reproducibility of the analytical results. Relative Percent Difference (RPD) is used to evaluate precision. RPD criteria must meet the method requirements identified in Table 1.

2.2.2 Accuracy

Accuracy measures the analytical bias in a measurement system. Sources of error are the sampling process, field contamination, preservation, handling, sample matrix, sample preparation, and analysis techniques. These data help to assess the potential concentration contribution from various outside sources. The laboratory objective for accuracy is to equal or exceeds the accuracy demonstrated for the applied analytical methods on samples of the same matrix. The percent recovery criterion is used to estimate accuracy based on recovery in the matrix spike/matrix spike duplicate and matrix spike blank samples. The spike and spike duplicate, which will give an indication of matrix effects that may be affecting target compounds is also a good gauge of method efficiency.

2.2.3 Representativeness

Representativeness expresses the degree to which the sample data accurately and precisely represent the characteristics of a population of samples, parameter variations at a sampling point, or environmental conditions. Representativeness is a qualitative parameter, which is most concerned with the proper design of the sampling program or sub-sampling of a given sample. Objectives for representativeness are defined for sampling and analysis tasks and are a function of the investigative objectives. The sampling procedures, have been selected with the goal of obtaining representative samples for the media of concern.

2.2.4 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. A DQO for this program is to produce data with the greatest possible degree of comparability. This goal is achieved through using standard techniques to collect and analyze representative samples and reporting analytical results in appropriate units. Complete field documentation will support the assessment of comparability. Comparability is limited by the other parameters (e.g., precision, accuracy, representative-ness, completeness, comparability), because only when precision and accuracy are known can data sets be compared with confidence. In order for data sets may be comparable, it is imperative that contract-required methods and procedures be explicitly followed.

2.2.5 Completeness

Completeness is defined as a measure of the amount of valid data obtainable from a measurement system compared to the amount that was expected to be obtained under normal conditions. It is important that appropriate QA procedures be maintained to verify that valid data are obtained in order to meet project needs. For the data generated, a goal of 90% is required for completeness (or usability) of the analytical data. If this goal is not met, then NYSDEC and Golder Associates Inc. (Golder) project personnel will determine whether the deviations might cause the data to be rejected.

3.0 VERIFICATION SAMPLING, CUSTODY, HOLDING TIMES, & ANALYSIS

The verification sampling procedures are discussed in Section 2.1.3 of the ICM Work Plan. Procedures for chain of custody, holding times, and laboratory analyses shall be followed as per SW-846 and as per the laboratory’s Quality Assurance Plan. All holding times begin with validated time of sample receipt (VTSR) at the laboratory. The laboratory must meet the method required detection limits which are referenced within the methods.

4.0 CALIBRATION PROCEDURES AND FREQUENCY

In order to obtain a high level of precision and accuracy during sample processing procedures, laboratory instruments must be calibrated properly. Several analytical support areas must be considered so the integrity of standards and reagents is upheld prior to instrument calibration. The following sections describe the analytical support areas and laboratory instrument calibration procedures.

4.1 Analytical Support Areas

Prior to generating quality data, several analytical support areas must be considered; these are detailed in the following paragraphs.

Standard/Reagent Preparation - Primary reference standards and secondary standard solutions shall be obtained from National Institute of Standards and Technology (NIST), or other reliable commercial sources to verify the highest purity possible. The preparation and maintenance of standards and reagents will be accomplished according to the methods referenced. All standards and standard solutions are to be formally documented (i.e., in a logbook) and should identify the supplier, lot number, purity/concentration, receipt/preparation date, preparers name, method of preparation, expiration date, and any other pertinent information. All standard solutions shall be validated prior to use. Care shall be exercised in the proper storage and handling of standard solutions (e.g., separating volatile standards from nonvolatile standards). The laboratory shall continually monitor the quality of the standards and reagents through well documented procedures.

Balances - The analytical balances shall be calibrated and maintained in accordance with manufacturer specifications. Calibration is conducted with two Class AS weights that bracket the expected balance use range. The laboratory shall check the accuracy of the balances daily and they must be properly documented in permanently bound logbooks.

Refrigerators/Freezers - The temperature of the refrigerators and freezers within the laboratory shall be monitored and recorded daily. This will verify that the quality of the standards and reagents is not compromised and the integrity of the analytical samples is upheld. Appropriate acceptance ranges (2 to 6°C for refrigerators) shall be clearly posted on each unit in service.

Water Supply System - The laboratory must maintain a sufficient water supply for all project needs. The grade of the water must be of the highest quality (analyte-free) in order to eliminate false-positives from the analytical results. Ultraviolet cartridges or carbon absorption treatments are recommended for organic analyses and ion-exchange treatment is recommended for inorganic tests. Appropriate documentation of the quality of the water supply system(s) will be performed on a regular basis.

4.2 Laboratory Instruments

Calibration of instruments is required to verify that the analytical system is operating properly and at the sensitivity necessary to meet established quantitation limits. Each instrument for organic and inorganic analyses shall be calibrated with standards appropriate to the type of instrument and linear range established within the analytical method(s). Calibration of laboratory instruments will be performed according to specified methods.

In addition to the requirements stated within the analytical methods, the contract laboratory will be required to analyze an additional low level standard at or near the detection limits. In general, standards will be used that bracket the expected concentration of the samples. This will require the use of different concentration levels, which are used to demonstrate the instrument's linear range of calibration.

Calibration of an instrument must be performed prior to the analysis of any samples and then at periodic intervals (continuing calibration) during the sample analysis to verify that the instrument is still calibrated. If the contract laboratory cannot meet the method required calibration requirements, corrective action shall be taken as discussed in Section 7.0. All corrective action procedures taken by the contract laboratory are to be documented, summarized within the case narrative, and submitted with the analytical results.

5.0 INTERNAL QUALITY CONTROL CHECKS

Internal QC checks are used to determine if analytical operations at the laboratory are in control, as well as determining the effect sample matrix may have on data being generated. Two types of internal checks are performed and are described as batch QC and matrix-specific QC procedures. The type and frequency of specific QC samples performed by the contract laboratory will be according to the specified analytical method and project specific requirements. Acceptable criteria and/or target ranges for these QC samples are presented within the referenced analytical methods.

QC results which vary from acceptable ranges shall result in the implementation of appropriate corrective measures, potential application of qualifiers, and/or an assessment of the impact these corrective measures have on the established data quality objectives. Quality control samples including any project-specific QC will be analyzed are discussed below.

5.1 Batch QC

Method Blanks - A method blank is defined as laboratory-distilled or deionized water that is carried through the entire analytical procedure. The method blank is used to determine the level of laboratory background contamination. Method blanks are analyzed at a frequency of one per analytical batch.

Matrix Spike Blank Samples - A matrix spike blank (MSB) sample is an aliquot of water spiked (fortified) with all the elements being analyzed for calculation of precision and accuracy to verify that the analysis that is being performed is in control. A MSB will be performed for each matrix and organic parameter only.

5.2 Matrix-Specific QC

Matrix Spike Samples - An aliquot of a matrix is spiked with known concentrations of specific compounds as stipulated by the methodology. The matrix spike (MS) and matrix spike duplicate (MSD) are subjected to the entire analytical procedure in order to assess both accuracy and precision of the method for the matrix by measuring the percent recovery and relative percent difference of the two spiked samples. The samples are used to assess matrix interference effects on the method, as well as to evaluate instrument performance. MS/MSDs are analyzed at a frequency of one each per 20 samples per matrix.

Matrix Duplicates - The matrix duplicate (MD) is two representative aliquots of the same sample which are prepared and analyzed identically. Collection of duplicate samples provides for the evaluation of precision both in the field and at the laboratory by comparing the analytical results of two samples taken from the same location. Obtaining duplicate samples from a soil matrix requires homogenization (except for volatile organic compounds) of the sample aliquot prior to filling sample containers, in order to best achieve representative samples. Every effort will be made to obtain replicate samples; however, due to interferences, lack of homogeneity, and the nature of the soil samples, the analytical results are not always reproducible.

Rinsate (Equipment) Blanks - A rinsate blank is a sample of laboratory demonstrated analyte free water passed through and over the cleaned sampling equipment. A rinsate blank is used to indicate potential contamination from ambient air and from sample instruments used to collect and transfer samples. This water must originate from one common source within the laboratory and must be the same water used by the laboratory performing the analysis. The rinsate blank should be collected, transported, and analyzed in the same manner as the samples acquired that day. Rinsate blanks for nonaqueous matrices should be performed at a rate of 10 percent of the total number of samples collected throughout the sampling event. Rinse blanks will not be performed on samples (i.e., groundwater) where dedicated disposable equipment is used.

Trip Blanks - Trip blanks are not required for nonaqueous matrices. Trip blanks are required for aqueous sampling events. They consist of a set of sample bottles filled at the laboratory with laboratory demonstrated analyte free water. These samples then accompany the bottles that are prepared at the lab into the field and back to the laboratory, along with the collected samples for analysis. These bottles are never opened in the field. Trip blanks must return to the lab with the same set of bottles they accompanied to the field. Trip blanks will be analyzed for volatile organic parameters. Trip blanks must be included at a rate of one per volatile sample shipment.

6.0 CALCULATION OF DATA QUALITY INDICATORS

6.1 Precision

Precision is evaluated using analyses of a field duplicate and/or a laboratory MS/MSD which not only exhibit sampling and analytical precision, but indicate analytical precision through the reproducibility of the analytical results. RPD is used to evaluate precision by the following formula:

$$RPD = \frac{(X_1 - X_2)}{[(X_1 + X_2)/2]} \times 100\%$$

where:

X_1 = Measured value of sample or matrix spike
X_2 = Measured value of duplicate or matrix spike duplicate

Precision will be determined through the use of MS/MSD (for organics) and matrix duplicates (for inorganics) analyses.

6.2 Accuracy

Accuracy is defined as the degree of difference between the measured or calculated value and the true value. The closer the numerical value of the measurement comes to the true value or actual concentration, the more accurate the measurement is. Analytical accuracy is expressed as the percent recovery of a compound or element that has been added to the environmental sample at known concentrations before analysis. Analytical accuracy may be assessed through the use of known and unknown QC samples and spiked samples. It is presented as percent recovery. Accuracy will be determined from matrix spike, matrix spike duplicate, and matrix spike blank samples, as well as from surrogate compounds added to organic fractions (i.e., volatiles, semivolatiles, PCB), and is calculated as follows:

$$Accuracy\ (\%R) = \frac{(X_s - X_u)}{K} \times 100\%$$

where:

X_s - Measured value of the spike sample
X_u - Measured value of the unspiked sample
K - Known amount of spike in the sample

6.3 Completeness

Completeness is calculated on a per matrix basis for the project and is calculated as follows:

$$Completeness\ (\%C) = \frac{(X_v - X_n)}{N} \times 100\%$$

where:

X_v - Number of valid measurements
X_n - Number of invalid measurements
N - Number of valid measurements expected to be obtained

7.0 CORRECTIVE ACTIONS

Laboratory corrective actions shall be implemented to resolve problems and restore proper functioning to the analytical system when errors, deficiencies, or out-of-control situations exist at the laboratory. Full documentation of the corrective action procedure needed to resolve the problem shall be filed in the project records, and the information summarized in the case narrative. A discussion of the corrective actions to be taken is presented in the following sections.

7.1 Incoming Samples

Problems noted during sample receipt shall be documented by the laboratory. The Golder Project Manager shall be contacted immediately for problem resolution. All corrective actions shall be documented thoroughly.

7.2 Sample Holding Times

If any sample extraction and/or analyses exceed method holding time requirements, the Golder Project Manager shall be notified immediately for problem resolution. All corrective actions shall be documented thoroughly.

7.3 Instrument Calibration

Sample analysis shall not be allowed until all initial calibrations meet the appropriate requirements. All laboratory instrumentation must be calibrated in accordance with method requirements. If any initial/continuing calibration standards exceed method QC limits, recalibration must be performed and, if necessary, reanalysis of all samples affected back to the previous acceptable calibration check.

7.4 Reporting Limits

The laboratory must meet the method required detection limits listed in NYSDEC ASP , 10/95 criteria. If difficulties arise in achieving these limits due to a particular sample matrix, the laboratory must notify Golder project personnel for problem resolution. In order to achieve those detection limits, the laboratory must utilize all appropriate cleanup procedures in an attempt to retain the project required detection limits. When any sample requires a secondary dilution due to high levels of target analytes, the laboratory must document all initial analyses and secondary dilution results. Secondary dilution will be permitted only to bring target analytes within the linear range of calibration. If samples are analyzed at a secondary dilution with no target analytes detected, the Golder Project Manager will be immediately notified so that appropriate corrective actions can be initiated.

7.5 Method QC

All QC method-specified QC samples, shall meet the method requirements referenced in the analytical methods. Failure of method-required QC will result in the review and possible qualification of all affected data. If the laboratory cannot find any errors, the affected sample(s) shall be reanalyzed and/or re-extracted/redigested, then reanalyzed within method-required holding times to verify the presence or absence of matrix effects. If matrix effect is confirmed, the corresponding data shall be flagged accordingly using the flagging symbols and criteria. If matrix effect is not confirmed, then the entire batch of samples may have to be reanalyzed and/or re-extracted/redigested, then reanalyzed at no cost. Golder shall be notified as soon as possible to discuss possible corrective actions should unusually difficult sample matrices be encountered.

7.6 Calculation Errors

All analytical results must be reviewed systematically for accuracy prior to submittal. If upon data review calculation and/or reporting errors exist, the laboratory will be required to reissue the analytical data report with the corrective actions appropriately documented in the case narrative.

8.0 DATA REDUCTION, VALIDATION, AND USABILITY

8.1 Data Reduction

Laboratory analytical data are first generated in raw form at the instrument. These data may be either in a graphic or printed tabular format. Specific data generation procedures and calculations are found in each of the referenced methods. Analytical results must be reported consistently. Identification of all analytes must be accomplished with an authentic standard of the analyte traceable to NIST or USEPA sources. Individuals experienced with a particular analysis and knowledgeable of requirements will perform data reduction.

8.2 Data Validation

Data validation is a systematic procedure of reviewing a body of data against a set of established criteria to provide a specified level of assurance of validity prior to its intended use. All analytical samples collected will receive a limited data review. The data validation will be limited to a review of holding times, completeness of all required deliverables, review of QC results (surrogates, spikes, duplicates) and a 10% check of all samples analyzed to ensure they were analyzed properly. The methods as well as the general guidelines presented in the following documents will be used during the data review USEPA *Contract Laboratory Program (CLP) Organic Data Review, SOP Nos. HW-6, Revision #11 and USEPA Evaluation of Metals Data for the Contract Laboratory Program* based on 3/90, SOW, Revision XI. These documents will be used with the following exceptions:

- Technical holding times will be in accordance with NYSDEC ASP, 10/95 edition.

- Organic calibration and QC criteria will be in accordance with NYSDEC ASP, 10/95 edition. Data will be qualified if it does not meet NYSDEC ASP, 10/95 criteria.

Where possible, discrepancies will be resolved by the project manager (i.e., no letters will be written to laboratories). A complete analytical data validation is not anticipated. However, if the initial limited data audit reveals significant deviations and problems with the analytical data, project personnel may recommend a complete variation of the data.

9.0 REFERENCES

Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Quality Assurance Manual, Final Copy , Revision I, October 1989.

National Enforcement Investigations Center of USEPA Office of Enforcement. *NEIC Policies and Procedures*. Washington: USEPA.

New York State Department of Environmental Conservation (NYSDEC). 1995. *Analytical Services Protocol*, (ASP) 10/95 Edition. Albany: NYSDEC.

APPENDIX D
HEALTH AND SAFETY PLAN

This Site-Specific Health and Safety Plan is a supplement to Golder's Health and Safety Orientation Manual and Injury and Illness Prevention Program.

Project Name: SNPE - Vandemark

Project #: **093-89168**

Location of Project: Lockport, NY

Date: **02-03-2011**

Golder Subcontractor on Project? ☐ **Yes** ☒ **No**

Project Start Date: **Spring 2011**

Expected Project Duration: **10 Days**

Health & Safety Coordinator	**Aaron Lange**		
	Name	***Signature***	***Date***
Project Manager:	**Pat Martin**		
	Name	***Signature***	***Date***
Project Director:	**Brian Senefelder**		
	Name	***Signature***	***Date***

This signature indicates that the above project manager and project director are aware of the potential hazards at this site, has reviewed this Plan, and will communicate these hazards and appropriate controls to Golder staff prior to their deployment on site.

There are three major categories of emergencies that could occur during any project:

- Illness and/or physical injury;
- Catastrophic event (fire, explosion, earthquake, chemical, or radioactive); and
- Safety equipment failure.

Although a catastrophic event, severe medical emergency, or safety equipment failure are unlikely to occur during work activity at the Site, an emergency action plan is outlined below.

EMERGENCY ACTION PLAN

Emergency Contact & Services

Title	*Name*	*Contact #'s*
Site Safety Officer	Aaron Lange	716-316-8146
First Aid/CPR	Aaron Lange	716-316-8146
Project Manager	Pat Martin	716-867-2860
Office H&S Coordinator	Aaron Lange	716-316-8146
Client Contact	Pam Cook	716-433-6764 ext. 150

Title	*Name*	*Contact #'s*
Hospital	Lockport Memorial Hospital	716-514-5700
Fire Dept.	911	911
Ambulance	911	911
Golder National H&S Leader	Jane Mills	206-295-7002 cell
Injury Intervention Support	WorkCare	888-449-7787

Catastrophic Event or other Emergencies Requiring Evacuation:

In the event of a catastrophic event such as fire or explosion, if the situation can be readily controlled with available resources without jeopardizing your health and safety or the health and safety of others, take immediate action to do so, otherwise follow these steps:

1. Notify Emergency Personnel by calling: 911
2. Isolate the fire to prevent spread.
3. Evacuate the area.
4. Assemble at the Muster Station.
5. Perform head count to ensure complete evacuation.
6. Inform Emergency Personnel of any missing team members.
7. In the event of an international security emergency, contact Medex at 800-527-0218 (US and Canada) or 410-453-6330 (collect outside of the US).

First Aid Resources

Method of communication	Cell Phone
Channel or phone number	911
Location of First Aid at the project site	Vehicle
Location of nearest telephone if outside assistance is required	Cell Phone

Medical Emergencies

Medical emergencies can be described as situations that present a significant threat to the health of individual personnel. These can result from a variety of hazardous incidents including chemical and radioactive exposures, heat stress, cold stress, poisonous insect or snakebites, and accidents involving vehicles or heavy equipment. In the event of a medical emergency, implement the following guidelines:

1. Assure that the environment is safe;
2. Administer appropriate emergency first aid to all injured individuals, only if it is safe to do so, and only by a qualified individual trained in first aid;
3. Notify emergency personnel and follow their instructions;
4. If emergency personnel cannot be contacted, severely injured personnel shall be transported to the designated hospital/ trauma center identified on the following page.
5. Contact WorkCare at the earliest possible time to report the work-related injury. **888-449-7787**
6. If the project location is outside of the United States and medical assistance is necessary, contact the HTH Assistance Center at 1-888-243-2358 or collect 1-610-254-8769.

NEAREST HOSPITAL INFORMATION AND DIRECTIONS

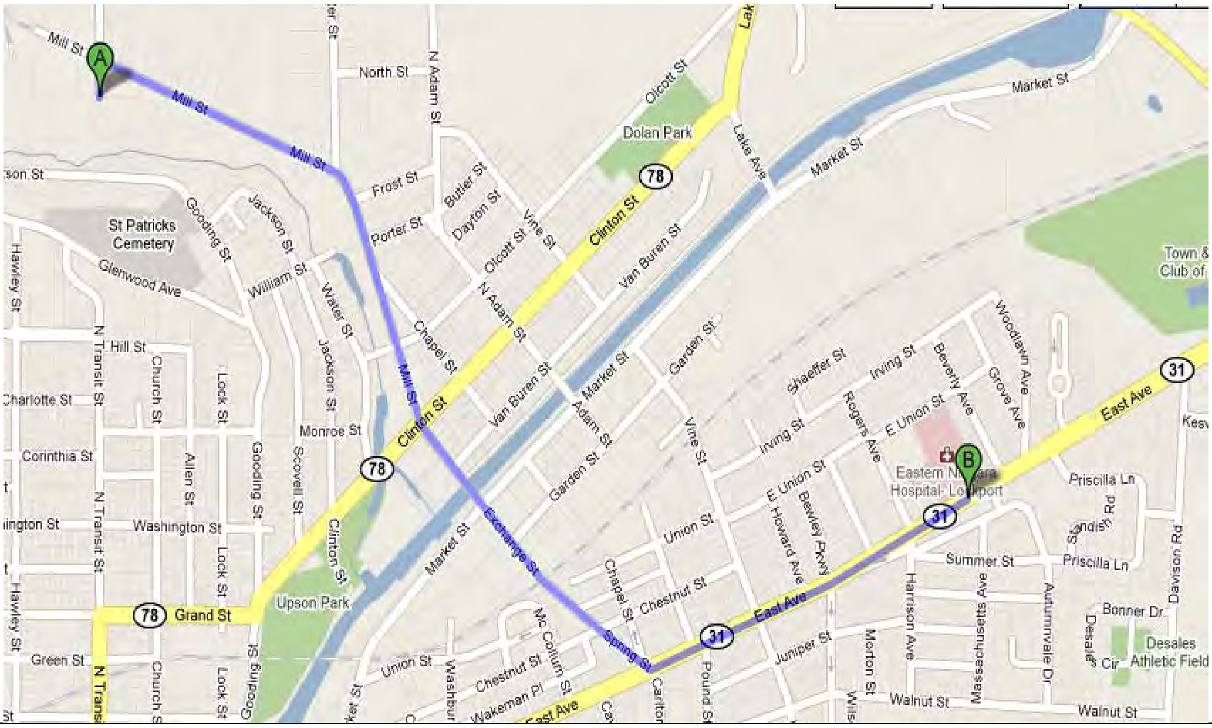
Name: **Lockport Memorial Hospital**

Phone Number: 716-514-5700

Address: 521 East Avenue, Lockport, NY 14094

Emergency Room: **Yes** ☒ **or No** ☐

Map to Hospital



Directions from Site

A

1 Transit Rd
Lockport, NY 14094

1. Head **right** onto **Mill St**

3. Continue onto **Exchange St**	0.1 mi
4. Continue onto **Spring St**	0.2 mi
5. Turn **left** at **East Ave** Destination will be on the left	0.5 mi

B

Lockport Memorial Hospital: General Information
521 East Avenue
Lockport, NY 14094-3299

Distance from Site: 1.8 miles **Approx. travel time from Site:** 6 minutes

PRE – DEPARTURE

IMPORTANT THINGS TO CHECK & REMEMBER

1. Ensure that the Project Manager, Health and Safety Coordinator, and Project Director have approved this HASP.
2. Ensure that your Project Manager, Site Safety Officer or Health and Safety Coordinator has discussed the contents of the HASP in detail, gone through the Hazard Assessment with you and explained the hazards associated with the work that you will be performing.
3. Ensure that you have all the required PPE and are trained in the areas which are indicated in this HASP.
4. Familiarize yourself with the Emergency Action Plan for the site prior to site arrival.
5. Check the weather in the immediate area of the project site to ensure that the current weather conditions do not create additional hazards that have not been evaluated.
6. Inquire about cell phone coverage (satellite communications may be the ONLY option in some locations) and physically test all of your means of communication to ensure that they function, and you are familiar with the controls.
7. If you are going to a site where activities are in progress, do not begin work until you have been given an orientation from the Site Safety Officer and have reviewed any existing Site Health & Safety Manual.
8. Review subcontractor's site-specific HASP, as applicable.
9. **You have the right to refuse any work that you feel is unsafe, or that you are not trained to do. Please discuss your concerns immediately with the Project Manager, Site Safety Officer and Health and Safety Coordinator.**

FIELDWORK HEALTH & SAFETY PLAN

Project Personnel

Team Member	Function	Cell Ph. #	Other Ph. #	Allergies	Emergency Contact		Init.*
					Name	Phone #	
Aaron Lange	QA/QC Engineer	716-316-8146	716-204-5880	None	Keith Lange	716-799-4948	AML

***All Golder Project Personnel must initial in this column beside their name to indicate that they have read & understood the project Health & Safety Plan**

Special Instructions

1.	
2.	
3.	
4.	
5.	

Project-Specific Check-in Procedure

If you are in the field alone, or if you are the only Golder person on-site, you <u>must</u> check in with the PM or a designee a minimum of twice each day, preferably once in the mid-morning and once in the mid -afternoon. Document check-in times below and add any relevant notes.

