# **Dexter Chemical** BRONX, NEW YORK

# **Final Engineering Report**

**NYSDEC Site Number: V00186-2** 

# **Prepared for:**

Dexter Chemical, L.L.C 845 Edgewater Road Bronx, New York 10474

# Prepared by:

Barry I. Skoulchi P.E., LLC 7 Pleasant Hill Road Cranbury, New Jersey 08512 (732) 390-5858

**SEPTEMBER 2015** 

# **CERTIFICATIONS**

I am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Action Work Plan was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Action Work Plan.

I certify that the data submitted to the Department with this Final Engineering Report demonstrates that the remediation requirements set forth in the Remedial Action Work Plan and in all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established in for the remedy.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and/or any operation and maintenance requirements applicable to the Site are contained in an environmental easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded.

I certify that a Site Management Plan has been submitted for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by Department.

I certify that all documents generated in support of this report have been submitted in accordance with the DER's electronic submission protocols and have been accepted by the Department.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Barry I. Skoultchi P.E., LLC, 7 Pleasant Hill Road, Cranbury, NJ, 08512, am certifying as Owner's Designated Site Representative for the site.

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NYS Professional Engineer #	Date	Signature FESSIONAL END

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# LIST OF ACRONYMS

Acronym	Definition
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAMP	Community Air Monitoring Plan
CQAP	Construction Quality Assurance Plan
DUSR	Data Usability Summary Report`
EC	Engineering Control
ELAP	Environmental Laboratory Approval Program
FER	Final Engineering Report
HASP	Health and Safety Plan
IC	Institutional Control
MW	Monitoring Well
NYSDEC	New York State Department of Environmental
	Conservation
NYSDOH	New York State Department of Health
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
SCOs	Soil Cleanup Objectives
SMP	Site Management Plan
SVE/AS	Soil Vapor Extraction/Air Sparge
VCA	Voluntary Cleanup Agreement

# FINAL ENGINEERING REPORT

# 1.0 BACKGROUND AND SITE DESCRIPTION

Dexter Chemical, LLC (the Volunteer) entered into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (NYSDEC) in December, 2003, to investigate and remediate a two-acre property located in the Bronx, New York. The Site contains residual contamination left after the completion of the Remedial Action performed under the VCA. The site was constructed on fill material which itself consists of contaminants that demonstrate a classical profile of "historic fill" constituents, as identified during Whitman's January 1998 Site Investigation activities. Engineering controls and institutional controls have been incorporated into the Site remedy to provide proper management of residual contamination and historic fill material in the future and to ensure protection of public health and the environment. Future use of the site will be limited only to commercial and/or industrial use.

The site is located in the County of Bronx, New York and is identified as 819 Edgewater Road, (Section 10, Block 2762, Lot 300), 842 Whittier Street, (Section 10, Block 2762, Lot 272), 845 Edgewater Road, (Section 10, Block 2762, Lot 294), 810-820 Whittier Street, (Section 10, Block 2762, Lot 257) and 835 Edgewater Road, (Section 10, Block 2762, Lot 299) The site is approximately two (2) acres. Surrounding properties include an industrial/commercial lot to the north, a commercial lot to the south, and Edgewater Road and Whittier Street to the east and west, respectively (see Figure 1). The subject property metes and bounds are provided as Appendix 1.

An electronic copy of this Final Engineering Report (FER) with all supporting documentation is included as Appendix 2.

An electronic copy of the Site Management Plan is included as Appendix 15.

#### 2.0 SUMMARY OF SITE REMEDY

# 2.1 Remedial Action Objectives

Based on the results of the Remedial Investigation, the following Remedial Action Objectives (RAOs) were identified for this site.

The primary remedial action objective (RAO) of the SVE/AS remedial system will be to remove as much contaminant mass as possible in Areas A and I. As described in more detail in Section 3.6 of the RAW, the system will be operated until persistent asymptotic levels are observed in mass removal rates.

Based upon pilot testing, it was anticipated that the SVE/AS system as originally designed would have been very effective at removing the volatile BTEX compounds but only moderately effective at removing the less volatile chlorinated benzene compounds. Therefore, and based upon further review, the original system was redesigned to incorporate an enhanced SVE and ground water extraction system incorporating upgraded submersible pumps, and an upgraded water treatment system, which included Campbell seal installations and associated piping and appurtenances. The upgraded system fosters additional contaminant removal by: 1) extracting larger volumes of ground water to significantly depress the water table, thereby allowing vapor extraction in an unsaturated zone and; 2) as a secondary benefit, removing additional contaminant mass in a dissolved phase within the ground water. The latter/secondary removal method provides the further benefit of removing less volatile chlorobenzene species that would otherwise only moderately be affected via bioremediation from SVE/AS alone.

In accordance with the Draft DER-10 guidance document, additional RAOs for soil and ground water are described in the sections below.

#### 2.1.1 Ground Water RAOs

#### **RAOs for Public Health Protection**

- Prevent ingestion of ground water containing contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles emanating from contaminated ground water.

#### **RAOs for Environmental Protection**

- Restore ground water aquifer, to the extent practicable, to pre-disposal/pre-release conditions.
- Prevent the discharge of contaminants to surface water.

• Remove the source of ground or surface water contamination.

#### 2.1.2 Soil RAOs

#### RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of, or exposure to, contaminants volatilizing from contaminated soil.

#### **RAOs for Environmental Protection**

- Prevent migration of contaminants that would result in ground water or surface water contamination.
- Prevent impacts to biota due to ingestion/direct contact with contaminated soil that would cause toxicity or bioaccumulation through the terrestrial food chain.

# 2.2 Description of Selected Remedy

The site was remediated in accordance with the remedy selected by the NYSDEC and presented in the Remedial Action Work Plan (RAWP) dated May 13, 2005, and the Remedial Action Work Plan Addendum dated September 29, 2005. The Work Plan Addendum dated September 29, 2005 was submitted based on initial comments on the RAWP by NYSDEC. The Work Plan Addendum addresses each of the issues raised by NYSDEC. The factors considered during the selection of the remedy are those listed in 6NYCRR 375-1.8.

# 2.2.1 Remedial Actions Required

On November 3, 2005, the NYSDEC approved the May 2005 RAWP and the Addendum letter dated September 29, 2005. Below is a summary of the Remedial Actions required to be implemented at the Site at the time of the RAWP approval by NYSDEC.

- 1. The primary remedial objective for the site is to remove as much contamination as necessary to ensure that the concentrations or residual contamination are low enough to be protective against actual impacts to human health and the environment. As demonstrated during the pilot study, it is anticipated that the proposed Soil Vapor Extraction/Air Sparging (SVE/AS) system will be very effective at removing the volatile BTEX compounds. Dexter understands it may be necessary to employ additional remedies if the SVE/AS system reaches asymptotic levels before the site remedial objectives are accomplished.
- 2. Due to physical constraints, the contamination was not fully delineated in certain portions of the site, and no source or sources were identified. Dexter agrees to

undertake further soil and ground water investigation in accessible areas as necessary to complete the delineation, if so deemed necessary by the New York State Department of Conservation (NYSDEC) during or after the implementation of the remedy (i.e., if the SVE/AS fails to achieve its remedial objectives).

- 3. The data from the SVE pilot study is the baseline against which performance of the SVE/AS remedy will be measured.
- 4. The ground water leaving the site is contaminated, but it is not used for drinking purposes. There are no receptors in the vicinity, and there are no known adverse impacts to human health or the environment at the site. As such, no off-site remediation is necessary at this time. Dexter recognizes that as a responsible party volunteer, it may remain obligated to address off-site impacts, if so deemed necessary.
- 5. Dexter agrees that it will not shut down the SVE/AS system without prior written approval from NYSDEC. Such approval will not be unreasonably withheld.
- 6. Dexter agrees to accept institutional controls for the site as part of the remedy (e.g., reflecting residual contamination and restricting improper disturbance of residual contamination and restricting improper disturbance of residual contamination, residential use, and/or ground water consumption).
- 7. Dexter recognizes that NYSDEC may require additional soil and ground water confirmation sampling to determine the effectiveness of the installed remedy in achieving the remedial objective.
- 8. Dexter agrees that all documents and reports submitted in fulfillment of its agreements with NYSDEC will be submitted in both hard copy and in digital format on CD. Digital formats will include PDF format files for all documents. Data tabular format will also be submitted in active source files format (such as Excel) to enable direct evaluation by Department staff.

## 9. Performance Monitoring:

- a. The data from the SVE pilot study is the baseline against which the performance of the SVE/AS remedy will be measured.
- b. Performance monitoring will be conducted to estimate the area and volume of soil and ground water being treated.
- c. Adjustments to the system will be made based on the evaluation of the performance monitoring results.

- d. Performance monitoring will include the quarterly ground water sampling of monitoring wells MW-6, MW-8, PZ-3, PZ-4, and RW-5A in Area A, and monitoring wells MW-3, MW-7, MW-11, and RW-13I in Area I.
- e. Effectiveness monitoring will be conducted following the system shut-down to verify the effectiveness of the remediation.
- f. Effectiveness monitoring will include the collection of the following soil samples:

# Area A

- A-104 (7-8')
- A-101 (7-8')
- A-105A (7-8')
- 1SB-1 (7-9')
- 1SB-3 (7-8')
- A-102A (7-8')

# Area I

- A1SB-17A (5.5-6')
- A1SB-10A (7-7.5')
- I-1 (7.5-8')
- A1SB-1B (10.5-11')
- A1SB-14 (7.5-8')
- I-104 (7-8')

And of the following ground water samples:

- PZ-4
- MW-6
- GW-3
- MW-7
- g. Upon completion of the Remedial Action described above, all remedial structures and equipment will be dismantled and removed from the site. All SVE/AS injection and monitoring points will be properly abandoned.
- 10. Other primary engineering controls include a composite cover system consisting of asphalt covered roads and areas, concrete covered sidewalks and areas, and concrete building slabs and floors
- 11. The Controlled Property has a series of Institutional Controls in the form of Site restrictions. Adherence to these Institutional Controls is required under the Declaration of Covenants and Restriction. Site restrictions that apply to the Controlled Property are:
  - a. Vegetable gardens and farming on the Controlled Property are prohibited.

- b. Use of ground water underlying the Controlled Property, including construction dewatering and building sumps other than for investigation or remediation (i.e., the approved ground water recovery and SVE system), is prohibited without treatment rendering it safe for the intended use.
- c. All future activities on the Controlled Property that will disturb residual contaminated material (all material beneath the composite cover system serving as an EC) are prohibited unless they are conducted in accordance with the soil management provisions in the SMP.
- d. The Controlled Property may be used for industrial or commercial use provided the long-term Engineering and Institutional Controls included in the SMP remain in use.
- 12. Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the Declaration of Covenants and Restrictions, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting.
- 13. Annual certification of the institutional and engineering controls listed above.

# 2.2.2 Selective Remedy Details

The following describes, in detail, the selective remedy utilized at the site. Full details of the selective remedy can be found in the SMP.

#### 2.2.2.1 Area A Design

Due to the shallow water table in Area A, approximately 4 feet below grade, the treatment system consisted of twelve (12) horizontal SVE laterals (HRZ-1A through HRZ-12A) installed above the water table. These laterals consisted of two (2) inch screened schedule 40 PVC of various lengths, ranging from 8 to 30 feet long, and various configurations. Each horizontal SVE lateral was then individually piped and connected to solid PVC piping, which ran underground, to the manifold area in the northwest portion of the building. Each individual aboveground riser from each horizontal SVE lateral was connected via manifold to a main trunk line. This trunk line ran to the SVE blowers located in the treatment shed, for vapor phase treatment of extracted vapors. Each riser from each horizontal lateral contained a vacuum gauge, air flow/vacuum control valve and sampling port to allow individual adjustment, operation and monitoring. Each individual riser from each horizontal SVE lateral at the manifold contained a subgrade condensate trap to allow for the removal of moisture buildup within the SVE piping, which would otherwise reduce effective horizontal lateral performance.

Area A included three (3) shallow six (6) inch diameter screened PVC sumps, Sumps 1 through 3, installed to a depth of approximately four (4) feet below grade, designed to dewater the horizontal trenches, where the horizontal SVE laterals and subsurface system piping was located, in order to prevent ground water buildup which would otherwise reduce the effective horizontal SVE lateral performance. Each sump contained a sealed pit-less adapter which connected to a subsurface water line in order to allow dewatering. The subsurface water lines from each sump were individually piped and connected to solid PVC piping, which ran underground to the manifold area. Each individual aboveground riser was then connected via manifold to a main trunk line. The trunk line ran to the storage tank located in the treatment shed, which was utilized for treatment of the dewatered ground water. Each riser from each sump line contained a pressure gauge, flow control valve, and sampling port to allow individual adjustment, operation, and monitoring. Submersible ½ hp electric Grundfos pumps were installed in each sump to conduct dewatering. The pumps operated using automatic float controls installed within each sump. If the high water level float is tripped within the sump, indicating an increase of ground water in the sump, the pump engaged. Once dewatering inside the sumps was complete, the low level float would be tripped and the pump would disengage.