☐ A.M. Time: Notes: PM to start the contacting/search process if the field person did not check in after an agreed amount of time.

☐ P.M. Time: Notes: Field personnel need to maintain a record of their calls to their PM in their field notebook.

If check-in does not occur at the pre-scheduled time, the PM will follow these steps:

1. Call field personnel cell phone or satellite phone to make contact.
2. Call cell phone or satellite phone of other colleagues on the project site.
3. Call client contact if present on site.
4. Call field personnel hotel or home telephone number.
5. Call emergency search services.

PROJECT-SPECIFIC HAZARD ASSESSMENT

Date:	12-15-2010
Assessment Conducted By:	Aaron Lange
Project Location:	1 North Transit Road, Lockport, NY
Description of Site:	1. Type of site (industrial facility) 2. Historic chemicals of concern: Coal Tar, Fuel Oil
Work to be Accomplished	1. Golder Tasks: Monitor and record excavation/remediation activities. 2. Activities to be conducted by contractors: Excavation of contaminated soil/fill and backfilling excavation area. 3. Project schedule: Normal business hours only

For each general category of hazard identified below, all project-specific hazards/conditions must be defined, and the control measures for each hazard must be identified.

Hazard	Identification of Project-Specific Conditions		Necessary Controls	Standard Work Procedure Attached (see appendix)
Travel to site				
Aircraft	☐			
Helicopter	☐			
Boat	☐			☐Working on or over water
Public or Private Roads/Driving	☒			☒Motor Vehicles and Driving on Company Business
All Terrain Vehicles	☐			☐All Terrain Vehicle Safety

Hazard	Identification of Project-Specific Conditions		Necessary Controls	Standard Work Procedure Attached (see appendix)
Snowmobiles	☐			☐Snowmobile Safety
Other	☐			
Site Terrain/Conditions				
Shafts/Trenches/Slopes	☒	Personnel should be conscience of excavation area. Pit could be as deep as around 7 feet.		☐Trenching and Shoring
Overhead Hazards	☐			☐Overhead Hazards
High Altitude Location	☐			
Water Hazards	☐			☐Working on or over water
Underground Utilities	☐			☐Underground Utilities
Confined Space(s)	☐	An additional Plan is required for this hazard- See Appendix		☐Work in Confined Spaces
Slips, Trips, Fall Hazards	☒		Site personnel will wear sturdy footwear (leather boots) that provides ankle support and steel toe protection. Site personnel will be focused while walking on site and avoid distractions while walking.	☒Slips, Trips and Falls
Other	☐			
Work at Heights				
Ladders/ Scaffolds	☐			
Work Platforms	☐			
Shafts	☐			
Fall Protection (4' height for general industry, 6' height for construction)	☐	An additional Plan is required for this hazard- See Appendix		☐Fall Protection
General Work Environment				
Heat Stress	☐			☐Heat Stress
Cold Stress	☒	Wear appropriate field clothing.		☒Cold Stress
Lightening/Tornado/ Hurricane/Severe Weather	☐			☐Inclement Weather
Remote Site	☐			☐Remote Isolated Surveys
Noise Levels	☐			☐Hearing Protection
Insects (e.g., ticks)/Plants	☐	Have bug spray if needed. Watch out for poisonous plants.		☐ Biological Exposure Risks
Wild Animal Habitat	☐			☐Biological Exposure Risks
Housekeeping	☐			☐Housekeeping
Poor Lighting	☐			
Extended work hours	☐			☐Fatigue Management

Hazard	Identification of Project-Specific Conditions		Necessary Controls	Standard Work Procedure Attached (see appendix)
Working Alone	☐			
Proximity to Traffic	☐		A written traffic control plan may be required. It must be reviewed with all project staff.	☐ Traffic Safety
Other	☐			
Mechanical and Electrical Process				
Unstable Structures	☐			
Moving Parts/Heavy Equipment	☒	Excavator		☒Working Around Heavy Equipment
Drilling / Pile Driving	☐			☐Drilling
Excavation	☒	Excavation area could be around 7 feet deep	Excavation area will NOT be entered	☐Trenching and Shoring
Working on energized sources	☐			☐Lockout/Tagout
Welding, cutting, brazing	☐			☐Welding/Cutting/Hot Work Safety
Portable generators	☐			☐
Other	☐			☐
Chemical/Biological Radiological				
Dust	☐			☐Respiratory Protection
Chemical contaminants including carcinogens	☐			☐ Chemical Exposure Risks. **Complete chemical database and attach to this HASP.** ☐Respiratory Protection
Radioactive Particles	☐			
Oxygen deficient	☐			
Asbestos	☐			☐Respiratory Protection ☐Asbestos Awareness Program
Explosive atmosphere	☐			
Mold	☐			
Other contaminants	☐			
Fire	☐			☐ Fire Prevention
Chemical Storage	☐			
Compressed Gas	☐			☐ Compressed Gas Cylinders
Explosives (storage)	☐		Air monitoring must be conducted.	
Explosives (transport)	☐			

Hazard	Identification of Project-Specific Conditions		Necessary Controls	Standard Work Procedure Attached (see appendix)
Nuclear Densometer	☐	An additional Plan is required for this hazard- See Appendix		
Other	☐			
Other Site Issues				
Landfill CQA	☐			☐Landfill CQA
Landfill Gas	☐			☐Landfill Gas Sampling
Hand and Power Tools	☐			☐Hand and Portable Power Tools
GOLDER Hired Subcontractors	☐	Subcontractor HASP must be attached to the Golder HASP.		
Possible exposure to violence from general public	☐			
Cellular Phone Usage	☐			☐Cellular Telephone Use
Projectiles / Sharps	☐			☐Blood borne Pathogens
Soil Sampling	☒			☒Soil Sampling
Groundwater Sampling	☐			☐Groundwater Sampling
Surface Water Sampling	☐			☐Working on or over water
Other	☐			
	☐			
	☐			

MATERIAL SAFETY DATA SHEETS

Under the Hazard Communication regulations, OSHA requires that Material Safety Data Sheets (MSDS) be available to employees for potentially harmful substances handled in the workplace. An MSDS documents information about the properties of a particular substance, such as physical data (e.g., melting point, boiling point, solubility, etc.), toxicity, health effects, first aid, and handling procedures. The purpose of the MSDS is to provide employees with procedures for working with a substance in a safe manner.

If potentially harmful substances will be handled during this project, the appropriate MSDS must be attached to this HASP.

Substance	Attached?	Substance Use
Alconox/Liquinox	☐	Phosphate soap used for decontamination purposes
Carbon Dioxide	☐	Compressed gas used for air supply to pneumatic/bladder pumps
Deionized (DI) Water	☐	Used for decontamination, collection of field and equipment blank samples
Gasoline	☐	Fuel for field vehicles and generators
Hexane	☐	May be used for decontamination of equipment
AutoCal Solution	☐	Used to calibrate multi-parameter Horiba instruments
Hydrochloric Acid	☐	Preservative for sample bottles for volatile organic compound analysis

Isobutylene	☐	Calibration gas for photoionization detector
Isopropanol	☐	May be used for decontamination of equipment
Methane	☐	Calibration gas for flame ionization detector, multigas meters
Methanol	☐	Preservative for soil sample bottles
Nitric Acid	☐	Preservative for sample bottles for metals analyses
Nitrogen	☐	Compressed gas used for air supply to pneumatic/bladder pumps
Sharpies	☐	Used for labeling
Sodium Hydroxide	☐	Preservative for sample bottles for sulfide and cyanide analyses
Sodium Thiosulfate	☐	Preservative for sample bottles for coliform and related analyses
Sulfuric Acid	☐	Preservative for sample bottles for various inorganic analyses
Zinc Acetate	☐	Preservative for sample bottles for sulfide analysis
Other	☐	

PERSONAL SAFETY EQUIPMENT & TRAINING REQUIREMENT SUMMARY

Personal Protective Equipment (PPE) & Additional Equipment Required

PPE/ Equipment	Required?	Notes:
Hard Hat	☒	
Eye Protection	☒	
Steel Toe Boots	☒	
Hearing Protection	☐	
Hi-Vis Vest	☒	
Face Protection	☐	
TYVEK Suit	☐	
Gloves	☒	
Fall Protection	☐	
Life Preserver (PFD)	☐	
Cold Weather Gear	☐	
Self Rescuer	☐	
Dosimeter(Badge)	☐	
Headlamp	☐	
Boots (other)	☐	
Bear Spray	☐	
Air Monitoring Equipment	☐	
Fire Extinguisher	☒	Vehicle Kits
First Aid Supplies	☒	Vehicle Kits
Whistle/ Air horn	☐	
Washing Facilities	☐	
Drinking Water	☐	

Training Requirements

Training Program	Required?	Staff Requiring Training
Golder Health & Safety Orientation	X	All Golder Field Staff
OSHA 10-hr Construction Safety	X	All Golder Field Staff
First Aid/CPR	X	All Golder Field Staff
OSHA HAZWOPER (40 Hr)	☐	
MSHA Part 48 - Surface	☐	
MSHA Part 48 - Underground	☐	
MSHA Part 46 - Surface	☐	
Confined Space Entry	☐	
Fall Protection	☐	
Respirator Fit Testing	☐	
Transporting Hazardous Materials and Dangerous Goods	☐	
Client-specific Emergency Procedures	☐	
Boat Safety	☐	
Helicopter Safety	☐	
Fall Protection	☐	
Nuclear Gauge	☐	
Client Specific	☒	All personnel need a Phosgene badge, escape respirator, and goggles. These will be provided to you by VanDeMark upon check in at the front gate
	☐	
	☐	

Additional Communication	☐	
Wheel Chocks	☐	
Sunblock	☐	
Other	☐	

ACTION LEVELS FOR CONTAMINANT MONITORING

Not Applicable for This Project: ☒

Site workers must notify the site health and safety coordinator immediately in the event of any injury, or if signs or symptoms of overexposure to hazardous substances are exhibited. Specific hazardous substances expected at the site and action levels are identified and listed below.

	Parameter	Monitoring Instrument	Monitoring Frequency	Action Level/Criteria	Specific Action
☐	Oxygen	Oxygen meter or tri/quad gas meter with oxygen sensor	Continuously[1]	>25%	Fire hazard potential. Discontinue investigation. Consult the H&S Officer.
				19.5%-25%	Continue investigation with caution. Deviation from normal level (21-22%) may be due to presence of other substances.
				<19.5%	Cease work and evacuate area. Contact PM and office HSC for further options. Upgrade PPE to Level B if investigation is authorized to continue. **NOTE: Combustible gas readings are not valid in atmospheres with <19.5% oxygen**
☐	Combustible Gas or Vapor	Combustible gas meter – % LEL	Continuously	<10% LEL	Continue investigation.
				10%-25% LEL	Continue on-site monitoring with extreme caution as higher levels are encountered.
				>25% LEL	Explosion hazard. Withdraw from area immediately.
☐	Volatile Organic compounds	PID/FID	Continuously	If the PID/FID reading is 5ppm (in breathing zone)[2]	Cease work and upgrade to Level C if authorized by the HASP and appropriate for the contaminant. Proceed with work cautiously and continue air monitoring. Contact PM and Office HSC for further options as necessary and for all conditions requiring Level B.
☐	Particulate	Real-time Dust Meter	Continuously	If the Dust Meter is ______ (in breathing zone)[3]	

[1] This means at least four times an hour or whenever conditions change.

[2] The action level should be established on each site based on the contaminants present and should be set at one-half of the lowest published standard. Be careful that the PID will measure the contaminant and compensate for how well the contaminant is measured (see manufacturer data). Specific action is required if four consecutive readings reach the action level. Breathing zone is defined as the hemisphere forward of the shoulders with a radius of six to nine inches.

[3] These thresholds can be established by extrapolation from soil concentrations and should be the lesser of 5 mg/m^3 as respirable dust or the extrapolated threshold. Specific action is required if four consecutive readings reach the action level.

☐ **Chemical Exposure Information attached as Appendix**

FIELD SAFETY PROCEDURES CHANGE AUTHORIZATION

This Safety Procedures Change Authorization Form will be completed and signed before any safety procedures identified in this Site Safety Plan can be modified by the Field Team. All revisions to safety procedures must be approved by the Project Manager.

Change

Number:

Date:

Duration of Task to be changed:

Description of Procedures modification:

Justification:

Person Requesting Change:	***Verbal Authorization Received From:***
Name:	Name:
Title:	Title:
Signature	Approved by: (Signature of person named above to be obtained within 48 hours of verbal authorization)

INCIDENT REPORT FORM

This report is to be completed by someone familiar with the incident. It should be completed and returned to the Health and Safety Officer whenever an incident occurs. If in doubt, fill it out.

Incident: any expected or unexpected happening that interrupts the work sequence or process and that may result in injury, illness, or property damage to the extent that it causes loss.

Project Title/Number: ______________________________

Completed by: ______________________________

Date of Incident: ________________ Date of Report: ________________

PERSONNEL INVOLVED
List of all personnel involved in the incident:

TYPE OF INCIDENT
Describe the incident:

INJURIES
List injured personnel and the injuries:

PREVAILING CONDITIONS
Describe the prevailing weather, surface, equipment conditions which may have had a factor in the incident:

PERSONNEL PROTECTIVE EQUIPMENT
List PPE used prior to and during the incident:

SITE MONITORING

Describe any real time monitoring that took place prior to, during and/or after the incident:

ACTIONS

List personnel and outside agencies that responded:

NOTIFICATIONS

Were the following notified? Police ☐ Fire ☐ EMS ☐ OSHA ☐ Other ☐

RECOMMENDATIONS

List recommendations to avoid/correct the incident:

COMMENTS

REVIEWED BY:

_________________________ Site Health and Safety Coordinator

_________________________ Project Manager

_________________________ Project Director

ON SITE SAFETY BRIEFING TRACKING FORM

Meeting Type- Site Orientation or Tailgate Talk	Meeting Attendee	Initials*	Date	Topics Discussed / Concerns Brought Forward

***Please ensure that all workers (including other contractors) attending the safety meeting, initial the column beside their name**

1.0 SCOPE

This Standard Work Procedure (SWP) applies to all Golder Associates Inc. and Golder Construction Services (Golder) Company Drivers who operate Company Vehicles or who operate their personal vehicles on Company-Related Business.

2.0 MOTOR VEHICLES AND DRIVING ON COMPANY-RELATED BUSINESS

Unlike other workplaces, the roadway is not a closed environment. Preventing work-related roadway crashes requires strategies that combine traffic safety principles and sound safety management practices. Although employers cannot control roadway conditions, they can provide safety information to workers and set and enforce driver safety policies to promote safe driving behavior. Vehicle crashes are not an unavoidable part of doing business.

All employees must comply with the Golder Motor Vehicle Policy effective October 16, 2009. The terms in this SWP are defined in that Policy.

3.0 GENERAL GUIDELINES

- Only employees who are authorized to drive a company owned motor vehicle or while on company business (company owned, private, or hired) may operate the vehicle.
- Enforce mandatory seat belt use. Seat belts shall be worn by all drivers and passengers in vehicles on company business while the vehicle is in motion.
    - No persons should ride in or on a vehicle unless it is designed to seat a passenger.
- Must carry appropriate insurance if using private vehicles for work purposes.
- Consider the risks driving while fatigued presents on all projects. Do not require workers to drive irregular hours or far beyond their normal working hours.
- Develop work schedules that allow employees to obey speed limits and to follow applicable hours-of-service regulations.
- Do not tailgate or drive in an aggressive manner. Maintain a minimum of 2 seconds behind other vehicles and in the event of inclement weather increase the distance between vehicles to a minimum of 4 seconds or as road and weather conditions warrant.
- Observe all the rules and regulations pertaining to the use of public land. Always ask permission before crossing pastoral land. Leave gates as you find them. Keep to constructed vehicle tracks. Avoid areas that are easily damaged, such as swamps, alpine snow plains and vegetated sand dunes.
- Do not operate any vehicle while under the influence of alcohol, illegal drugs, or certain medications (prescription or over the counter) that might impair your ability to safely operate the vehicle.

- Observe all fire restrictions.
- For portable electronic devices see the Motor Vehicle Policy (dated October 16, 2009) and the SWP 23 “Cellular Telephone Use” for additional information.
    - The employee operating a vehicle while conducting company related business shall not talk (including hand free units), text, email, surf the internet, etc. If the employee needs to perform any of these tasks then they shall park the vehicle in a designated parking spot. Do not park off the side of a road.
    - Employees are strongly discouraged from performing other activities that result in taking away meaningful attention to operating a vehicle safely (e.g. playing with the radio, eating, reading, applying makeup, shaving, etc.)
- Employees are to report any traffic violations and/or vehicle accidents or damage that occurred on company related business to the Project Manager or the Human Resource Representative.

4.0 VEHICLE MAINTENANCE AND FLEET MANAGEMENT

- Adopt and enforce a structured vehicle maintenance program for Golder-owned vehicles.
- Maintain Vehicle Condition Check-out/Check-in list for Golder-owned vehicles.
- Test the brakes, wipers, tires, lights, and turn signals, fluids (oil, break, and washer) and verify that the vehicle has an inflated spare tire and jack prior to use (in company, private, or rented vehicles). Address any notes or oral warnings concerning vehicle deficiencies, which must be remedied at the earliest possible opportunity. If any safety concerns are identified, the vehicle must not be used.
- Report vehicle deficiencies to the Office Manager as soon as they are noticed. The Office Manager, or their delegate, will arrange for maintenance of the vehicle.
- Equip Golder-owned, rented, or private vehicles used for on-site work with fire extinguishers and first aid kits, if required.
- Ensure rented or client-provided vehicles are in a roadworthy condition.

5.0 SAFETY PROGRAMS

- Teach workers strategies for recognizing and managing driver fatigue and in-vehicle distractions.
- Provide appropriate training to workers operating specialized motor vehicles or equipment.
- Emphasize the need to follow safe driving practices on and off the job.
- Consider fire safety when parking vehicles in areas with dried grasses, leaves, or other plant material. Hot engine fluids, catalytic converters or other vehicle equipment could ignite dry plant material, and cause a fire.

6.0 DRIVER PERFORMANCE

- Make sure each driver of a vehicle being used on company business (company owned, private, or hired) possesses a valid driver's license that is appropriate for the type of vehicle to be driven.
- Check driving records of prospective employees, and perform periodic rechecks after hiring.
- Maintain complete and accurate records of workers' driving performance.

7.0 SECURING LOADS

Unsecured and poorly secured items inside or outside of a vehicle can be extremely dangerous if they are loose or become airborne. They can harm the vehicle driver and passenger, and/or occupants in vehicles behind you. The following recommendations should be followed:

- Use tie-down straps that are in good condition and rated for the load you will carry. Ratcheting tie downs are better than bungee cords or tie downs that just pull tight.
- Loads shall not exceed the manufactures specifications and legal limits for the vehicle.
- Install mounts to secure loads that you haul frequently in the same vehicle or trailer.
- Secure tarps covering loads so they are snug and do not flap.
- Check your load after you have driven a short distance to make sure it has not shifted.
- Do not pile items higher than the side walls of the truck bed or trailer.

8.0 VEHICLE SAFETY EQUIPMENT

You may not know when a highway emergency will happen, but you can be prepared by ensuring that your vehicle is equipped to deal with roadside emergencies. Consider carrying items such as the following, and know how to use them properly:

- Flashlight
- Reflective safety vest
- Light sticks
- Fire extinguisher
- Tire inflator or sealant
- Reflective triangles or flares
- Blanket
- Tow rope or cable with a hook (in case the vehicle is disabled)

9.0 DRIVING TECHNIQUES FOR 4-WHEEL DRIVING

9.1 Driving In Heavy Vegetation

- Get out and check road conditions before proceeding if you are unsure of the ground ahead, especially if there is mud or water.
- Position your hands on the steering wheel so that your thumbs are on the outside the steering wheel.
- Do not change transmission gears in the middle of a hazardous area, if in doubt always choose the lower gear.
- Tire pressures play an important part in off-road driving. Lowering tire pressures helps in getting through. 140-180 kPa (20-26 psi) is a good tire pressure for soft tracks. If you choose to use a lower tire pressure, the vehicle must be operated at a lower speed. Remember to re-inflate your tires as soon as you're back on hard ground.
- Cross small ridges 'square on' and cross ditches at a slight angle.
- Turn the steering wheel from side to side to maintain traction and move forward if you begin to lose traction going uphill, along a rutted track, or in mud.

9.2 Driving On Steep Hills

- Use low second or third gear for going uphill and low first gear for going downhill.
- Use the footbrake sparingly and with caution.
- Avoid turning the vehicle sideways on a hill. If the vehicle begins to slide sideways, very slightly accelerating and steering into the slide will normally straighten your descent.
- Allow any vehicle in front of your vehicle plenty of room.
- Do not touch the clutch or accelerator if you stall going uphill.

9.3 Sand Driving

- Speed and flotation are the keys to success. High transmission gear ratio is best, if possible.
- Lower the tire pressure to 20 psi. If you choose to use a lower tire pressure, the vehicle must be operated at a lower speed. Remember to re-inflate your tires as soon as you are back on hard ground.
- Drive in existing wheel tracks if they are present.
- Avoid sudden changes in direction or acceleration. Coast to a stop if possible.
- Approach dunes head on.

- Avoid braking when descending a dune. Point the front of the vehicle downhill. Do not go fast, but also do not go so slow that the wheels stop rolling, or the vehicle begins to slide sideways. A touch on the throttle will keep the wheels moving and the vehicle pointing in the right direction.
- Try to rock the vehicle backwards or forwards, building up a small stretch of hardpack sand that you can accelerate from if the vehicle gets stuck. Do not spin the wheels!
- Be sure that recovery gear is always in the vehicle in these driving conditions.
- Wash the vehicle after use.

9.4 Snow, Rain, and Ice Driving

- Carry chains and install them on the tires when required.
- Prepare your vehicle and carry safety gear.
- Travel only on roads and tracks that are open to traffic.
- Drive with low beam lights on. Do not travel when visibility is poor.
- Vehicles travelling uphill in snow and ice conditions have right of way.
- Park only where directed and as close to the bank as possible. When parking, leave the vehicle in gear. Do not use the handbrake - it could freeze in the “on” position.
- Lift the wiper blades off the wind shield when leaving the vehicle parked.
- Watch for other travelers and animals and drive slowly in areas where they may be present. In the event that an animal is encountered on a road where driving conditions are poor due to the presence of snow, ice, or rain, do not over steer to avoid hitting the animal. The act of over steering may cause the vehicle to slide or roll. Most of the time the animal will move out of the road before the vehicle reaches it.
- Consider increasing the load or weight on the rear axle of front-wheel drive vehicles to improve traction when driving in snow, ice, or rain.

9.5 Driving in Mud

- Good tires with deep tread are helpful when driving in muddy conditions.
- Low second or third are probably the best gears for vehicle operation.
- Move the steering wheel rapidly from side to side to improve traction.
- Keep a steady pace.
- Stay out of ruts if possible.
- Rock the vehicle backwards or forwards by alternating between first and reverse if you do become stuck.

9.6 Driving in Fog/Limited Visibility

- Drive with low beam lights on. Do not travel when visibility is poor.
- Drive slowly and carefully.
- Pull over to a safe location if you cannot see vehicles in front or behind you until weather improves.

10.0 REGULATORY CITATION

There are no Federal OSHA regulations relating to driving safety. The Department of Transportation (DOT) Title 49 (Transportation) Subtitle VI (Motor Vehicle and Driver Programs) provides information about commercial motor vehicle operations.

1.0 SLIPS, TRIPS AND FALLS

Over half of all office injuries are the result of falls. The majority of falls occur on slippery, uneven, defective, cluttered or obstructed walking surfaces. A significant number of debilitating falls are the result of a person falling out of his or her own chair, typically while in the process of sitting down, or leaning back. Falls from elevations while reaching for an overhead object are also common, and frequently cause severe injuries.

2.0 PRECAUTIONS WHEN IN THE OFFICE - HOUSEKEEPING

- Watch your step! Wipe up spilled liquids immediately. Tripping hazards such as defective floors, missing floor tiles, loose or matted carpeting, bunched-up floor mats, extension cords, phone cords, etc., should be corrected or reported and repaired immediately. Don't carry loads that are so large or bulky that the line of vision is impaired.
- Be careful when sitting down. Sitting on the edge of a seat, sitting too far back, or kicking the chair out from under one's self can result in a fall and fractured vertebrae. Occasionally check the mechanical condition of chairs commonly used.
- Be especially careful going up and down stairs. Avoid using stairs if both arms are loaded. Watch your step and if possible always have one hand free to use a railing. Maintain 3 points of contact when ascending/descending.

3.0 PRECAUTIONS WHEN OUT IN THE FIELD

In the field, falls are the second leading cause of work-related deaths.

4.0 TYPES OF FALLS

Falls are of two basic types: elevated falls and same-level falls. Same-level falls are most frequent, but elevated falls are more severe.

- Same-Level Falls: high frequency--low severity
- Elevated Falls: lower frequency--high severity

Same-level falls are generally slips or trips. Injury results when the individual hits a walking or working surface or strikes some other object during the fall. Over 60 percent of elevated falls are from less than 10 feet.

5.0 SAME-LEVEL FALLS

Examples of same-level falls are described below.

6.0 SLIP AND FALL

Slips are primarily caused by a slippery surface and compounded by wearing the wrong footwear. In normal walking, two types of slips occur. The first of these occurs as the heel of the forward foot contacts the walking surface. Then, the front foot slips forward, and the person falls backward.

The second type of fall occurs when the rear foot slips backward. The force to move forward is on the sole of the rear foot. As the rear heal is lifted and the force moves forward to the front of the sole, the foot slips back and the person falls.

The force that allows you to walk without slipping is commonly referred to as "traction." Common experience shows that dry concrete sidewalks have good traction, while icy surfaces or freshly waxed floors can have low traction. Technically, traction is measured as the "coefficient of friction." A higher coefficient of friction means more friction, and therefore more traction. The coefficient of friction depends on two things: the quality of both the walking surface and the soles of your shoes.

To prevent slips and falls, a high coefficient of friction (COF) between the shoe and walking surface is needed. On icy, wet, and oily surfaces, the COF can be as low as 0.10 with shoes that are not slip resistant. A COF of 0.40 to 0.50 or more is needed for excellent traction. To put these figures in perspective, a brushed concrete surface and a rubber heel will often show a COF greater than 1.0. Leather soles on a wet smooth surface, such as ceramic tile or ice, may have a COF as low as 0.10.

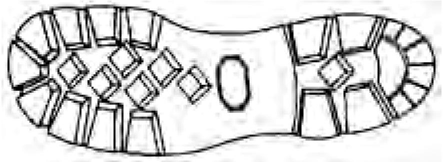


Figure 1. Shoes with soft rubber soles and heels with rubber cleats provide a high coefficient of friction (COF).

Providing dry walking and working surfaces and slip-resistant footwear are the answer to slips and their resultant falls and injuries. Obviously, high heels, with minimal heel-to-surface contact, taps on heels, and shoes with leather or other hard, smooth-surfaced soles lead to slips, falls, and injuries. Shoes with rubber-cleated, soft soles and heels provide a high COF and are recommended for most agricultural work.

In work areas where the walking and working surface is likely to be slippery, non-skid strips or floor coatings should be used. Since a COF of 0.40 to 0.50 is preferred for walking and working surfaces, we should strive for a surface which provides a minimum of 50 percent of this friction. If the working surface is very slippery, no footwear will provide a safe COF.

Trip and Fall Trips occur when the front foot strikes an object and is suddenly stopped. The upper body is then thrown forward, and a fall occurs.

As little as a 3/8" rise in a walkway can cause a person to "stub" his toe resulting in a trip and fall. The same thing can happen going up a flight of stairs: Only a slight difference in the height of subsequent steps and a person can trip and fall.

7.0 CONTRIBUTING FACTORS

Proper housekeeping in work and walking areas can contribute to safety and the prevention of falls. Not only is it important to maintain a safe working environment and walking surface, these areas must also be kept free of obstacles which can cause slips and trips. One method which promotes good housekeeping in work environments is the painting of yellow lines to identify working and walking areas. These areas should never be obstructed by objects of any kind.

Adequate lighting to ensure proper vision is also important in the prevention of slips and falls. Moving from light to dark areas, or vice versa, can cause temporary vision problems that might be just enough to cause a person to slip on an oil spill or trip over a misplaced object.

Carrying an oversized object can also obstruct one's vision and result in a slip or a trip. This is a particularly serious problem on stairs.

8.0 BEHAVIORS THAT LEAD TO FALLS

In addition to wearing the wrong footwear, there are specific behaviors which can lead to slips, trips, and falls. Walking too fast or running can cause major problems. In normal walking, the most force is exerted when the heel strikes the ground, but in fast walking or running, one lands harder on the heel of the front foot and pushes harder off the sole of the rear foot; thus, a greater COF is required to prevent slips and falls. Rapid changes in direction create a similar problem.

Other problems that can lead to slips, trips and falls are: distractions; not watching where one is going; carrying materials which obstruct view; wearing sunglasses in low-light areas; and failure to use handrails. These and other behaviors, caused by lack of knowledge, impatience, or bad habits developed from past experiences, can lead to falls, injuries, or even death.

1.0 SCOPE

This SWP applies to all Golder Associates Inc. and Golder Construction Services (Golder) staff that work in the field in locations where there is potential for cold stress conditions to develop.

2.0 COLD ENVIRONMENT – COLD STRESS

In a cold environment, body heat must be conserved to maintain the core temperature at normal levels and to ensure an adequate blood flow to the brain and extremities. Feelings of cold and discomfort should not be ignored, since these may be early warning signals. The effects of cold are such that problems can occur before the worker is aware of them, and furthermore, over-exposure to cold may affect judgment.

3.0 MAIN FACTORS INVOLVED IN CAUSING COLD STRESS

- Temperature
- Humidity
- Movement of air
- Radiant temperature of the surroundings
- Clothing/physical activity

4.0 COLD STRESS RELATED PROBLEMS

- Frostbite is a condition in which the skin and underlying tissues freeze. Usually affects fingers, hands, toes, feet, ears and nose.
- Hypothermia is a condition in which a person's body temperature falls below 95^0 F or 35 degrees Centigrade. Hypothermia occurs when more heat is lost from the body than the body can produce. It usually happens when a person is exposed to extremely cold temperatures but it can occur even at moderate temperatures. It does not have to be freezing outside for a person to become hypothermic. For example, falling into cold water or wearing wet clothing in cold weather can bring on hypothermia. Failing to wear a hat in cold weather can also lead to hypothermia, since a large amount of body heat escapes from the head. Extreme fatigue, hunger or lack of fluids can also lead to hypothermia. As well, excessive wind can increase the amount of heat lost and cause hypothermia.

5.0 FROSTBITE MANAGEMENT

- Move person to a warm dry area. Don’t leave the person alone.
- Minimize walking on frozen feet.
- Do not apply any lotions or ointments to frozen skin.
- Remove any wet or tight clothing that may cut off blood flow to the affected area.
- DO NOT rub the affected area, because rubbing causes damage to the skin and tissue.

- Gently place the affected are in a warm (105ºF) water bath and monitor the water temperature to slowly warm the tissue. Don't pour warm water directly on the affected area because it will warm the tissue too fast causing tissue damage. Warming takes about 25-40 minutes.
- After the affected area has been warmed, it may become puffy and blister. The affected area may have a burning feeling or numbness. When normal feeling, movement, and skin color have returned, the affected area should be dried and wrapped to keep it warm. NOTE: If there is a chance the affected are may get cold again, do not warm the skin. If the skin is warmed and then becomes cold again, it will cause severe tissue damage.
- Seek medical attention as soon as possible and contact the Site Safety Officer.

6.0 HYPOTHERMIA MANAGEMENT

The most obvious sign of hypothermia is a low core body temperature. The person with hypothermia may not realize that his or her prolonged exposure to cold requires emergency medical care. Other signs and symptoms include:

- apathy or loss of interest in surroundings
- lethargy or difficulty moving
- confusion
- drowsiness
- loss of coordination
- cold skin
- shock caused by decreased blood flow
- slurred speech
- uncontrollable shivering
- weakness

If a person is suspected of suffering from hypothermia, contact the Site Safety Officer, and apply first aid.

6.1 What should be done (land):

- Move the person to a warm, dry area. Don't leave the person alone. Remove any wet clothing and replace with warm, drying clothing or wrap the person in blankets.
- Have the person drink warm, sweet drinks (sugar water or sports-type drinks) if they are alert. Avoid drinks with caffeine (coffee, tea or hot chocolate) or alcohol.
- Have the person move their arms and legs to create muscle heat. If they are unable to do this, place warm bottles or hot packs in the arm pits, groin, neck and head areas. DO NOT rub the person's body or place them in a warm bath. This may stop their heart.

6.2 What should be done (water):

- DO NOT remove any clothing. Button, buckle, zip and tighten any collars, cuffs, shoes, and hoods because the layer of trapped water closest to the body provides a layer of insulation that slows the loss of heat. Keep the head out of the water and put on a hat or hood.

- Get out of the water as quickly as possible or climb on anything floating. DO NOT attempt to swim unless a floating object technical water rescue can be reached because swimming or other physical activity uses the body's heat and reduces survival time by about 50 percent.
- If getting out of the water is not possible, wait quietly and conserve body heat by folding arms across the chest, keeping thighs together, bending knees, and crossing ankles. If another person is in the water, huddle together with chests held closely.

7.0 PRECAUTIONS

- Use the buddy system.
- Recognize the environment and workplace conditions that lead to potential cold-induced illnesses and injuries.
- Learn the sign and symptoms of cold induced illnesses/injuries and what to do to help the worker.
- Dress appropriately for expected weather conditions. Dress in a minimum of three layers (a skin layer to absorb moisture and keep the skin dry, an insulating layer, and an outer protective layer), wear a hat and gloves, in addition to underwear that will keep water away from the skin.
- Take frequent short breaks in warm dry shelters to allow the body to warm up.
- Perform work during the warmest part of the day.
- Eat warm, high calorie foods like hot pasta dishes.
- Avoid vasodilators, which allow the body to lose heat faster - which can accelerate hypothermia. These include alcohol and drugs;
- Avoid vasoconstrictors, including tobacco products, which constrict blood vessels and can accelerate the onset of frostbite;
- Avoid touching cold metal with bare skin; and
- Keep active.

1.0 SCOPE

This Standard Work Procedures (SWP) applies to all Golder Associates Inc. and Golder Construction Services (Golder) staff visiting sites where heavy equipment may be in use. Such sites include surface and underground mines, remediation areas, and construction sites. Heavy equipment activity may change daily or hourly, with differing potential hazards that need to be identified and addressed.

2.0 KEY HAZARDS

- Hauling and dump trucks
- Shovels and draglines
- Excavators
- Bulldozers
- Mobile drill rigs
- Cranes
- Other mobile equipment, such as water trucks, graders, and pick-up trucks

One of the most important points to remember about working around any piece of heavy equipment is that the operator has a limited field of vision. Always make eye contact with the operator of the equipment prior to moving into swing/operating radius.

3.0 PRECAUTIONS

- Make arrangements-discuss protocols with the operator during daily tailgate meetings, at shift change, or when operators and/or operations change.
- Never approach an operational piece of heavy equipment until the operator is aware of your presence, your desire to approach, and signals the OK – where possible use radio contact.
- Stand in a safe location well outside the maximum extended reach of the shovel, dragline, or excavator arm, and out of the way of other mobile equipment. With an excavator, the optimum location is within the quadrant of the operator’s visual coverage.
- When contact is made either by radio or visual contact, advise the operator of your wish to approach the equipment. The operator may want to complete a task prior to shutting down. If so, remain at the same location until the operator signals the OK to advance. Usually this will involve lowering the bucket to the ground; however practices may vary between sites. It is advisable to check with the site superintendent/foreman before entering areas where heavy equipment is in operation.
- Advise the operator of your task and requirements. Complete your task, advise the operator that you have completed your work, and depart the work area.

4.0 SAFE DRIVING PRACTICES

- All pieces of haulage equipment and large mobile equipment will have the right-of-way on all roadways. All other equipment will give way and will keep a safe distance until the roadway is cleared.
- In areas of traffic congestion and narrow travel-ways, the smallest vehicle shall always yield to larger vehicles.
- When following heavy equipment, a safe travelling distance should be maintained at all times. The driver's side mirror should always be visible to you, and hence you to the operator.
- On the majority of operating surface mines, all traffic travels on the left-hand side of the road. However practices may vary between sites. Check with the site superintendent/foreman before travelling on site roadways.
- Overtaking hauling and dump trucks should be done only when the truck operator tells you to do so. Visual and/or radio contact must be made with the operator.

5.0 RESPONSIBILITIES

It is your responsibility to understand the traffic and equipment operating rules of the site. Ask the site superintendent/foreman for this information upon entering the site for the first time. This information should be reviewed during daily tailgate meetings.

6.0 MINIMUM PERSONAL PROTECTIVE EQUIPMENT REQUIRED

- Hard Hat
- Safety Boots
- High Visibility Vest
- Hearing Protection
- Safety Glasses

1.0 SCOPE

This SWP applies to Golder Associates Inc. and Golder Construction Services (Golder) staff working on a project where soil sampling is conducted.

2.0 DEFINITIONS

Photo ionizing air monitoring instrument (PID): A direct reading air monitoring instrument equipped with an ultraviolet light source that ionizes organic vapors with ionization potentials less than that of the lamp.

Flame ionizing air monitoring instrument (FID): A direct reading air monitoring instrument equipped with a hydrogen flame that ionizes (through combustion) all combustible organic vapors.

3.0 KEY POTENTIAL HAZARDS

- Chemical exposure via inhalation, skin contact or ingestion (See Chemical Exposure Risks SWP).
- Heat or cold stress (See Inclement Weather, Heat Stress and Cold Stress SWPs).
- Lightning and high winds.
- Drilling (See Drilling SWP).
- Motor vehicles (See Motor Vehicles and Driving on Company Business SWPs)
- Slip, Trip and Fall (See Slips, Trips and Falls SWP)
- Electrical device hazards
- Excavations (See Trenching and Shoring SWP).
- Working near or over water (See Working Over Water SWP).
- Heavy lifting.
- Insect bites and stings (See Biological Exposure Risks SWP).

If any of these hazards are anticipated on the project site, the corresponding SWP must be included in the Health and Safety Plan (HASP).

4.0 CHEMICAL HAZARDS

Sampling soils involves obtaining representative samples from waste piles, beneath bodies of water, on level or sloped grounds, and in excavations. Avoid direct contact between contaminated soil and any skin surface or eyes.

Air monitoring should be performed utilizing an intrinsically safe photo ionizing (PID) or flame ionizing (FID) instrument. Action levels for exposure measurements should be made based on the anticipated contaminants present, exposure controls in place, and personal protective equipment (PPE).

Maintain material safety data sheets (MSDS) or equivalent for all chemicals of concern at the site. Detailed chemical safety information can be found at www.osha.gov and www.cdc.gov/NIOSH.

5.0 PRECAUTIONS

Sampling for contaminated soils or sludges often occurs at sites that are known hazardous waste sites or adjacent to such sites. Follow all local regulations in regards to working at such properties.

This project presents construction related hazards such as trips, falls, and slips, and resulting injuries which are typical of undeveloped or industrial sites

- Wear proper footwear, including steel toes for earthwork;
- Clean boots and testing equipment, since slips may result from mud on a hard surface;
- Never jump across obstacles (ie: anchor trenches) and
- Do not walk on improvised plank bridges across ditches or anchor trenches unless they have been inspected by a competent person.
- Observe site traffic rules and right-of-way practices at all times. Heavy equipment and trucks should be assumed to have the right-of-way. Generally, the following rules apply to determining the right-of-way:
- Heavier equipment has the right-of-way.
- Loaded trucks and equipment have precedence over unloaded ones.
- Equipment moving down slope has precedence over one going upslope.
- Other general site vehicle operation rules are as follows:
- Observe speed limits within the site which usually do not exceed 15 miles per hour;
- Do not follow another vehicle too closely as material may fall off the vehicle or be thrown by the tires when in motion;
- Large equipment may have a significant “blind spot” on the right side of the vehicle. Avoid passing heavy equipment unless specifically instructed to do so by the operator of that equipment. Assume the equipment operator does not know you are present in an area and maneuver accordingly;
- Listen for and heed back-up alarms from heavy equipment and
- When possible, make eye contact with equipment operators.
- Park the company vehicle near the work location to mark your presence in the area. Wear high visibility clothing (reflective vests) to aid the operator in noticing your presence. Use extreme caution when operating in dusty conditions. Drive with your headlights on to increase your visibility. If conditions become dusty and significantly reduce visibility across the site, leave the area and wait for conditions to improve and contact the Golder Project Manager.
- Do not ride on the contractor’s equipment, and do not attempt to operate any such equipment.
- Do not ride on anything that does not have a seat designed for human occupancy.
- Wear your seatbelt at all times when operating a motor vehicle.
- Wear proper footwear including steel toes for earthwork.

- Wear long pants and long sleeved shirts.
- Clean boots and testing equipment as needed, since slips may result from mud on a hard surface.
- Never jump across obstacles (i.e.: anchor trenches).
- Do not walk on improvised plank bridges across ditches or anchor trenches unless they have been inspected and approved by a competent person.
- Wear high visibility clothing (reflective vests) to help motor vehicle operators notice your presence.

When traversing a site on foot, or when operating a motor vehicle, observe site traffic rules and right-of-way practices at all times. Heavy equipment and trucks should be assumed to have the right-of-way.

6.0 MINIMUM PERSONAL PROTECTIVE EQUIPMENT REQUIRED

- Hard hat, as required
- Safety glasses (splash goggles should be made available depending on the known hazards that may be present in the groundwater)
- Respirator with appropriate cartridges, as required
- High visibility clothing (reflective vest)
- Steel-toed and shank safety boots
- Nitrile gloves (or appropriate gloves depending on the known hazards that may be present in the groundwater)

7.0 TRAINING

- OSHA 10-hour Construction Safety
- Emergency First Aid/CPR Course
- Golder and/or site-specific training (including HASP review)
- Emergency and First Aid Course.

APPENDIX E

COMMUNITY AIR MONITORING PLAN

APPENDIX E

New York State Department of Health
Generic Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH. Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Based on the results of photoionization detector (PID) field screening of soil borings during the investigatory boring work conducted in 2010 at the Site, VOCs were not detected in the subsurface soils in the proposed excavation area and will therefore not be monitored as part of this CAMP.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic odor monitoring will be performed downwind of the excavation area during intrusive activities due to the potential for naphthalene in the coal tar residuals. As this compound is a semi-volatile and has a very low odor threshold, a PID does not accurately measure its ambient concentration. Qualitative odor monitoring will be a more effective determination of whether intrusive activities may need to be temporarily suspended or other odor mitigation methods such as foam or covering of stockpiles/roll-offs are required.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

ATTACHMENT 3

PHOTOGRAPHIC LOG

FIELD OBSERVATION NOTES

VanDeMark: In-Plant Interim Corrective Measures:	
PHOTO 1 Looking northeast: Saw cutting pavement before excavation – 6/8/11	
PHOTO 2 Looking west: Removing pavement and overburden at northern end of main excavation area – 6/8/11	

PHOTO 3

Looking west: Removing pavement and overburden at southern end of main excavation area – 6/8/11

PHOTO 4

Looking southwest: Beginning to excavate coal tar impacted fill from the eastern 1/3 of the main excavation area at northeast corner. – 6/9/11

PHOTO 5

Looking southeast: Eastern wall of main excavation area. Note large concrete slab. – 6/9/11

PHOTO 6

Looking southeast: Edge of eastern wall. Note large coal tar chunk in front of excavator bucket. – 6/9/11

PHOTO 7 Looking south: Excavating the middle 1/3 or main excavation area. – 6/10/11	
PHOTO 8 Looking northeast: Metal pipe covered in coal tar. – 6/10/11	

PHOTO 9

Looking north: Poly cover over the main excavation area. – 6/10/11

PHOTO 10

Looking west: Finishing middle 1/3 of main excavation area. Notes chucks of coal tar. – 6/13/11

PHOTO 11

Looking south: Coal tar was chased south until no more was observed. Note brick lined conveyance line. – 6/13/11

PHOTO 12

Looking northeast: Staged rolloffs at the bottom the hill. The overburden pile is in front of the rolloffs. – 6/13/11

PHOTO 13

Looking east: Excavating the final 1/3 along the western edge of the main excavation area starting at the north end. – 6/14/11

PHOTO 14

Looking southwest: Small pipe uncovered in the northwest corner of the main excavation area. – 6/14/11

PHOTO 15 Looking southwest: Continued excavation of the fuel/oil fill from the final 1/3 of the main excavation area. – 6/14/11	
PHOTO 16 Looking south: Fuel/oil fill is being finished off at the south end. – 6/15/11	

PHOTO 17 Looking southeast: Final Coal tar fill is being excavated from the western edge of the main excavation area. – 6/15/11	
PHOTO 18 Looking north: Blacktop and overburden from the C-1 excavation area is being removed. – 6/16/11	

PHOTO 19 Looking southwest: Coal tar fill being excavated. – 6/16/11	
PHOTO 20 Looking northeast: A lens of coal tar was chased to the west and northeast until no more coal tar was observed. – 6/16/11	

PHOTO 21 Looking northwest: Residual pile of brick and concrete being removed from main excavation area. – 6/21/11	
PHOTO 22 Looking north: first lift of backfill stone being placed. – 6/21/11	

PHOTO 23

Looking southeast: Residual coal tar along eastern edge of main excavation area that will be removed during the excavation of the additional coal tar removal north of building B-9. – 6/21/11

PHOTO 24

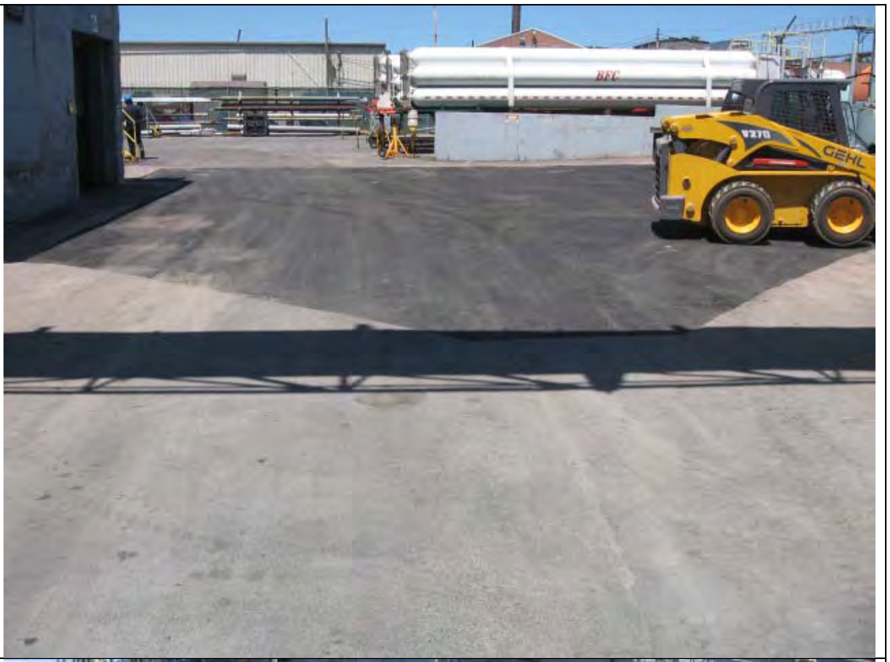
Looking southwest: Alley excavation area and the northern wall of building B-9. – 6/27/11

PHOTO 25

Looking south: Significant pocket of coal tar where the alley excavation came into the main excavation area. – 6/27/11

PHOTO 26

Looking east: Alley excavation area and backfilled main excavation area. – 6/27/11

PHOTO 27 Looking north: Re-paved main excavation area. – 7/14/11	
PHOTO 28 Looking southeast: Re-paved main excavation area and alley excavation area. – 7/14/11	

609-1496

Brian Law

Bill Thompson

Vandemark 093-89168 6-8-11

arrived onsite @ 7:45

O'regan's onsite @ 7:50

tailgate safety meeting @ 8:30

Andrew	S, T, and Falls, vehicle traffic,
Ed	heat stress, E-contacts,
Dave	Vandemark's protocalls

New impact

20 → 27 feet East of B-4 NW corner and 5 ft North of B-4

8:45: saw cutting blacktop

9:00: started removing blacktop layer

9:30: finished saw cutting

10:00: began trucking blacktop and crushed stone layer down hill to stockpile

11:00: still removing blacktop + stone.