Area A also included eight (8), four (4) inch diameter screened PVC dual-phase recovery (dewatering and SVE) vertical wells, SVE/RW-1A through SVE/RW-8A. The wells were installed to total depths of approximately 14.5-17 feet below grade, each with 10 feet of screen. These vertical SVE wells were designed to supplement SVE capture of sparge air and increase removal of subsurface vapors at depth following the dewatering of the treatment areas. The dewatering wells were designed to dewater actively treated portions of Area A, as appropriate, to prevent elevated ground water levels and mounding, which could otherwise reduce effective horizontal lateral and vertical SVE performance, due to the potential for ground water entrainment to occur in the SVE piping.

Each dual phase extraction well contained a dedicated SVE line (which ran back to the manifold area) and a dedicated water line (installed via sealed pitless adapter connection to the well) which ran back to the manifold area. Each wellhead was sealed with a Campbell seal (an adjustable gripping gasket at the wellhead which seats around pump float and power control wiring) to maximize SVE vacuum seal. The subsurface water lines from each dewatering well were individually piped and connected to solid PVC piping run underground to the manifold area. Each individual above ground water line riser was then connected via manifold to a main trunk line which ran to the treatment shed storage tank for treatment of the extracted ground water. Ground water was treated by granulated activated carbon and then discharged to the sanitary sewer. Each riser from each water line contained a pressure gauge, flow control valve and sampling port to allow individual adjustment, operation and monitoring. Submersible ½ horsepower electric Grundfos pumps were installed in each dewatering well (as required depending on the portion of the area to be treated) to conduct dewatering. The pumps operated using automatic float controls installed within each well.

Each individual above ground riser from each vertical SVE well line is manifolded to a main trunk line which runs to the treatment shed SVE blowers (for vapor phase treatment of extracted vapors). Each riser from each vertical SVE well contains a vacuum gauge, air flow /vacuum control valve and sampling port to allow individual adjustment, operation and monitoring. Each individual riser from each vertical SVE well at the manifold contains a subgrade condensate trap to allow for the removal of moisture buildup within the SVE piping, which could otherwise reduce effective vertical SVE well performance.

Area A contains fifteen (15) air sparge wells, AS-1A through AS-15A. The sparge wells were installed to depths of approximately 15 to 20 feet below grade, and constructed of schedule 40 PVC with 3 to 4 feet of screened interval at the bottom of each sparge well. Each sparge well was piped individually underground with ½ inch diameter pressure rated Nylon-11 tubing which is run back to the manifold area. Each individual above ground air sparge riser is then manifolded to a main trunk line which runs to the treatment shed air sparge compressor (which is the source of sparge air injection into each sparge well). Each riser from each sparge line contains a pressure gauge, flow control valve, air flow gauge, pressure regulator and check valve (to prevent sparge air and ground water blow-back on shutdown) to allow individual adjustment, operation and monitoring.

# 2.2.2.2 Area I Design

Based upon the soil borings completed in this AOC, ground water generally occurs at 10 to 12 feet below ground surface. Soil borings also indicate that the soils within this AOC are generally consistent with those observed in Area A, consisting of fine to medium grained sediment as well as historic fill materials, including, brick, cinders and similar materials underlain at a depth of 17-19 feet by a natural meadow mat stratum. Accordingly, soil vapor extraction and air sparging were designed to be similarly effective as with Area A. Therefore, a combination SVE/AS injection and dewatering well network was installed to mitigate remaining VOCs within Area I. Because ground water occurs at a greater depth in Area I, conventional vertical vapor extraction wells (only) were utilized (versus the horizontal SVE cells of area A). The design radius of venting influence of 15-20 feet was later determined to be approximately 10 feet through actual operations. Likewise, since remaining soil contamination was observed below the top of the ground water surface in several borings, air sparging was utilized to liberate VOCs at depth and to provide an oxygen source for enhanced natural biological degradation.

The technical specifications of the SVE setup at Area I resembles that of Area A, indicated above in Section 2.2.2.1. Full technical specifications for the SVE/AS systems utilized at Areas A and I are described in the SMP.

Area I included four-inch diameter (except SVE/RW-1I which required two-inch diameter PVC due to large cobbles identified during installation necessitating a smaller diameter drill bit) screened PVC dual phase vertical recovery wells designed for dewatering and SVE. The recovery wells, SVE/RW-1I through SVE/RW-17I, were installed to total depths of

approximately 14 to 20 feet below grade, each with 10 feet of screen. The dewatering wells were designed to dewater actively treated portions of Area I, as appropriate, to prevent elevated ground water levels and mounding which could have otherwise reduced effective vertical SVE performance, due to the potential for ground water entrainment in the SVE piping. As is the case for Area A, due to the heterogeneous subsurface layers, which contain silt, gravel, fill and sand layers, the deep SVE/ dewatering well screens installed served to act as subsurface pressure relief to reduce or eliminate the potential for air injected from the sparging wells to travel horizontally beneath heterogeneous subsurface layers (and be trapped beneath such layers) without being intercepted and captured by SVE (to reduce or prevent fugitive air sparge emissions to the surface).

Area I contains fifteen (15) air sparge wells, AS-1I through AS-15I, as shown on Figure 10. The sparge wells were installed to depths of approximately 15 to 20 feet below grade, and were constructed of schedule 40 PVC with 3 to 5 feet of screened interval at the bottom of each sparge well. Each sparge well was piped individually underground with ½ inch diameter pressure rated Nylon-11 tubing which was run back to the manifold area. Each individual above ground air sparge riser was then connected via manifold to a main trunk line which ran to the treatment shed air sparge compressor, which provides the sparge air into each sparge well. Each riser from each sparge line contained a pressure gauge, flow control valve, air flow gauge, pressure regulator and check valve (to prevent sparge air and ground water blow-back on shutdown) to allow individual adjustment, operation and monitoring.

The ground water extraction piping was connected to each SVE wellhead within Area I in the event that a similar approach to that presented for Area A is required to maximize contaminant vapor recovery (i.e., simultaneous SVE/ground water dewatering).

# 2.2.2.3 Joint Treatment System

The treatment facility was centrally located to service both areas A and I, and was constructed within the Area B courtyard. This area had adequate electrical power availability and was proximal to the facility's sanitary sewer collector which was needed for discharge of treated ground water recovered from the remedial systems.

# 2.2.2.4 Ground Water Treatment and Final System Design Considerations

Since the enhanced system increased the amount of ground water to be treated from approximately 5 gallons per minute (gpm) under the former design to approximately 20 gpm under the enhanced design, more advanced ground water treatment was required.

The recovered ground water stream was first routed to a 300 gallon holding tank. The ground water was then pumped through four (4) Total Suspended Solids (TSS) filters, and then through three (3) 1,000 pound granular activated carbon (GAC) polishing vessels prior to discharge. The TSS filters reduced the frequency of GAC maintenance and cleaning.

The general layout of the SVE unit included a main 7.5 horsepower (hp) blower unit, a moisture separator and an off-gas control device [two (2), 500 pound vapor phase granular activated carbon (VGAC) vessels configured in series flow]. An auxiliary 2.5 hp SVE blower is provided to target vapor extraction from the vertical SVE/ground water recovery wells in Area A, and supplement overall extraction. The SVE blower units created a vacuum which was applied to designated extraction locations. A zone of influence was created around the extraction locations in which air and volatile organic vapors are drawn away from the soils and into the SVE piping network. The extracted soil vapor/air stream was channeled through the piping network into the moisture separator units. The pressure drop created within the moisture separators allowed moisture within the air stream to precipitate out and collect in a reservoir within the separator. The precipitation collected within the moisture separators was discharged by pump into the 300 gallon holding tank. The resultant dry air streams passed through the blower units and through the off-gas control device(s) with subsequent discharge to the atmosphere.

The SVE system operated optimally with a vacuum level of 1 to 3 inches Hg at the withdrawal wells. The levels varied throughout the treatment duration based on soil moisture levels and permeability. The system was equipped with operational interlocks which shut down the process machinery if blower temperatures exceed specified limits or if excessive vacuum was produced.

The layout of the air sparging system included an air compressor and associated valves and pressure meters. The manifold and piping was constructed of nylon/steel tubing. A pressure relief valve was installed immediately after the compressor to exhaust excess air from the manifold. A pressure regulating valve and a check valve were installed between the manifold and each well to prevent temporary high pressure in the screened interval from forcing air and water back into the manifold system after the system was shut off.

The AS system was also connected to the interlock, which would shut down the system in the event of excessive temperatures or pressures. In the event the SVE blower shuts down, the air sparge also shuts down via the electronic interlock system.

#### 2.2.2.5 Changes to Design Documents

No significant changes were made to the design of the selected remedial actions with the exception of ground water treatment at Monitoring Well PZ-4 as noted in Section 2.2.2.6 below.

# 2.2.2.6 Ground Water Treatment at Monitoring Well PZ-4

On March 1, 2013, in a conference call with Whitman, NYSDEC provided comments based on project review meetings on Dexter conducted within the agency. While NYSDEC agreed that the voluntary cleanup had been effective, concern was expressed regarding water quality in one monitoring well, PZ-4. PZ-4 is located on the sidewalk of Edgewater Road.

Concentrations of VOCs at PZ-4 have not diminished over the course of the remediation, likely because installation of SVE/AS components within the vicinity of the monitoring well was not possible.

In order to attain an effective reduction in VOC compounds in PZ-4, NYSDEC suggested a one-time injection of chemicals and nutrients, which allowed for a reduction of concentrations through bioremediation. The bioremediation injections were conducted on April 2, 2013. Post-injection sampling events were conducted on April 24, May 16, and June 6 of 2013.

### 2.2.3 Selective Remedy Timeline – Areas A and I

As indicated in the May 2005 RAWP, the selective remedy was to be run at the site until concentrations in soil were determined to be below the determined SCOs for the contaminants of concern or until concentrations of contaminant removal were determined to be asymptotic. SCOs for contaminants of concern are presented in Table 1.

The SVE/AS system that served Area A was first initiated in May 2009, and was operating optimally by September of 2009. The system operated at Area A until March 31, 2011, when it was determined the influent concentrations had reached asymptotic conditions. It was determined that approximately 152 pounds of pure chemical mass was removed from the subsurface at Area A before asymptotic conditions were observed.

The SVE/AS system that served Area I was first initiated in April 2011, and was operating optimally by May of 2011. The system at Area I operated until March 27, 2012, when it was determined the influent concentrations had reached asymptotic conditions. It was determined that approximately 39 pounds of pure chemical mass was removed from the subsurface at Area I before asymptotic conditions were observed.

The June 2012 Progress Report #27 submitted to the NYSDEC in July 2012 proposed to permanently cease treatment based on NYSDEC approved 2005 RAWP.

On August 13, 2013, NYSDEC notified Dexter through Whitman that the July 26, 2013 request to dismantle the SVE/AS system was approved, including all aboveground components of the treatment systems, decommissioning the SVE/AS and recovery wells, and sealing all underground components. As of June 30, 2014, all essential components of the SVE/AS system were decommissioned and dismantled. Extraction wells and recovery wells have been permanently sealed.

#### 2.2.4 Waste Streams

During system operation, an estimated 734,000 gallons of ground water was pumped and treated, before being discharged to the sanitary sewer.

Activated carbon was changed on a quarterly basis throughout operation of the system. Carbon was changed a total of 12 times and totaled approximately 48,000 pounds. Spent carbon was collected by Acqua Bella and disposed of at an approved facility.

# 3.0 INTERIM REMEDIAL MEASURES, OPERABLE UNITS AND REMEDIAL CONTRACTS

The remedy for this site was performed as a single project, and no interim remedial measures, operable units or separate construction contracts were performed. The information and certifications made in the May 13, 2005 RAWP were relied upon to prepare this report and certify that the remediation requirements for the site have been met.

However, following the completion of the approved SVE/AS remediation for Area A, NYSDEC requested Dexter to remediate residual contaminants in PZ-4, a monitoring well located on the sidewalk of the exterior area of the Area A Building. Dexter submitted a remediation plan to NYSDEC that consisted of a one-time injection of the bioremediation additive TPH <sub>ENHANCED</sub>, which was designed to expedite the degradation of BTEX compounds and other VOCs under the aerobic conditions already present at PZ-4. NYSDEC approved the remediation plan for PZ-4.

#### 4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved RAWP for the Dexter Chemical, LLC site (May, 2005). All deviations from the RAWP are noted below.

As noted in Section 3.0 two (2) temporary well points were installed on the sidewalk at two (2) locations each approximately 6 feet from PZ-4. Approximately 500 pounds of the additive was injected. The temporary well points were sealed up on the same day. Attachment 1 to Progress Report #31, July9, 2013 reported on ground water remediation at PZ-4 and provided a record of the laboratory data associated with this event.

# 4.1 Governing Documents

The remediation was completed in accordance with the Whitman RAWP May 13, 2005 and the RAWP Addendum dated September 29, 2005.

# 4.1.1 Site Specific Health & Safety Plan (HASP)

A site specific HASP was developed for the Dexter site in conformance with all OSHA and NYSDEC requirements, and was presented as part of the Remedial Action Work Plan in 2005 as Attachment 1.

All remedial work performed under this Remedial Action was in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA.