12:00: Still removing blacktop + Stone

12:30: took lunch break

1:00: Still removing blacktop + Stone

1:45: Still removing blacktop + Stone

2:50: Blacktop + stone removed some coal tar is now exposed. all overburden will be stockpiled until test results come back.
Samples will be taken from around the stockpiled materials.

3:15: Samples taken from around the stockpiles

3:30: fuel oil samples taken from 3 test pits along west →

Side of excavation area

Vandemark 093-89168 6/9/11

Aaron Lage
arrived onsite @ 7:40 am

O'regan's onsite @ 8:00am

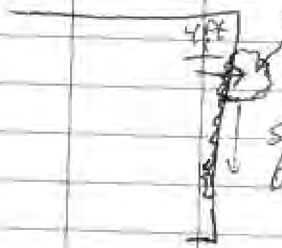
Aaron, Andrew, Dave, [redacted] attended
tailgate safety meeting @ 8:30
Thunder/lightning, trenches, heat stress, vehicle traffic,
tape up excavation area, cover for rain, heavy machinery.

Plan today is to start removing coal tar impacted soils from excavation area. Will be dumped on poly then loaded into as many roll offs as we have. the rest will be stockpile on poly and covered. Expecting heavy thunderstorms early afternoon. Excavation area will also be covered.

8:15: spoke with Bill Thompson (vandemark) gave him summary of previous day's work.

8:40 starting @ Northeast corner of excavation area.

no tar 4 ft south of NE corner, tar runs from there east runs ≈ 2 ft down from top of Pavement pavement to the east will be rippedup to chase tar



very large concrete Block ≈ 3 ft thick

scraped tar off block. moving south

10:22: loading coal tar containing fill on to truck.

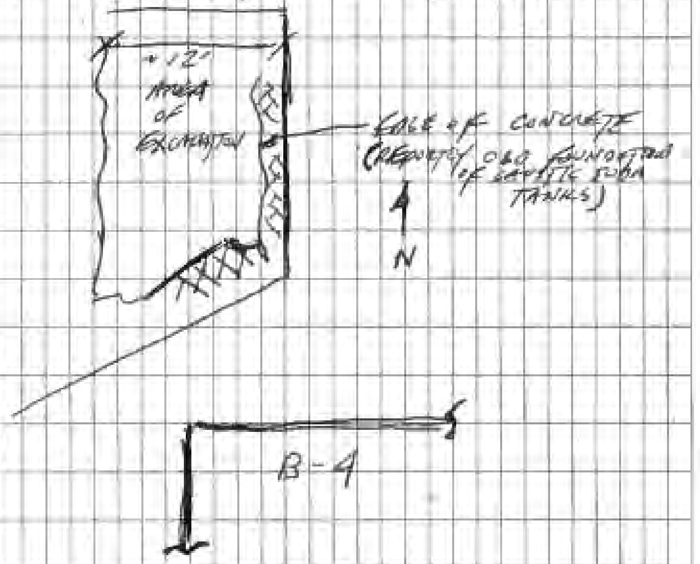
11:00: Michael Hinton DEC onsite.

11:30: O'Regan's left for lunch.
11:45: Aaron left site, Pat Martin will be to site around 12:30.

12:40 PTM ON-SITE REVIEWED EXCAVATION AREA W/ANDREW. DIGGING ALONG EAST EDGE OF EXC. WORKING SOUTH THROUGH COAL TAR DEPOSIT.

1:00 TRANSFERRED FULL DUMP TRUCK LOAD TO STAGING AREA. FINISHED FILLING FIRST ROLL-OFF

1:30



AS EXCAVATION IS PROCEEDING SOUTH, OLD CONCRETE FOUNDATION ON EAST FACE IS BEING ENCOUNTERED AND JUTTING OUT MORE PROMINENTLY AS THEY MOVE SOUTH. SEVERAL LONG TIME VDM EMPLOYEES INDICATED THAT THIS IS THE OLD CAUSTIC SODA TANK FOUNDATION - BEFORE THEY WERE MOVED TO PRESENT LOCATION NORTH OF BUILDING C-4.

2:30 2nd ROLL-OFF DELIVERED & SPOTTED IN STAGING AREA. EXCAVATION OF TAR RESIDUALS CONTINUING IN SOUTHEAST CORNER.

4:00 DISCUSSED SEGREGATING BRICK FROM FILL/TAR => PAM COOK DISCUSSED W/ WTS AND THEY FIND AN ALTERNATE DISPOSAL OPTION PTM OFF-SITE

Vandemark 093-89168 6/10/11

Aaron Lange
Onsite @ 8:00

8:30: tailgate safety meeting
Andrew, Dave, Aaron ✓

8:45: scrapping off more clean overburden. no coal tar present in most of top.

9:30: ≈ 1/2 truck was taken and dumped with the overburden stockpile.

10:00 began digging out coal tar fill in the middle 1/3 (E W)

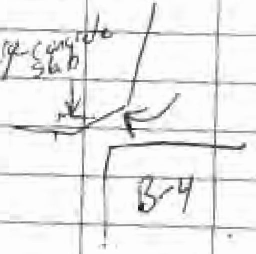
10:30: Stan Radon & his Supervisor arrived. Gave them an overview of operation so far. Pam took them down to creek to view tar.

11:45: lunch break

1:24: excavated large (5'x4'x3/4ft) concrete slab. will be disposed of with brick waste

2:00: removing tar from south end of excavation area toward the middle

2:40: South east corner has tar showing on walls. Pam, Andrew and Aaron decided it would be best/safest to get that tar when the western pipe rack tar is removed.



A large concrete slab was found in SW corner. ≈ 3ft thick, square edge

3:00: Last truck load of tar taken to roll offs. Starting to prep for weekend poly cover over excavation area.

Clay was used as a rain barrier along east side to direct sheet flow around to the south.

4:00: Excavation area is covered and caution barriers are in place

4:30: Packed up

Vandemark 093-89168 6/13/11

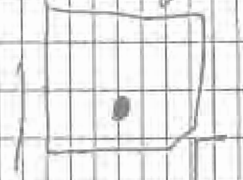
7:45: Aaron Lage arrived onsite with O'Regan

8:00: Tailgate safety meeting
Amy, Dave, and Andrew

8:15: Began uncovering excavation area

8:30: Began excavating rest of middle 1/3.

9:30: Deep coal tar and a concrete block found 15 feet N of middle of south side. large amount of brick surrounding it too



10:30: Still digging middle 1/3 out. almost to southern edge.

11:00: Mike Hinton (DEC) on site. more brick at southern edge

11:45: Chasing tar further south. appears to be a brick

all
Mike Hinton 628-4133

12:15: a brick structure or channel appears to head due south. no coal tar as you head south.
lunch break

2:00: Continuing to clean up southern edge. after truck is full, there will be 5 full rolloffs of coal tar material.

2:30: 6th rolloff on site

3:30: 30yrd rolloff used for rock & brick.

4:30: Covered up pit for night

Skid steer broke down. O'Regan stayed late to fix.

Vandemark 093-84168 6/14/11

7:45: AMC & O'Regans onsite

8:00: tailgate safety meeting. AMC, Dave, Andrew

expecting another rolloff this morning.
Finishing filling rock rolloff.

9:00: Finished of middle south end. no coal tar found any further south.

10:15: Starting last 1/3 (west side) going to attempt to segregate fuel oil and coal tar soils.

10:20: uncovered small (≈1½") pipe going N-South

11:00: Seperating bricks from fuel soils. stayed above coal tar layer.

12:00: lunch break

1:00: Pam Cook let us know that there will not be any more rolloffs coming.

1:30: Finished filling dump truck with fuel oil fill. All rolloffs are filled along with dumptruck.

2:00: Expecting a new rolloff early tomorrow morning.

2:30: starting to clean up around excavation area.

Vandemark 093-89168 6/15/11

7:45: AML onsite @ O'Regans

8:30: Safety meeting
AML, Andrew, Dave

S,T,+F / excavator safety / traffic safety

A new rolloff was brought this morning. The load of oil fill that was left in the dump truck overnight was put in it. 1 coal tar rolloff was taken to Covanta. We will continue stripping the oil/fuel fill down to the coal tar layer until we fill the new rolloff. We are expecting a new rolloff sometime today

9:30: continuing to strip of fuel/oil layer above coal tar layer. not dump truck almost full. This should fill the new rolloff.

10:00: Completed stripping fuel oil layer off. waiting for new rolloff. will begin loading last 1/3 of Westside the coal tar into the truck.

11:00: Continuing to dig out coal tar from final 1/3. still waiting for a new rolloff

11:30: 2nd rolloff arrival onsite. still removing coal tar layer on West 1/3 working N to South. Stan Radon (DEC) onsite

12:00: PTM onsite. still removing coal tar fill.

12:15: lunch break

1:45: Continuing to load final 1/3 onto truck

2:40: almost complete with final 1/3 on west side. 3rd rolloff today is onsite.

call John Hofman from paradigm to set up a pickup of ≈6 samples on Thursday afternoon.

call John tomorrow around Noon to verify ~~4:00pm~~ 9:30 AM pickup.

Target Compound list

8270 SVOC

verification samples

note sample name MS/MSD ←

1 sample
- 1 blind duplicate
- 1 Matrix spike
- 1 MS/MSD

note AM results for Monday, on chain

3:30: The excavation area is approximately 37 E-W x 45 N-S not 80x100 as noted in workplan. Therefore only 1 floor sample will be taken

400: Finished with excavation area. No coal tar found on Western or Southern wall except a small layer at corner of building C-4. will not chase due to proximity to to C-4 foundation. Samples will be taken 1st thing Thursday morning.

5:00: Cleaned up & leaving site

Vandermark 09359168 6-16-11

7:40: AML & O'Regan onsite

8:00: Safety meeting
Bill, Andrew, Dave

8:15: AML starting to sample the Excavation area.

The Blind duplicate will be taken from the floor.
MS, MS/MSD was taken from North wall
O'Regans is starting the saw cut of pavement at the south 10x10 area

9:05. Samples droped off to John Hoffman

9:30: after the blacktop was removed from the C-1 area, excavation was stoped to verify underground piping. Pam Cook "[illegible] is sure" we are not on top of any underground pipes or utilities. Pam Cook is giving Oregon the go ahead to dig farther.

10:15: coal tar scattered throughout upper overburden. a vein was found ≈ 3ft down

10:45: No coal tar showing south or east. a layer is showing heading West towards C-1 and north head into the tow motor path. Mike Hinton (DEC) onsite. We will chase to the west ≈ 2 more feet without interfering with building stability. Can not chase north without finishing main excavation area so tow motors have a path.

11:00: Coal tar only went about 1.5 ft farther West. The Northern tar is about 1 inch thick and concentrated at the middle point of the northern wall ≈ 2.5-3ft down. It tapers off to nothing within 4 feet heading West.

1:00: Pam gave OK to chase tar to the North. Tow motor traffic had to be coordinated. After no signs of coal tar are found, the hole will be backfilled immediately.

1:45: waiting for Pam to clear us to start chasing North. Have to wait until supplies are brought into production areas.

2:30: began to chase tar North

2:45: Chased NE approximately 8 ft. No more tar visible.

3:30: cleaning up around C-1 excavation. 3 rolloffs went to Covanta today. Andrew will backfill C-1 hole, compacting in 1ft lifts

Vandemark 693-99168 6/24/11

8:40: northwest corner has been dug to bed rock. Stone has been placed on this area. Andy will begin to dig to bedrock on the northeast half of the main excavation area.

915: Stopped work due to lightning

1010: finished removing clay from northwest quarter. Spreading more stone around northern half.

SNPE/VDM - IN PLANT ICM 093-89168
JUNE 27, 2011

1:00 PM RTM ON-SITE. O'REGAN'S COMPLETING EXCAVATION OF EAST ALLEY, ALREADY REMOVED VISIBLE COAL TAR IN AREA APPROX 10' x 27'. COAL TAR WAS FOUND IN LAYER ~ 2 FT BELOW, BELOW WAS FREE OF TAR.

2:00 PM : O'REGAN'S EXCAVATING WEST DOWN ALLEY TOWARDS MAIN EXCAVATION. LITTLE OR NO TAR FOUND FROM PIPE SUPPORT WEST TO MAIN EXCAVATION. RTM COLLECTED ONE VERIFICATION SAMPLE FROM EAST ALLEY EXCAVATION AREA. SIDEWALL & FLOOR COMPOSITE.

2:30 O'REGAN'S EXCAVATING SIGNIFICANT POCKET OF SOLIDIFIED COAL TAR AT SOUTHEAST CORNER OF MAIN EXCAVATION AREA. EXCAVATION PROCEEDED SOUTH AND EAST TO CHASE COAL TAR. RTM STOPPED EXCAVATION WHEN IT CAME WITHIN 3 FT OF B-4.

PAM COOK ALSO AGREED TO STOP
EXCAVATION DUE TO CONCERNS ABOUT
PROXIMITY TO BLDG FOUNDATION.

3:15 O'REGANS BEGINS BACKFILLING
SE CORNER OF MAIN EXCAVATION
AND WILL COMPLETE REMOVAL
OF EXCAVATED RESIDUALS.
PTM OFF-SITE.

ATTACHMENT 4

OVERBURDEN & FUEL OIL IMPACTED SOIL/FILL ANALYTICAL REPORT

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report Cover Page

Golder Associates, Inc.

For Lab Project # 11-2308
Issued June 14, 2011
This report contains a total of 11 pages

The reported results relate only to the samples as they have been received by the laboratory.

Any noncompliant QC parameters having impact on the data are flagged or documented on the final report.

All soil/sludge samples have been reported on a dry weight basis, unless qualified “reported as received”. Other solids are reported as received.

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The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of frequently used data flags and their meaning:

“<” = analyzed for but not detected at or above the reporting limit.
“E” = Result has been estimated, calibration limit exceeded.
“Z” = See case narrative.
“D” = Duplicate results outside QC limits. May indicate a non-homogenous matrix.
“M” = Matrix spike recoveries outside QC limits. Matrix bias indicated.
“B” = Method blank contained trace levels of analyte. Refer to included method blank report.

PARADIGM
ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue, Rochester, NY 14608 Office: (585) 647-2530 Fax: (585) 647-3311

LAB REPORT FOR SOIL/SOLID/SLUDGE pH MEASURED IN WATER

Client: Golder Associates, Inc.

Client Job Site: 093-89168

Client Job No.: N/A

Lab Project No.: 11-2308

Sample Type: Soil
Method: SW846 9045C

Date Sampled: 06/08/2011
Date Received: 06/09/2011
Date Analyzed: 06/10/2011

Lab Sample No.	Field ID No.	Field Location	pH Results (S.U.)
7678	N/A	Overburden Stockpile	8.49 @ 22.2 °C

ELAP ID No.:10958

Comments:

Approved By: ______________________
Bruce Hoogesteger, Technical Director

PARADIGM
ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue, Rochester, NY 14608 Office: (585) 647-2530 Fax: (585) 647-3311

LAB REPORT FOR FLASHPOINT ANALYSIS

Client: Golder Associates, Inc.

Client Job Site: 093-89168

Client Job No.: N/A

Lab Project No.: 11-2308

Sample Type: Soil
Method: SW846 1010

Date Sampled: 06/08/2011
Date Received: 06/09/2011
Date Analyzed: 06/14/2011

Lab Sample No.	Field ID No.	Field Location	Flashpoint Results (°C)
7678	N/A	Overburden Stockpile	>70.0
7679	N/A	Fuel/Oil Sample	>70.0

ELAP ID No.:10958

Comments:

Approved By: ______________________
Bruce Hoogesteger, Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt.

PARADIGM
ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue, Rochester, NY 14608 Office: (585) 647-2530 Fax: (585) 647-3311

LAB REPORT FOR PERCENT SOLIDS ANALYSIS

Client: Golder Associates, Inc.

Client Job Site: 093-89168

Client Job No.: N/A

Lab Project No.: 11-2308

Sample Type: Soil
Method: SM17 2540B

Date Sampled: 06/08/2011
Date Received: 06/09/2011
Date Analyzed: 06/09/2011

Lab Sample No.	Field ID No.	Field Location	Percent Solids (%)
7678	N/A	Overburden Stockpile	95.6

ELAP ID No.:10958

Comments:

Approved By: ______________________________
Bruce Hoogesteger, Technical Director

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PARADIGM
ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue Rochester New York 14608 (585) 647-2530 FAX (585) 647-3311

LABORATORY REPORT FOR REACTIVITY

Client: Golder Associates, Inc.

Client Job Site: 093-89168

Client Job No.: N/A

Field Location: Overburden Stockpile

Lab Project No.: 11-2308
Lab Sample No.: 7678

Sample Type: Soil

Date Sampled: 6/8/2011
Date Received: 6/9/2011

Parameter	Date Analyzed	Method Reference	Results (mg/kg)
Reactive Cyanide	6/14/2011	EPA 335.4 / SW 7.3.3.2	<1.0
Reactive Sulfide	6/14/2011	SW 7.3.4.2	<10

ELAP ID.No.: 10709

Comments: Reactivity results are reported as received.

Approved By: ______________________________
Bruce Hoogesteger, Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM
ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue, Rochester, NY 14608 Office: (585) 647-2530 Fax: (585) 647-3311

LAB REPORT FOR TCLP RCRA METALS ANALYSIS

Client: Golder Associates Inc.

Client Job Site: 093-89168

Client Job No.: N/A

Field Location: Overburden Stockpile
Field ID No.: N/A

Lab Project No.: 11-2308
Lab Sample No.: 7678

Sample Type: TCLP Extract

Date Sampled: 06/08/2011
Date Received: 06/09/2011

Parameter	Date Analyzed	Analytical Method	Result (mg/L)	Regulatory Limit (mg/L)
Arsenic	06/14/2011	SW846 3005/6010	<0.100	5.0
Barium	06/14/2011	SW846 3005/6010	1.18	100
Cadmium	06/14/2011	SW846 3005/6010	<0.025	1.0
Chromium	06/14/2011	SW846 3005/6010	<0.050	5.0
Lead	06/14/2011	SW846 3005/6010	<0.100	5.0
Mercury	06/14/2011	SW846 7470	<0.0020	0.2
Selenium	06/14/2011	SW846 3005/6010	<0.100	1.0
Silver	06/14/2011	SW846 3005/6010	<0.050	5.0

ELAP ID No.:10958

Comments:

Approved By: ____________________
Bruce Hoogesteger, Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt.

File ID:112308.xls

PARADIGM
ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Semi-Volatile Analysis Report for TCLP Extract

Client: **Golder Associates, Inc.**

Client Job Site: 093-89168

Lab Project Number: 11-2308
Lab Sample Number: 7678

Client Job Number: N/A
Field Location: Overburden Stockpile
Field ID Number: N/A
Sample Type: TCLP Extract

Date Sampled: 06/08/2011
Date Received: 06/09/2011
Date Analyzed: 06/13/2011

Base / Neutrals	Results in ug / L	Regulatory Limits in ug / L
1,4-Dichlorobenzene	< 40.0	7,500
2,4-Dinitrotoluene	< 40.0	130
Hexachlorobenzene	< 40.0	130
Hexachlorobutadiene	< 40.0	500
Hexachloroethane	< 40.0	3000
Nitrobenzene	< 40.0	2000
Pyridine	< 40.0	5000

Acids	Results in ug / L	Regulatory Limits in ug / L
Cresols (as m,p,o-Cresol)	< 40.0	200,000
Pentachlorophenol	< 100	100,000
2,4,5-Trichlorophenol	< 100	400,000
2,4,6-Trichlorophenol	< 40.0	2000

ELAP Number 10958 Analytical Method: EPA 8270C Data File: S57189.D
Prep Method: EPA 1311 & 3510C

Comments: ug / L = microgram per Liter

Signature:

Bruce Hoogesteger: Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt.

Volatile Analysis Report for TCLP Extract

Client: **Golder Associates, Inc.**

Client Job Site:	093-89168	**Lab Project Number:**	11-2308
		Lab Sample Number:	7678
Client Job Number:	N/A		
Field Location:	Overburden Stockpile	**Date Sampled:**	06/08/2011
Field ID Number:	N/A	**Date Received:**	06/09/2011
Sample Type:	TCLP Extract	**Date Analyzed:**	06/13/2011

Compound	Results in ug / L	Regulatory Limits in ug / L
Benzene	< 20.0	500
2-Butanone	< 100	200,000
Carbon Tetrachloride	< 20.0	500
Chlorobenzene	< 20.0	100,000
Chloroform	< 20.0	6,000
1,2-Dichloroethane	< 20.0	500
1,1-Dichloroethene	< 20.0	700
Tetrachloroethene	< 20.0	700
Trichloroethene	< 20.0	500
Vinyl chloride	< 20.0	200

ELAP Number 10958 Method: EPA 8260B Data File: V85506.D

Comments: ug / L = microgram per Liter

Signature:

Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for TCLP Extract

Client: **Golder Associates, Inc.**

Client Job Site: 093-89168

Lab Project Number: 11-2308

Lab Sample Number: 7679

Client Job Number: N/A

Field Location: Fuel/Oil Sample

Field ID Number: N/A

Sample Type: TCLP Extract

Date Sampled: 06/08/2011

Date Received: 06/09/2011

Date Analyzed: 06/13/2011

Compound	Results in ug / L	Regulatory Limits in ug / L
Benzene	< 2.00	500

ELAP Number 10958

Method: EPA 8260B

Data File: V85505.D

Comments: ug / L = microgram per Liter

Signature:

Bruce Hoogesteger: Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

REPORT TO:

COMPANY: Golder Associates Inc
ADDRESS: 2430 N. Forest Rd., Suite 100
CITY: Getzville STATE: NY ZIP: 14068
PHONE: 716-204-5880 FAX: 716-204-5878
ATTN: Pat Martin
COMMENTS:

INVOICE TO:

COMPANY: Same
ADDRESS:
CITY: STATE: ZIP:
PHONE: FAX:
ATTN:

LAB PROJECT #: 11-2308
CLIENT PROJECT #:

TURNAROUND TIME: (WORKING DAYS)
☐ 1 ☐ 2 ☐ 3 ☒ 5 STD ☐ OTHER

Quotation # JH060311

PROJECT NAME/SITE NAME: 093-89168

Voc/Svoc by TCLP per JDG 6/19 EAH 6/19

REQUESTED ANALYSIS

	DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER CONTAINERS	TCLP RCRA Metals, volatile/SVOCs, Ignitability, Reactivity, pH/% solids	TCLP Benzene, Ignitability	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	6/8/11	1515	X		Overburden stockpile	soil	2	X		JH060311	7678
2	6/8/11	1530	X		fuel/oil sample	↓	1		X		7679
3											
4											
5											
6											
7											
8											
9											
10											

****LAB USE ONLY BELOW THIS LINE****

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter		NELAC Compliance	
Container Type:		Y ☒	N ☐
Comments:			
Preservation:	N/A	Y ☐	N ☐
Comments:			
Holding Time:		Y ☒	N ☐
Comments:			
Temperature:		Y ☐	N ☒
Comments:	12°C iced		

Sampled By Date/Time 6/8/11 3:15
Relinquished By Date/Time 6/8/11 4:00
Received By Date/Time 6/8/11 4:00
Received @ Lab By Elizabeth A Honch Date/Time 6/9/11 1410

Total Cost: ☐

P.I.F. ☐

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

110610057

CHAIN OF CUSTODY

Adk 1of1

REPORT TO:		INVOICE TO:			
COMPANY: Paradigm Environmental		COMPANY: Same		LAB PROJECT #:	CLIENT PROJECT #:
ADDRESS:		ADDRESS:			
CITY: STATE: ZIP:		CITY: STATE: ZIP:		TURNAROUND TIME: (WORKING DAYS)	
PHONE:	FAX:	PHONE:	FAX:	☐ 1 ☐ 2 ☐ 3 STD ☒ 5	OTHER ☐
ATTN: Jane Daloia		ATTN: Meridith Dillman			
COMMENTS: Please email results to khansen@paradigmenv.com and jdaloia@paradigmenv.com				Date Due: 6/17/11	

PROJECT NAME/SITE NAME:

REQUESTED ANALYSIS

	DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER OF CONTAINERS	Reactivity										REMARKS TAT changed by John 4 day 6/10/11 2:09pm	PARADIGM LAB SAMPLE NUMBER				
1	6/8/11	1515			11-2308-7678	Soil	1	X													0	0	1
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

LAB USE ONLY BELOW THIS LINE

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter		NELAC Compliance	
Container Type:		Y ☐	N ☐
Comments:			
Preservation:		Y ☑	N ☐
Comments:			
Holding Time:		Y ☑	N ☐
Comments:			
Temperature:	14°c	Y ☐	N ☐
Comments:			

Client

Sampled By Elizabeth A Honch Date/Time 6/9/11 ~~HHO~~ 1600

Relinquished By Fedex Date/Time eeEAH 6/9

Received By Date/Time 6-10-11 1:11 Pm

Received @ Lab By Date/Time

Total Cost: ☐

P.I.F. ☐

ATTACHMENT 5

WASTE PROFILE APPROVALS

New York State Department of Environmental Conservation
Division of Materials Management, Region 9
270 Michigan Avenue, Buffalo, New York, 14203-2915
Phone: (716) 851-7220 • **FAX:** (716) 851-7226
Website: www.dec.ny.gov

Joe Martens
Commissioner

July 19, 2011

JUL 20 2011

Mr. Michael Gullo
Modern Landfill, Inc.
P. O. Box 209
Model City, New York 14107

Dear Mr. Gullo:

Vandermark Chemical
1 North Transit
Lockport, New York 14611
Application No. M11-2482
Asphalt, Crushed Stone and Soil over
Coal Tar Impacted Area

The Department has reviewed your application requesting permission to dispose of the above waste. Based on the information provided and discussion with Michael Hinton (NYSDEC) this waste is **acceptable for disposal at Modern Landfill as a one time occurrence.** Other waste streams will be reviewed under separate application.

In the event that significant changes in the information presented in this application occur, you must immediately notify the Department in writing.

Enclosed is a copy of the approved application. If you have any questions, please contact me at (716) 851-7220 or (716) 754-8226, extension 233.

Sincerely,

D. Hill

Diana K. Hare
HW Monitor II

DKH:dcg
hare\gullo-jul6.ltr

Enclosure

cc: Mr. Mark J. Hans, P.E., Regional Materials Management Engineer

47-19-7 (10/86) - Text 12
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDSOU WASTE • BUREAU OF HAZARDOUS WASTE OPERATIONS
50 WOLF ROAD, ALBANY, NEW YORK 12233-4017

APPLICATION FOR TREATMENT OR DISPOSAL OF AN INDUSTRIAL WASTE STREAM

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY

SITE NO.	APPLICATION NO.	DATE RECEIVED
32N30	MIL-2482	7-8-11
DEPARTMENT ACTION ☒ Approved ☐ Disapproved		DATE 7-8-11

DKH
one time only.

1. NAME OF PROJECT/FACILITY: MODERN LANDFILL, INC.
2. COUNTY: NIAGARA
3. SITE NUMBER: 32N30
4. NAME OF OWNER: RICHARD WASHUTA
5. ADDRESS (Street, City, State, Zip Code): 4746 Model City Road, Model City, NY 14107
6. TELEPHONE NO.: (716) 754-8226
6. NAME OF OPERATOR: RICHARD WASHUTA
8. ADDRESS (Street, City, State, Zip Code): Pletcher & Harold Road, Model City, NY 14107
9. TELEPHONE NO.: (716) 754-8226

10. METHOD OF TREATMENT OR DISPOSAL: SANITARY LANDFILL - D90

11. COMPANY GENERATING WASTE: VANDEMARK CHEMICAL
12. ADDRESS OF FACILITY GENERATING WASTE (Street, City, State, Zip Code): 1 NORTH TRANSIT RD, LOCKPORT, NY 14092
13. REPRESENTATIVE OF WASTE GENERATOR: PATRICK T. MARTIN, GOLDER ASSOC.
14. MAILING ADDRESS OF REPRESENTATIVE: 2430 N. FOREST RD, GETZVILLE, NY 14068
15. TELEPHONE NO.: 716-204-5880

16. DESCRIPTION OF PROCESS PRODUCING WASTE: EXCAVATION OF OVERBURDEN IN PAVED AREA (ASPHALT AND BEDDING STONE) TO ACCESS COAL TAR IMPACTED SOILS BELOW. OVERBURDEN BEING GENERATED DOES NOT CONTAIN COAL TAR RESIDUALS. VOLUNTARY DISPOSAL

17. EXPECTED ANNUAL WASTE PRODUCTION: 130 Tons/Year ______ Gallons/Year
one time occurrence

18. WASTE HAULED IN: ☐ Drums ☐ Bulk Tank ☒ Roll-Off Container ☐ Other ______

19. WASTE COMPOSITION
19A. Average Percent Solids: 95%
19b. Physical State: ☐ Liquid ☐ Slurry ☐ Sludge ☒ Solid ☐ Contained Gas
19c. pH Range: 8.5 to 8.5

19d.

	COMPONENTS	CONDENTRATION (Dry Weight) Upper	Lower	Typical	UNIT (Check One) Wt. %	ppm
1)	ASPHALT (COAL TARS)			<10	☒	☐
2)	CRUSHED STONE			80	☒	☐
3)	SOIL			10	☒	☐
4)					☐	☐

20. IS AN ANALYSIS OF WASTE ATTACHED? ☒ Yes ☐ No
21. WAS A TCLP TEST CONDUCTED ON THE WASTE? ☒ Yes ☐ No If "yes", attach results
22. MATERIAL IS: ☐ Hazardous ☒ Non-Hazardous

23. DETAIL ALL HAZARD AND NUISANCE PROBLEMS ASSOCIATED WITH THE WASTES. List necessary safety, handling, treatment and disposal precautions.

NONE
Waste No. — N011

24. WHERE WAS MATERIAL DISPOSED OF PREVIOUSLY? NO

25. NAME OF WASTE TRANSPORTER: MODERN DISPOSAL SVCS
26. ADDRESS (Street, City, State, Zip Code): 4746 Model City Rd, Model City, NY
27. NYSDEC PERMIT No.: 9A-073
28. TELEPHONE NO>: (716) 754-8226

29. CERTIFICATION
I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

a. SIGNATURE AND TITLE OF REPRESENTATIVE OF WASTE GENERATOR: Patrick T. Martin, SR. CONSULTANT — DATE 6/17/11

b. SIGNATURE AND TITLE OF REPRESENTATIVE OF TREATMENT OR DISPOSAL FACILITY: Michael — Waste Approval Coordinator — DATE 06/20/11

MHG

COVANTA MATERIAL CHARACTERIZATION FORM

WTS# 25104

Instruc ions: A complete Material Characterization Form (Sections 1 - 9) must be submitted for each waste stream requested for disposal. Sectior I to Section 6 must be completed for each distinct process generating a waste stream and Section 7 to Section 9 must be completed for each c rresponding individual waste. Example: A pharmaceutical company with expired products would complete Section I- 6 once (since all the wa te is generated in the same manner- i.e., expired), and submit a separate Section 7 - 9 for each individual expired product being dispos d.

SECT ION 1 - GENERATOR INFORMATION (If multiple locations, *include* a listing of the locations as an attachment)

Gener tor Name *: ISOCHEM, Inc.   SIC Code (if known): 2869
Addre s: One North Transit Road
City / tate / Zip Code: Lockport, NY 14094
Phone 716-433-6764   Fax: 716-433-2850   E-mail:

Te hnical Contact
Pri t Name: Jim Weber
Co npany: WTS, inc.
Ph ne: 716-754-5400

* - The Generator is the person or company whose act or process first causes the material to be a solid waste. If a Service Company is being used, please complete the Service Company Information Form.

SECT ON 2 - GENERAL WASTE STREAM INFORMATION

2.1 Name of waste: *(provide list if needed)* Coal Tar

2.2 **General Waste Classification** *Please specify if any of the below is applicable to the waste. If so, provide the addendum noted.*
☐ Oily Waste .... Complete the Oily Waste Addendum Form
☐ California Destination .... Complete the California Destination Addendum Form

SECT ON 3 - SHIPPING INFORMATION

3.1	Container ype:	☐ Palletized & Shrink-wrapped ☐ Yd3 Box ☐ Super Sack ☐ Pails, ___ Gal ☐ Fiber Drums, ___ Gal ☐ Poly Drums, ___ Gal ☐ Steel Drums, ___ Gal ☒ Roll-off, 20 yd3 ☐ Other:
3.2	uantity Per elivery:	20 Tons ___ Gallons ___ Pounds Other:
3.3	requency:	☐ Daily ☐ Weekly ☐ Monthly ☐ Quarterly ☐ One Time ☒ Other: annually
3.4	elivery ehicle:	☐ Box Truck ☒ Roll-off ☐ Van Trailer ☐ Tanker Truck ☐ Other:

SECT ON 4 - PROCESS DESCRIPTION

4.1 rovide a detailed description of the process that generates the waste. Describe the materials used to generate the vaste, as well as, any other chemical or physical constituents that may be present in the waste stream as a result of ommingling or contamination. Make a definitive statement as to whether or not any of the constituents, which are oted in Section 8.1, are present If possible, provide a process flow diagram. *(attach additional pages if needed)*

excavation of coal tar deposit

ISSUE 10/01   PAGE 1 OF 3   CSS REQUEST #

WTS# 25104

Name of Waste: (as noted in Section 2.1) Coal Tar

SECTION 4 - PROCESS DESCRIPTION (CONTINUED)

4.2 Will the properties of the waste be consistent from delivery to delivery? ☒ Yes ☐ No

If no, how can the properties of the waste differ: (attach additional pages If needed)

4.3 Provide an explanation of how the waste was characterized from the chemical perspective: (check all that apply)

☒ Analytical--- Data. -Specify type and attach as back-up documentation:

☐ Generator Knowledge: (specify)

- ☐ Information provided in reference materials
- ☐ Information describing the process generating the waste
- ☐ Information developed through prior testing of the waste
- ☐ Information describing the materials used in the process that generates the waste
- ☐ Other, specify:

SECTION 5 - REGULATORY WASTE CLASSIFICATION

5.1 Is the waste an EPA Listed Hazardous Waste per 40 CFR 261 ? ☐ No ☒ Yes - STOP, waste is unacceptable

5.2 Is the waste an EPA Characteristic Hazardous Waste per 40 CFR 261? ☐ No ☒ Yes - STOP, waste is unacceptable

5.3 Is the waste exempt from being an EPA Hazardous Waste due to any of the following exclusions: (* - attach certification)

☒ Not Applicable ☐ Aqueous Solution (<24% Alcohol *and* >50% Water) * ☐ Non-terne Plated Used Oil Filters *

☐ RCRA Empty* ☐ Small Quantity Generator including, conditionally exempt (STOP- Unacceptable)

☐ Other, specify:

5.4 Is the waste a "Hazardous Waste" as defined by the State of Origin? ☒ No ☐ Yes, specify State ID#:

5.5 Is the waste any of the following in the State of Origin?

☒ None ☐ Special Waste ☐ Residual Waste ☐ Regulated Waste ☐ Other, specify:

State Waste Code (if assigned):

5.6 The regulatory classification determinations for Sections 5.1 to 5.5 above were based upon: (check all that apply)

☒ Analytical Data. Specify type and attach as back-up documentation:

☒ Generator Knowledge: (specify).

- ☒ Knowledge of the applicable regulations
- ☐ Information developed through prior testing of the waste
- ☐ Information provided in reference materials
- ☒ Information describing the process generating the waste
- ☐ Information describing the materials used in the process that generates the waste
- ☐ Other, specify:

SECTION 6 - ATTACHMENTS

- Covanta Secure Services, Inc. requires supporting documentation to verify the characterization and composition information of all waste(s) profiled for disposal to any Covanta waste-to-energy facility. Please attach all applicable supporting, documentation.

Please Identify all the. back-up information which is provided With this waste profile: ☐ None

☐ Formulation/Product Specification Sheet
☐ Memo/Letter
☐ MSDS Ingredient Specific
☐ MSDS Waste Specific
☒ Analytical Data, specify: See attached report
☐ Other, specify:

☐ Product Insert
☐ QA/QC SOP
☐ Waste Analysis Plan
☐ RCRA Empty Certification

☐ State Application:
☐ Non-Terne Filter Exclusion Certification
☐ Aqueous Solution Exclusion Certification

WTS# 25104

Name of Waste: (as noted in Section 2.1) Coal Tar

SECTION 7 - WASTE CHARACTERISTICS

7.1 Physical Form

7.1.1 Indicate the form(s) in which the waste will be shipped.
☐ Consumer packaged (CSS Class A)
☒ 100% Bulk active/inactive solid ingredients (CSS Class B1)
☐ Bulk finished formulation/powders/granules (CSS ClassB2)
☐ Bulk intermediate solid waste and filters (CSS Class B3)
☐ Bulk pressed pills/tablets (CSS Class C)
☐ Bulk creams/pastes/liquids (CSS Class D)
☐ Debris/production scrap/packaging scrap (CSS ClassE)
☐ Non-Hazardous re-packs, QA/QC Samples (CSS Class F)

7.1.2 - Specify, the physical form of the waste without packaging.
☒ Solid ☐ Cream / Paste
☐ Waxy Solid ☐ Slurry
☐ Granular ☐ Liquid, Pourable
☐ Powder ☐ Liquid, Non-Pourable
☐ Other, specify: ______

7.2 Physical Characteristics

Please specify the following characteristics of the waste:
Color - Describe: black Odor - Describe: typical of coal tar Flashpoint: >200 F
Higher Heating Value (HHV) - Specify: >5,000 BTU/lb. ☒ estimated ☐ measured ☐ unknown
Paint Filter Test: ☐ Pass ☐ Fail ☐ Not Tested ☒ Not Applicable. Waste is not/does not contain liquid(s).

7.3 Additional Waste Information

☐ Compressed Gas/Aerosol ☐ PCB Containing (≥2ppm) ☐ Contains fibers problematic if inhaled
☐ Radioactive ☐ FIFRA Regulated Material ☐ Contains crystalline forms of silica
☐ Dioxin Containing. ☐ DOT Regulated-Placard Required ☐ Requires special storage requirements
☐ Requires special engineering controls or personal protective equipment during handling
Comments: ______

SECTION 8 - WASTE COMPOSITION

8.1 Constituents:

*-Do not report TCLP results in this Section. If TCLP analytical was performed, attach as back-up information.)

Identify the total* concentration of the below constituents present in the waste as weight percent or ppm (as noted), including *all* the contributions of all compounds. Do not consider packaging. If a constituent not present, please identify this by noting "N/A" in the space provided. (N/A = not applicable)

-Bromine	0	ppm	-Arsenic	0	ppm	-Lead	0	ppm	-Zinc	0	Ppm
-Chlorine	0	wt.%	-Barium	0	ppm	-Manganese	0	ppm	-Aluminum Oxide	0	wt.%
-Fluorine.	0	ppm	-Beryllium	0	ppm	-Mercury	0	ppm	-Silicates	0	wt.%
-Iodine	0	ppm	-Cadmium	0	ppm	-Nickel	0	ppm	-Silicone	0	wt.%
-Nitrogen	0	wt.%	-Chromium	0	ppm	-Selenium	0	ppm	-Soil	0	wt.%
-Sulfur	0	wt.%	-Cobalt	0	ppm	-Silver	0	ppm	-Titanium Dioxide	0	wt.%
-Antimony	0	ppm	-Copper	0	Ppm	-Vanadium	0	ppm			

The above was determined based upon: ☒ Analytical Data ☒ Generator Knowledge

8.2 Composition:

(*- The total wt.% range must be ≥100)

Please complete the below table. Do not consider packaging. Attach additional pages if needed.
All substances regulated by 29 CFR 1910.1000 Subpart Z and 29 CFR 1910.1200 must be listed.

Component	CAS # (if known)	Chemical Formula (if known)	Range (wt. %)
coal tar	n/a	n/a	50-100
soil from excavation of coal tar	n/a	n/a	50-100

8.3 Packaging:

Specify the weight percentage of packaging: 0 Wt. %
Specify the type of packaging: ☐ paper ☐ plastic, specify type- ______ ☐ other n/a rolloff

SECTION 9 - NON-HAZARDOUS CERTIFICATION

I certify an Authorized Representative of the Generator, that this document, including all completed forms and all pertinent addenda, accurately represent and describe the waste stream outlined. The information submitted is true, accurate and complete, and no available information has been omitted or falsified. I further certify that the material is non-hazardous based upon Federal, State and Local Regulations.

Pamel Cook, Env. Engineer, ISOCHEM, Inc.
Authorized Representative - Name, Title & Company (Printed)

Authorized Representative - Signature

6/18/07
Date

47-19-7 (11/86) - Text 12

WTS #25104 MHG

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDOUS WASTE - BUREAU OF HAZARDOUS WASTE OPERATIONS
325 BROADWAY, ALBANY, NEW YORK 12233-4017

APPLICATION FOR TREATMENT OR DISPOSAL OF AN INDUSTRIAL WASTE STREAM

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY

SITE NO.	APPLICATION NO.	DATE RECEIVED

DEPARTMENT ACTION	DATE
☐ Approved ☐ Disapproved	

1 - NAME OF PROJECT/FACILITY: Covanta of Niagara
2. COUNTY: Niagara
3. SITE NUMBER: 32-E-01
4 - NAME OF OWNER: Covanta Energy
5. ADDRESS (Street, City, State Zip Code): 100 Energy Blvd. & 56 Street
6. TELEPHONE NO.: (716) 278-8509
7. NAME OF OPERATOR: Covanta Niagara
8. ADDRESS (Street City, State, Zip Code): Niagara Falls, NY 14304
9. TELEPHONE NO.: (716) 278-8509
10. METHOD OF TREATMENT OR DISPOSAL:

INCINERATION

11. COMPANY GENERATING WASTE: ISOCHEM, inc.
12. ADDRESS OF FACILITY GENERATING WASTE (Street, City, State, Zip Code: One North Transit Road, Lockport, NY 14094
13. REPRESENTATIVE OF WASTE GENERATOR: Jim Weber
14. MAILING ADDRESS OF REPRESENTATIVE: WTS, 435 N. 2nd Street, Lewiston, NY 14092
15. TELEPHONE NO.: (716) 754 - 5400
16. DESCRIPTION OF PROCESS PRODUCING WASTE: excavation of coal tar deposit
17. EXPECTED ANNUAL WASTE PRODUCTION: 20-30 Tons/Year ______ Gallons/Year
18. WASTE HAULED IN: ☐ Drums ☐ Bulk Tank ☒ Roll-Off Container ☐ Other ______
19. WASTE COMPOSITION
19a. Average Percent Solids: 100
19b. PHYSICAL STATE: ☐ Liquid ☐ Slurry ☐ Sludge ☒ Solid ☐ Contained Gas
19c pH Range: 5 to 9

19.	COMPONENTS	CONCENTRATION (Dry Weight) Upper %	Lower %	Typical %	UNIT (Check One) Wt.%	PPM
1)	coal tar	100	50	75	☒	☐
2)	soil from coal tar excavation	100	50	25	☒	☐
3)					☐	☐
4)					☐	☐

20. IS AN ANALYSIS OF WASTE ATTACHED? ☒ Yes ☐ No
21. WAS AN EP TOXICITY TEST CONDUCTED ON THE WASTE? ☒ Yes ☐ No If "Yes", attach results
22. MATERIAL IS: ☐ Hazardous ☒ Non-Hazardous
23. DETAIL ALL HAZARD AND NUISANCE PROBLEMS ASSOCIATED WITH THE WASTES. List necessary safety, handling, treatment, and disposal precautions.

24. WHERE WAS MATERIAL DISPOSED OF PREVIOUSLY? First Time Disposal
25. NAME OF WASTE TRANSPORTER: Hazmat Environmental Group
26. ADDRESS (Street City, State, Zip Code): 60 Commerce Drive, Buffalo, NY 14210
27. NYSDEC PERMIT NO.: 9A-278
28. TELEPHONE NO.: (716) 827 - 7300
29. CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

a. SIGNATURE AND TITLE OF REPRESENTATIVE OF WASTE GENERATOR
× Env Eng
DATE: 6/18/07

b. SIGNATURE AND TITLE OF REPRESENTATIVE OF TREATMENT OR DISPOSAL FACILITY
×
DATE

COVANTA
SECURE SERVICES

PRESHIPMENT NOTIFICATION

Ship From/Scheduling Information

Delivery Date:	Time:	Estimated Tons:

Company: ISOCHEM, Inc.
Address: One North Transit Road
Contact: Jim Weber 716-282-4100
City, State: Lockport, NY 14094
Transporter: Direct
Generator WTS#: COV14817 Location #: 1
Shipment Pickup Date/Time:

Waste Information

Approval #:	Add #	Waste Description	Quantity	Class	Packaging
7397		Contaminated Soils			
Additional Approval #'s					

Ship Container #:
Booking #:

Billing Information

Company: Waste Technology Services
Bill to WTS #: COV10703 Location #: 1
Contact: Jim Weber
Telephone: 716-282-4100
Address: 435 North 2nd Street
Fax: 716-282-6986
City, State Zip: Lewiston, NY 14092
Purchase Order #:
COMMENTS:

Certificate of Disposal

To the exclusion of the following comments, the listed material has been received and delivered to the refuse pit or feed chute for combustion in the unit(s) in accordance with the conditions of the approval to accept said wastes as provided for in the Supplemental Waste Disposal Agreement. The listed material has been processed for energy recovery at Covanta Niagara , L.P. in accordance with all applicable local, state, and federal regulations. The placement of these materials into the pit or feed chute was witnessed by:

Company: Covanta Niagara , L.P.
Address: 100 Energy Blvd
City, State,Zip: Niagara Falls, NY 14304
Contact Name: Teresa Lepiane
Telephone: 716-278-8512

X ______________________ __/__/__
Witness Signature: Date

COMMENTS:

For further assistance please contact your Customer Representative: **Rowena Montalvo** **(973) 882-4121**

Note: Some or all of the information contained in this document constitutes trade secret information of the generator, broker or distributor named herein or confidential, proprietary customer subsidiaries or affiliates. Disclosure of this information to any third-parties without prior notice to all parties named on this form, and an opportunity of those parties to request a hearing regarding said disclosure may be prohibited under applicable federal and state laws.

Visit Our Online Customer Center, created with you in mind

REV. 06/2003 **www.CovantaSecureServices.com/CustomerCenter**

COVANTA
SECURE SERVICES

THIS FORM MUST BE COMPLETED AND ACCOMPANY EACH LOAD OF WASTE DELIVERED FOR DISPOSAL.

NON-HAZARDOUS CERTIFICATION

Approval #: 7397 Add #: Ship Container Number:

Company: ISOCHEM, Inc. Address: One North Transit Road

Fax: 716-282-6986 City, State Lockport, NY 14094

Generator WTS#: COV14817 Location #: 1

Waste Description: Contaminated Soils

As an authorized representative of ISOCHEM, Inc., I certify that the materials consigned to

Covanta Niagara , L.P. 100 Energy Blvd Niagara Falls, NY 14304

for destruction by incineration are not subject to regulations as hazardous waste under the Federal Resource Conservation and Recovery Act (RCRA) Regulations, 40 CFR Part 260 et seq., State and Local Regulations.

The materials are non-hazardous, non-TSCA, and non-RCRA hazardous waste. Only those materials described above shall be delivered on this load.

Generator's Authorized Representative

Name: Jim Weber Signature:

Print Title: Date:

Note: Some or all of the information contained in this document constitutes trade secret information of the generator, broker or distributor named herein or confidential, proprietary customer subsidiaries or affiliates. Disclosure of this information to any third-parties without prior notice to all parties named on this form, and an opportunity of those parties to request a hearing regarding said disclosure may be prohibited under applicable federal and state laws.

Find out more about our services @
www.CovantaSecureServices.com/CustomerCenter

REV. 06/2003

July 30, 2011

Mr. Mike Gullo
Modern Landfill, Inc.
P.O. Box 209
Model City, New York 14107

Dear Mr. Gullo:

Vandermark Chemical
1 North Transit
Lockport, New York 14611
Application No. - M11-2482
Aspalt, Crushed Stone and Soil over Coal Tar
Impacted Area

The Department has reviewed your application requesting permission to dispose of the above waste. Based on the information provided this waste and discussion with Mike Hinton this waste is **acceptable for disposal at Modern Landfill as a one time occurrence.** Other waste streams will be reviewed under separate application.

In the event that significant changes in the information presented in this application occurs, you must immediately notify the Department in writing.

Enclosed is a copy of the approved application. If you have any question, please contact me at (716) -851-7220/(716) - 754-8226 ext.233.