The Health and Safety Plan (HASP) was complied with for all remedial and invasive work performed at the Site. No significant health or safety issues arose at the site during the conduct of the remediation program implemented through 2013.

# **4.1.2** Quality Assurance Project Plan (QAPP)

The QAPP was included as Appendix 12 of the Site Management Plan submitted to the NYSDEC. The QAPP describes the specific policies, objectives, organization, functional activities and quality assurance/ quality control activities designed to achieve the project data quality objectives. The QAPP was adhered to during all project activities and laboratory analyses, and project data quality objectives were met.

### **4.1.3** Construction Quality Assurance Plan (CQAP)

The Construction Quality Assurance Plan (CQAPs) managed performance of the Remedial Action tasks through designed and documented QA/QC methodologies applied in the field and in the lab. The CQAP provided a detailed description of the observation and testing activities that were used to monitor construction quality by construction supervisors and project managers, and confirm that remedial construction was in conformance with the remediation objectives and specifications. The CQAP is included as Appendix 3 to this FER.

# 4.1.4 Soil/Materials Management Plan (S/MMP)

The Soil Management Plan was included as Appendix 5 of the Site Management Plan approved by NYSDEC. All elements of the Soil Management Plan were conformed with during the construction of and operation of the site remediation systems.

# **4.1.5** Storm-Water Pollution Prevention Plan (SWPPP)

The erosion and sediment controls for all remedial construction were performed in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control and the site-specific Storm Water Pollution Prevention Plan was submitted in the Site Management Plan dated October 2010. All elements of the SWPPP were conformed with during the construction and operation of the on-site remediation systems.

# **4.1.6** Contractors Site Operations Plans (SOPs)

The Remediation Engineer reviewed all plans and submittals for this remedial project (i.e., those listed above plus contractor and subcontractor submittals) and confirmed that they were in compliance with the RAWP. All remedial documents were submitted to NYSDEC and

NYSDOH in a timely manner prior to the start of work. Contractor operations were overseen by Dexter's field construction supervisors and project managers.

# 4.1.7 Community Participation Plan

The RAWP public comment period was from August 15, 2005 through September 5, 2005. No comments were offered.

#### 4.1.8 Document Retention

The Dexter Chemical, LLC key documents, including the SMP, FER and RAWP, are retained electronically at three (3) locations.

- NYSDEC Offices, Long Island City, NY
- New York Public Library, Hunts Point Branch, Bronx, NY
- Whitman, 7 Pleasant Hill Road, Cranbury, NJ, 08512

# **4.2** Remedial Program Elements

#### **4.2.1** Contractors and Consultants

- Blue Water System Installation
- Summit Drillers Well Installations
- Acqua Bella Carbon removal/replacement
- Envirotrac Installation of pumps
- Harley Electric, Inc. Electrical Contractor
- Disposal Systems, Inc. Soil Disposal
- Louis Monteleone Fibres, Ltd. Backfill
- Whitman Environmental Consultant/Remediation Manager
- Product Level Control Water Treatment, SVE/AS Treatment System
- Zebra Temporary Wells and Chemical Injections
- Ira Whitman, NY PE

# 4.2.2 Site Preparation

• Erosion and sedimentation controls were implemented as specified in the Soil/Materials Management Plan previously submitted in Appendix 5 of the Dexter Chemical SMP dated October 2010;

- Permits were acquired as required and are included in Appendix 4. The permits included were as follows:
  - NYC Buildings Work Permit #210022580-01-EW-OT
  - o NYC Buildings Electrical Work Permit#Y142187 & Y135545
  - NYSDEC Water Discharge Permit Approval File Case#C-4265
  - o NYCDEP Bureau of Customer Service Dewatering Permit#617809
  - o Voluntary Cleanup Program (VCP)#V00186-2
  - A complete list of agency approvals, substantive technical requirements, and non-agency permits should be provided as defined in the RAWP.
- The preconstruction site meeting with the NYSDEC, Dexter, and Whitman was held on July 17, 2003. During the meeting, the NYSDEC discussed certain aspects of the VCP with Whitman and Dexter.
- Documentation of agency approvals required by the RAWP is included in RAWP approval letter. Appendix 5. Other non-agency permits relating to the remediation project are provided in Appendix 4.

All SEQRA requirements and all substantive compliance requirements for attainment of applicable natural resource or other permits were achieved during this Remedial Action.

A NYSDEC-approved project sign was erected at the project entrance and remained in place during all phases of the Remedial Action.

# **4.2.3** Problems Encountered During Construction

The principal construction problem encountered was the on-site presence of subsurface obstacles to installing trenches, conduits, piping and wells including a sub-surface vault, utility lines – current and abandoned, and building foundations. These problems were overcome by excavation of obstacles, re-routing of subsurface components, and installing wells at alternative locations.

#### **4.2.4** General Site Controls

- The site is secured by a 15' solid galvanized steel fence, all exterior doors are secured by steel roll up shutters and exterior windows are protected with welded steel bars.
- Job site records were kept on site in field books used for logging daily activities and when applicable, On-Site Treatment Plant installation.

- Erosion and sediment controls are described and included as Appendix 5 of the Site Management Plan submitted to the NYSDEC October 2010.
- Equipment decontamination is described and included in Attachment 2 of the Remedial Action Work Plan.
- Soil screening and stock pile methods are described in Section 2 of the October 2010 SMP.
- No problems were encountered during the execution of the Remedial Action Work Plan.

#### 4.2.5 Nuisance Controls

The Nuisance Control Plan was submitted in Section 2 of the SMP, submitted to the NYSDEC in October 2012. The truck routing can be found in Appendix 8 of the SMP.

No complaints were filed during the duration of the project.

# 4.2.6 Reporting

Daily and monthly reports were logged in Daily activity books. These reports are available upon request. Additionally, progress reports were completed and submitted to the NYSDEC on a quarterly basis during the duration of the remediation activities at the site. Progress reports beginning in 2006 are included as Appendix 6.

The digital photo log required by the RAWP is included in electronic format in Appendix 7.

Field notes are presented electronically as Appendix 8.

# **4.2.7 CAMP Monitoring Results**

Community Air Monitoring Plan (CAMP) monitoring took place on location during each day's construction and/or excavation using appropriate calibrated hand-held monitoring instruments situated at the point where the ground was opened, as it was being opened.

No exceedances of applicable air monitoring standards were experienced, and the results were recorded in field notes as presented in Appendix 8.

#### 4.3 Contaminated Materials Removal

This section describes the removal activities for all contaminated media (soils, water, structures, USTs, etc.) during the remedial action:

- The soil cleanup objectives (SCOs) for the site are the NYSDEC TAGM
  Recommended Soil Cleanup Objectives. Other remedial performance criteria is
  operate the SVE/AS system removing as much contamination from the source area
  as possible. The system will be operated until the influent concentrations reach
  asymptotic conditions.
- Since the primary treatment of the contaminated soil is in-situ treatment (SVE/AS), only a small amount of contaminated soil was removed during the treatment system installation. The removed soil was stockpiled, sampled, and removed from the site for off-site disposal. The disposal receipts are included as Appendix 9.

Figure 2 depicts the excavation areas. A list of the soil cleanup objectives (SCOs) for the contaminants of concern for this project is provided in Table 1.

A figure of the location of original source areas is shown in Figure 2.

#### 4.3.1 Contaminated Soil

Soils were only removed during the installation of the treatment system and not as part of the remedial action. Soils removed during the installation of the SVE wells and air sparg points in areas "A" and "I" along with and the soils removed during the pipe installation for the On-Site Treatment Plant are described in Appendix 6 of the Site Management Plan submitted to the NYSDEC in October 2010. Amounts and Disposal receipts are included in Appendix 9.

- Locations of removed materials and excavation areas are shown on Figure 2.
- Cut/Fill thicknesses are shown on Figure 3.

Contour maps of estimated cut and fill thicknesses for remedial activities at the site are included in Figure 3. Volumes of removed soils are documented in Table 3.

# 4.3.2 Disposal Details

Soils were removed from the site during the installation of wells and subsurface piping which occurred during the period of March 2006 through March 2007. All soils were stockpiled on–site for off-site disposal.

Approximately 587 tons of excavated soils were transferred by Disposal Systems, Inc. (USEPA#NJD156163438) for disposal at Coplay Quarry in Pennsylvania, in accordance with the Pennsylvania management of fill policy, during the time period of January through March 2007. Disposal receipts and approval letters are included in Appendix 9, waste class sample results can be found in Table 2 or Appendix 9, and soil disposal totals are summarized in Table 3.

Table 3 shows the total quantities of each category of material removed from the site and the disposal locations. A summary of the samples collected to characterize the waste, and associated analytical results are summarized in Appendix 9.

Letters from applicants to disposal facility owners and acceptance letters from disposal facility owners are attached in Appendix 9.

Manifests and bills of lading are included in Appendix 9.

# 4.3.3 On-Site Reuse

Soils were not reused on site. This section is not applicable.

# 4.4 Remedial Performance/Documentation Sampling

Remedial performance monitoring was the major topic of discussion between representatives of NYSDEC and Dexter at NYSDEC offices on May 27, 2010. Following that meeting, the entire performance monitoring plan was documented in Dexter Progress Report #24 dated July 6, 2010 which was also considered to be revisions to the Approved Remedial Action Work Plan of 2005. All elements of the performance monitoring plan were implemented and reported to NYSDEC in subsequent Quarterly Progress Reports. Progress Report #24 is provided under Appendix 10, Performance Monitoring and Documentation.

In order to verify the effectiveness of the treatment, Whitman collected eleven (11) soil samples. Five (5) samples were collected from Area A and six (6) samples were collected from Area I, as indicated below.

Ar	rea A	Ar	<u>rea I</u>
•	A-101 (7-8')	•	A1SB-17A (5.5-6')
•	A-105A (7-8')	•	A1SB-10A (7-7.5')
•	1SB-1 (7-9')	•	I-1 (7.5-8')
•	1SB-3 (7-8')	•	A1SB-1B (10.5-11')
•	A-102A (7-8')	•	A1SB-14 (7.5-8')
		•	I-104 (7-8')

Additionally, Whitman collected ground water samples from the following nine (9) monitoring wells (MWs) located in Areas A and I:

<u>A</u> :	rea A	$\underline{\mathbf{A}}$	rea I
•	MW-6	•	MW-3
•	MW-8	•	MW-7
•	PZ-3	•	MW-11
•	PZ-4	•	RW-13I
•	RW-5A		

Included as Table 5A, and Figure 4 is all end-point sampling for water and all exceedances of SCOs are highlighted. Included as Table 5B and Figure 5 is all end-point sampling for soil. All exceedances of SCOs for soils are summarized in Table 6. DUSRs were included in Quarterly Progress Reports #9 - #21 which are presented in Appendix 6. All appropriate laboratory data are presented in Appendix 11.

### 4.5 Imported Backfill

Approximately 126 tons of dense-grade aggregate (DGA) and approximately 104 tons of sand were brought on-site for backfilling purposes. Imported Aggregates were supplied by 110 Sand Company Source #10-34F,G. Backfill material was utilized solely during trenching and installation of piping for the SVE/AS system. The type and amount of fill are detailed in Table 4. All backfill receipts are included as Appendix 12.

- On-site placement of fill is shown on Figure 2 and described in the daily field logs.
- Analytical results for backfill are not provided; however, 110 Sand Company is tested every two years to reaffirm Status. A copy of their certification is included in Appendix 12.

A table of all sources of imported backfill with quantities for each source is shown in Table 4. Tables summarizing chemical analytical results for backfill, in comparison to allowable levels, are provided in Appendix 12. Locations on-site where backfill was used are indicated on Figure 2.

# 4.6 Contamination Remaining at the Site

Table 6 and Figure 4 summarize ground water and Figure 5 summarizes the results of all soil samples remaining at the site after completion of Remedial Action that exceed the NYSDEC TAGM Recommended Soil Cleanup Objectives.

Contaminated soils are present beginning just below paved floor surfaces, and are estimated to be as deep as 15 feet, associated with historic fill material located beneath the site. Based on prior sampling, contamination is not expected at depths greater than 15 feet bgs, just above the location where natural meadow mat material was encountered. Should any future maintenance operations take place involving infrastructure or utility work, precautions will be taken in order to address the contaminated fill material remaining on-site.

Since contamination remains beneath the site after completion of the Remedial Action, Institutional and Engineering Controls are required to protect human health and the environment. These Engineering and Institutional Controls (ECs/ICs) are described in the following sections.

Long-term management of these EC/ICs and residual contamination will be performed under the Site Management Plan (SMP) approved by the NYSDEC.

# 4.7 Cap System

Exposure to remaining contamination in fill and soil at the site is presented by a system of concrete and asphalt capping – much of which is comprised of the concrete slabs on which all of the on-site buildings stand.

The predominant contaminants are associated with historic fill material that covers the entire site. Figure 5 shows locations of the Exceedances of Unrestricted NYSDEC TAGM Soil, which require the Engineering Controls System.

Figure 6 shows the location of each cover type built on the site, differentiating the location of on-site buildings from paved courtyards, parking areas and driveways, and concrete sidewalks.