Sincerely,

Diana K. Hare
HW Monitor II

cc: Mr. Mark Hans, Regional Solid Materials Engineer

WTS# 31831

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDOUS WASTE - BUREAU OF HAZARDOUS WASTE OPERATIONS
50 WOLF ROAD, ALBANY, NEW YORK 12233-4017

APPLICATION FOR TREATMENT OR DISPOSAL OF AN INDUSTRIAL WASTE STREAM

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

KSW

FOR STATE USE ONLY		
SITE NO. 32N30	APPLICATION NO. MII-2485	DATE RECEIVED 7-5-11
DEPARTMENT ACTION ☐ Approved ☐ Disapproved		DATE

1. NAME OF PROJECT / FACILITY: MODERN LANDFILL INC
2. COUNTY: NIAGARA
3. SITE NUMBER: 32N30
4. NAME OF OWNER: MODERN LANDFILL INC
5. ADDRESS (Street, City, State, Zip Code): 4746 MODEL CITY RD, MODEL CITY, NY
6. TELEPHONE NO: (716)754-8226
7. NAME OF OPERATOR: RICHARD WASHUTA
8. ADDRESS (Street, City, State, Zip Code): PLETCHER&HAROLD RD,MODEL CITY,NY 14107
9. TELEPHONE NO.: (716)754-8226

10. METHOD OF TREATMENT OR DISPOSAL

SANITARY LANDFILL - D90

11. COMPANY GENERATING WASTE: VanDeMark Chemical, Inc.
12. ADDRESS OF FACILITY GENERATING WASTE (Street, City, State, Zip Code): One North Transit Road, Lockport, NY 14094
13. REPRESENTATIVE OF WASTE GENERATOR: Pam Cook
14. MAILING ADDRESS OF REPRESENTATIVE: One North Transit Road, Lockport, NY 14094
15. TELEPHONE NO.: 716-433-6764

16. DESCRIPTION OF PROCESS PRODUCING WASTE

Brick from demolition contaminated with coal tar.

17. EXPECTED ANNUAL WASTE PRODUCTION: 500 Tons/Year one time occurrence Gallons/Year

18. WASTE HAULED IN: ☐ Drums ☐ Bulk Tank ☒ Roll-off Container ☐ Other

19. WASTE COMPOSITION
19a. Average Percent Solids: 100%
19b Physical State: ☐ Liquid ☐ Slurry ☐ Sludge ☒ Solid ☐ Contained Gas
19c pH Range: N/A to N/A

19d

	COMPONENTS	CONCENTRATION (Dry Weight) Upper	Lower	Typical	UNIT (Check one) Wt.%	PPM
1)	Brick	99	96	97	☒	☐
2)	Coal Tar	4	1	3	☒	☐
3)					☐	☐
4)					☐	☐

20. IS AN ANALYSIS OF WASTE ATTACHED? ☒ Yes ☐ No
21. WAS AN ~~EP~~ (TCLP) TOXICITY TEST CONDUCTED ON THE WASTE? ☐ Yes ☒ No If "Yes", attach results
22. MATERIAL IS: ☐ Hazardous ☒ Non-Hazardous

23. DETAIL ALL HAZARD AND NUISANCE PROBLEMS ASSOCIATED WITH THE WASTES. List necessary safety, handling, treatment, and disposal precautions.

Waste No. - N853

24. WHERE WAS MATERIAL DISPOSED OF PREVIOUSLY?

N/A

25. NAME OF WASTE TRANSPORTER: Hazmat Environmental Group
26. ADDRESS (Street, City, State, Zip Code): 60 Commerce Drive, Buffalo, NY 14218
27. NYSDEC PERMIT No.: 9A-278
28. TELEPHONE NO.: 716-827-7200

29. CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

a. SIGNATURE AND TITLE OF REPRESENTATIVE OF WASTE GENERATOR
X [illegible] ENV MGR
DATE 6/16/11

b. SIGNATURE AND TITLE OF REPRESENTATIVE OF TREATMENT OR DISPOSAL FACILITY
X Michael [illegible] - Waste Approval Coordinator
DATE 06/20/11

ATTACHMENT 6

VERIFICATION SAMPLE LABORATORY ANALYTICAL REPORTS

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report Cover Page

Golder Associates

For Lab Project # 11-2434
Issued June 22, 2011
This report contains a total of 12 pages

The reported results relate only to the samples as they have been received by the laboratory.

Any noncompliant QC parameters having impact on the data are flagged or documented on the final report.

All soil/sludge samples have been reported on a dry weight basis, unless qualified “reported as received”. Other solids are reported as received.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of frequently used data flags and their meaning:

“<” = analyzed for but not detected at or above the reporting limit.
“E” = Result has been estimated, calibration limit exceeded.
“Z” = See case narrative.
“D” = Duplicate results outside QC limits. May indicate a non-homogenous matrix.
“M” = Matrix spike recoveries outside QC limits. Matrix bias indicated.
“B” = Method blank contained trace levels of analyte. Refer to included method blank report.

PARADIGM

179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Semi-Volatile Analysis Report for Soils/Solids/Sludges

Client: Golder Associates

Client Job Site:	SNPE / VDM Site	**Lab Project Number:**	11-2434
		Lab Sample Number:	8063
Client Job Number:	093-89168		
Field Location:	Floor	**Date Sampled:**	06/16/2011
Field ID Number:	N/A	**Date Received:**	06/16/2011
Sample Type:	Soil	**Date Analyzed:**	06/18/2011

Base / Neutrals	Results in ug / Kg	Base / Neutrals	Results in ug / Kg
Acenaphthene	9,520	Dibenz (a,h) anthracene	< 8,140
Anthracene	17,800	Fluoranthene	55,100
Benzo (a) anthracene	46,700	Fluorene	9,080
Benzo (a) pyrene	34,300	Indeno (1,2,3-cd) pyrene	21,300
Benzo (b) fluoranthene	25,300	Naphthalene	< 8,140
Benzo (g,h,i) perylene	35,000	Phenanthrene	62,000
Benzo (k) fluoranthene	20,000	Pyrene	97,200
Chrysene	52,800	Acenaphthylene	< 8,140
Diethyl phthalate	< 8,140	1,2-Dichlorobenzene	< 8,140
Dimethyl phthalate	< 20,300	1,3-Dichlorobenzene	< 8,140
Butylbenzylphthalate	< 8,140	1,4-Dichlorobenzene	< 8,140
Di-n-butyl phthalate	< 8,140	1,2,4-Trichlorobenzene	< 8,140
Di-n-octylphthalate	< 8,140	Nitrobenzene	< 8,140
Bis (2-ethylhexyl) phthalate	< 8,140	2,4-Dinitrotoluene	< 8,140
2-Chloronaphthalene	< 8,140	2,6-Dinitrotoluene	< 8,140
Hexachlorobenzene	< 8,140	Bis (2-chloroethyl) ether	< 8,140
Hexachloroethane	< 8,140	Bis (2-chloroisopropyl) ether	< 8,140
Hexachlorocyclopentadiene	< 8,140	Bis (2-chloroethoxy) methane	< 8,140
Hexachlorobutadiene	< 8,140	4-Bromophenyl phenyl ether	< 8,140
N-Nitroso-di-n-propylamine	< 8,140	4-Chlorophenyl phenyl ether	< 8,140
N-Nitrosodiphenylamine	< 8,140	Benzidine	< 20,300
N-Nitrosodimethylamine	< 8,140	3,3'-Dichlorobenzidine	< 8,140
Isophorone	< 8,140	4-Chloroaniline	< 8,140
Benzyl alcohol	< 20,300	2-Nitroaniline	< 20,300
Dibenzofuran	< 8,140	3-Nitroaniline	< 20,300
2-Methylnapthalene	< 8,140	4-Nitroaniline	< 20,300

Acids	Results in ug / Kg	Acids	Results in ug / Kg
Phenol	< 8,140	2-Methylphenol	< 8,140
2-Chlorophenol	< 8,140	3&4-Methylphenol	< 8,140
2,4-Dichlorophenol	< 8,140	2,4-Dimethylphenol	< 8,140
2,6-Dichlorophenol	< 8,140	2-Nitrophenol	< 8,140
2,4,5-Trichlorophenol	< 20,300	4-Nitrophenol	< 20,300
2,4,6-Trichlorophenol	< 8,140	2,4-Dinitrophenol	< 20,300
Pentachlorophenol	< 20,300	4,6-Dinitro-2-methylphenol	< 20,300
4-Chloro-3-methylphenol	< 8,140	Benzoic acid	< 20,300

ELAP Number 10958 Analytical Method: EPA 8270C Data File: S57268.D

Prep Method: EPA 3550C

Comments: ug / Kg = microgram per Kilogram

Signature:

Bruce Hoogesteger, Technical Director

Semi-Volatile Analysis Report for Soils/Solids/Sludges

Client: **Golder Associates**

Client Job Site:	SNPE / VDM Site	**Lab Project Number:**	11-2434
		Lab Sample Number:	8064
Client Job Number:	093-89168		
Field Location:	West Wall	**Date Sampled:**	06/16/2011
Field ID Number:	N/A	**Date Received:**	06/16/2011
Sample Type:	Soil	**Date Analyzed:**	06/18/2011

Base / Neutrals	Results in ug / Kg	**Base / Neutrals**	Results in ug / Kg
Acenaphthene	24,500	Dibenz (a,h) anthracene	< 16,000
Anthracene	48,400	Fluoranthene	128,000
Benzo (a) anthracene	107,000	Fluorene	23,700
Benzo (a) pyrene	83,500	Indeno (1,2,3-cd) pyrene	< 16,000
Benzo (b) fluoranthene	62,400	Naphthalene	< 16,000
Benzo (g,h,i) perylene	40,400	Phenanthrene	158,000
Benzo (k) fluoranthene	48,100	Pyrene	208,000
Chrysene	115,000	Acenaphthylene	< 16,000
Diethyl phthalate	< 16,000	1,2-Dichlorobenzene	< 16,000
Dimethyl phthalate	< 40,100	1,3-Dichlorobenzene	< 16,000
Butylbenzylphthalate	< 16,000	1,4-Dichlorobenzene	< 16,000
Di-n-butyl phthalate	< 16,000	1,2,4-Trichlorobenzene	< 16,000
Di-n-octylphthalate	< 16,000	Nitrobenzene	< 16,000
Bis (2-ethylhexyl) phthalate	< 16,000	2,4-Dinitrotoluene	< 16,000
2-Chloronaphthalene	< 16,000	2,6-Dinitrotoluene	< 16,000
Hexachlorobenzene	< 16,000	Bis (2-chloroethyl) ether	< 16,000
Hexachloroethane	< 16,000	Bis (2-chloroisopropyl) ether	< 16,000
Hexachlorocyclopentadiene	< 16,000	Bis (2-chloroethoxy) methane	< 16,000
Hexachlorobutadiene	< 16,000	4-Bromophenyl phenyl ether	< 16,000
N-Nitroso-di-n-propylamine	< 16,000	4-Chlorophenyl phenyl ether	< 16,000
N-Nitrosodiphenylamine	< 16,000	Benzidine	< 40,100
N-Nitrosodimethylamine	< 16,000	3,3'-Dichlorobenzidine	< 16,000
Isophorone	< 16,000	4-Chloroaniline	< 16,000
Benzyl alcohol	< 40,100	2-Nitroaniline	< 40,100
Dibenzofuran	< 16,000	3-Nitroaniline	< 40,100
2-Methylnapthalene	< 16,000	4-Nitroaniline	< 40,100

Acids	Results in ug / Kg	**Acids**	Results in ug / Kg
Phenol	< 16,000	2-Methylphenol	< 16,000
2-Chlorophenol	< 16,000	3&4-Methylphenol	< 16,000
2,4-Dichlorophenol	< 16,000	2,4-Dimethylphenol	< 16,000
2,6-Dichlorophenol	< 16,000	2-Nitrophenol	< 16,000
2,4,5-Trichlorophenol	< 40,100	4-Nitrophenol	< 40,100
2,4,6-Trichlorophenol	< 16,000	2,4-Dinitrophenol	< 40,100
Pentachlorophenol	< 40,100	4,6-Dinitro-2-methylphenol	< 40,100
4-Chloro-3-methylphenol	< 16,000	Benzoic acid	< 40,100

ELAP Number 10958 Analytical Method: EPA 8270C Data File: S57269.D

Prep Method: EPA 3550C

Comments: ug / Kg = microgram per Kilogram

Signature:

Bruce Hoogesteger: Technical Director

PARADIGM
ENVIRONMENTAL SERVICES, INC

179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Semi-Volatile Analysis Report for Soils/Solids/Sludges

Client: Golder Associates

Client Job Site: SNPE / VDM Site
Lab Project Number: 11-2434
Lab Sample Number: 8065

Client Job Number: 093-89168
Field Location: North Wall
Field ID Number: N/A
Sample Type: Soil
Date Sampled: 06/16/2011
Date Received: 06/16/2011
Date Analyzed: 06/18/2011

Base / Neutrals	Results in ug / Kg	**Base / Neutrals**	Results in ug / Kg
Acenaphthene	13,200	Dibenz (a,h) anthracene	< 7,940
Anthracene	25,300	Fluoranthene	63,200
Benzo (a) anthracene	49,500	Fluorene	14,100
Benzo (a) pyrene	36,500	Indeno (1,2,3-cd) pyrene	11,800
Benzo (b) fluoranthene	28,300	Naphthalene	< 7,940
Benzo (g,h,i) perylene	17,400	Phenanthrene	85,500
Benzo (k) fluoranthene	19,900	Pyrene	108,000
Chrysene	56,200	Acenaphthylene	< 7,940
Diethyl phthalate	< 7,940	1,2-Dichlorobenzene	< 7,940
Dimethyl phthalate	< 19,800	1,3-Dichlorobenzene	< 7,940
Butylbenzylphthalate	< 7,940	1,4-Dichlorobenzene	< 7,940
Di-n-butyl phthalate	< 7,940	1,2,4-Trichlorobenzene	< 7,940
Di-n-octylphthalate	< 7,940	Nitrobenzene	< 7,940
Bis (2-ethylhexyl) phthalate	< 7,940	2,4-Dinitrotoluene	< 7,940
2-Chloronaphthalene	< 7,940	2,6-Dinitrotoluene	< 7,940
Hexachlorobenzene	< 7,940	Bis (2-chloroethyl) ether	< 7,940
Hexachloroethane	< 7,940	Bis (2-chloroisopropyl) ether	< 7,940
Hexachlorocyclopentadiene	< 7,940	Bis (2-chloroethoxy) methane	< 7,940
Hexachlorobutadiene	< 7,940	4-Bromophenyl phenyl ether	< 7,940
N-Nitroso-di-n-propylamine	< 7,940	4-Chlorophenyl phenyl ether	< 7,940
N-Nitrosodiphenylamine	< 7,940	Benzidine	< 19,800
N-Nitrosodimethylamine	< 7,940	3,3'-Dichlorobenzidine	< 7,940
Isophorone	< 7,940	4-Chloroaniline	< 7,940
Benzyl alcohol	< 19,800	2-Nitroaniline	< 19,800
Dibenzofuran	< 7,940	3-Nitroaniline	< 19,800
2-Methylnapthalene	< 7,940	4-Nitroaniline	< 19,800

Acids	Results in ug / Kg	**Acids**	Results in ug / Kg
Phenol	< 7,940	2-Methylphenol	< 7,940
2-Chlorophenol	< 7,940	3&4-Methylphenol	< 7,940
2,4-Dichlorophenol	< 7,940	2,4-Dimethylphenol	< 7,940
2,6-Dichlorophenol	< 7,940	2-Nitrophenol	< 7,940
2,4,5-Trichlorophenol	< 19,800	4-Nitrophenol	< 19,800
2,4,6-Trichlorophenol	< 7,940	2,4-Dinitrophenol	< 19,800
Pentachlorophenol	< 19,800	4,6-Dinitro-2-methylphenol	< 19,800
4-Chloro-3-methylphenol	< 7,940	Benzoic acid	< 19,800

ELAP Number 10958 Analytical Method: EPA 8270C Data File: S57270.D
Prep Method: EPA 3550C

Comments: ug / Kg = microgram per Kilogram

Signature:

Bruce Hoogesteger: Technical Director

Semi-Volatile Analysis Report for Soils/Solids/Sludges

Client: **Golder Associates**

Client Job Site:	SNPE / VDM Site	**Lab Project Number:**	11-2434
		Lab Sample Number:	8066
Client Job Number:	093-89168		
Field Location:	East Wall	**Date Sampled:**	06/16/2011
Field ID Number:	N/A	**Date Received:**	06/16/2011
Sample Type:	Soil	**Date Analyzed:**	06/18/2011

Base / Neutrals	Results in ug / Kg	**Base / Neutrals**	Results in ug / Kg
Acenaphthene	< 8,190	Dibenz (a,h) anthracene	< 8,190
Anthracene	13,100	Fluoranthene	38,400
Benzo (a) anthracene	31,100	Fluorene	< 8,190
Benzo (a) pyrene	23,200	Indeno (1,2,3-cd) pyrene	10,200
Benzo (b) fluoranthene	17,300	Naphthalene	< 8,190
Benzo (g,h,i) perylene	12,100	Phenanthrene	38,900
Benzo (k) fluoranthene	13,800	Pyrene	65,400
Chrysene	34,400	Acenaphthylene	< 8,190
Diethyl phthalate	< 8,190	1,2-Dichlorobenzene	< 8,190
Dimethyl phthalate	< 20,500	1,3-Dichlorobenzene	< 8,190
Butylbenzylphthalate	< 8,190	1,4-Dichlorobenzene	< 8,190
Di-n-butyl phthalate	< 8,190	1,2,4-Trichlorobenzene	< 8,190
Di-n-octylphthalate	< 8,190	Nitrobenzene	< 8,190
Bis (2-ethylhexyl) phthalate	< 8,190	2,4-Dinitrotoluene	< 8,190
2-Chloronaphthalene	< 8,190	2,6-Dinitrotoluene	< 8,190
Hexachlorobenzene	< 8,190	Bis (2-chloroethyl) ether	< 8,190
Hexachloroethane	< 8,190	Bis (2-chloroisopropyl) ether	< 8,190
Hexachlorocyclopentadiene	< 8,190	Bis (2-chloroethoxy) methane	< 8,190
Hexachlorobutadiene	< 8,190	4-Bromophenyl phenyl ether	< 8,190
N-Nitroso-di-n-propylamine	< 8,190	4-Chlorophenyl phenyl ether	< 8,190
N-Nitrosodiphenylamine	< 8,190	Benzidine	< 20,500
N-Nitrosodimethylamine	< 8,190	3,3'-Dichlorobenzidine	< 8,190
Isophorone	< 8,190	4-Chloroaniline	< 8,190
Benzyl alcohol	< 20,500	2-Nitroaniline	< 20,500
Dibenzofuran	< 8,190	3-Nitroaniline	< 20,500
2-Methylnapthalene	< 8,190	4-Nitroaniline	< 20,500

Acids	Results in ug / Kg	**Acids**	Results in ug / Kg
Phenol	< 8,190	2-Methylphenol	< 8,190
2-Chlorophenol	< 8,190	3&4-Methylphenol	< 8,190
2,4-Dichlorophenol	< 8,190	2,4-Dimethylphenol	< 8,190
2,6-Dichlorophenol	< 8,190	2-Nitrophenol	< 8,190
2,4,5-Trichlorophenol	< 20,500	4-Nitrophenol	< 20,500
2,4,6-Trichlorophenol	< 8,190	2,4-Dinitrophenol	< 20,500
Pentachlorophenol	< 20,500	4,6-Dinitro-2-methylphenol	< 20,500
4-Chloro-3-methylphenol	< 8,190	Benzoic acid	< 20,500

ELAP Number 10958 Analytical Method: EPA 8270C Data File: S57273.D

Prep Method: EPA 3550C

Comments: ug / Kg = microgram per Kilogram

Signature:

Bruce Hoogesteger: Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt.

Semi-Volatile Analysis Report for Soils/Solids/Sludges

Client: **Golder Associates**

Client Job Site:	SNPE / VDM Site	**Lab Project Number:**	11-2434
		Lab Sample Number:	8067
Client Job Number:	093-89168		
Field Location:	South Wall	**Date Sampled:**	06/16/2011
Field ID Number:	N/A	**Date Received:**	06/16/2011
Sample Type:	Soil	**Date Analyzed:**	06/18/2011

Base / Neutrals	Results in ug / Kg	Base / Neutrals	Results in ug / Kg
Acenaphthene	33,300	Dibenz (a,h) anthracene	19,600
Anthracene	64,500	Fluoranthene	192,000
Benzo (a) anthracene	160,000	Fluorene	27,300
Benzo (a) pyrene	126,000	Indeno (1,2,3-cd) pyrene	67,800
Benzo (b) fluoranthene	88,500	Naphthalene	< 16,700
Benzo (g,h,i) perylene	62,400	Phenanthrene	182,000
Benzo (k) fluoranthene	81,200	Pyrene	297,000
Chrysene	168,000	Acenaphthylene	< 16,700
Diethyl phthalate	< 16,700	1,2-Dichlorobenzene	< 16,700
Dimethyl phthalate	< 41,700	1,3-Dichlorobenzene	< 16,700
Butylbenzylphthalate	< 16,700	1,4-Dichlorobenzene	< 16,700
Di-n-butyl phthalate	< 16,700	1,2,4-Trichlorobenzene	< 16,700
Di-n-octylphthalate	< 16,700	Nitrobenzene	< 16,700
Bis (2-ethylhexyl) phthalate	< 16,700	2,4-Dinitrotoluene	< 16,700
2-Chloronaphthalene	< 16,700	2,6-Dinitrotoluene	< 16,700
Hexachlorobenzene	< 16,700	Bis (2-chloroethyl) ether	< 16,700
Hexachloroethane	< 16,700	Bis (2-chloroisopropyl) ether	< 16,700
Hexachlorocyclopentadiene	< 16,700	Bis (2-chloroethoxy) methane	< 16,700
Hexachlorobutadiene	< 16,700	4-Bromophenyl phenyl ether	< 16,700
N-Nitroso-di-n-propylamine	< 16,700	4-Chlorophenyl phenyl ether	< 16,700
N-Nitrosodiphenylamine	< 16,700	Benzidine	< 41,700
N-Nitrosodimethylamine	< 16,700	3,3'-Dichlorobenzidine	< 16,700
Isophorone	< 16,700	4-Chloroaniline	< 16,700
Benzyl alcohol	< 41,700	2-Nitroaniline	< 41,700
Dibenzofuran	< 16,700	3-Nitroaniline	< 41,700
2-Methylnapthalene	< 16,700	4-Nitroaniline	< 41,700

Acids	Results in ug / Kg	Acids	Results in ug / Kg
Phenol	< 16,700	2-Methylphenol	< 16,700
2-Chlorophenol	< 16,700	3&4-Methylphenol	< 16,700
2,4-Dichlorophenol	< 16,700	2,4-Dimethylphenol	< 16,700
2,6-Dichlorophenol	< 16,700	2-Nitrophenol	< 16,700
2,4,5-Trichlorophenol	< 41,700	4-Nitrophenol	< 41,700
2,4,6-Trichlorophenol	< 16,700	2,4-Dinitrophenol	< 41,700
Pentachlorophenol	< 41,700	4,6-Dinitro-2-methylphenol	< 41,700
4-Chloro-3-methylphenol	< 16,700	Benzoic acid	< 41,700

ELAP Number 10958 Analytical Method: EPA 8270C Data File: S57274.D

Prep Method: EPA 3550C

Comments: ug / Kg = microgram per Kilogram

Signature:

Bruce Hoogesteger: Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt.