Figure 7 presents the as-built cross-sections for each remedial cover type used at the site, as follows:

- 4"-8" thick impermeable concrete based on site observations by borings and remediation.
- 4"-8" thick existing impermeable asphalt cap paved, thicknesses based on site observations.

The engineering control covers the entire site, including sidewalks that are adjacent to Dexter's operating facility along Whittier Street and Edgewater Road. As-built documentation and drawings are provided in Appendix 13.

The cap system does not extend beyond the Dexter boundaries, because there was no migration of soil contamination beyond those boundaries, and this entire area of the Hunt's Point section of the Bronx is underlain with Historic Fill. However, properties to the north and south of Dexter are capped with the concrete slabs of adjacent buildings. Directly east and west of the Dexter property are the roadways of Edgewater Road and Whittier Street respectively, and these are capped with asphalt roadway pavements.

Should excavation for utility maintenance or other purposes be necessary in the future on the Dexter site, an Excavation Work Plan, outlining the procedures required in the event the cover system and/or underlying residual soil contamination are disturbed, is provided in Section 2 of the Site Management Plan.

The SMP also addresses inspection procedures to be followed after any severe weather conditions take place that may affect the viability of the on-site Engineering Controls.

# 4.8 Other Engineering Controls

Other than the asphalt and concrete aoil cap system, no other Engineering Controls are present on the Dexter Chemical site.

#### 4.9 Institutional Controls

The site remedy requires that an environmental easement be placed on the property to (1) implement, maintain and monitor the Engineering Controls; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the site to Commercial/Industrial uses only.

The Declaration for the site was executed by Edgewater Realty, LLC on September 6, 2012, and was filed with the Westchester County Clerk on March 12, 2013. The County Recording Identifier number for this filing is 2013022501222001. A copy of the declaration and proof of filing is provided in Appendix 14.

#### 4.10 Deviations from the Remedial Action Work Plan

One significant deviation from the Remedial Action Work Plan prepared in 2005 by Dexter and approved by NYSDEC on November 3, 2005, took place in 2013. This deviation is addressed in Section 3.0, *Interim Remedial Measure, Operable Units and Remedial Contracts* and Section 4.0, *Description of Remedial Actions Performed*. This deviation was a localized remediation in the vicinity of PZ-4, on the sidewalk to the east of the Dexter facility.

## 4.10.1 Original Requirements in the RAWP

In the original RAWP and its Addendum, no remediation of the area adjacent to PZ-4 was proposed by Dexter or required by NYSDEC.

#### 4.10.1 Action Taken

On April 2, 2013, two (2) temporary well points were installed on the sidewalk at two (2) locations, each approximately 6 feet from PZ-4. Approximately 500 pounds of the additive was injected. The temporary well points were sealed up on the same day. Attachment 1 to Progress Report #31, July 9, 2013 reported on ground water remediation at PZ-4, and provided a record of the laboratory data associated with this event.

# 4.10.03 Reason for Change/Approval

The Interim Remedial Measure at PZ-4 was conducted as a result of NYSDEC's concerns regarding contaminant concentrations in ground water samples taken at PZ-4. NYSDEC reviewed a Remedial Action proposal for PZ-4 in March 2013, and conveyed its approval to Dexter.

# 4.10.4 Effect of Action

The effect of the Interim Remedial Measure of April 2, 2013 was to reduce the hydrocarbon mass in the vicinity of the injections. However, additional compounds apparently absorbed into the ground water from the meadow-mat material underlying the fill at this vicinity of the site.

# LIST OF TABLES

- 1. Soil Cleanup Objectives (SCOs) for the Project
- 2. Waste Characterization Samples by Area and/or Material Type
- 3. Offsite Soil/ Waste Disposal Volumes and Facilities
- 4. Backfill Quantities and Sources
- 5. Remedial Performance/Documentation Sampling Results (by Area)
- 6. Soils Exceeding Unrestricted NYSDEC TAGM After the Remedial Action

# TABLE 1 DEXTER CHEMICAL Soil Cleanup Objectives (SCOs)

Sample ID Lab Sample Number Sample Date Sampling Depth (feet) Units	NYDEC Remedial Program Soil Cleanup Objectives mg/kg
VOLATILE COMPOUNDS	
Chloromethane	NS
Vinyl Chloride	0.02
Bromomethane	NS
Chloroethane	NS
Trichlorofluoromethane	NS
Acrolein	NS
1,1-Dichloroethene	0.33
Methylene Chloride	0.05
Acrylonitrile	NS
trans-1,2-Dichloroethene	0.19
1,1-Dichloroethane	0.27
cis-1,2-Dichloroethene	0.25
Chloroform	0.37
1,1,1-Trichloroethane	0.68
Carbon Tetrachloride	0.76
1,2-Dichloroethane(EDC)	0.02
Benzene	0.06
Trichloroethene	0.47
1,2-Dichloropropane	NS
Bromodichloromethane	NS
2-Chloroethylvinyl Ether	NS
cis-1,3-Dichloropropene	NS
Toluene	0.7
trans-1,3-Dichloropropene	NS
1,1,2-Trichloroethane	NS
Tetrachloroethene	1.3
Dibromochloromethane	NS
Chlorobenzene	1.1
Ethylbenzene	1
Total Xylenes	0.26
Bromoform	NS
1,1,2,2-Tetrachloroethane	NS

- Detected above NYDEC Remedial Soil Cleanup Objectives

- No Standard for Individual Contaminant

ND - None Detected

~ Not Analyzed

208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

Laboratory Identifier: 0612413

Received: 12/20/2006 08:57

Client: American Analytical (03470)

56 Toledo Street Farmingdale, NY 11735

Project: American Analytical

NY

Area: Dexter Soil Samples

Manager: Lori Beyer

Respectfully submitted,

**Technical Director** 

NYS Lab ID # 10969 NJ Cert. # 73812 CT Cert. # PH0645 MA Cert. # NY061 PA Cert. # 68-535 NH Cert. # 252592-BA RI Cert. # 161

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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

# Volatiles - EPA 8260B

Sample: 0612413-1

Client Sample ID: Soil Sample #1 842 West

Matrix: Soil

Type: Grab

Remarks: See Case Narrative Analyzed Date: 12/20/2006 Collected: 12/19/2006 14:30

% Solid: 96.5%

**Analytical Results** 

			Analytical Results					
	Analyte	File ID	MDL	Concentration*	Units	Q		
Cas No 75-71-8	Dichlorodifluoromethane	B 2241-7230	1.10	1.10	ug/Kg	U		
	Chlorodifluoromethane	B 2241-7230	1.35	1.35	ug/Kg	U		
1.2	Chloromethane	B 2241-7230	0.81	0.81	ug/Kg	U		
74-87-3		B 2241-7230	1.22	1.22	ug/Kg	U		
75-01-4	Vinyl Chloride	B 2241-7230	1.08	1.08	ug/Kg	U		
74-83-9	Bromomethane	B 2241-7230	2.63	2.63	ug/Kg	U		
75-00 <b>-</b> 3	Chloroethane	B 2241-7230	1.32	1.32	ug/Kg	U		
75-69-4	Trichlorofluoromethane	B 2241-7230	1.53	1.53	ug/Kg	U		
76-13-1	1,1,2-Trichlorotrifluoroethane	B 2241-7230	1.43		ug/Kg	U		
75-35-4	1,1-Dichloroethene	B 2241-7230	10.5	<u> </u>	ug/Kg	U		
67-64-1	Acetone	B 2241-7230	2.59	5	ug/Kg	U		
75-15-0	Carbon disulfide	B 2241-7230	1.76	<u> </u>	ug/Kg	T		
75-09-2	Methylene Chloride	B 2241-7230	0.87		ug/Kg	T		
156-60-5	t-1,2-Dichloroethene	B 2241-7230	1.03		ug/Kg	Τī		
1634-04-4	Methyl t-butyl ether	B 2241-7230	0.91	1	ug/Kg	† τ		
75-34-3	1,1-Dichloroethane	l	1.59	<u> </u>	<u> </u>	$\dagger$		
590-20-7	2,2-Dichloropropane	B 2241-7230	1.12	·		$\dagger \tau$		
156-59-2	c-1,2-Dichloroethene	B 2241-7230	6.54	<b>-</b>		1		
78-93-3	2-Butanone	B 2241-7230	2.0	<u> </u>	<u> </u>	+-1		
74-97-5	Bromochloromethane	B 2241-7230	0.9	<u> </u>		-		
67-66-3	Chloroform	B 2241-7230		<u> </u>		+-		
71-55-6		B 2241-7230	1.0	<u> </u>				
56-23-5		B 2241-7230	1.1			-		
563-58-6		B 2241-7230	2.1	-		$\dashv$		
71-43-2		B 2241-7230	1.0			+		
107-06-2		B 2241-7230	1.1			_		
79-01-6		B 2241-7230	0.7			-		
78-87-5		B 2241-7230	0.7			1		
74-95-3		B 2241-7230	1.0					
75-27-4		B 2241-7230	0.0			_ -		
110-75-8		B 2241-7230	7.0					
		B 2241-7230	1.0			$\perp$		
10061-01-4		B 2241-7230	4.0					
108-10-1		B 2241-7230	0.			_		
108-88-1 10061-02-1		B 2241-7230	1.	01 1.0	1 ug/Kg			



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

# Volatiles - EPA 8260B

Sample: 0612413-1

Client Sample ID: Soil Sample #1 842 West

Matrix: Soil

Type: Grab

Remarks: See Case Narrative Analyzed Date: 12/20/2006 Collected: 12/19/2006 14:30

% Solid: 96.5%

# **Analytical Results**

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
79-00-5	1,1,2-Trichloroethane	B 2241-7230	1.82	1.82	ug/Kg	U
127-18-4	Tetrachloroethene	B 2241-7230	1.20	1.20	ug/Kg	U
142-28-9	1,3-Dichloropropane	B 2241-7230	1.12	1.12	ug/Kg	U
591-78-6	2-Hexanone	B 2241-7230	3.60	3.60	ug/Kg	U
124-48-1	Dibromochloromethane	B 2241-7230	1.49	1.49	ug/Kg	U
106-93-4	1,2-Dibromoethane	B 2241-7230	1.53	1.53	ug/Kg	U
108-90-7	Chlorobenzene	B 2241-7230	1.06	1.06	ug/Kg	U
630-20-6	1,1,1,2-Tetrachloroethane	B 2241-7230	1.64	1.64	ug/Kg	U
100-41-4	Ethylbenzene	B 2241-7230	0.89	0.89	ug/Kg	U
108-38-3	m,p-xylene	B 2241-7230	2.07	2.07	ug/Kg	Ų
95-47-6	o-xylene	B 2241-7230	1.55	1.55	ug/Kg	U
100-42-5	Styrene	B 2241-7230	1.53	1.53	ug/Kg	U
75-25-2	Bromoform	B 2241-7230	2.34	2.34	ug/Kg	U
98-82-8	Isopropylbenzene	B 2241-7230	1.30	1.30	ug/Kg	U
108-86-1	Bromobenzene	B 2241-7230	1.68	1	ug/Kg	U
79-34-5	1,1,2,2-Tetrachloroethane	B 2241-7230	2.96		ug/Kg	U
103-65-1	n-Propylbenzene	B 2241-7230	1.49	1,49	ug/Kg	U
96-18-4	1,2,3-Trichloropropane	B 2241-7230	4.16	4.16	ug/Kg	U
622-96-8	p-Ethyltoluene	B 2241-7230	1.90	1.90	ug/Kg	U
108-67-8	1,3,5-Trimethylbenzene	B 2241-7230	1.70		ug/Kg	U
95-49-8	2-Chlorotoluene	B 2241-7230	1.84	1	ug/Kg	U
106-43-4	4-Chlorotoluene	B 2241-7230	2.03		ug/Kg	U
98-06-6	tert-Butylbenzene	B 2241-7230	1.99	1	ug/Kg	U
95-63-6	1,2,4-Trimethylbenzene	B 2241-7230	1.95	j	ug/Kg	U
135-98-8	sec-Butylbenzene	B 2241-7230	1.72		ug/Kg	U
99-87-6	4-Isopropyltoluene	B 2241-7230	1.64		ug/Kg	U
541-73-1	1,3-Dichlorobenzene	B 2241-7230	2.05		ug/Kg	U
106-46-7	1,4-Dichlorobenzene	B 2241-7230	2.13	1		U
95-50-1	1,2-Dichlorobenzene	B 2241-7230	2.44	2.44		U
105-05-5	p-Diethylbenzene	B 2241-7230	2.0	1		U
104-51-8	n-Butylbenzene	B 2241-7230	1.84			U
95-93-2		B 2241-7230	2.26			U
96-12-8		B 2241-7230	4.74			U
120-82-1		B 2241-7230	2.0	7 2.07	ug/Kg	U



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

# Volatiles - EPA 8260B

Sample: 0612413-1

Client Sample ID: Soil Sample #1 842 West

Matrix: Soil

Type: Grab

Collected: 12/19/2006 14:30 % Solid: 96.5%

Remarks: See Case Narrative Analyzed Date: 12/20/2006

# **Analytical Results**

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
87-68-3	Hexachlorobutadiene	B 2241-7230	2.05	2.05	ug/Kg	U
91-20-3	Naphthalene	B 2241-7230	2.53	2.53	ug/Kg	U
87-61-6	1,2,3-Trichlorobenzene	B 2241-7230	2.13	2.13	ug/Kg	U
994-05-8	TAME	B 2241-7230	4.35	4.35	ug/Kg	U
75-65-0	Tertiary butyl alcohol	B 2241-7230	36.0	36.0	ug/Kg	U
107-13-1	Acrylonitrile	B 2241-7230	12.7	12.7	ug/Kg	TU

<sup>\*</sup> Results are reported on a dry weight basis

# **Surrogate Results**

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	B2241-7230	97.1 %	(80 - 110)	
4774-33-8	DIBROMOFLUOROMETHANE	B2241-7230	104.0 %	(68 - 156)	<u> </u>
2037 <b>-</b> 26-5	TOLUENE-D8	B2241-7230	97.8 %	(89 - 113)	



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

# Volatiles - EPA 8260B

Sample: 0612413-3

Client Sample ID: Soil Sample #5 842 West

Matrix: Soil

Type: Grab

Remarks: See Case Narrative Analyzed Date: 12/20/2006 Collected: 12/19/2006 14:30

% Solid: 95%

# **Analytical Results**

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
75-71-8	Dichlorodifluoromethane	B 2241-7231	1,12	1.12	ug/Kg	U
75-45-6	Chlorodifluoromethane	B 2241-7231	1.37	1.37	ug/Kg	U
74-87-3	Chloromethane	B 2241-7231	0.82	0.82	ug/Kg	U
75-01-4	Vinyl Chloride	B 2241-7231	1.24	1.24	ug/Kg	U
74-83-9	Bromomethane	B 2241-7231	1.10	1.10	ug/Kg	U
75-00-3	Chloroethane	B 2241-7231	2.68	2.68	ug/Kg	U
75-69-4	Trichlorofluoromethane	B 2241-7231	1.35	1.35	ug/Kg	U
76-13-1	1,1,2-Trichlorotrifluoroethane	B 2241-7231	1.56	1.56	ug/Kg	U
75-35-4	1,1-Dichloroethene	B 2241-7231	1.46	1.46	ug/Kg	U
67-64-1	Acetone	B 2241-7231	10.7	10.7	ug/Kg	U
75-15-0	Carbon disulfide	B 2241-7231	2.64	2.64	ug/Kg	U
75-09-2	Methylene Chloride	B 2241-7231	1.79	1.79	ug/Kg	U
156-60-5	t-1,2-Dichloroethene	B 2241-7231	0.89	0.89	ug/Kg	U
1634-04-4	Methyl t-butyl ether	B 2241-7231	1.05	1.05	ug/Kg	U
75-34-3	1,1-Dichloroethane	B 2241-7231	0.93	0.93	ug/Kg	U
590-20-7	2,2-Dichloropropane	B 2241-7231	1.62	1.62	ug/Kg	U
156-59-2	c-1,2-Dichloroethene	B 2241-7231	1.14	1.14	ug/Kg	U
78-93-3	2-Butanone	B 2241-7231	6.67	6.67	ug/Kg	U
74-97-5	Bromochloromethane	B 2241-7231	2.11	2.11	ug/Kg	U
67-66-3	Chloroform	B 2241-7231	0.99	0.99	ug/Kg	U
71-55-6	1,1,1-Trichloroethane	B 2241-7231	1.05	1.05	ug/Kg	U
56-23-5	Carbon Tetrachloride	B 2241-7231	1.20	1.20	ug/Kg	U
563-58-6	1,1-Dichloropropene	B 2241-7231	2.22	2.22	ug/Kg	U
71-43-2	Benzene	B 2241-7231	1.05	1.05	ug/Kg	U
107-06-2	1,2-Dichloroethane	B 2241-7231	1.20	1	ug/Kg	U
79-01-6	Trichloroethene	B 2241-7231	0.76	0.76	ug/Kg	U
78-87-5	1,2-Dichloropropane	B 2241-7231	0.80	0.80	ug/Kg	U
74-95-3	Dibromomethane	B 2241-7231	1.05	1.05	ug/Kg	U
75-27-4	Bromodichloromethane	B 2241-7231	0.91		ug/Kg	U
110-75-8	2-Chloroethylvinylether	B 2241-7231	7.15		ug/Kg	U
10061-01-5	c-1,3-Dichloropropene	B 2241-7231	1.03		ug/Kg	U
108-10-1	4-Methyl-2-pentanone	B 2241-7231	4.09	4.09	ug/Kg	, U
108-88-3	Toluene	B 2241-7231	0.80		ug/Kg	U
10061-02-6	t-1,3-Dichloropropene	B 2241-7231	1.03	1.03	ug/Kg	U



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

# Volatiles - EPA 8260B

Sample: 0612413-3

Client Sample ID: Soil Sample #5 842 West

Matrix: Soil

Type: Grab

Remarks: See Case Narrative Analyzed Date: 12/20/2006 Collected: 12/19/2006 14:30

% Solid: 95%

# **Analytical Results**

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
79-00-5	1,1,2-Trichloroethane	B 2241-7231	1.86	1.86	ug/Kg	U
127-18-4	Tetrachloroethene	B 2241-7231	1.22	1.22	ug/Kg	U
142-28-9	1,3-Dichloropropane	B 2241-7231	1.14	1.14	ug/Kg	U
591-78-6	2-Hexanone	B 2241-7231	3.67	3.67	ug/Kg	U
124-48-1	Dibromochloromethane	B 2241-7231	1.52	1.52	ug/Kg	U
106-93-4	1,2-Dibromoethane	B 2241-7231	1.56	1.56	ug/Kg	U
108-90-7	Chlorobenzene	B 2241-7231	1.08		ug/Kg	U
630-20-6	1,1,1,2-Tetrachloroethane	B 2241-7231	1.67	1.67	ug/Kg	U
100-41-4	Ethylbenzene	B 2241-7231	0.91	0.91	ug/Kg	U
108-38-3	m,p-xylene	B 2241-7231	2.11	2.11	ug/Kg	U
95-47-6	o-xylene	B 2241-7231	1,58	·	ug/Kg	U
100-42-5	Styrene	B 2241-7231	1.56		ug/Kg	U
75-25-2	Bromoform	B 2241-7231	2.38	2.38	ug/Kg	U
98-82-8	Isopropylbenzene	B 2241-7231	1.33	i	ug/Kg	U
108-86-1	Bromobenzene	B 2241-7231	1.71		ug/Kg	U
79-34-5	1,1,2,2-Tetrachloroethane	B 2241-7231	3.02	1	ug/Kg	U
103-65-1	n-Propylbenzene	B 2241-7231	1.52	1.52	ug/Kg	U
96-18-4	1,2,3-Trichloropropane	B 2241-7231	4.24		ug/Kg	U
622-96-8	p-Ethyltoluene	B 2241-7231	1.94		ug/Kg	U
108-67-8	1,3,5-Trimethylbenzene	B 2241-7231	1.73			U
95-49-8	2-Chlorotoluene	B 2241-7231	1.88	1	ug/Kg	U
106-43-4	4-Chlorotoluene	B 2241-7231	2.07	2.07	ug/Kg	U
98-06-6	tert-Butylbenzene	B 2241-7231	2.03	2.03	1	U
95-63-6	1,2,4-Trimethylbenzene	B 2241-7231	1.98			U
135-98-8	sec-Butylbenzene	B 2241-7231	1.75	3		U
99-87-6	4-Isopropyltoluene	B 2241-7231	1.67	1.67		U
541-73-1	1,3-Dichlorobenzene	B 2241-7231	2.09	ì		U
106-46-7	1,4-Dichlorobenzene	B 2241-7231	2.17	2.17	ug/Kg	U
95-50-1	1,2-Dichlorobenzene	B 2241-7231	2.49			U
105-05-5	p-Diethylbenzene	B 2241-7231	2.09			U
104-51-8	n-Butylbenzene	B 2241-7231	1.88			U
95-93-2	1,2,4,5-Tetramethylbenzene	B 2241-7231	2.30			J
96-12-8	1,2-Dibromo-3-chloropropane	B 2241-7231	4.83			U
120-82-1	1,2,4-Trichlorobenzene	B 2241-7231	2.1	1 2.11	ug/Kg	U



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

# Volatiles - EPA 8260B

Sample: 0612413-3

Client Sample ID: Soil Sample #5 842 West

Matrix: Soil

Type: Grab

Collected: 12/19/2006 14:30

% Solid: 95%

Remarks: See Case Narrative Analyzed Date: 12/20/2006

# **Analytical Results**

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
87-68-3	Hexachlorobutadiene	B 2241-7231	2.09	2.09	ug/Kg	U
91-20-3	Naphthalene	B 2241-7231	2.57	2.57	ug/Kg	Ų
87-61-6	1,2,3-Trichlorobenzene	B 2241-7231	2.17	2.17	ug/Kg	U
994-05-8	TAME	B 2241-7231	4.43	4.43	ug/Kg	U
75-65-0	Tertiary butyl alcohol	B 2241-7231	36.7	36.7	ug/Kg	U
107-13-1	Acrylonitrile	B 2241-7231	12.9	12.9	ug/Kg	U

<sup>\*</sup> Results are reported on a dry weight basis

# **Surrogate Results**

Γ	Cas No	Analyte	File ID	% Recovery	QC Limits	Q
ľ	460-00-4	4-BROMOFLUOROBENZENE	B2241-7231	96.3 %	( 80 - 110)	
t	4774-33-8	DIBROMOFLUOROMETHANE	B2241-7231	98.3 %	( 68 - 156)	
T	2037-26-5	TOLUENE-D8	B2241-7231	97.2 %	(89 - 113)	



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

# Semivolatile PAH Compounds - EPA Method 8270C

Sample: 0612413-2

Client Sample ID: Comp. 1,2,3,4 842 West

Matrix: Soil

Type: Composite

Collected: 12/19/2006 14:30

% Solid: 94.8%

Remarks:

Analyzed Date: 12/21/2006 Preparation Date(s): 12/21/2006

# **Analytical Results**

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
83-32-9	Acenaphthene	C1733-2348	27.3	84.9	ug/Kg	Y
208-96-8	Acenaphthylene	C 1733-2348	25.2	187	ug/Kg	Y
120-12-7	Anthracene	C 1733-2348	25.2	305	ug/Kg	Y
56-55-3	Benzo(a)Anthracene	C 1733-2348	14.7	1120	ug/Kg	
50-32-8	Benzo(a)Pyrene	C 1733-2348	20.0	1530	ug/Kg	
205-99-2	Benzo(b)Fluoranthene	C1733-2348	13.6	1460	ug/Kg	
191-24-2	Benzo(g,h,i)Perylene	C1733-2348	17.9	894	ug/Kg	
207-08-9	Benzo(k)Fluoranthene	C1733-2348	46.2	1370	ug/Kg	
218-01-9	Chrysene	C 1733-2348	23.1	1160	ug/Kg	
53-70-3	Dibenzo(a,h)Anthracene	C1733-2348	17.9	248	ug/Kg	Y
206-44-0	Fluoranthene	C 1733-2348	21.0	2360	ug/Kg	
86-73-7	Fluorene	C1733-2348	23.1	112	ug/Kg	Υ
193-39-5	Indeno(1,2,3-cd)pyrene	C1733-2348	22.0	777	ug/Kg	
91-20-3	Naphthalene	C1733-2348	35.7	3340	ug/Kg	
85-01-8	Phenanthrene	C 1733-2348	28.4	889	ug/Kg	
129-00-0	Pyrene	C 1733-2348	21.0	1890	ug/Kg	
91-57-6	2-Methylnaphthalene	C 1733-2348	32.5	221	ug/Kg	Y

<sup>\*</sup> Results are reported on a dry weight basis

# **Surrogate Results**

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
321-60-8	2-FLUOROBIPHENYL	C1733-2348	58.4 %	(30 - 115)	
4165-60-0	NITROBENZENE-D5	C1733-2348	48.8 %	(23 - 120)	
1718-51-0	TERPHENYL-D14	C1733-2348	76.1 %	(18 - 137)	

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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

# Semivolatile PAH Compounds - EPA Method 8270C

Sample: 0612413-4

Client Sample ID: Comp 5,6,7,8 842 West

Matrix: Soil

Type: Composite

Collected: 12/19/2006 14:30 % Solid: 93.8%

Remarks:

Analyzed Date: 12/21/2006 Preparation Date(s): 12/21/2006

**Analytical Results** 

		•				
Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
83-32-9	Acenaphthene	C1733-2349	27.8	107	ug/Kg	Y
208-96-8	Acenaphthylene	C1733-2349	25.7	199	ug/Kg	Υ
120-12-7	Anthracene	C1733-2349	25.7	520	ug/Kg	Y
56-55-3	Benzo(a)Anthracene	C1733-2349	15.0	918	ug/Kg	
50-32-8	Benzo(a)Pyrene	C1733-2349	20.3	810	ug/Kg	
205-99-2	Benzo(b)Fluoranthene	C 1733-2349	13.9	780	ug/Kg	
191-24-2	Benzo(g,h,i)Perylene	C 1733-2349	18.2	370	ug/Kg	Y
207-08-9	Benzo(k)Fluoranthene	C 1733-2349	47.1	718	ug/Kg	
218-01-9	Chrysene	C 1733-2349	23.5	847	ug/Kg	
53-70-3	Dibenzo(a,h)Anthracene	C 1733-2349	18.2	126	ug/Kg	Y
206-44-0	Fluoranthene	C1733-2349	21.4	2110	ug/Kg	
	Fluorene	C 1733-2349	23.5	<del></del>	ug/Kg	Y
86-73-7	Indeno(1,2,3-cd)pyrene	C1733-2349	22.5		ug/Kg	Y
193-39-5		C 1733-2349	36.4		ug/Kg	
91-20-3		C1733-2349	28.9	<u> </u>	ug/Kg	
85-01-8	<del></del>	C1733-2349	21.4		ug/Kg	1
129-00-0		C1733-2349	33.2	<u> </u>	ug/Kg	Y
91-57-6	2-Methylnaphthalene	U 1733-2349	30.2		29/179	

<sup>\*</sup> Results are reported on a dry weight basis

## **Surrogate Results**

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
	2-FLUOROBIPHENYL	C1733-2349	55.2 %	( 30 - 115)	
•	NITROBENZENE-D5	C1733-2349	51.7 %	( 23 - 120)	
1718-51-0		C1733-2349	67.4 %	( 18 - 137)	



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

### Herbicides by SW 846 8321A

Sample: 0612413-2

Client Sample ID: Comp. 1,2,3,4 842 West

Matrix: Soil

Type: Composite

Collected: 12/19/2006 14:30

% Solid: 94.8%

Remarks:

Analyzed Date: 12/21/2006 Preparation Date(s): 12/20/2006

#### **Analytical Results**

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
93-72-1	Silvex(2,4,5-TP)	N 208 -36	781	781	ug/Kg	U
94-75-7	2,4-D	N 208 -36	549	549	ug/Kg	U
93-76-5	2,4,5-T	N 208 -36	781	781	ug/Kg	U

<sup>\*</sup> Results are reported on a dry weight basis

#### **Surrogate Results**

Cas No	Analyte	File ID	% Recovery	QC Limits	Q	
106-46-7	1,4-DICHLOROBENZENE	N208-36	51.5 %	(10-59)		.

Sample: 0612413-4

Client Sample ID: Comp 5,6,7,8 842 West

Matrix: Soil

Type: Composite

Collected: 12/19/2006 14:30

% Solid: 93.8%

Remarks:

Analyzed Date: 12/21/2006 Preparation Date(s): 12/20/2006

### **Analytical Results**

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
93-72-1	Silvex(2,4,5-TP)	N 208 -37	789		ug/Kg	U
94-75-7	2,4-D	N 208 -37	554	554	ug/Kg	U
93-76-5	2,4,5-T	N 208 -37	789	789	ug/Kg	U

<sup>\*</sup> Results are reported on a dry weight basis

### **Surrogate Results**

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
106-46-7	1,4-DICHLOROBENZENE	N208-37	45.8 %	(10-59)	



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

Collected: 12/19/2006 14:30

### PCB Aroclors by SW846 8082/EPA 608

Sample: 0612413-2

Client Sample ID: Comp. 1,2,3,4 842 West

Matrix: Soil Type: Composite

% Solid: 94.8%

Remarks:

Analyzed Date: 12/22/2006 Preparation Date(s): 12/22/2006

### **Analytical Results**

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
12674-11-2	PCB 1016	G1271-16	2.15	2.15	ug/Kg	U
11104-28-2	PCB 1221	G 1271-16	10.1	10.1	ug/Kg	U
11141-16-5	PCB 1232	G 1271-16	2.25	2.25	ug/Kg	U
53469-21-9	PCB 1242	G1271-16	1.69	1.69	ug/Kg	U
12672-29-6	PCB 1248	G 1271-16	3.80	3.80	ug/Kg	Ų
11097-69-1	PCB 1254	G 1271-16	5.75	5.75	ug/Kg	U
11096-82-5	PCB 1260	G 1271-16	6.60	6.60	ug/Kg	U

<sup>\*</sup> Results are reported on a dry weight basis

### **Surrogate Results**

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
2051-24-3	DECACHLOROBIPHENYL	G1271-16	79.4 %	( 30 - 150)	
877-09-8	TETRACHLORO M-XYLENE	G1271-16	88.7 %	( 30 - 150)	



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

## PCB Aroclors by SW846 8082/EPA 608

Sample: 0612413-4

Client Sample ID: Comp 5,6,7,8 842 West

Matrix: Soil

Type: Composite

Collected: 12/19/2006 14:30

% Solid: 93.8%

Remarks:

Analyzed Date: 12/22/2006 Preparation Date(s): 12/22/2006

### **Analytical Results**

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
12674-11-2	PCB 1016	G1271-17	2.17		ug/Kg	U
11104-28-2		G 1271-17	10.2	10.2	ug/Kg	U
11141-16-5		G1271-17	2.27	2.27	ug/Kg	U
53469-21-9	PCB 1242	G1271-17	1.71	1.71	ug/Kg	U
12672-29-6	PCB 1248	G1271-17	3.84	3,84	ug/Kg	U
11097-69-1	PCB 1254	G 1271-17	5.81	5.81	ug/Kg	U
11096-82-5	PCB 1260	G 1271 <b>-</b> 17	6.67	6.67	ug/Kg	U

<sup>\*</sup> Results are reported on a dry weight basis

### **Surrogate Results**

[	Cas No	Analyte	File ID	% Recovery	QC Limits	Q
ļ	2051-24-3	DECACHLOROBIPHENYL	G1271-17	87.6 %	(30 - 150)	
Ì	877-09-8	TETRACHLORO M-XYLENE	G1271-17	80.7 %	(30 - 150)	



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

### Pesticide Compounds - SW846 8081A

Sample: 0612413-2

Client Sample ID: Comp. 1,2,3,4 842 West

Matrix: Soil

Type: Composite

Collected: 12/19/2006 14:30

% Solid: 94.8%

Remarks:

Analyzed Date: 12/22/2006 Preparation Date(s): 12/22/2006

### **Analytical Results**

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
319-84-6	alpha-BHC	K 808 -46	0.75	0.75	ug/Kg	U
58-89-9	gamma-BHC (Lindane)	K 808 -46	1.47	1.47	ug/Kg	U
319-85-7	beta-BHC	K 808 -46	0.81	0.81	ug/Kg	C
319-86-8	delta-BHC	K 808 -46	1.45	1.45	ug/Kg	U
76-44-8	Heptachlor	K 808 -46	0.66	0.66	ug/Kg	U
309-00-2	Aldrin	K 808 -46	1.03	1.03	ug/Kg	U
1024-57-3	Heptachlor epoxide	K 808 -46	1.08	1.08	ug/Kg	U
5103-74-2	gamma-Chlordane	K 808 -46	2.08	2.08	ug/Kg	U
5103-71-9	alpha-Chlordane	K 808 -46	1.26	1.26	ug/Kg	U
72-55-9	4,4'-DDE	K 808 -46	1.74	1.74	ug/Kg	U
959-98-8	Endosulfan I	K 808 -46	1.13	1.13	ug/Kg	U
60-57-1	Dieldrin	K 808 -46	1.66	1.66	ug/Kg	U
72-20-8	Endrin	K 808 -46	1.26	1.26	ug/Kg	U
72-54-8	4,4'-DDD	K 808 -46	1.45	1.45	ug/Kg	U
33213-65-9	Endosulfan II	K 808 -46	0.76	0.76	ug/Kg	U
50-29-3	4,4'-DDT	K 808 -46	0.54	0.54	ug/Kg	U
1031-07-8	Endosulfan sulfate	K 808 -46	0.84	0.84	ug/Kg	U
7421-36-3	Endrin Aldehyde	K 808 -46	1.92	1.92	ug/Kg	U
72-43-5	Methoxychlor	K 808 -46	1.64	1.64	ug/Kg	U
53494-70-5	Endrin ketone	K 808 -46	2.44	2.44	ug/Kg	U
8001-35-2	Toxaphene	K 808 -46	23.2	23.2	ug/Kg	U
57-74-9	Chlordane	K 808 -46	8.44	8.44	ug/Kg	U

<sup>\*</sup> Results are reported on a dry weight basis

### **Surrogate Results**

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
2051-24-3	DECACHLOROBIPHENYL	K808-46	61.8 %	( 30 - 150)	
877-09-8	TETRACHLORO M-XYLENE	K808-46	82.9 %	(30 - 150)	



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

## Pesticide Compounds - SW846 8081A

Sample: 0612413-4

Client Sample ID: Comp 5,6,7,8 842 West

Matrix: Soil

Type: Composite

Collected: 12/19/2006 14:30

% Solid: 93.8%

Remarks:

Analyzed Date: 12/22/2006 Preparation Date(s): 12/22/2006

### **Analytical Results**

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
319-84-6	alpha-BHC	K 808 -47	0.76	0.76	ug/Kg	U
58-89-9	gamma-BHC (Lindane)	K 808 -47	1.48	1.48	ug/Kg	U
319-85-7	beta-BHC	K 808 -47	0.82	0.82	ug/Kg	U
319-86-8	delta-BHC	K 808 -47	1.46	1.46	ug/Kg	U
76-44-8	Heptachlor	K 808 -47	0.67	0.67	ug/Kg	TU
309-00-2	Aldrin	K 808 -47	1.04	1.04	ug/Kg	U
1024-57-3	Heptachlor epoxide	K 808 -47	1.09	1.09	ug/Kg	U
5103-74-2	gamma-Chlordane	K 808 -47	2.10	2.10	ug/Kg	U
5103-71-9	alpha-Chlordane	K 808 -47	1.27	1.27	ug/Kg	U
72-55-9	4,4'-DDE	K 808 -47	1.76	1.76	ug/Kg	U
959-98-8	Endosulfan I	K 808 -47	1,14	1.14	ug/Kg	U
60-57-1	Dieldrin	K 808 -47	1.67	1.67	ug/Kg	U
72-20-8	Endrin	K 808 -47	1.27	1.27	ug/Kg	U
72-54-8	4,4'-DDD	K 808 -47	1.46	1.46	ug/Kg	U
33213-65-9	Endosulfan II	K 808 -47	0.77	0.77	ug/Kg	U
50-29-3	4,4'-DDT	K 808 -47	0.54	0.54	ug/Kg	U
1031-07-8	Endosulfan sulfate	K 808 -47	0.85	0.85	ug/Kg	U
7421-36-3	Endrin Aldehyde	K 808 -47	1.94	1.94	ug/Kg	U
72-43-5	Methoxychlor	K 808 -47	1.65	1.65	ug/Kg	· U
53494-70-5	Endrin ketone	K 808 -47	2.46	2.46	ug/Kg	U
8001-35-2	Toxaphene	K 808 -47	23.5	23.5	ug/Kg	U
57-74-9	Chlordane	K 808 -47	8.53	8.53	ug/Kg	U

<sup>\*</sup> Results are reported on a dry weight basis

## **Surrogate Results**

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
2051-24-3	DECACHLOROBIPHENYL	K808-47	46.4 %	( 30 - 150)	
877-09-8	TETRACHLORO M-XYLENE	K808-47	107.0 %	(30 - 150)	

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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

## Mercury by SW846 7470/7471/EPA 245.1

Sample: 0612413-2

Client Sample ID: Comp. 1,2,3,4 842 West

Matrix: Soil

Type: Composite

Collected: 12/19/2006 14:30

% Solid: 94.8%

Remarks:

Analyzed Date: 12/21/2006 Preparation Date(s): 12/21/2006

**Analytical Results** 

Cas No	Analyte	MDL	Concentration*	Units	Q
7439-97-6	Mercury	0.0014	0.078	mg/Kg	

<sup>\*</sup> Results are reported on a dry weight basis

Sample: 0612413-4

Client Sample ID: Comp 5,6,7,8 842 West

Matrix: Soil

Type: Composite

Collected: 12/19/2006 14:30

% Solid: 93.8%

Remarks:

Analyzed Date: 12/21/2006 Preparation Date(s): 12/21/2006

**Analytical Results** 

	Cas No	Analyte	MDL	Concentration*	Units	Q
Ì	7439-97-6	Mercury	0.0014	0.11	mg/Kg	

<sup>\*</sup> Results are reported on a dry weight basis



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

## Priority Pollutant Metals by SW846 6010/EPA 200.7

Sample: 0612413-2

Client Sample ID: Comp. 1,2,3,4 842 West

Matrix: Soil

Type: Composite

Collected: 12/19/2006 14:30

% Solid: 94.8%

Remarks:

Analyzed Date: 12/21/2006

Preparation Date(s): 12/21/2006 12/21/2006

### **Analytical Results**

Cas No	Analyte	MDL	Concentration*	Units	Q
7440-36-0	Antimony	0.21	0.21	mg/Kg	U
7440-38-2	Arsenic	0.35	0.35	mg/Kg	U
7440-41-7	Beryllium	0.021	0.021	mg/Kg	U
7440-43-9	Cadmium	0.031	0.44	mg/Kg	
7440-47-3	Chromium	0.17	11.3	mg/Kg	
7440-50-8	Copper	0.30	13.6	mg/Kg	
7439-92-1	Lead	0.18	35.7	mg/Kg	
7440-02-0	Nickel	0.052	6.99	mg/Kg	
7782-49-2	Selenium	0.44	0.44	mg/Kg	U
7440-22-4	Silver	0.10	0.10	mg/Kg	U
7440-28-0	Thallium	0.21	0.21	mg/Kg	U
7440-66-6	Zinc	0.46	52.8	mg/Kg	

<sup>\*</sup> Results are reported on a dry weight basis



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

Collected: 12/19/2006 14:30

# Priority Pollutant Metals by SW846 6010/EPA 200.7

Sample: 0612413-4

Client Sample ID: Comp 5,6,7,8 842 West

Matrix: Soil

Type: Composite

% Solid: 93.8%

Remarks:

Analyzed Date: 12/21/2006

Preparation Date(s): 12/21/2006 12/21/2006

### **Analytical Results**

Cas No	Analyte	MDL	Concentration*	Units	Q
7440-36-0	Antimony	0.20	0.20	mg/Kg	U
7440-38-2	Arsenic	0.34	0.34	mg/Kg	U
7440-41-7	Beryllium	0.020	0.020	mg/Kg	U
7440-43-9	Cadmium	0.030	0.63	mg/Kg	
7440-47-3	Chromium	0.16	13.7	mg/Kg	
7440-50-8	Copper	0.29	15.5	mg/Kg	
7439-92-1	Lead	0.17	26.9	mg/Kg	
7440-02-0	Nickel	0.049	7.91	mg/Kg	
7782-49-2	Selenium	0.42	0.42	mg/Kg	U
7440-22-4	Silver	0.099	0.099	mg/Kg	U
7440-28-0	Thallium	0.20	0.20	mg/Kg	U
7440-66-6	Zinc	0.43	40.6	mg/Kg	

\* Results are reported on a dry weight basis



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

#### **Case Narrative**

#### EPA 8260 VOLATILE ANALYSIS:

The following compounds were calibrated at 25, 50, 100, 150 and 200 ppb levels in the initial calibration curve:

Acetone

2-Butanone

4-Methyl-2-pentanone

2-Hexanone

M&P-Xylenes and 2-Chloroethylvinylether were calibrated at 10, 40, 100, 200 and 300 ppb levels.

Acrolein/Acrylonitrile were calibrated at 50,100,150,200 and 250 ppb levels. Tert Butyl Alcohol (TBA) was calibrated at 50,200,500,1000 and 1500 ppb levels.

All other compounds were calibrated at 5, 20, 50, 100 and 150 ppb levels.



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

#### **Case Narrative**

Metals Batch C2766

Se was rejected for sample #4 after a review of the spectra revealed no peaks above the baseline.

MERCURY: Batch E1423

Sample 0612413-4 was run as Matrix Spike and Matrix Spike Duplicate. Both the Matrix Spike and Matrix Spike Duplicate produced unacceptable recoveries therefore a Post Spike was ran, falling within acceptable QC limits. All other QC ran within acceptable limits as well.



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208 Route 109, Farmingdale NY 11735 Phone - 631-249-1456 Fax - 631-249-8344

12/22/2006

#### ORGANIC METHOD QUALIFIERS

- Q Qualifier specified entries and their meanings are as follows:
  - U The analytical result is not detected above the Method Detection Limit (MDL). All MDL's are lower than the lowest calibration standard concentration.
  - J Indicates an estimated value. The concentration reported was detected below the Method Detection Limit (MDL).
  - Y The concentration reported was detected below the lowest calibration standard concentration.
  - B The analyte was found in the associated method blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.
  - E The concentration of the analyte exceeded the calibration range of the instrument
  - D This flag indicates a system monitoring compound diluted out.

#### INORGANIC METHOD QUALIFIERS

- C (Concentration) qualifiers are as follows:
  - B Entered if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).
  - U Entered when the analyte was analyzed for, but not detected above the Method
     Detection Limit (MDL) which is less than the lowest calibration standard concentration.
- Q Qualifier specific entries and their meanings are as follows:
  - E Reported value is estimated because of the presence of interferences.
- M (Method) qualifiers are as follows:
  - A Flame AA
  - AS Semi-automated Spectrophotometric
  - AV Automated Cold Vapor AA
  - C Manual Spectrophotometric
  - F Furnace AA
  - P ICP
  - T Titrimetric

#### OTHER QUALIFIERS

ND - Not Detected



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# Table #3 Dexter Offsite Soil/Waste Disposal Volumes and Facilities

#### **Disposal totals**

Disposal Systems Inc.

75.65

22

55.34

30.81

\_\_ \_

30.65

33.1147.29

.,.\_\_

54.19

91.58

50.76

<u>95.38</u>

586.76

#### Trucking

Disposal Systems Inc. P.O. Box 6696 Freehold New Jersey

## Disposal Facility

Coplay Quarry 5101 Beekmantown Road Whitehall PA. 18052

# Table #4 Backfill Quantities and Sources

#### Fill Totals-Sand-DGA

110 Sand Company
29.23
25.44
23.43
38.91
36.07
27.38
25.52
24.64

Sand Total 104.2 Tons DGA Total 126.42 Tons

230.62

#### Quarry

110 Sand Company 136 Spagnoli Road Melville, NY 11747-3502

TABLE 5A

#### Remedial Performance/Documentation Sampling Results

Sample ID	1998 NYSDEC	MW-3	MW-3	MW-3LF	MW-3	MW-3	MW-3	MW-3	MW-3	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6
Lab Sample Number	Ground Water	51703	231799	AC55333-008	AC58579-005	AC60908-007	AC63671-007	AC65251-007	AC67134-007	51705	231802	328632	9551-003	460-7298-1	AC51372-004	AC55333-012	AC57037-002	AC58579-003	AC60908-004	AC62242-004	AC63671-004	AC65251-004	AC67134-004
Sampling Date	Standards/Criteria	3/26/1998	09/27/00	10/26/10	04/20/11	10/21/11	01/11/12	04/11/12	07/18/12	3/26/1998	09/27/00	1/22/02	12/3/02	10/28/09	04/30/10	10/26/10	01/27/11	04/19/11	08/02/11	10/20/11	01/10/12	4/10/12	7/17/12
Units	ug/l	ug/l	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/l	ua/L	ua/I	ua/l	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/l	ug/l
- Time	ug.	ug	g/=	ug/ =	g/ =	~g.=	g/ =	g. =	~g/=	g	ug/=	ug	ug.	g/ =	~g/=	ug- L	~g.=	g. =	g/ =	g. =	~	ug.	
TARGETED VOLATILE COMPOUNDS																							
Chloromethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5*	ND	0.6	ND	ND	ND	ND	ND	ND	26	18	26	3.19	5.7	3.5	8.4	1.3	ND	ND	ND	ND	4	3.2
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND	ND	ND	ND	38	65	95	7.17	9.7	9.7	16	1.6	1.4	ND	ND	ND	2.1	1.1
cis-1,3-Dichloropropene	0.4 (a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	2.5	0.488	0.54	ND								
Dibromochloromethane	50**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	0.9	0.3	ND	ND	ND	ND	ND	ND	35	31	27	7.34	13	13	24	6.4	1.7	ND	ND	0.83	6.9	6.4
trans-1,3-Dichloropropene	0.4 (a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	- '	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1.1.2.2-Tetrachloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5*	6.3	0.4	ND	ND	ND	ND	ND	ND	51	34	73	6.05	14	16	31	2.4	2.4	ND	ND	ND	6.3	4.2
Chlorobenzene	5*	ND	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.578	1.6	1.2	2.2	2.2	2.2	ND	ND	ND	ND	ND
Ethylbenzene	5*	12	1.6	ND	ND	ND	ND	ND	ND	110	39	88	9.58	20	28	56	5.4	2.9	ND	ND	ND	7.3	3.8
Xylene (Total)	5*	110	16	ND	ND	ND	ND	ND	ND	630	180	470	37	150	157	280	23	11.6	ND	ND	ND	37	28
1.3-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	ND	0.937	NA	ND	1.2	ND						
1,4-Dichlorobenzene	3	ND	1.4	ND	ND	ND	ND	ND	ND	ND	4.4	4.6	5.79	NA.	6.6	10	2.6	1.7	ND	ND	ND	2.6	2.9
1.2-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.6	9.1	2.54	NA.	5.4	12	1.6	1.1	ND	ND	ND	2.1	2
1.2.4-Trichlorobenzene	5	4.8	3.0	ND	ND	ND	ND ND	ND	ND	24	14	11	ND.	NA.	ND	ND	ND	ND	ND ND	ND ND	ND	ND	ND
Total Confident Conc. Above Targeted VO	As (s)	134	23.7	0	0	0	0	0	0	914	396.8	808.4	80.66	214.54	240.4	440.8	46.5	25	0	0	0.83	.10	51.6

MW-6 Samples Collected Following (After May 2009) SVE/AS System Start-Up (Yellow Highlight)

460-7298-1 10/28/09

Results above 1998 NYSDEC Ground Water Standards/Criteria - GA Water Class

ND None Detected

NS Not Sampled

NA Not Analyzed

\* The principal organic contaminant standard for ground water applies to this substance.

\* Guidance Value only.

- No Standard

(a) Applies to the sum of cis- and trans- 1,3-dichloropropene

TABLE 5A

#### Remedial Performance/Documentation Sampling Results

Sample ID Lab Sample Number	1998 NYSDEC	MW-7 231803	MW-7	MW-7	MW-7LF	MW-7 AC58579-006	MW-7 AC60908-008	MW-7 AC62242-008	MW-7 AC63671-008	MW-7 AC65251-008	MW-7 AC67134-008	MW-8 231804	MW-8LF	MW-8 AC57037-005	MW-8 AC58579-002	MW-8 AC60908-002	MW-8 AC62242-002	MW-8 AC63671-002	MW-8 ac64330-002	MW-8 AC65251-002	MW-8 AC67134-002	MW-11LF AC55333-007	MW-11 AC58579-007	MW-11 AC60908-006
	Ground Water Standards/Criteria	09/27/00	460-7298-2	AC51372-003	AC55333-005		08/03/11	10/21/11		04/11/12	07/18/12	09/27/00	AC55333-001					01/10/12	2/22/2012		07/17/12			08/03/11
Sampling Date	ug/l	ug/L	10/28/09 ug/L	04/30/10 ug/L	10/25/10 ug/L	04/20/11 ug/L	08/03/11 ug/L	10/21/11 ug/L	01/11/12 ua/L	04/11/12 ug/L	ua/L	09/27/00 ug/L	10/25/10 ug/L	01/28/11 ug/L	04/19/11 ug/L	08/02/11 ua/L	10/20/11 ug/L	01/10/12 ug/L	2/22/2012 ug/L	04/10/12 ug/L	ug/L	10/26/10 ug/L	04/21/11 ug/L	ua/L
Office	ug/i	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
TARGETED VOLATILE COMPOUNDS																								
Chloromethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5*	ND	0.24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5*	3.5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.4 (a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND
Dibromochloromethane	50**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	1.7	3.4	ND	5.6	ND	1.7	1	ND	ND	ND	0.6	ND	0.83	0.68	ND	ND	ND	ND	ND	0.54	ND	ND	ND
trans-1,3-Dichloropropene	0.4 (a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	- '	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	77	ND	ND	ND	ND	ND	ND
1.1.2.2-Tetrachloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5*	0.5	0.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND	ND	ND	1.1	ND	ND	ND
Chlorobenzene	5*	35	27	24	31	17	18	11	4.3	5.1	6.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5*	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	2.2	ND	ND	1.7	ND	ND	ND	1.3	ND	1	ND
Xylene (Total)	5*	15	2.6	ND	ND	ND	ND	ND	ND	ND	ND	1.4	73	13.8	8.5	14	17.6	13	43	26	19.4	ND	4.3	ND
1,3-Dichlorobenzene	3	1.4	NA	ND	1.9	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	3	2.9	NA	ND	3.2	ND	2.4	1.3	ND	ND	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1.2-Dichlorobenzene	3	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1.2.4-Trichlorobenzene	5	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Confident Conc. Above Targeted V	OAs (s)	60.8	34.59	24	41.7	17	23.2	13.3	4.3	5.1	8.4	2	84	16.83	9.18	14	20.5	121	43	26	22.34	0	5.3	0

Samples Collected Following (After May 2009) SVE/A 460-7298-1

10/28/09

Results above 1998 NYSDEC Ground Water Standar
ND None Detected
NS Not Sampled
NA Not Analyzed
The principal organic contaminant standard for groun
Guidance Value only.
No Standard
Applies to the sum of cis- and trans- 1,3-dichloroprop

TABLE 5A

#### Remedial Performance/Documentation Sampling Results

Sample ID	1998 NYSDEC	MW-11	MW-11	MW-11	MW-11	PZ-3	PZ-3	PZ-3	PZ-3	PZ-3	PZ-3	PZ-3	PZ-3	PZ-3	PZ-3	PZ-3	PZ-3	PZ-4	PZ-4	PZ-4	PZ-4	PZ-4LF
Lab Sample Number	Ground Water	AC62242-006	AC63671-006	AC65251-006	AC67134-006	328630	460-7298-3	AC51372-002	AC55333-004	AC57037-001	AC58579-001	AC60908-001	AC62242-001	AC63671-001	AC64330-001	AC65251-001	AC67134-001	328631	9551-004	460-7298-4	AC51372-005	AC55333-013
Sampling Date	Standards/Criteria	10/21/11	01/11/12	4/11/12	7/18/2012	1/22/02	10/28/09	04/30/10	10/25/10	1/27/11	04/19/11	08/02/11	10/20/11	01/10/12	2/22/2012	4/10/12	7/17/2012	1/22/02	12/3/02	10/28/09	04/30/10	10/27/10
Units	ua/l	ua/L	ug/L	4/11/12 ug/l	ug/l	ua/l	ua/L	ua/L	ug/L	ug/L	ua/L	ua/L	ug/L	ua/L	ua/L	4/10/12 ug/l	ug/l	ua/l	12/3/02	ua/L	ua/L	ua/L
Ullits	ug/i	ug/L	ug/L	ug/i	ug/i	ug/i	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/i	ug/i	ug/i	ug/i	ug/L	ug/L	ug/L
TARGETED VOLATILE COMPOUNDS																						1
Chloromethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.05	ND	ND	ND
Chloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	36	ND	ND	ND	22	38.9	15	28	64
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	280	290	91	160	350
cis-1,3-Dichloropropene	0.4 (a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5* ´	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	27	ND	ND	ND	4	3.8	2.3	ND	ND
Dibromochloromethane	50**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	ND	ND	ND	ND	ND	0.28	ND	ND	6.6	9.75	6.2	9.6	18								
trans-1,3-Dichloropropene	0.4 (a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	- '	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140	ND	ND	ND	ND	1.98	1.4	ND	ND
1,1,2,2-Tetrachloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5*	ND	ND	ND	ND	ND	0.5	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	55	58.6	22	34	78
Chlorobenzene	5*	1.1	ND	1.1	ND	ND	0.43	ND	ND	ND	ND	0.41	ND	ND								
Ethylbenzene	5*	ND	ND	ND	ND	ND	ND	ND	11	1	ND	ND	5.1	ND	ND	10	ND	230	195	120	210	360
Xylene (Total)	5*	ND	ND	ND	ND	1.3	1.3	3.7	66	7.6	4.1	54	27	13	50	64	53	1500	1280	510	760	1620
1,3-Dichlorobenzene	3	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND								
1.4-Dichlorobenzene	3	ND	ND	ND	ND	ND	NA	ND	ND	ND	0.693	NA	ND	ND								
1.2-Dichlorobenzene	3	ND	ND	ND	ND	ND	NA.	ND	ND	5.1	4.13	NA	6.6	11								
1,2.4-Trichlorobenzene	5	ND	ND	ND	ND	ND	NA.	ND	ND	ND	ND	NA	ND	ND								
Total Confident Conc. Above Targeted VC	OAs (s)	1.1	0	1.1	0	1.3	2.51	3.7	77	8.6	4.1	54	33.3	216	50	74	53	2102.7	1883.903	768.31	1208.2	2501

MW-6 Samples Collected Following (After May 2009) SVE/A

460-7298-1 10/28/09

Results above 1998 NYSDEC Ground Water Standar
ND None Detected
NS Not Sampled
NA Not Analyzed
The principal organic contaminant standard for grouni
Guidance Value only.
No Standard
Applies to the sum of cis- and trans- 1,3-dichloropropi

TABLE 5A

#### Remedial Performance/Documentation Sampling Results

Sample ID Lab Sample Number	1998 NYSDEC	PZ-4 AC57037-003	PZ-4 AC58579-004	PZ-4 AC60908-005	PZ-4 AC62242-005	PZ-4 AC63671-005	PZ-4 AC65251-005	PZ-4 AC67134-005	SVE-RW-5A AC53199-002	SVE-RW-5A AC55333-010	SVE-RW-5A AC57037-003	SVE-RW-5A AC60908-003	SVE-RW-5A AC62242-003	SVE-RW-5A AC63671-003	MW-5A AC65251-003	MW-5A AC67134-003	SVE-RW-13I AC53199-001	SVE-RW-13I AC55333-015	SVE-RW-13I AC58579-008	SVE-RW-13I AC60908-009	SVE-RW-13I AC62242-009	SVE-RW-13I AC63671-009	SVE-RW-13I AC65251-009	SVE-RW-13I AC67134-009
Sampling Date	Ground Water Standards/Criteria	01/28/11	01/28/11	08/02/11	10/20/11	01/10/12	4/10/12	7/17/2012	07/26/10	10/27/10	01/28/11	08/02/11	10/20/11	01/10/12	4/10/2012	7/17/2012	07/26/10	10/27/10	04/21/11	08/03/11	10/21/11	01/11/12	4/11/12	7/18/2012
Unite	Standards/Criteria	01/28/11 ug/L	ua/L	ua/L		ua/L	4/10/12 ug/l	7/17/2012 ug/l		ua/L	ua/L			ua/L			ua/L	10/2//10 ug/L	ua/L	ua/L			4/11/12 ua/L	1/18/2012 ug/L
Offics	ug/i	ug/L	ug/L	ug/L	ug/L	ug/L	ug/i	ug/i	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/l	ug/l	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
TARGETED VOLATILE COMPOUNDS																								
Chloromethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
Bromomethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
Vinyl Chloride	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
Chloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
Methylene Chloride	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
Trichlorofluoromethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
1,1-Dichloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
1,1-Dichloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
trans-1,2-Dichloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
cis-1,2-Dichloroethene	5*	23	73	46	43	42	ND	19	ND	ND	ND	1.8	1.7	12	ND	ND	ND	ND	120	ND	ND	24	16	43
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
1,1,1-Trichloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
Carbon Tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
Bromodichloromethane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
1,2-Dichloropropane	1	150	350	330	220	250	110	140	23	ND	ND	1.9	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.4 (a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
Trichloroethene	5*	ND	6	6.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	50**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
Benzene	1	8	2.5	19	11	14	ND	7.6	3.8	ND	ND	1.2	1.2	ND	ND	1.9	ND							
trans-1,3-Dichloropropene	0.4 (a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
2-Chloroethyl Vinyl Ether	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
Bromoform	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
Tetrachloroethene	5*	1.5	5.1	ND	ND	ND	ND	ND	,	ND	ND	ND	ND	51	ND	1	ND							
1,1,2,2-Tetrachloroethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
Toluene	5*	37	53	68	71	96	51	52	13	ND	ND	2.8	2.4	2.4	ND	2.6	ND							
Chlorobenzene	5*	ND	72	17	1.7	16	20	19	24	20	ND													
Ethylbenzene	5*	170	390	310	330	350	250	200	36	ND	ND	11	9.3	10	7.5	4.7	ND	ND	140	ND	ND	ND	ND	ND
Xylene (Total)	5*	580	1090	990	1560	1730	1,020	1110	290	34	ND	27	26	27	25	22.5	3700	560	1020	13	51	23	12	59
1,3-Dichlorobenzene	3	ND	14	ND	ND	4.1	4.2	ND	ND	5	ND													
1,4-Dichlorobenzene	3	ND	42	ND	ND	9.7	9.6	ND	11	11	ND	ND	180	ND	ND	ND	5.7	14						
1,2-Dichlorobenzene	3	6.9	8.6	13	9.5	ND	ND	8.3	23	ND	ND	4.7	4.5	ND	ND	5.4	ND	ND	180	ND	ND	ND	5.7	11
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	1200	ND	ND	33	ND	ND	ND	12							
Total Confident Conc. Above Targeted VO	OAs (s)	976.4	1978.2	1782.1	2244.5	2482	1431	1536.9	516.8	51	1.7	80.2	80.4	121.4	67.5	74.1	4900	560	1640	46	51	47	39.4	139

Samples Collected Following (After May 2009) SVE/A

MW-6 460-7298-1 10/28/09

Results above 1998 NYSDEC Ground Water Standar
ND None Detected
NS Not Sampled
NA Not Analyzed
The principal organic contaminant standard for grouni
Guidance Value only.
No Standard
Applies to the sum of cis- and trans- 1,3-dichloropropi

#### TABLE 5B

#### DEXTER CHEMICAL

#### Remedial Performance Documentation Sampling Results

Sample ID	NYDEC Remedial	ISB-1	ISB-1	ISB-3	ISB-3	A-101	A-101	A-102A	A-102A	A-105A	A-105A	AISB-1B	AISB-1B	AISB-10A	AISB-10A	AISB-14	AISB-14	AISB-17A	AISB-17A	I-1	I-1	I-104	I-104	A-104A
Lab Sample Number	Program	32211	AC67995-008	32219	AC67995-011	218847	AC67995-009	218856	AC67995-010	218851	AC67995-007	07190-002	AC67995-1B	09114-005	AC67995-006	06044-001	AC67995-004	06044-006	AC67995-005	48947	AC67995-001	218863	AC67995-002	218848
Sample Date	Soil Cleanup	11/18/97	9/5/12	11/18/97	9/5/12	7/21/07	6/5/12	7/21/00	9/6/12	7/21/00	9/5/12	8/14/03	9/4/12	10/9/03	9/4/12	6/28/04	9/4/12	6/28/04	9/4/12	3/11/98	9/4/12	7/21/00	9/4/12	7/21/00
Sampling Depth (feet)	Objectives	7-9'	7-9'	7-8'	7-8'	7-8'	7-8'	7-8'	7-8'	7-8'	7-8'	10.5-11	10.5-11	7-7.5'	7-7.5	7.5-8'	7,5-8'	5.5-6'	5,5-6'	7.5-8'	7.5-8'	7-8'	7-8'	7-8'
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
														Ī						Ī				
VOLATILE COMPOUNDS																								
Chloromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrolein	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	0.76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane(EDC)	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.47	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl Ether	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.7	ND	ND	ND	ND	28	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	1.1	ND	ND	260	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0026	ND
Ethylbenzene	1	3.1	ND	19	ND	49	ND	5.9 J	3.7	58	ND	1.39	ND	ND	ND	1.3	0.15	4.59	ND	8.4	0.037	1.1	ND	5 J
Total Xylenes	0.26	26	0.18	79	ND	450	ND	29	11.1	410	0.024	10.5	ND	2.93	ND	12.2	0.0057	22.6	0.0073	45	0.29	6.8	0.0013	17
Bromoform	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NS - No Standard for Individual Contaminant
ND - None Detected
- Not Analyzed

TABLE 6 **DEXTER CHEMICAL** Soils Exceeding Unrestricted SCOs after the Remedial Action

Sample ID	NYDEC Remedial	A-102A	A-102A	I-1	I-1
Lab Sample Number	Program	218856	AC67995-010	48947	AC67995-001
Sample Date	Soil Cleanup	7/21/00	9/6/12	3/11/98	9/4/12
Sampling Depth (feet)	Objectives	7-8'	7-8'	7.5-8'	7.5-8'
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOLATILE COMPOUNDS					
Chloromethane	NS	ND	ND	ND	ND
Vinyl Chloride	0.02	ND	ND	ND	ND
Bromomethane	NS	ND	ND	ND	ND
Chloroethane	NS	ND	ND	ND	ND
Trichlorofluoromethane	NS	ND	ND	ND	ND
Acrolein	NS	ND	ND	ND	ND
1,1-Dichloroethene	0.33	ND	ND	ND	ND
Methylene Chloride	0.05	ND	ND	ND	ND
Acrylonitrile	NS	ND	ND	ND	ND
trans-1,2-Dichloroethene	0.19	ND	ND	ND	ND
1,1-Dichloroethane	0.27	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.25	ND	ND	ND	ND
Chloroform	0.37	ND	ND	ND	ND
1,1,1-Trichloroethane	0.68	ND	ND	ND	ND
Carbon Tetrachloride	0.76	ND	ND	ND	ND
1,2-Dichloroethane(EDC)	0.02	ND	ND	ND	ND
Benzene	0.06	ND	ND	ND	ND
Trichloroethene	0.47	ND	ND	ND	ND
1,2-Dichloropropane	NS	ND	ND	ND	ND
Bromodichloromethane	NS	ND	ND	ND	ND
2-Chloroethylvinyl Ether	NS	ND	ND	ND	ND
cis-1,3-Dichloropropene	NS	ND	ND	ND	ND
Toluene	0.7	ND	ND	ND	ND
trans-1,3-Dichloropropene	NS	ND	ND	ND	ND
1,1,2-Trichloroethane	NS	ND	ND	ND	ND
Tetrachloroethene	1.3	ND	ND	ND	ND
Dibromochloromethane	NS	ND	ND	ND	ND
Chlorobenzene	1.1	ND	ND	ND	ND
Ethylbenzene	1	5.9 J	3.7	8.4	0.037
Total Xylenes	0.26	29	11.1	45	0.29
Bromoform	NS	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	NS	ND	ND	ND	ND

Detected above NYDEC Remedial Soil Cleanup ObjectivesNo Standard for Individual Contaminant

- None Detected ND

- Not Analyzed