Semi-Volatile Analysis Report for Soils/Solids/Sludges

Client: **Golder Associates**

Client Job Site:	SNPE / VDM Site	**Lab Project Number:**	11-2434
		Lab Sample Number:	8068
Client Job Number:	093-89168		
Field Location:	Duplicate	**Date Sampled:**	06/16/2011
Field ID Number:	N/A	**Date Received:**	06/16/2011
Sample Type:	Soil	**Date Analyzed:**	06/18/2011

Base / Neutrals	Results in ug / Kg	**Base / Neutrals**	Results in ug / Kg
Acenaphthene	9,250	Dibenz (a,h) anthracene	< 8,060
Anthracene	20,100	Fluoranthene	62,800
Benzo (a) anthracene	51,800	Fluorene	9,470
Benzo (a) pyrene	37,500	Indeno (1,2,3-cd) pyrene	15,900
Benzo (b) fluoranthene	31,300	Naphthalene	< 8,060
Benzo (g,h,i) perylene	19,600	Phenanthrene	71,400
Benzo (k) fluoranthene	20,000	Pyrene	107,000
Chrysene	58,900	Acenaphthylene	< 8,060
Diethyl phthalate	< 8,060	1,2-Dichlorobenzene	< 8,060
Dimethyl phthalate	< 20,100	1,3-Dichlorobenzene	< 8,060
Butylbenzylphthalate	< 8,060	1,4-Dichlorobenzene	< 8,060
Di-n-butyl phthalate	< 8,060	1,2,4-Trichlorobenzene	< 8,060
Di-n-octylphthalate	< 8,060	Nitrobenzene	< 8,060
Bis (2-ethylhexyl) phthalate	< 8,060	2,4-Dinitrotoluene	< 8,060
2-Chloronaphthalene	< 8,060	2,6-Dinitrotoluene	< 8,060
Hexachlorobenzene	< 8,060	Bis (2-chloroethyl) ether	< 8,060
Hexachloroethane	< 8,060	Bis (2-chloroisopropyl) ether	< 8,060
Hexachlorocyclopentadiene	< 8,060	Bis (2-chloroethoxy) methane	< 8,060
Hexachlorobutadiene	< 8,060	4-Bromophenyl phenyl ether	< 8,060
N-Nitroso-di-n-propylamine	< 8,060	4-Chlorophenyl phenyl ether	< 8,060
N-Nitrosodiphenylamine	< 8,060	Benzidine	< 20,100
N-Nitrosodimethylamine	< 8,060	3,3'-Dichlorobenzidine	< 8,060
Isophorone	< 8,060	4-Chloroaniline	< 8,060
Benzyl alcohol	< 20,100	2-Nitroaniline	< 20,100
Dibenzofuran	< 8,060	3-Nitroaniline	< 20,100
2-Methylnapthalene	< 8,060	4-Nitroaniline	< 20,100

Acids	Results in ug / Kg	**Acids**	Results in ug / Kg
Phenol	< 8,060	2-Methylphenol	< 8,060
2-Chlorophenol	< 8,060	3&4-Methylphenol	< 8,060
2,4-Dichlorophenol	< 8,060	2,4-Dimethylphenol	< 8,060
2,6-Dichlorophenol	< 8,060	2-Nitrophenol	< 8,060
2,4,5-Trichlorophenol	< 20,100	4-Nitrophenol	< 20,100
2,4,6-Trichlorophenol	< 8,060	2,4-Dinitrophenol	< 20,100
Pentachlorophenol	< 20,100	4,6-Dinitro-2-methylphenol	< 20,100
4-Chloro-3-methylphenol	< 8,060	Benzoic acid	< 20,100

ELAP Number 10958 Analytical Method: EPA 8270C Data File: S57275.D

Prep Method: EPA 3550C

Comments: ug / Kg = microgram per Kilogram

Signature:

Bruce Hoogesteger: Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt.

Semi-Volatile Analysis Report for Soils/Solids/Sludges

Client: **Golder Associates**

Client Job Site: SNPE / VDM Site
Lab Project Number: 11-2434
Lab Sample Number: Soil PB 06/16

Client Job Number: 093-89168
Field Location: N/A
Field ID Number: N/A
Sample Type: Soil
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 06/17/2011

Base / Neutrals	Results in ug / Kg	Base / Neutrals	Results in ug / Kg
Acenaphthene	< 286	Dibenz (a,h) anthracene	< 286
Anthracene	< 286	Fluoranthene	< 286
Benzo (a) anthracene	< 286	Fluorene	< 286
Benzo (a) pyrene	< 286	Indeno (1,2,3-cd) pyrene	< 286
Benzo (b) fluoranthene	< 286	Naphthalene	< 286
Benzo (g,h,i) perylene	< 286	Phenanthrene	< 286
Benzo (k) fluoranthene	< 286	Pyrene	< 286
Chrysene	< 286	Acenaphthylene	< 286
Diethyl phthalate	< 286	1,2-Dichlorobenzene	< 286
Dimethyl phthalate	< 714	1,3-Dichlorobenzene	< 286
Butylbenzylphthalate	< 286	1,4-Dichlorobenzene	< 286
Di-n-butyl phthalate	< 286	1,2,4-Trichlorobenzene	< 286
Di-n-octylphthalate	< 286	Nitrobenzene	< 286
Bis (2-ethylhexyl) phthalate	< 286	2,4-Dinitrotoluene	< 286
2-Chloronaphthalene	< 286	2,6-Dinitrotoluene	< 286
Hexachlorobenzene	< 286	Bis (2-chloroethyl) ether	< 286
Hexachloroethane	< 286	Bis (2-chloroisopropyl) ether	< 286
Hexachlorocyclopentadiene	< 286	Bis (2-chloroethoxy) methane	< 286
Hexachlorobutadiene	< 286	4-Bromophenyl phenyl ether	< 286
N-Nitroso-di-n-propylamine	< 286	4-Chlorophenyl phenyl ether	< 286
N-Nitrosodiphenylamine	< 286	Benzidine	< 714
N-Nitrosodimethylamine	< 286	3,3'-Dichlorobenzidine	< 286
Isophorone	< 286	4-Chloroaniline	< 286
Benzyl alcohol	< 714	2-Nitroaniline	< 714
Dibenzofuran	< 286	3-Nitroaniline	< 714
2-Methylnapthalene	< 286	4-Nitroaniline	< 714

Acids	Results in ug / Kg	Acids	Results in ug / Kg
Phenol	< 286	2-Methylphenol	< 286
2-Chlorophenol	< 286	3&4-Methylphenol	< 286
2,4-Dichlorophenol	< 286	2,4-Dimethylphenol	< 286
2,6-Dichlorophenol	< 286	2-Nitrophenol	< 286
2,4,5-Trichlorophenol	< 714	4-Nitrophenol	< 714
2,4,6-Trichlorophenol	< 286	2,4-Dinitrophenol	< 714
Pentachlorophenol	< 714	4,6-Dinitro-2-methylphenol	< 714
4-Chloro-3-methylphenol	< 286	Benzoic acid	< 714

ELAP Number 10958 Analytical Method: EPA 8270C Data File: S57237.D
Prep Method: EPA 3550C

Comments: ug / Kg = microgram per Kilogram

Signature:
Bruce Hoogesteger: Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt.

Semi-Volatile Analysis Report for Soils/Solids/Sludges

Client: **Golder Associates**

Client Job Site: SNPE / VDM Site
Lab Project Number: 11-2434
SDG# : N/A
Lab Sample Number: Soil LCS 06/16

Client Job Number: 093-89168
Field Location: N/A
Field ID Number: N/A
Sample Type: Soil

Date Sampled: N/A
Date Received: N/A
Date Analyzed: 06/17/2011

Spiked Compound	Sample Results in ug / Kg	LCS Spiked in ug / Kg	LCS Results in ug / Kg	LCS Percent Recovery	MSD Spiked in ug / Kg	MSD Results in ug / Kg	MSD Percent Recovery	MS / MSD % RPD
2-Chlorophenol	< 286	2,140	1,530	71.5	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	< 286	1,430	966	67.6	N/A	N/A	N/A	N/A
N-Nitroso-di-n-propylamine	< 286	1,430	1,050	73.4	N/A	N/A	N/A	N/A
Phenol	< 286	2,140	1,550	72.4	N/A	N/A	N/A	N/A
4-Chloro-3-methylphenol	< 286	2,140	1,730	80.8	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	< 286	1,430	946	66.2	N/A	N/A	N/A	N/A
Acenaphthene	< 286	1,430	1,040	72.7	N/A	N/A	N/A	N/A
2,4-Dinitrotoluene	< 286	1,430	1,100	76.9	N/A	N/A	N/A	N/A
4-Nitrophenol	< 714	2,140	1,630	76.2	N/A	N/A	N/A	N/A
Pentachlorophenol	< 714	2,140	1,420	66.4	N/A	N/A	N/A	N/A
Pyrene	< 286	1,430	1,150	80.4	N/A	N/A	N/A	N/A

ELAP Number 10958
Data File: S57237.D
Data File: S57238.D
Method: EPA 8270C

Semi-Volatile Analysis Report for Soils/Solids/Sludges

Client: **Golder Associates**

Client Job Site: SNPE / VDM Site
Lab Project Number: 11-2434
SDG# : N/A
Lab Sample Number: 8065

Client Job Number: 093-89168
Field Location: North Wall
Field ID Number: N/A
Sample Type: Soil

Date Sampled: N/A
Date Received: N/A
Date Analyzed: 06/17/2011

Spiked Compound	Sample Results in ug / Kg	MS Spiked in ug / Kg	MS Results in ug / Kg	MS Percent Recovery	MSD Spiked in ug / Kg	MSD Results in ug / Kg	MSD Percent Recovery	MS / MSD % RPD
2-Chlorophenol	< 7,940	60,000	D	D	60,200	D	D	N/A
1,4-Dichlorobenzene	< 7,940	40,000	D	D	40,100	D	D	N/A
N-Nitroso-di-n-propylamine	< 7,940	40,000	D	D	40,100	D	D	N/A
Phenol	< 7,940	60,000	D	D	60,200	D	D	N/A
4-Chloro-3-methylphenol	< 7,940	60,000	D	D	60,200	D	D	N/A
1,2,4-Trichlorobenzene	< 7,940	40,000	D	D	40,100	D	D	N/A
Acenaphthene	13,200	40,000	D	D	40,100	D	D	N/A
2,4-Dinitrotoluene	< 7,940	40,000	D	D	40,100	D	D	N/A
4-Nitrophenol	< 19,800	60,000	D	D	60,200	D	D	N/A
Pentachlorophenol	< 19,800	60,000	D	D	60,200	D	D	N/A
Pyrene	108,000	40,000	D	D	40,100	D	D	N/A

ELAP Number 10958 Data File: S57270.D Data File: S57271.D Data File: S57272.D Method: EPA 8270C

D = Spike diluted out

PARADIGM
ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Semi-Volatile Soils Analysis QC Limits

Limits effective: Jun 06,2011
Through: Sep 30,2011

Spiked Compound	Soil Spike Limits		Soil % RPD Limits		Water Spike Limits		Water % RPD Limits	
	Lower %	Upper %	Lower %	Upper %	Lower %	Upper %	Lower %	Upper %
2-Chlorophenol	60.1	95.6	0	22.1	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	58.7	91.3	0	20.0	N/A	N/A	N/A	N/A
N-Nitroso-di-n-propylamine	39.8	122	0	22.0	N/A	N/A	N/A	N/A
Phenol	62.2	94.3	0	22.3	N/A	N/A	N/A	N/A
4-Chloro-3-methylphenol	67.7	108	0	26.1	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	56.3	90.1	0	23.6	N/A	N/A	N/A	N/A
Acenaphthene	65.9	100	0	21.8	N/A	N/A	N/A	N/A
2,4-Dinitrotoluene	64.8	107	0	25.8	N/A	N/A	N/A	N/A
4-Nitrophenol	51.7	114	0	34.6	N/A	N/A	N/A	N/A
Pentachlorophenol	49.8	122	0	50.6	N/A	N/A	N/A	N/A
Pyrene	68.0	115	0	26.4	N/A	N/A	N/A	N/A

ELAP Number 10958

Method: EPA 8270C

PARADIGM
ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

REPORT TO:

COMPANY: Golder Associates
ADDRESS: 2430 N. Forest Rd, Suite 100
CITY: Getzville STATE: NY ZIP: 14068
PHONE: 716-204-5880 FAX: 716-204-5878
ATTN: Pat Martin
COMMENTS:

INVOICE TO:

COMPANY: Same
ADDRESS:
CITY: STATE: ZIP:
PHONE: FAX:
ATTN:

LAB PROJECT #: 11-2434
CLIENT PROJECT #: 093-89168

TURNAROUND TIME: (WORKING DAYS)
☐ 1 ☐ 2 ☐ 3 ☐ 5 STD ☐ OTHER

Quotation # JH060311

PROJECT NAME/SITE NAME: SNPE/VDM Site ~~VanDeMark/Lockport~~ CPC BH 6/20/2011

REQUESTED ANALYSIS

	DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER CONTAINERS	8270 SVOCs TCL perquote EAH 6/16										REMARKS	PARADIGM LAB SAMPLE NUMBER
1	6-16-11	825	X		Floor	Soil	1	X										Early Monday	8063
2	↓	830	↓		West Wall	↓	↓	↓										morning results	8064
3	↓	841	↓		North Wall	↓	↓	↓										6/20/11.	8065
4	↓	842	↓		North Wall MS/MSD	↓	↓	↓											
5	↓	850	↓		East Wall	↓	↓	↓											8066
6	↓	855	↓		South Wall	↓	↓	↓											8067
7	↓	—	↓		Duplicate	↓	↓	↓											8068
8	~~6-16-11~~	~~843~~	~~X~~		~~North Wall MS~~	~~soil~~	~~1~~	~~X~~											
9																			
10																			

LAB USE ONLY BELOW THIS LINE

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter		NELAC Compliance	
Container Type:		Y ☒	N ☐
Comments:			
Preservation:	N/A	Y ☐	N ☐
Comments:			
Holding Time:		Y ☒	N ☐
Comments:			
Temperature:		Y ☒	N ☐
Comments:	12°C iced pres. begun in field		

Sampled By — Date/Time: 6-16-11 / 9:00

Relinquished By — Date/Time: 6-16-11 / 9:15

Received By — Date/Time: 6-16-11 9:15

Received @ Lab By: Elizabeth A Honck — Date/Time: 6/16/11 1413

Total Cost: ☐

P.I.F. ☐

Analytical Report Cover Page

Golder Associates Inc.

For Lab Project # 11-2665
Issued July 5, 2011
This report contains a total of 3 pages

The reported results relate only to the samples as they have been received by the laboratory.

Any noncompliant QC parameters having impact on the data are flagged or documented on the final report.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

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The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of frequently used data flags and their meaning:

"<" = analyzed for but not detected at or above the reporting limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Duplicate results outside QC limits. May indicate a non-homogenous matrix.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.

PARADIGM
ENVIRONMENTAL SERVICES, INC

179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Semi-Volatile Analysis Report for Soils/Solids/Sludges

Client: **Golder Associates Inc**

Client Job Site: SNPE/VDM Site (ICM)
Lab Project Number: 11-2665
Lab Sample Number: 8799

Client Job Number: 093-89168
Field Location: SNPE/VDM / East Alley Comp
Field ID Number: N/A
Sample Type: Soil
Date Sampled: 06/27/2011
Date Received: 06/29/2011
Date Analyzed: 07/01/2011

Base / Neutrals	Results in ug / Kg	Base / Neutrals	Results in ug / Kg
Acenaphthene	61,200	Dibenz (a,h) anthracene	< 38,100
Anthracene	115,000	Fluoranthene	282,000
Benzo (a) anthracene	218,000	Fluorene	45,900
Benzo (a) pyrene	176,000	Indeno (1,2,3-cd) pyrene	91,900
Benzo (b) fluoranthene	146,000	Naphthalene	61,100
Benzo (g,h,i) perylene	97,100	Phenanthrene	411,000
Benzo (k) fluoranthene	104,000	Pyrene	413,000
Chrysene	231,000	Acenaphthylene	< 38,100
Diethyl phthalate	< 38,100	1,2-Dichlorobenzene	< 38,100
Dimethyl phthalate	< 95,300	1,3-Dichlorobenzene	< 38,100
Butylbenzylphthalate	< 38,100	1,4-Dichlorobenzene	< 38,100
Di-n-butyl phthalate	< 38,100	1,2,4-Trichlorobenzene	< 38,100
Di-n-octylphthalate	< 38,100	Nitrobenzene	< 38,100
Bis (2-ethylhexyl) phthalate	< 38,100	2,4-Dinitrotoluene	< 38,100
2-Chloronaphthalene	< 38,100	2,6-Dinitrotoluene	< 38,100
Hexachlorobenzene	< 38,100	Bis (2-chloroethyl) ether	< 38,100
Hexachloroethane	< 38,100	Bis (2-chloroisopropyl) ether	< 38,100
Hexachlorocyclopentadiene	< 38,100	Bis (2-chloroethoxy) methane	< 38,100
Hexachlorobutadiene	< 38,100	4-Bromophenyl phenyl ether	< 38,100
N-Nitroso-di-n-propylamine	< 38,100	4-Chlorophenyl phenyl ether	< 38,100
N-Nitrosodiphenylamine	< 38,100	Benzidine	< 95,300
N-Nitrosodimethylamine	< 38,100	3,3'-Dichlorobenzidine	< 38,100
Isophorone	< 38,100	4-Chloroaniline	< 38,100
Benzyl alcohol	< 95,300	2-Nitroaniline	< 95,300
Dibenzofuran	< 38,100	3-Nitroaniline	< 95,300
2-Methylnapthalene	56,100	4-Nitroaniline	< 95,300

Acids	Results in ug / Kg	Acids	Results in ug / Kg
Phenol	< 38,100	2-Methylphenol	< 38,100
2-Chlorophenol	< 38,100	3&4-Methylphenol	< 38,100
2,4-Dichlorophenol	< 38,100	2,4-Dimethylphenol	< 38,100
2,6-Dichlorophenol	< 38,100	2-Nitrophenol	< 38,100
2,4,5-Trichlorophenol	< 95,300	4-Nitrophenol	< 95,300
2,4,6-Trichlorophenol	< 38,100	2,4-Dinitrophenol	< 95,300
Pentachlorophenol	< 95,300	4,6-Dinitro-2-methylphenol	< 95,300
4-Chloro-3-methylphenol	< 38,100	Benzoic acid	< 95,300

ELAP Number 10958
Analytical Method: EPA 8270C
Data File: S57423.D
Prep Method: EPA 3550C

Comments: ug / Kg = microgram per Kilogram

Signature: ______________________
Bruce Hoogesteger: Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

11-2605

REPORT TO:	INVOICE TO:
COMPANY: GOLDER ASSOCIATES INC	COMPANY: Same
ADDRESS: 2430 N. FOREST RD STE 100	ADDRESS:
CITY: GETZVILLE STATE: NY ZIP: 14068	CITY: STATE: ZIP:
PHONE: 716-204-5880 FAX:	PHONE: FAX:
ATTN: PATRICK MARTIN	ATTN:
COMMENTS:	

LAB PROJECT #: ~~11-2134~~

CLIENT PROJECT #: 093-89165

TURNAROUND TIME: (WORKING DAYS)

☐ 1 ☐ 2 ☐ 3 ☒ 5 (STD) ☐ OTHER

Quotation # JT+060311

PROJECT NAME/SITE NAME: SNPE/VDM SITE (ICM)

DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER CONTAINERS	REQUESTED ANALYSIS 8270 SVOCs (TCL)										REMARKS	PARADIGM LAB SAMPLE NUMBER
1 6/27/11	14:30	X		SNPE/VDM / EAST ALLEY COMP	SOIL	1	X											8799
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

****LAB USE ONLY BELOW THIS LINE****

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter	NELAC Compliance	
Container Type: Comments:	Y ☒	N ☐
Preservation: Comments: NA	Y ☐	N ☐
Holding Time: Comments:	Y ☒	N ☐
Temperature: Comments: 3°C iced from temp blk	Y ☒	N ☐

Sampled By: Patrick J. Martin Date/Time: 6/27/11 14:30

Relinquished By: Patrick J. Martin Date/Time: 6/28/11

Received By: Date/Time: 6/28/11 1332

Received @ Lab By: Date/Time: 6/29/11 1440

Total Cost: ☐

P.I.F. ☐

ATTACHMENT 7

WASTE MANIFESTS AND SCALE TICKETS

MODERN Corporation

Modern Disposal Services, Inc.
4746 Model City Road
PO Box 209
Model City, NY 14107
TEL. (716) 754-8226 (800) 662-0012 FAX. (716) 754-8964

Work Order: WO0000296944

Route: M2081 Map Grid:

Service Date: 10/04/2011

Rep/Order Date: MODERN\gabe 10/3/2011 7:02am

Requested By:

Bin # Dropped: __________

Bin # Picked up: __________

Trip Charge Reason: __________

Arrival Time: 7:00 Depart Time: 730

Customer #: 027592 PO #:
Site #: 0275920001
Customer Name: OREGANS

Address: 1 NORTH TRANSIT RD, VANDEMARK CHEMIC
City: LOCKPORT
Contact: ANDRE LAUDBACKER
Phone: (716) 434-0144

Time Windows

Recurring:	0	0	Open/Close:	0	0	Destination
Removal:	0	0	Delivery:	0	0	

Work Order	Qty	Action	Type	Description
0000296944	1	HAULING	DUMPTRUCK	Dump Truck Services

Service Notes: TONS CONTAMINATED SOIL (M11-2482)

78880

Access Notes:

Detailed Notes:

Work Order Notes: ******* OMN SITE 7:00 AM ********** ANDY LAUDBACKER IS THE CONTACT 946-0589

PLEASE NOTE-INDEMNIFICATION AGREEMENT

The Customer agrees to indemnify, defend and hold harmless the Contractor against all claims, damages, suits, judgments, penalties, fines and other liability or injury or death to persons or loss or damage to property arising out of the Customer's use, operation or possession of the equipment or arising out of the Customer's breach of any warranty created hereunder by the Customer. The Customer shall not overload the equipment nor use it for incineration purposes or make alterations without the contractor's written approval.

MAL Johannes
DRIVER SIGNATURE

CUSTOMER SIGNATURE

MODER
Corporation

1445 Fletcher Road
Model City, NY 14107
(716) 754-8226

Ticket: 1002080856
Date: 10/4/2011
Time: 09:30:57 - 09:31:28

		Scale
Gross:	78880 POUIn	Manual Wt M
Tare:	29820 POU	P.T.
Net:	49060 POU	

Truck: 2081-ta
Customer: 0250310002/Modern Disposal Roll Off -
Carrier: MDS-001/MODERN DISPOSAL
Truck Type: TA
Route: M2081/MODERN DUMP TRUCK 2(
WO: 0000296944
Profile: M11-2482/VANDEMARK CHEMIC,
Generator: 01261-001/VAN DE MARK CHEMICAl
Service Site: 0275920001 OREGANS
Comment:

Origin	Materials & Services	Quantity	Unit
292600/Lockport	DC Industrial Waste - General	24.53	TON

Driver: ____________________

Weighmaster: Deb Lehman

MODERN Corporation

Modern Disposal Services, Inc.
4746 Model City Road
PO Box 209
Model City, NY 14107
TEL. (716) 754-8226 (800) 662-0012 FAX. (716) 754-8964

Work Order: WO0000296945

Route: PF 32 Map Grid:

Service Date: 10/04/2011

Rep/Order Date: MODERN\gabe 10/3/2011 7:02am

Requested By:

Bin # Dropped: ____________

Bin # Picked up: ____________

Trip Charge Reason: ____________

Arrival Time: ________ Depart Time: ________

Customer #: 027592 PO #:
Site #: 0275920001
Customer Name: OREGANS

Address: 1 NORTH TRANSIT RD, VANDEMARK CHEMIC
City: LOCKPORT
Contact: ANDRE LAUDBACKER
Phone: (716) 434-0144

Time Windows

Recurring:	0	0	Open/Close:	0	0
Removal:	0	0	Delivery:	0	0

Destination

75380

Work Order	Qty	Action	Type	Description
0000296945	1	HAULING	DUMPTRUCK	Dump Truck Services

Service Notes: TONS CONTAMINATED SOIL (M11-2482)

Access Notes:

Detailed Notes:

Work Order Notes: ***ON SITE 7:15 AM*******

PLEASE NOTE INDEMNIFICATION AGREEMENT

The Customer agrees to indemnify, defend and hold harmless the Contractor against all claims, damages, suits, judgments, penalties, fines and other liability or injury or death to persons or loss or damage to property arising out of the Customer's use, operation or possession of the equipment or arising out of the Customer's breach of any warranty created hereunder by the Customer. The Customer shall not overload the equipment nor use it for incineration purposes or make alterations without the contractor's written approval.

Bob Briggs
DRIVER SIGNATURE

CUSTOMER SIGNATURE

MODERN
Corporation

1445 Pletcher Road
Model City, NY 14107
(716) 754-8226

Ticket: 1002080855
Date: 10/4/2011
Time: 09:30:05 - 09:30:41

		Scale	
Gross:	75380 POU	In	Manual Wt M
Tare:	28100 POU		P.T.
Net:	47280 POU		

Truck: PF32-MDS
Customer: 0250310002/Modern Disposal Roll Off -
Carrier: FOUR-003/FOURNIER, PAUL
Truck Type: TA
Route: BROKER/SUB OUT VARIOUS BR(
WO: 0000296945
Profile: M11-2482/VANDEMARK CHEMICAI
Generator: 01261-001/VAN DE MARK CHEMICAI
Service Site: 0275920001 OREGANS
Comment:

Origin	Materials & Services	Quantity	Unit
292600/Lockport	DC Industrial Waste - General	23.64	TON

Driver: ____________________

Weighmaster: Deb Lehman

MODERN
Corporation

Modern Disposal Services, Inc.
4746 Model City Road
PO Box 209
Model City, NY 14107
TEL. (716) 754-8226 (800) 662-0012 FAX. (716) 754-8964

Work Order: WO0000296946
Route: M2081 Map Grid:
Service Date: 10/04/2011
Rep/Order Date: MODERN\gabe 10/3/2011 7:02am
Requested By:

Customer #: 027592 PO #:
Site #: 0275920001
Customer Name: OREGANS

Address: 1 NORTH TRANSIT RD, VANDEMARK CHEMIC
City: LOCKPORT
Contact: ANDRE LAUDBACKER
Phone: (716) 434-0144

Bin # Dropped: ____________
Bin # Picked up: ____________
Trip Charge Reason: ____________
Arrival Time: 8:55 Depart Time: 9:20

Time Windows

Recurring: 0 0 Open/Close: 0 0 Destination
Removal: 0 0 Delivery: 0 0

Work Order	Qty	Action	Type	Description
0000296946	1	HAULING	DUMPTRUCK	Dump Truck Services

Service Notes: TONS CONTAMINATED SOIL (M11-2482)

Access Notes:

Detailed Notes:

Work Order Notes:

PLEASE NOTE INDEMNIFICATION AGREEMENT

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Mal Johnson
DRIVER SIGNATURE

CUSTOMER SIGNATURE

MODERN
Corporation

1445 Pletcher Road
Model City, NY 14107
(716) 754-8226

Ticket: 1002080870
Date: 10/4/2011
Time: 09:48:03 - 09:48:13
Scale

Gross:	77940 POU	In	Manual Wt M
Tare:	30100 POU		P.T.
Net:	47840 POU		

Truck: 2081B
Customer: 0250310002/Modern Disposal Roll Off -
Carrier: MDS-001/MODERN DISPOSAL

WO: 0000296946

Profile: M11-2482/VANDEMARK CHEMICAI

Generator: 01261-001/VAN DE MARK CHEMICAJ
Service Site: 0275920001 OREGANS
Comment:

Origin	Materials & Services	Quantity	Unit
292600/Lockport	DC Industrial Waste - General	23.92	TON

Driver: ____________________

Weighmaster: Deb Lehman

MODERN
Corporation

Modern Disposal Services, Inc.
4746 Model City Road
PO Box 209
Model City, NY 14107
TEL. (716) 754-8226 (800) 662-0012 FAX. (716) 754-8964

Work Order: WO0000296947
Route: PF 32 Map Grid:
Service Date: 10/04/2011
Rep/Order Date: MODERN\gabe 10/3/2011 7:02am
Requested By:
Bin # Dropped:
Bin # Picked up:
Trip Charge Reason:
Arrival Time: 9:12 Depart Time:

Customer #: 027592 PO #:
Site #: 0275920001
Customer Name: OREGANS

Address: 1 NORTH TRANSIT RD, VANDEMARK CHEMIC
City: LOCKPORT
Contact: ANDRE LAUDBACKER
Phone: (716) 434-0144

Time Windows

Recurring:	0	0	Open/Close:	0	0	Destination
Removal:	0	0	Delivery:	0	0	

Work Order	**Qty**	**Action**	**Type**	**Description**
0000296947	1	HAULING	DUMPTRUCK	Dump Truck Services

Service Notes: TONS CONTAMINATED SOIL (M11-2482)

Access Notes:

Detailed Notes:

Work Order Notes:

PLEASE NOTE INDEMNIFICATION AGREEMENT

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Bob Briggs
DRIVER SIGNATURE

CUSTOMER SIGNATURE

MODERN
Corporation

1445 Pletcher Road
Model City, NY 14107
(716) 754-8226

Ticket: 1002080891
Date: 10/4/2011
Time: 10:30:34 - 10:30:53

Scale

Gross: 78760 POU In   Manual Wt M
Tare: 28100 POU   P.T.
Net: 50660 POU

Truck: PF32-MDS
Customer: 0250310002/Modern Disposal Roll Off -
Carrier: FOUR-003/FOURNIER, PAUL
Truck Type: TA
Route: BROKER/SUB OUT VARIOUS BRC
WO: 0000296947
Profile: M11-2482/VANDEMARK CHEMIC.
Generator: 01261-001/VAN DE MARK CHEMICAI
Service Site: 0275920001 OREGANS
Comment:

Origin	Materials & Services	Quantity	Unit
292600/Lockport	DC Industrial Waste - General	25.33	TON

Driver: ____________________

Weighmaster: Deb Lehman

MODERN Corporation

Modern Disposal Services, Inc.
4746 Model City Road
PO Box 209
Model City, NY 14107
TEL (716) 754-8226 (800) 662-0012 FAX (716) 754-8964

Work Order: WO0000298066
Route: PF 32 Map Grid:
Service Date: 10/04/2011
Rep/Order Date: MODERN\gdonovan 10/4/2011 9:34am
Requested By: sales
Bin # Dropped:
Bin # Picked up:
Trip Charge Reason:
Arrival Time: 11:14 Depart Time:

Customer #: 027592 PO #:
Site #: 0275920001
Customer Name: OREGANS

Address: 1 NORTH TRANSIT RD, VANDEMARK CHEMIC
City: LOCKPORT
Contact: ANDRE LAUDBACKER
Phone: (716) 434-0144

Time Windows

Recurring:	0	0	Open/Close:	0	0	Destination
Removal:	0	0	Delivery:	0	0	

Work Order	Qty	Action	Type	Description
0000298066	1	HAULING	DUMPTRUCK	Dump Truck Services

Service Notes: TONS CONTAMINATED SOIL (M11-2482)

Access Notes:

Detailed Notes:

Work Order Notes:

PLEASE NOTE INDEMNIFICATION AGREEMENT

The Customer agrees to indemnify, defend and hold harmless the Contractor against all claims, damages, suits, judgments, penalties, fines and other liability or injury or death to persons or loss or damage to property arising out of the Customer's use, operation or possession of the equipment or arising out of the Customer's breach of any warranty created hereunder by the Customer. The Customer shall not overload the equipment nor use it for incineration purposes or make alterations without the contractor's written approval.

Bob Briggs
DRIVER SIGNATURE

CUSTOMER SIGNATURE

MODERN
Corporation

1445 Pletcher Road
Model City, NY 14107
(716) 754-8226

Ticket: 1002080948
Date: 10/4/2011
Time: 12:03:25 - 12:03:42

Scale
Gross: 74760 POU In Manual Wt M
Tare: 28100 POU P.T.
Net: 46660 POU

Truck: PF32-MDS
Customer: 0250310002/Modern Disposal Roll Off -
Carrier: FOUR-003/FOURNIER, PAUL
Truck Type: TA
Route: BROKER/SUB OUT VARIOUS BR(
WO: 0000298066
Profile: M11-2482/VANDEMARK CHEMICAI
Generator: 01261-001/VAN DE MARK CHEMICAI
Service Site: 0275920001 OREGANS
Comment:

Origin	Materials & Services	Quantity	Unit
292600/Lockport	DC DEC Approved Waste	23.33	TON

Driver: ____________________

Weighmaster: Deb Lehman

MODERN
Corporation

Modern Disposal Services, Inc.
4746 Model City Road
PO Box 209
Model City, NY 14107
TEL. (716) 754-8226 (800) 662-0012 FAX. (716) 754-8964

Work Order: WO0000298068

Route: M2081 Map Grid:

Service Date: 10/04/2011

Rep/Order Date: MODERN\gdonovan 10/4/2011 9:34am

Requested By: sales

Customer #: 027592 PO #:
Site #: 0275920001
Customer Name: OREGANS

Address: 1 NORTH TRANSIT RD, VANDEMARK CHEMIC
City: LOCKPORT
Contact: ANDRE LAUDBACKER
Phone: (716) 434-0144

Bin # Dropped: ____________________
Bin # Picked up: ____________________
Trip Charge Reason: ____________________
Arrival Time: 1035 Depart Time: 11:00

Time Windows

Recurring:	0	0	Open/Close:	0	0	Destination
Removal:	0	0	Delivery:	0	0	

Work Order	Qty	Action	Type	Description
0000298068	1	HAULING	DUMPTRUCK	Dump Truck Services

Service Notes: TONS CONTAMINATED SOIL (M11-2482)

Access Notes:

Detailed Notes:

Work Order Notes:

PLEASE NOTE INDEMNIFICATION AGREEMENT

The Customer agrees to indemnify, defend and hold harmless the Contractor against all claims, damages, suits, judgments, penalties, fines and other liability or injury or death to persons or loss or damage to property arising out of the Customer's use, operation or possession of the equipment or arising out of the Customer's breach of any warranty created hereunder by the Customer. The Customer shall not overload the equipment nor use it for incineration purposes or make alterations without the contractor's written approval.

MAL Johanns
DRIVER SIGNATURE

CUSTOMER SIGNATURE

MODERN
Corporation

1445 Pletcher Road
Model City, NY 14107
(716) 754-8226

Ticket: 1002080925
Date: 10/4/2011
Time: 11:28:30 - 11:29:00
Scale
Gross: 75840 POU In Manual Wt M
Tare: 29820 POU P.T.
Net: 46020 POU

Truck: 2081-ta
Customer: 0250310002/Modern Disposal Roll Off -
Carrier: LEWI-003/LEWISTON TRUCKINC
Truck Type: TA
Route: M2081/MODERN DUMP TRUCK 2
WO: 0000298068
Profile: M11-2482/VANDEMARK CHEMICAI
Generator: 01261-001/VAN DE MARK CHEMICAI
Service Site: 0275920001 OREGANS
Comment:

Origin	Materials & Services	Quantity	Unit
292600/Lockport	DC DEC Approved Waste	23.01	TON

Driver: ____________________

Weighmaster: Deb Lehman

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYD175773779

2. Page 1 of

3. Emergency Response Phone: 716-433-6764

4. Waste Tracking Number: CT11-010

5. Generator's Name and Mailing Address
VANDEMARK CHEMICAL, INC.
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address)

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name: HAZMAT ENVIRONMENTAL GROUP INC.
U.S. EPA ID Number: NYD980769947

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
COVANTA NIAGARA COMPANY LP
100 ENERGY BLVD. & 56TH STREET
NIAGARA FALLS, NY 14304

Facility's Phone: 716-278-8548
U.S. EPA ID Number

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON-REGULATED MATERIAL (COAL TAR)	1	CM	Est. 12000	P
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
1.) COAL TAR (7397) WTS ORDER # 41203

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Pamela J Cook
Signature
Month 06 Day 23 Year 11

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only):
Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gerald J Amrhein
Signature: Gerald J Amrhein
Month 06 Day 23 Year 11

Transporter 2 Printed/Typed Name
Signature
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name
Signature
Month Day Year

169-BLC-O 5 11977 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

NVIRON
) Comm
ww.h

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYD175773779

2. Page 1 of

3. Emergency Response Phone: 716-433-6764

4. Waste Tracking Number: CT11-009

5. Generator's Name and Mailing Address
VANDEMARK CHEMICAL, INC
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address)

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name: HAZMAT ENVIRONMENTAL GROUP INC
U.S. EPA ID Number: NYD980769947

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
COVANTA NIAGARA COMPANY LP
100 ENERGY BLVD. & 56TH STREET
NIAGARA FALLS, NY 14304

U.S. EPA ID Number:

Facility's Phone: 716-278-8548

	9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	
		No.	Type			
	1. NON-REGULATED MATERIAL (COAL TAR)	1	CM	Est [illegible]	P	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
1.) COAL TAR (7387) WTS ORDER # 41203

rec. 14.25 tons

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Pamela J. Cook
Signature:
Month: 06 Day: 20 Year: 11

15. International Shipments ☐ Import to U.S. ☐ Export from U.S.
Port of entry/exit:
Transporter Signature (for exports only):
Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gerald J [illegible]
Signature:
Month: 06 Day: 20 Year: 11

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name:
Signature:
Month: Day: Year:

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

1. Generator ID Number: NYD175773779
2. Page 1 of
3. Emergency Response Phone: 716-433-6764
4. Waste Tracking Number: CT11-008

5. Generator's Name and Mailing Address
VANDEMARK CHEMICAL, INC.
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address)

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name: HAZMAT ENVIRONMENTAL GROUP INC.
U.S. EPA ID Number: NYD980769947

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
COVANTA NIAGARA COMPANY LP
100 ENERGY BLVD. & 56TH STREET
NIAGARA FALLS, NY 14304

U.S. EPA ID Number

Facility's Phone: 716-278-8545

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.
	No.	Type		
1. NON-REGULATED MATERIAL (COAL TAR)		CM	est 4000	P
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
1.) COAL TAR (7397) WTS ORDER # 41203

21.97 tons

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Pamela J. Cook
Signature
Month 06 Day 20 Year 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S.
Port of entry/exit:
Transporter Signature (for exports only):
Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gerald J Andrew
Signature
Month 06 Day 20 Year 1

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name
Signature
Month Day Year

169-BLC-O 5 11977 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

GENERATOR

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number NYD175773779

2. Page 1 of 1

3. Emergency Response Phone 716-433-6764

4. Waste Tracking Number CT11-007

5. Generator's Name and Mailing Address
VANDEMARK CHEMICAL, INC.
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address)

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name HAZMAT ENVIRONMENTAL GROUP INC
U.S. EPA ID Number NYD980769947

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
COVANTA NIAGARA COMPANY LP
100 ENERGY BLVD. & 56TH STREET
NIAGARA FALLS, NY 14304

U.S. EPA ID Number

Facility's Phone: 716-278-8548

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON-REGULATED MATERIAL (COAL TAR)	1	CM	Est 30000	P
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
1.) COAL TAR (7397) WTS ORDER # 41203

15.57 tns

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name Pamela J. Cook
Signature
Month 6 Day 6 Year 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only):
Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name Gerald J Am [illegible]
Signature
Month Day Year

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name
Signature
Month Day Year

169-BLC-O 5 11977 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYD175773779

2. Page 1 of

3. Emergency Response Phone: 716-433-6764

4. Waste Tracking Number: CT11-006

5. Generator's Name and Mailing Address:
VANDEMARK CHEMICAL, INC.
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address)

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name: HAZMAT ENVIRONMENTAL GROUP INC.
U.S. EPA ID Number: NYD980769947

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address:
COVANTA NIAGARA COMPANY LP
100 ENERGY BLVD. & 56TH STREET
NIAGARA FALLS, NY 14304

U.S. EPA ID Number

Facility's Phone: 716-278-8548

GENERATOR

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.
	No.	Type		
1. NON-REGULATED MATERIAL (COAL TAR)	1	CM	30,000	T
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
1.) COAL TAR (7397) WTS ORDER # 41203

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: ____
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: GRANT W[illegible] | Signature | Month 6 | Day 16 | Year 11

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name | Signature | Month | Day | Year

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

1. Generator ID Number: NYD175773779
2. Page 1 of: 1
3. Emergency Response Phone: 716-433-6764
4. **Waste Tracking Number:** CT11-005

5. Generator's Name and Mailing Address
VANDEMARK CHEMICAL, INC.
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address)

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name: HAZMAT ENVIRONMENTAL GROUP INC
U.S. EPA ID Number: NYD980769947

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
COVANTA NIAGARA COMPANY LP
100 ENERGY BLVD. & 56TH STREET
NIAGARA FALLS, NY 14304

U.S. EPA ID Number

Facility's Phone: 716-278-8548

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	
	No.	Type			
1. NON-REGULATED MATERIAL (COAL TAR)	1	CM	Est. [illegible]	P	PJC
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information
1.) COAL TAR (7397) WTS ORDER # 41203

18.4 tons

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Pamela J. Cook
Signature:
Month: 06 Day: 15 Year: 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gerald J Amlew
Signature:
Month: 06 Day: 15 Year: 11

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name
Signature
Month Day Year

169-BLC-O 5 11977 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYD175773779

2. Page 1 of

3. Emergency Response Phone: 716-433-6764

4. Waste Tracking Number CT11-004

5. Generator's Name and Mailing Address
VANDEMARK CHEMICAL, INC.
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address)

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name: HAZMAT ENVIRONMENTAL GROUP INC
U.S. EPA ID Number: NYD980769947

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
COVANTA NIAGARA COMPANY LP
100 ENERGY BLVD. & 56TH STREET
NIAGARA FALLS, NY 14304
U.S. EPA ID Number

Facility's Phone: 716-278-8548

	9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	
		No.	Type			
	1. NON-REGULATED MATERIAL (COAL TAR)	1	CM	EST 30000	P	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
1.) COAL TAR (7397) WTS ORDER # 41203

22.48 tons

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Pamela J. Cook
Signature
Month 06 Day 16 Year 11

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gerald J Amahe.n
Signature
Month 06 Day 16 Year 11

Transporter 2 Printed/Typed Name
Signature
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name
Signature
Month Day Year

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

169-BLC-O 5 11977 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NYD175773779	2. Page 1 of	3. Emergency Response Phone 716-433-6764	**4. Waste Tracking Number** CT11-003

GENERATOR

5. Generator's Name and Mailing Address
VANDEMARK CHEMICAL, INC
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address)

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name: HAZMAT ENVIRONMENTAL GROUP INC
U.S. EPA ID Number: NYD980769947

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
COVANTA NIAGARA COMPANY LP
100 ENERGY BLVD. & 56TH STREET
NIAGARA FALLS, NY 14304

U.S. EPA ID Number

Facility's Phone: 716-278-8548

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	
	No.	Type			
1. NON-REGULATED MATERIAL (COAL TAR)	1	CM	Est 20000	P	
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information
1.) COAL TAR (7597) WTS ORDER # 41203

14.39 tons

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Pamela J. Cook
Signature
Month 06 Day 15 Year 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S.
Port of entry/exit:
Transporter Signature (for exports only):
Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gerald J Amcher, N
Signature
Month 06 Day 15 Year 11

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name
Signature
Month Day Year

169-BLC-O 5 11977 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

NVIRONM
Commerce
ww.hazmat

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYD175773779
2. Page 1 of
3. Emergency Response Phone: 716-433-6764
4. **Waste Tracking Number:** CT11-002

5. Generator's Name and Mailing Address
VANDEMARK CHEMICAL, INC.
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address)

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name: HAZMAT ENVIRONMENTAL GROUP INC.
U.S. EPA ID Number: NYD980769947

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
COVANTA NIAGARA COMPANY LP
100 ENERGY BLVD. & 56TH STREET
NIAGARA FALLS, NY 14304

U.S. EPA ID Number

Facility's Phone: 716-278-8548

	9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	
		No.	Type			
	1. NON-REGULATED MATERIAL (COAL TAR)	1	CM	Est 15 [illegible] rJC	Y	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
1.) COAL TAR (7397) WTS ORDER # 41203

21.52 tons

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year
Pamela J. Cook		06	15	11

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Transporter 1: Gerald J Amrhein		06	15	11
Transporter 2:				

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name Signature Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

169-BLC-O 5 11977 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYD175773779

2. Page 1 of

3. Emergency Response Phone: 716-433-6764

4. Waste Tracking Number: MODERN 005

GENERATOR

5. Generator's Name and Mailing Address
VANDEMARK CHEMICAL, INC.
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address)

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name: HAZMAT ENVIRONMENTAL GROUP INC.
U.S. EPA ID Number: NYD980769947

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
MODERN LANDFILL ,INC.
4746 MODEL CITY RD.
MODEL CITY, NY 14107

U.S. EPA ID Number

Facility's Phone: 716-754-8226

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON-REGULATED MATERIAL (BRICK CONTAMINATED WITH COAL TAR)	1	CM	est 10	T
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
1.) BRICK CONTAMINATED WITH COAL TAR (M11-2485) WTS ORDER # 41973

RB-229

Act 6.09 Tons

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Pamela J. Cook
Signature:
Month 08 Day 03 Year 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gerald J Amahei
Signature:
Month 08 Day 03 Year 11

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name
Signature
Month Day Year

169-BLC-O 5 11977 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYD175773779

2. Page 1 of

3. Emergency Response Phone: 716-433-6764

4. Waste Tracking Number: MODERN 004

GENERATOR

5. Generator's Name and Mailing Address
VANDEMARK CHEMICAL, INC.
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address)

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name: HAZMAT ENVIRONMENTAL GROUP INC

U.S. EPA ID Number: NYD980769947

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
MODERN LANDFILL ,INC.
4746 MODEL CITY RD.
MODEL CITY, NY 14107

U.S. EPA ID Number

Facility's Phone: 716-754-8226

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.
	No.	Type		
1. NON-REGULATED MATERIAL (BRICK CONTAMINATED WITH COAL TAR)	1	CM	Est ~~15~~ 15 PK	T
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
1.) BRICK CONTAMINATED WITH COAL TAR (M11-2485) WTS ORDER # 41973

RT1789 actual 2390

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Pamela J. Cook

Signature:

Month 08 Day 03 Year 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gerald J Archer

Signature:

Month 08 Day 03 Year 11

Transporter 2 Printed/Typed Name

Signature

Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name

Signature

Month Day Year

169-BLC-O 5 11977 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

GENERATOR

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number NYD175773779

2. Page 1 of

3. Emergency Response Phone 716-433-6764

4. Waste Tracking Number MODERN 003

5. Generator's Name and Mailing Address
VANDEMARK CHEMICAL, INC.
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address)

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name HAZMAT ENVIRONMENTAL GROUP INC.
U.S. EPA ID Number NYD980769947

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
MODERN LANDFILL ,INC.
4746 MODEL CITY RD.
MODEL CITY, NY 14107

U.S. EPA ID Number

Facility's Phone: 716-754-8226

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON-REGULATED MATERIAL (BRICK CONTAMINATED WITH COAL TAR)	1	CM	Est 10	T
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
1.) BRICK CONTAMINATED WITH COAL TAR (M11-2485) WTS ORDER # 41975

RB-236 2ROP NP .P 00 actual 13.63

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name Pamela J. Cook
Signature
Month 8 Day 2 Year 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name Gerald J Amrhein
Signature
Month 08 Day 02 Year 11

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name
Signature
Month Day Year

169-BLC-O 5 11977 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYD175773779

2. Page 1 of

3. Emergency Response Phone: 716-433-6764

4. Waste Tracking Number: MODERN 002

GENERATOR

5. Generator's Name and Mailing Address:
VANDEMARK CHEMICAL, INC.
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address):

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name: HAZMAT ENVIRONMENTAL GROUP INC.
U.S. EPA ID Number: NYD980769947

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
MODERN LANDFILL ,INC.
4746 MODEL CITY RD.
MODEL CITY, NY 14107

U.S. EPA ID Number:

Facility's Phone: 716-754-8226

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON-REGULATED MATERIAL (BRICK CONTAMINATED WITH COAL TAR)	1	CM	Est 10	T
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
1.) BRICK CONTAMINATED WITH COAL TAR (M11-2485) WTS ORDER # 41973

RB 223 Actual 9.94

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Pamela J. Cook
Signature:
Month: 8 Day: 2 Year: 1

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gerald J Amrhein
Signature:
Month: 08 Day: 02 Year: 1

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month: Day: Year:

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYD175773779

2. Page 1 of 1

3. Emergency Response Phone: 716-433-6764

4. Waste Tracking Number: MODERN 001

5. Generator's Name and Mailing Address
VANDEMARK CHEMICAL, INC.
ONE NORTH TRANSIT ROAD
LOCKPORT, NY 14094

Generator's Site Address (if different than mailing address)

Generator's Phone: 716-433-6764 ATTN:PAMELA COOK

6. Transporter 1 Company Name: HAZMAT ENVIRONMENTAL GROUP INC.
U.S. EPA ID Number: NYD980769947

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
MODERN LANDFILL ,INC.
4746 MODEL CITY RD.
MODEL CITY, NY 14107

U.S. EPA ID Number

Facility's Phone: 716-754-8226

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON-REGULATED MATERIAL (BRICK CONTAMINATED WITH COAL TAR)	1	CM	10	T
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
1.) BRICK CONTAMINATED WITH COAL TAR (M11-2485) WTS ORDER # 41973

Actual 16.14

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Pamela J. Cook
Signature
Month 08 Day 02 Year 11

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: ______
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gerald J ~~A~~ Amheu
Signature
Month 08 Day 02 Year 11

Transporter 2 Printed/Typed Name
Signature
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name
Signature
Month Day Year

GENERATOR · INT'L · TRANSPORTER · DESIGNATED FACILITY

169-BLC-O 5 11977 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY