Final Remedial Investigation Report

New York State Department of Environmental Conservation
Investigation and Design Engineering Services
Standby Contract No. D004437
Work Assignment No. D004437-35

Former Paul Miller Dry Cleaners Site
(Site No: 243018)
Port Richmond, New York

September 2012

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PROJECT: NYSDEC Standby Contract No. D004437
Work Assignment No.: D004437-35
Former Paul Miller Dry Cleaners Site

SUBJECT: Final Remedial Investigation Report
Former Paul Miller Dry Cleaners Site
Port Richmond, New York
Site ID No. 243018

Dear Mr. Sarnowicz:

Camp Dresser McKee & Smith (CDM Smith) is pleased to submit our Final Remedial Investigation Report for the above referenced work assignment. This report was prepared in accordance with DER-10 and Task 4 of this work assignment.

If you have any questions, or need additional information, please call me at 732-590-4674.

Very truly yours,

Seth Kellogg

Seth Kellogg, PG
Senior Project Manager
Camp Dresser McKee & Smith

cc: Project File
Bridget Callaghan, NYSDOH

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Section 1
Introduction

This Remedial Investigation (RI) report for the former Paul Miller Dry Cleaners site, located in Port Richmond, Richmond County, New York (NY), herein referred to as "the Site," was prepared by CDM for the New York State Department of Environmental Conservation (NYSDEC) under the Engineering Services for Investigation and Design, Standby Contract No. D004437.

This report details the results of the field investigation conducted in accordance with the *Remedial Investigation and Feasibility Study Work Plan* (RI/FS Work Plan) dated September 2009. This RI report was developed in accordance with the "State Superfund Standby Contract Work Assignment D004437-35, RI/FS, former Paul Miller Dry Cleaners, Site No. 243018." The Work Plan and this RI follow the guidelines set forth in the "*Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation" (*NYSDEC, 2010).

1.1 Purpose of the Report

The purpose of this RI report is to present the results of the data gathered to help determine the most effective remedial alternatives to address groundwater contamination at the Site. The goal of the investigation was to define the nature and extent of site-related contamination in soil and groundwater in order to assess risks to ecological and human receptors.

The RI report was prepared in accordance with the following documents:

- New York State Department of Environmental Conservation (NYSDEC) *DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, 2010)
- Remedial Investigation and Feasibility Study Work Plan, Volume I, September 2009
- CDM Generic Quality Assurance Project Plan (QAPP), February 2008 and all associated standards operating procedures
- Health and Safety Plan, March 2011

1.2 Site Description and Background

1.1.1 Site Description

Located in Port Richmond, NY, the Site occupies a 0.39 acre parcel in a commercial area, as depicted in Figure 1-1. The former dry cleaner building is currently being used as a fast food restaurant. The front (southern) portion of the building is slab on grade. The rear (northern) portion of the building has a basement, which is currently used for storage of extraneous equipment. The basement contains 4 rooms, which appear to have been boiler room, two storage rooms and a fur vault.

The Site is relatively flat with its entire surface area covered with concrete and/or asphalt. Review of the USGS *Arthur Kill, New York* 7.5-Minute topographic map (1981) indicates that ground surface is approximately 30 feet above mean sea level (amsl). The survey conducted as part of this RI confirmed

that the Site grades topographically from approximately 28 feet amsl in the south to approximately 25 feet amsl in the north-northwest. A tax map depicting the Site is available through the gis.nyc.gov website (Figure 1-2).

1.1.2 Operational History

Historical documents, including aerial photographs and city directories indicate that the site was undeveloped until approximately 1960. Paul Miller Dry Cleaners operated at the site from approximately 1960 through 1995. As of 2000, the site has been a fast food restaurant. Section 2.3 of the 2009 RI Report provided a detailed review of the site development and history and operational history(CDM 2009).

1.3 Previous Investigations

In 1994, the owner of the shopping center in which the Site is located conducted an environmental investigation at the Site. Subsequently, in May 2000, NYSDEC retained Lawler, Matusky & Skelly Engineers LLP (LMS) to conduct an Immediate Investigation Work Assignment (IIWA) of the Site. The objectives of the IIWA were to determine groundwater flow in the vicinity of the site, identify the nature and extent of groundwater contamination as related to historic Site activities, and to assess whether the site poses a threat to public health or the environment.

1.3.1 Soil Quality

Piezometers were installed and boring logs constructed by LMS. According to their logs, the Site is underlain by heterogeneous soils characteristic of the glacial till that covers much of Staten Island. The soils were identified in LMS borings logs as being reddish to brown in color and comprised of sands and silts to clays with some gravel.

No soil samples were collected for laboratory analysis. However, the presence of volatile organics (as detected with a photoionization detector or via olfactory or visual observations) was not noted in any of the three boring logs available from the LMS IIWA report (boring logs P-1 through P-3).

1.3.2 Groundwater Quality

During the course of the LMS 2000 IIWA, seven piezometers were installed and sampled. These seven wells supplemented previously existing monitoring wells installed by others. No additional information is available for these wells. During the CDM site visit, five piezometers and two monitoring wells were located on the Site property. Two additional monitoring wells were noted to the north of the building in the shopping center.

Groundwater results from the LMS IIWA identified the highest concentrations of chlorinated VOCs in groundwater immediately adjacent to the east side of the building. The contamination was determined to be migrating vertically downward as evidenced by higher PCE concentrations in the deeper piezometers.

Based on the results of their investigation, LMS recommended that a soil gas survey be conducted in the area to identify the potential impact of PCE contamination to indoor air at Buildings A, B, and C. Additionally, LMS recommended that a deeper well be installed to vertically delineate groundwater contamination in the vicinity of P-3D on the east side of the building. Continuous soil cores were proposed for collection to better characterize the subsurface stratigraphy in the vicinity of the Site.

CDM performed a RI at the site in 2009. The field investigation included the following:

- Geophysical survey of proposed monitoring well locations for utility clearance; and survey of east side of Site for buried structures, such as sumps and underground storage tanks (USTs);
- Collection of 13 subsurface soil samples ;
- Installation of 13 groundwater monitoring wells and subsequent collection of groundwater samples;
- Topographic and site survey of Site topography, building corners and features, and investigation locations;
- Installation of temporary sub-slab soil vapor sampling ports and subsequent collection of sub-slab soil vapor samples, indoor air samples, and two ambient air samples;
- Stage, characterized and dispose of Investigation Derived Wastes.

Subsurface soil samples were collected for volatile organic compound (VOC) and semi-volatile organic compound (SVOC) analysis; three of these samples were run for full list Target Compound List (TCL)/Target Analyte List (TAL) analysis. No residual source areas in unsaturated soils that may be still contributing to groundwater contamination were detected. Tetrachloroethene (PCE) was only detected at concentrations slightly above the unrestricted use soil cleanup objectives at one location (MW-11S) from a depth of 15 to 15.5 feet below ground surface (bgs). PCE and its associated breakdown products were not detected in vadose zone soil samples collected during the RI. The RI determined that soil was not the primary media of concern.

Monitoring wells MW-8S, MW-9S/9D, MW-10S/10D, MW-11S/11D, MW-12S, MW-13S/13D, MW-14S, MW-15D, MW-16S were installed as part of this RI. Prior to groundwater sampling in monitoring wells, a synoptic round of groundwater levels was measured. Groundwater samples were analyzed for VOCs and SVOCs; three of these samples were also run for full list TCL/TAL analysis. Results showed groundwater contamination at the Site consists primarily of PCE and its associated breakdown products: trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), and vinyl chloride (VC). Chlorobenzene (CB) was also detected. Two well results and oil-water interface probe readings confirmed the likely presence of dense non-aqueous phase liquid (DNAPL) at MW-12S and MW-14S. Since MW-15D functions as a deep well paired with MW-14S and concentrations in MW-15D were not indicative of the presence of DNAPL, it was concluded that DNAPL has perched atop the low permeability layers encountered at MW-14S. DNAPL is also suspected atop low permeability layers in the vicinity of MW-12S.

A soil vapor investigation was conducted in order to determine if vapor phase contaminants are present at concentrations that could impact indoor air quality. The investigation included collecting four sub-slab soil vapor samples, five indoor air samples, one duplicate sample of each, and two ambient air samples for VOC analysis. TCE and PCE were detected at concentrations exceeding guidance values in an indoor air sample in Building A (the building onsite). This sample also showed the presence of vinyl chloride, cis-1,2-DCE, chloroform, and toluene at concentrations above background values.

The RI concluded that it is likely any PCE released at the Site has since migrated vertically through the vadose and saturated zones to ultimately accumulate atop low permeability layers. PCE NAPL has continued to migrate along these layers, functioning as a source for dissolved phase PCE groundwater contamination. The RI found evidence of reductive dechlorination taking place in the aquifer at the Site as there are detections of degradation products (trans- and cis-1,2-DCE and VC), and oxidation-reduction potentials in groundwater indicate that conditions are slightly reducing.

1.4 Report Organization

This RI report is organized in the following manner. Tables, figures, and appendices are presented after Section 7.

Section 1 INTRODUCTION presents the Site background and history, location, operational and remedial history, potential sources, and the project objectives.

Section 2 STUDY AREA INVESTIGATIONS provides the investigation procedures and any variations which may have influenced sampling procedures or analytical results.

Section 3 PHYSICAL CHARACTERISTICS OF THE STUDY AREA describes the physical conditions of the Site and surroundings, including a general description of soils, geology, hydrogeology, topography, and groundwater levels and flow direction.

Section 4 NATURE AND EXTENT OF CONTAMINATION presents and evaluates the analytical results of the environmental samples collected at the Site, as compared to the recommended New York State standards.

Section 5 CONTAMINENT FATE AND TRANSPORT evaluates the physical and chemical characteristics of the site contaminants. It presents a conceptual model of the site sources, contaminant migration pathways, and receptors.

Section 6 CONCLUSIONS presents the conclusions based upon the results of the remedial investigation and presents recommendations for potential future work.

Section 7 REFERENCES

Section 2

Study Area Investigations

The RI was designed to characterize the nature and extent of contamination at the Site and to provide data to support the Feasibility Study. The following subsections describe the field investigation that was conducted from May 2011 through March 2012 in support of the RI. All field work, except where noted, was conducted in accordance with the CDM Quality Assurance Project Plan (QAPP) which has been provided to NYSDEC for Contract Number D-004437 and referenced within the Former Paul Miller Remedial Investigation and Feasibility Study Work Plan.

The RI consisted of the following field activities:

- Electrical Conductivity (EC) / Membrane interface probe (MIP) Investigation
- MIP confirmatory soil samples
- MIP confirmatory groundwater samples
- Sub-slab soil sampling
- Sub-slab groundwater sampling
- Monitoring well rehabilitation and piezometer abandonment
- Monitoring well sampling
- Slug tests; and
- Two rounds of synoptic water levels

2.1 Electrical Conductivity and Membrane Interface Probe Investigation

Electrical Conductivity (EC) and Membrane Interface Probe (MIP) technology was used to evaluate stratigraphy and screen soil and groundwater for VOCs at 35 locations. Figures 2-1 shows the EC/MIP locations. The objective of the EC/MIP survey was to provide screening-level characterization of VOC contamination in the subsurface and to provide high-resolution estimates of soil stratigraphy. The locations of the screening points were selected based on historical data and aerial photographs.

The probe was advanced using a Geoprobe direct push technology (DPT) rig. The 1.5-inch diameter probe was pushed into the subsurface at a penetration rate of approximately 1-foot per minute. The tip of the probe contains a thermister, which provides a heat source to volatilize VOCs. The gases, that are produced, pass into the probe through a permeable membrane and enter a sampling loop. The gases are then transported to the surface and pass through the photoionization detector (PID), flame ionization detector (FID), and electron capture detector (ECD). The detectors analyze the gas and provide an immediate qualitative readout of volatile organic content. The probe also records electrical conductivity of the subsurface. The data were displayed on a monitor and were downloaded to a laptop computer.

MIP results were analyzed on a daily basis and were used to direct sampling on an ongoing basis. In addition, the MIP response data was used to provide screening-level data on the vertical distribution of VOC contamination in groundwater. The MIP data were also used to direct the confirmatory soil and groundwater sampling, which are discussed in Section 2.1.2 and 2.1.3. A complete set of EC/MIP logs is included in Appendix A.

2.1.1 MIP Confirmatory Soil Sampling

Following review of the MIP results, intervals with significant detections were selected for confirmatory soil sampling and analysis. Soil borings were advanced using the DPT method and a soil sample was collected from the specified interval. Sample locations are shown on Figure 2-1 and sample details are provided in Table 2-1. Soil samples were collected using a decontaminated stainless steel trowel and bowl per procedures the generic QAPP. Soil samples were tested at Mitkem Laboratories in Rhode Island and were tested for VOCs.

2.1.2 MIP Confirmatory Groundwater Screening

Following review of the MIP results, intervals with significant detections were selected for confirmatory groundwater sampling and analysis. Borings were advanced using the DPT method and a groundwater screening sample was collected from the specified interval.

To collect groundwater screening samples, a retractable well screen was driven to the target depth of a groundwater screening borehole using the DPT method. The well screen was subsequently opened to create a four-foot sampling interval. New, sample-dedicated high density polyethylene (HDPE) tubing with a check valve attached at the bottom was inserted through the drill rods into the well screen and the tubing was connected to a peristaltic pump at the surface. Water was purged from the well screen and temporarily collected in five-gallon buckets. During purging, a calibrated water quality meter was used to measure pH, specific conductivity, dissolved oxygen (DO), temperature, and oxidation-reduction potential (ORP) at five minute intervals. Turbidity was measured at five-minute intervals using a calibrated LaMotte turbidity meter. Purging continued until the water quality parameters had been stable for 3 consecutive readings or parameters stabilized as much as subsurface conditions would allow within a 1-hour time period.

Sample locations are shown on Figure 2-1 and sample details are provided in Table 2-2. Groundwater samples were collected directly into the 40 ml pre-preserved VOA vials per procedures the generic QAPP. Groundwater samples were tested at Mitkem Laboratories in Rhode Island and were tested for VOCs.

2.2 Sub-slab Soil Screening

Sub-slab soil sampling was conducted to evaluate the potential for DNAPL to be located under the building foundation. Thirteen samples were collected from eight boreholes (Table 2-3). Six boreholes were installed through the basement, B-1a, B-1b, B-2, B-3, B-4, B-5 and B-6. Borings B-1a, B-1b and B-2 were located in the boiler room, borings B-3 and B-4 were located in the former fur vault and borings B-5 and B-6 were located in the storage room. An angled boring (B-7) was also installed under the building in the center of the eastern wall of the building (Figure 2-2)

Soil borings were advanced using DPT methods and sampled continuously. Soil cores were retrieved and the lithology was logged in the field at each of the sample locations. Three soil samples were planned for each boring. A shallow sample was to be taken immediately below the slab 0-.5ft, a deep sample was to be taken at the boreholes terminal depth, and the final sample was to be at a selected

depth interval based on the presence of visual contamination or when elevated levels of organic vapors (VOC) were detected on a photoionization detector (PID). The soil was screened with a PID with an 11.7 lamp, but no readings above background were detected.

In B-1a, B-1b, B-2, B-5 and B-6 two soil samples were collected; a shallow sample labeled with an "A" and a deep sample labeled with a "B". In B-3 and B-4 only the shallow "A" samples were retrieved. In B-7 only the deep "B" sample was retrieved. B-3 and B-4 hit refusal after 1.5 feet of penetration. It is suspected that there is an additional slab underneath the elevated slab in the fur vault. This slab could not be penetrated by the small DPT rig used inside the building. Some samples were recovered from these locations (B-3 and B-4) however the sample mostly contained gravel. At B-7-A and B-7-B the drill rig was conducting an angle boring through the sidewalk to obtain soil samples below the estimated location of the former dry cleaning machine. . Upon attempting to collect shallow sample B-7-A aiming for 5 ft below the slab under the former dry cleaning machine, the drill rig hit refusal on the foundation of the Former Paul Miller Dry Cleaners. The sample at B-7-A was not collected due to refusal at 3.5ft bgs.

Soil samples were collected using a decontaminated stainless steel trowel and bowl per procedures the generic QAPP. Soil samples were tested at Mitkem Laboratories in Rhode Island and were tested for VOCs.

2.3 Sub-slab Groundwater Screening

Sub-slab groundwater screening sampling was conducted to evaluate the potential for DNAPL to be located under the building foundation. Six samples were collected from eight boreholes (Table 2-4). Six boreholes were installed through the basement, B-1a, B-1b, B-2, B-5 and B-6. An angled boring (B-7) was also installed under the building in the center of the eastern wall of the building (Figure 2-2). Temporary wells were installed in B-1a, B-1b, B-2, B-5, B-6 and B-7-B. These wells were inserted directly into the soil boring location upon completion of the soil boring. The PVC screens were inserted to 5 ft bgs at all of the sample locations for groundwater except for B-7-B where the well was installed with 5 ft of casing and 10 ft of screen to a depth of 12.5 ft bgs.

At each of these temporary wells groundwater samples were collected. Most samples were collected via the "Low Stress (Low Flow) Purging and Sampling" method as described in the QAPP. The temporary wells at locations B-1a and B-7 had a low rate of recharge making it necessary to recover groundwater samples without stabilizing the water quality parameters. Groundwater samples were analyzed at Mitkem Laboratories in Rhode Island for VOCs.

2.4 Monitoring Well Rehabilitation and Piezometer Abandonment

During a site visit in November 2011, it was noted that several of the surface completions for the monitoring wells and piezometers were in poor repair and not functioning properly. Thirteen locations were inspected as a part of the rehabilitation and decommission process and it was determined that P4-D, MW-1, MW-12S, MW-15D, MW-16S, MW-14S, and MW-8S should be rehabilitated and P-1, P-2, P3-S, P3-D, P-5 and P-4S should be abandoned. Locations P-4S, P4-D and P-1 could not be located and are believed to be under a concrete pad, constructed as part of the drive through on the adjacent property.

The monitoring wells were rehabilitated by removing the concrete pad and flush-mount cap and replacing them with a new concrete pad and new flush-mount cap. The concrete pads were broken up using the direct push rig fitted with a chisel bit. The debris and flush-mount cap were removed. The new flush-mount cap was installed. Then the concrete was poured around the cap and leveled. Cones were placed around the drying concrete pads to alert pedestrians of a potential hazard.

The piezometers were decommissioned in accordance with CP-43 by removing the concrete pad and flush-mount casing, and pulling the PVC casing and well screen. The well casing and screen were easily removed and did not appear to be properly grouted into place. The holes were filled with neat cement to depth of 6 inches below the ground surface (bgs). The decommissioned locations had cones placed over them and were given over night to allow the cement to harden. The following day the holes were filled with eco-friendly asphalt and tamped flush with the ground surface.

2.5 Monitoring Well Sampling

During March 2012, monitoring well sampling was conducted at 17 existing monitoring wells. Monitoring well samples were collected via the "Low Stress (Low Flow) Purging and Sampling" method as described in the QAPP. During purging, the water quality parameters temperature, turbidity, specific conductance, dissolved oxygen, pH and oxidation-reduction potential were recorded (Table 2-5). Samples were analyzed onsite, for ferrous iron, using the Hach colorimetric method. Well purge water was contained and transferred to 55-gallon drums. Section 2.11 discusses control and disposal of investigation derived waste.

Monitoring well samples were submitted to Spectrum Laboratories for VOC, nitrate/nitrite, sulfate, chloride, alkalinity, total organic carbon (TOC), and methane, ethane, ethene (MEE) analysis. VOCs were analyzed by per the NYSDEC-approved Work Plan. .

2.6 Slug Testing

Slug tests were performed at the Site to estimate the hydraulic conductivity (K) of water-bearing strata. Six “shallow” wells, screened approximately 25 to 35 feet below ground surface (bgs), and two deep wells, screened approximately 60 to 70 feet bgs were tested. The shallow strata exhibit the highest contaminant concentrations on site and site specific estimations of hydraulic conductivity will allow a more effective review of remedial options during the feasibility study stage. The two deeper wells were tested to understanding the hydraulic conductivity beneath the most contaminated zone to help evaluate plume behavior for different remedial alternatives.

Slug tests were performed using a weighted cylinder to displace the water and a pressure transducer to measure and record water level changes over time. At each well tested, the pressure transducer was deployed and programmed to record depth to water on a logarithmic time basis (water levels were recorded at a rate of four times per second at the start of the test, and the time interval between measurements increased logarithmically throughout the test). Manual water levels were measured periodically to confirm the accuracy of the pressure transducer.

The slug was tied to a rope and lowered to a depth just above the static water level. A few seconds after activating the data logger, the slug was rapidly lowered into the water, displacing the water level upward to initiate the falling head test. After the water level recovered to the static level (i.e. minimum 90 percent recovery), the data logger was turned off and reprogrammed for a new test. A few seconds

after re-activating the data logger the slug was rapidly removed from the well, lowering the water level to initiate the rising head test. When the water level returned to the static level, the data logger was turned off and the equipment was removed from the well, decontaminated, and moved to the next well.

The slug test analysis and results are discussed in Section 3.2

2.7 Synoptic Water Levels

Two rounds of synoptic water levels were collected in November 2011 and March 2012. Water level measurements were converted to elevation and used to evaluate the vertical and horizontal groundwater flow at the site. Prior to measuring water levels, the water-tight caps were removed and the water levels were allowed to equilibrate with atmospheric pressure. The depth to water at each well was then measured to an accuracy of 0.01 feet with an electric water level indicator. The water level indicator was decontaminated with distilled water and non-phosphate detergent between wells. Table 2-6 contain synoptic water level data for March 2012.

2.8 Indoor Air Sampling

Air quality sampling badges for PCE were placed in two locations in and around the bank building to the west of the former Paul Miller Dry Cleaners in March, 2011. Table 2-7 summarizes the indoor air samples collected. A Passive air sampling badge and a duplicate were placed in the basement of the bank building, and in the vicinity of the bank teller drive through, approximately four feet off the ground. The badges were kept in place for 24 hours, and then collected and shipped to the laboratory for PCE analysis.

Attempts were made to conduct passive air sampling at the Kentucky Fried Chicken restaurant to the east of the Paul Miller building, but no site access for the sampling was granted by the restaurant management.

2.9 Topographic Survey

Sample locations and monitoring wells were surveyed by Bryant Associates, a New York-licensed surveyor, based in Syracuse, New York, surveyed the four existing monitoring wells, and 35 MIP locations. The horizontal datum, used by Bryant, was New York State Plane, Long Island NAD 83/96, and the vertical datum used was NAVD88.

2.10 Control of Investigation-Derived Waste

Investigation derived waste from each sampling location was containerized in 55-gallon drums and disposed of off-site. A total of four drums containing soil cuttings and two drums containing purge water were generated during the investigation. IDW generated during this investigation was disposed of in one shipment. Composite and representative soil and water samples were collected. The samples were analyzed for the full TCLP list and RCRA characteristics. The drums were stored in a designated area at the Site until they could be removed by a waste hauler. The drums were removed from the Site by Innovative Recycling Technologies, Inc. The laboratory data for the waste characterization samples is provided in Appendix B.

2.11 Laboratory Analysis and Validation

All samples were analyzed by Spectrum Analytical. The soil samples were analyzed for VOCs by EPA method 8260B, SVOCs by EPA method 8270C, pesticides by EPA method 8081, PCBs by EPA method 8082, metals by EPA methods 6010/7471, and mercury by Method 7471. Groundwater samples were analyzed for VOCs by EPA method 8260B, SVOCs by EPA method 8270C, pesticides by EPA method 8081, PCBs by EPA method 8082, metals by EPA methods 6010/7040, mercury by EPA Method 7470 and methane, ethane, and ethene by Method RSK 175. Groundwater samples were also analyzed for sulfide by Method 4500-S,F, alkalinity by Method 2320, chloride, nitrate, nitrite, and sulfate by EPA Method 300.0, hardness by Method 2340B, TDS by Method 2540C, TSS by Method 2540D, ammonia by Method 4500, Kjeldahl nitrogram by Method 4500-NORGC, and total organic carbon by Method 5310B.

NYSDEC ASP Category B data deliverables were obtained for all analyses except waste characterization analyses. The analytical data packages are provided in Appendix C.

All samples collected, with the exception of the waste characterization samples, were validated in accordance with NYSDEC Data Usability Summary Report (DUSR) guidance by a party that is independent of the laboratory that performed the analyses and CDM. A usability analysis was conducted by Nancy Potak, a qualified data validator. The DUSRs are provided in Appendix D.

2.12 Field Documentation

Field notebooks were utilized during all on-site work. A dedicated field notebook was maintained by the field technician overseeing the Site activities. In addition to a copy of the field notes, copies of all original sampling forms and purge forms used during the field activities are provided in Appendix E.

Section 3

Physical Characteristics of the Study Area

3.1 Topography and Drainage

The Former Paul Miller Site lies at approximately 25 feet amsl and has been leveled and paved for development. Local topography slopes gently from the southwest to the northeast in the vicinity of the Site (USGS Arthur Kill, New York 7.5-Minute topographic map, 2011). Palmer's Run formerly flowed west to east and bisected the paved area just north of the site. The Site's former, natural topography, likely sloped towards Palmer's Run,. Despite having been filled in, the channel, and possibly its branches,still have an influence on groundwater flow at the Site.

3.2 Regional Geology and Hydrogeology

The Site is located within the Atlantic Coastal Plain Physiographic Province. A history of coastal submergence and emergence spanning the Cretaceous Period, significant differential erosion during the Cenozoic, and glaciation during the Quaternary Period is reflected in the present day geology of Staten Island.

3.2.1 Bedrock

In the middle of Staten Island is a lens-shaped body of serpentine that unconformably overlies the Manhattan Schist, the local basement rock. The serpentine ophiolite, a piece of ancient ocean crust that was obducted onto the North American plate during the Taconic Orogeny in the Paleozoic Era. Over time, the highly mafic minerals of the former mafic to ultramafic oceanic rocks altered chemically into the serpentine seen today. To the west of the Serpentine lens lie the sedimentary rocks of the Triassic Newark Supergroup, which unconformably overlie the basement rocks and are intruded by a northeast-southwest trending Jurassic sill of diabasic composition.

3.2.2 Unconsolidated Sedimentary Deposits

To the east of the serpentine ophiolite, the geology of Staten Island is characterized by a large southeastward-thickening wedge of glacial till and outwash. The till and outwash unconformably overlie a series of unconsolidated marine coastal plain sands, silts, and clays from the Cretaceous period, which, in turn, unconformably overlie the gently eastward-dipping Manhattan Schist, the local basement rock.

As identified in *The Glacial Geology of New York City and Vicinity* by (Sanders and Merguerian, 1994), to the west of the ophiolite the Newark Supergroup is unconformably overlain by the Harbor Hill Formation, a widespread Quaternary ground moraine deposit comprised of reddish-brown glacial till and outwash. This unconsolidated sequence is representative of the subsurface materials that immediately underlie the Site.

The Harbor Hill Formation is approximately 100 to 150 feet thick in the area of the Site. Groundwater in these deposits occurs under water-table or semi-confined conditions depending on the nature of the subsurface at any given location. The general flow of groundwater in the unconsolidated glacial till is to the north towards Kill van Kull (USGS, 1987).

The consolidated rock units of the Newark Supergroup and the overlying unconsolidated deposits are hydraulically connected, and groundwater flows both vertically and horizontally within them. However, the majority of the groundwater flow occurs within the glacial unconsolidated deposits due to its greater hydraulic conductivities.

3.3 Site Geology and Hydrogeology

The Site is underlain by the unconsolidated glacial till of the Harbor Hill Formation, which has likely been reworked by Palmer's Run and its tributaries. The Harbor Hill Formation is estimated to be 100-150 feet thick at the site. Borings and wells did not extend below a depth of 100 feet bgs, so the total thickness was not confirmed.

Site stratigraphy was evaluated from lithologic descriptions collected during soil borings and the electrical conductivity (EC) investigation (Appendix A). Lithologic logs indicate that the geologic deposits at the Site are predominantly fine to medium sand, with silty sand lenses, and local deposits of coarse sand and gravel (e.g. MW-11D). In some cases blow counts were low (e.g. a maximum of 15 blows per 6 inches at MW-15D), indicating fairly loose soils; in some cases the soils exhibited higher blow counts indicating more compact soils (e.g. blow counts generally at least 30 per six inches at MW-14S).

Generally, the upper 35 feet are a heterogenous mix of silt and sand. The silt and sand appear to be locally stratified, but the units are not continuous across boreholes. Below 35 feet bgs, the lithologic descriptions and the EC logs show a transition to well graded sand to the terminal depth of the borings at approximately 80 feet bgs. Figure 3-1 is a representative cross section of the site's general geology.

Slug tests were conducted on eight wells. Table 3-1 summarizes the results of the slug tests and the data evaluation is detailed in Appendix F. The calculated hydraulic conductivities range from 0.05 ft/day (MW-14S) to 69 feet per day (MW-15D). The relative hydraulic conductivities generally compare favorably with the strata screened at each well, as summarized below:

- MW-15D exhibited the highest hydraulic conductivity at 59-69 ft/day; this is consistent with its strata – medium sand.
- MW-11D, MW-12S and MW-13S exhibited hydraulic conductivity values ranging from 3 to 6 ft/day; MW-11D and MW-13S both primarily screened in siltier sand than MW-15D.
- MW-8S, MW-9S and MW-16S exhibited K values of less than 1 ft/day. MW-9S is screened in silty medium sand and MW-16S is screened in fine to silty sand; strata at these wells exhibited low blow counts and the lower K values are consistent with the finer formation material. MW-8S is screened in fine sand and sandy gravel with clay layers exhibiting somewhat higher blow counts, both consistent with the lower K values exhibited.
- MW-14S exhibited the lowest K value, 0.05 ft/day. This well is screened in silty sand and sandy silt, and its blow counts were among the highest of the wells tested, which are both consistent with the low K.

The heterogeneity of the glacial overburden has created a very complex groundwater flow system. Figures 3-2, 3-3 and 3-4 show the potentiometric surfaces at the water table, 30 feet bgs and 70 feet bgs, respectively. These surfaces were calculated using the water levels measured in March 2012

(Table 2-6). The three potentiometric surfaces were plotted separately to illustrate how contaminant migration differs with depth at the site.

The water table potentiometric surface (Figure 3-1) was developed using the four wells at the site that are screened across the water table. This potentiometric surface shows a groundwater high at MW-3, which is likely related to the local geology or to a stormwater drainage feature. The groundwater flow at the water table is to both the north and south from MW-3.

The shallow potentiometric surface (Figure 3-2) represents groundwater flow at 30 feet bgs. This potentiometric surface was constructed using data from the shallow (S) wells. Groundwater flow from the Site in this interval is to the northwest overall, but it should also be noted that groundwater from the northeast of the site is flowing south-southwest and converging just north of the site. This flow pattern is likely influenced by the geology, given the likelihood of preferential flow paths in the till. Preferential flows paths are indicated by the hydraulic conductivity measurements, which vary by two orders of magnitude in the shallow wells. The shallow potentiometric surface is also consistent with the Site's former, natural topography, where groundwater in the immediate vicinity of the Site likely flowed towards Palmer's Run. Despite having been filled in, it is likely that the presence of the channel, and possibly its branches, still influence groundwater flow at the Site.

The deep potentiometric surface (Figure 3-3) represents groundwater flow at 70 feet bgs. This potentiometric surface was constructed using data from the deep (D) wells. Groundwater flow in this interval is to the north-northeast and is consistent with regional groundwater flow towards Kill Van Kull.

Section 4

Nature and Extent of Contamination

This section presents the environmental sampling results and analytical methods used to evaluate contamination at the Site. Section 4.1 describes the approach for selecting site-specific screening criteria, selection of representative contaminants, and data presentation. Section 4.2 presents soil, groundwater, and MIP investigation results. Section 4.3 presents an interpretation of the data and an overall evaluation of contamination at the Site.

4.1 Approach to the Evaluation of Contamination

The characterization and evaluation of the nature and extent of contamination is focused on those constituents identified as representative contaminants, which were generally determined by evaluating historical information on contaminant sources, exceedances of screening criteria, the frequency and magnitude of the exceedances, and background concentrations. However, all other detected contaminants were also subject to the media-specific screening process and are discussed briefly in the text.

4.1.1 Selection of Screening Criteria

The soil analytical results were compared to the Unrestricted Use Soil Cleanup Objectives (6 NYCRR Part 375-6.8 (a), December 14, 2006). The groundwater analytical results were compared to the New York State Standards and Guidance Values for Class GA Groundwater (NYSDEC TOGS 1.1.1).

The 2006 NYSDOH Vapor Intrusion guidance indicates that the State of New York does not have any standards, criteria or guidance values for subsurface soil vapor. However, Table 3-1 of the guidance document provides guidance values for indoor and outdoor air against which methylene chloride, PCE, and TCE may be compared. Additionally, background concentrations derived from background studies are available in Appendix C of the guidance document. In the case of the Site, the 90th percentile values presented in Table C2, "EPA 2001: Building assessment and survey evaluation (BASE) database," are appropriate for comparison to the Site's indoor and outdoor air sample results. This value is 100 µg/m^3 for PCE

4.1.2 Selection of Representative Contaminants

Representative contaminants were selected to focus the evaluation of contamination on site related contaminants, which will be drivers of remediation. To select the site related contaminants, CDM reviewed the historical investigations and considered the chemicals and processes used at the Site.

The Site is located in an urbanized area which has been developed for approximately 50 years and operated as a dry cleaners from approximately 1960 – 1995. Based on this analysis, it was determined that PCE and its degradation products, TCE, cis-1,2-DCE, and VC were most representative of site related contamination . These compounds generally exhibit the greatest spatial distribution and highest detected levels. Other contaminants detected at the site will not be evaluated in detail.

4.1.3 Data Presentation

The analytical results from the RI were entered into the site database for evaluation purposes. The data were exported to a geographic information system (GIS) and geological evaluation and visualization software for analysis and graphical presentation. The graphical data presented includes VOC data for aqueous samples (µg/L) and soil samples (mg/kg).

All analytical data were reviewed to ensure that they meet the project requirements for representativeness, completeness, precision, and accuracy.

Groundwater and soil analytical data were compared to the appropriate medium-specific screening criteria. The discussion below focuses primarily on the representative contaminants. Concentrations of site related compounds are displayed on the figures in Section 4.

4.2 Investigation Results

4.2.1 Membrane Interface Probe Investigation

A subsurface investigation using a membrane interface probe (MIP) was conducted in May 2011 to aid in delineating the horizontal and vertical extent of contamination. The membrane interface probe (MIP) houses 4 detectors including the electron captor detector (ECD), flame ionization detector (FID), and the photoionization detector (PID). The FID measures volatile organic hydrocarbons, and the PID measures aromatic compounds. However, the compounds of interest at our site are CVOCs. The ECD measures the relative concentration of CVOCs in the soil and aquifer adjacent to a sampling window in the probe body. The ECD can detect the presence of gross VOCs but does not produce concentration data or specific compound speciation; the data is used as a screening tool. The MIP logs are included in Appendix A. Investigation locations can be seen on Figure 2-1, and MIP results are on Figure 4-1.

The highest ECD responses for the largest depth interval were detected in MIP-2, MIP-2C, MIP-2CR, MIP-3, MIP-4, MIP-5, MIP-5B, and MIP-6. With the exception of MIP-5B, these boreholes are all located around the site building. MIP-2C and MIP-2CR are located near the northwest corner of the building. MIP-2 is located further northwest of these boreholes. MIP-5 and MIP-6 are located near the front end of the building. MIP-5B is located directly west of the north end of the site building. ECD readings at MIP-2CR, MIP-5, and MIP-6 show a sustained high response for a large depth interval. In this case, it is possible that contamination flooded the detector at a certain depth due to the presence of NAPL. Since the detector is flooded with NAPL, the probe will continue to read high concentrations until the NAPL has worked its way out of the detector. The time it takes for the NAPL to leave the detector is unknown; therefore, the full depth of the contaminated interval is unknown. However, in general, excluding MIP-3 and MIP-4, contamination appears to be in the 10 ft amsl to -15 ft amsl interval (between 10 and 35 feet below ground surface). MIP-3 and MIP-4 are located northeast of the Site; contamination in these boreholes is in a deeper interval, below approximately 0 ft amsl.

Moving downgradient from these boreholes, the ECD responses decrease in occurrence, magnitude, and thickness of the depth interval. Responses are seen at MIP-1, MIP-1B, and MIP-2B. The general interval of contamination at MIP-1 and MIP-1B, which are northeast of the site, is between 10 and 20 ft bgs (15 and 5 ft amsl). The interval of contamination at MIP-2B, which is northwest of the site, is deeper, between 35 and 40 ft bgs (-10 and -15 ft amsl).

4.2.2 Soil Investigation

4.2.2.1 MIP Confirmatory Soil Sampling

During the MIP investigation in May 2011, 14 soil samples were collected from below the water table, including two duplicates. Eleven of these samples were co-located with the MIP in order to confirm the ECD data. Figure 2-1 presents the sample locations. Analytical data is presented in Table 4-1. The total depth of the 14 soil screening points ranged from 10 feet bgs at location MIP6 to 45 feet bgs at MIP3. Soil samples were collected at two different depths at MIP5 and MIP6 locations.

As shown on Figure 4-1, PCE was detected in 8 of soil samples (MIP1, MIP2, MIP3, MIP5, MIP5B, and MIP6) used to confirm the MIP results. Shallow and deep samples collected at MIP5 and MIP6 both detected PCE. TCE was detected in one sample at MIP3. *Cis*-1,2-DCE was detected in three samples (MIP1B, MIP2, and MIP3). VC was not detected in any sample. No samples exceeded screening criteria. ECD peaks matched depths of the soil screening samples that detected contamination. Groundwater screening samples were not taken in these boreholes. However, given the low soil organic carbon-

water partitioning coefficients (K_{oc}) of VOCs, it is likely that there is groundwater contamination at these depths which would explain the ECD readings. The ECD responds to VOC concentrations in both the soil and the groundwater.

Other VOCs detected include acetone, methylene chloride, and naphthalene but samples did not exceed soil screening criteria. Acetone and methlyene chloride were detected below lab reporting limits and may be lab contaminants. No SVOCs were detected in soil samples at concentrations exceeding the unrestricted use soil cleanup objectives. No pesticides or PCBs were detected in the soil samples. Nickel was detected at a concentration of 31 mg/kg in sample MIP1B and at 77.9 mg/kg in sample MIP5B, which exceed the unrestricted use soil cleanup criteria of 30 mg/kg. Chromium was detected at a concentration of 34 mg/kg in sample MIP5B which exceeds the soil screening criteria of 30 mg/kg. No other metals were detected at concentrations exceeding the unrestricted use soil cleanup objectives in soil samples.

4.2.2.2 Sub-Slab Soil Screening

CDM conducted a sub-slab investigation in November 2011 to characterize VOC contamination in the soil beneath the building at the site. During this investigation, 13 soil samples were collected. Seven samples were collected in the vadose zone at six inches below the slab; six soil samples were collected beneath the water table at multiple depths, ranging from 5 ft to 12.5 ft below the slab. Figure 2-2 depicts the sample locations; analytical data is presented in Table 4-2.

As shown on Figure 4-2 PCE was detected in six soil samples collected from the vadose zone ranging from 2.7 J µg/kg to 110 J µg/kg, and in three soil samples collected from beneath the water table ranging from 4.5 J µg/kg to 55 µg/kg . TCE was detected in two soil samples collected above the water table ranging from 6.6 J µg/kg to 16 J µg/kg, and in two saturated soil samples ranging from 1.2 J µg/kg to 3.2 J µg/kg. *Cis*-1,2-DCE was detected in three dry soil samples ranging from 3.5 J µg/kg to 12 µg/kg. The maximum concentrations detected were all at PM-SB-5-A. VC was not detected in any samples. No samples exceeded soil screening criteria. The reporting limit for these compounds ranged between 5 and 6.8 µg/kg.

Other VOCs detected include 1,2,4-trimethylbenzene, acetone, methylene chloride, naphthalene, and toluene but samples did not exceed soil screening criteria. SVOCs, pesticides, PCBs, or metals were not analyzed in these soil samples.

4.2.3 Groundwater Investigation

4.2.3.1 MIP Confirmatory Groundwater Screening

During the MIP investigation, CDM collected four groundwater screening samples from two locations, MIP-5 and MIP-6, and one duplicate. Samples from MIP-5 were collected at depths of 15 ft bgs and 28 ft bgs; samples from MIP-6 were collected at depths of 15 ft bgs and 33.5 ft bgs. Analytical data is presented in Table 4-4 and Figure 4-3.

PCE concentrations exceeded the screening criteria in all samples; concentrations ranged from 150 µg/L (deep sample at MIP-5) to 32,000 D µg/L (shallow sample at MIP-5). PCE concentrations in the shallow samples taken at locations MIP-5 and MIP-6 were indicative of a possible presence of DNAPL. DNAPL is suspected to be present when the groundwater concentration is greater than one percent of its pure-phase solubility (150,000 µg/L for PCE). TCE exceeded the groundwater screening criteria in samples at MIP-6 at shallow and deep concentrations of 9 µg/L and 8.7 µg/L , respectively. It was detected in the deep sample at MIP-5 but did not exceed groundwater screening criteria. *Cis*-1,2-DCE concentrations exceeded groundwater screening criteria in three samples. The shallow sample at MIP5 showed the highest concentration at 780 µg/L. VC was not detected in any samples. These results confirm the information gathered from the ECD measurements taken in these boreholes. The ECD readings suggest that the probe had been fouled by NAPL in MIP-5 at approximately the same depth the shallow sample was taken which detected concentrations indicative of NAPL. Concentrations detected in MIP6 confirm the high ECD readings and suggest possible DNAPL which could lead to possible probe fouling as well. VOC concentrations in soil confirmatory samples taken in these boreholes did not exceed soil screening criteria. However, since VOCs have a low K_{oc} meaning these compounds are more hydrophilic, absorption would not be expected which leads to low soil concentrations.

Methyl tert-butyl ether was the only other VOC detected. It was detected at 1.7 J µg/L, which is below both the reporting limit and the groundwater screening criterion. SVOCs detected include bis(2-ethylhexyl)phthalate and diethyl phthalate. No pesticides or PCBs were detected. Iron, manganese, and nickel exceeded their groundwater screening criteria in four, three, and one sample, respectively. The maximum concentration of iron was 2,660 µg/L found in the deep sample at MIP6. The maximum concentration of manganese was 2,320 µg/L found in the shallow sample at MIP5. Aluminum and magnesium were detected but their concentrations did not exceed groundwater screening criteria.

4.2.3.2 Sub-Slab Groundwater Screening

In November 2011, CDM conducted a sub-slab investigation, as discussed in Section 2. Six groundwater screening samples were collected to characterize the aqueous VOC contamination beneath the building on the site. Five samples were taken at approximately 8-9 ft bgs. One sample was taken at an angle at about 12.5 ft below the slab. The analytical results from the investigation are in Table 4-5. As illustrated on Figure 4-3, concentrations of PCE and cis-1,2-DCE exceeded groundwater screening criteria in all six samples. TCE concentrations exceeded groundwater screening criteria in three samples, and VC concentrations exceeded groundwater screening criteria in one sample.

PCE concentrations ranged from 11 J µg/L (PM-GWS-6) to 150 J µg/L (PM-GWS-2). TCE concentrations ranged from 5.2 µg/L (PM-GWS-1A) to 16 µg/L (PM-GWS-2). *Cis*-1,2-DCE ranged from 11 µg/L (PM-GWS-1A) to 90 J µg/L (PM-GWS-2). VC was detected in one well at a concentration of 2.1 J µg/L. The maximum detections for all four compounds were in sample PM-GWS-2 which is located near the east side of the building, closest to MW-14S. These concentrations are not indicative of NAPL.

There isn't a correlation between the groundwater screening samples and the soil screening samples taken at this location which is expected since the samples were taken at different depths.

Other VOCs detected include 2-butanone, acetone, and carbon disulfide. No Samples were not analyzed for SVOCs, pesticides, PCBs, or metals.

4.2.3.3 Monitoring Well Sampling

In March 2012, CDM collected groundwater samples from the study area monitoring wells, as discussed in Section 2. The analytical results from the sampling event are in Table 4-5. Results for Monitored Natural Attenuation (MNA) parameters are presented and discussed in Section 5. As illustrated on Figure 4-4, PCE and *cis*-1,2-DCE were most frequently detected at concentrations above screening criteria in these monitoring wells. *Cis*-1,2-DCE was detected in more wells than PCE suggesting that degradation is occurring. TCE detection concentrations were also mostly above screening criteria. VC was the least frequently detected representative compound; however, most of the detections were above screening criteria.

PCE concentrations ranged from 5 µg/L to 100,000 µg/L. The highest concentrations were detected in wells screened between 24 and 35 ft bgs, which is the interval where ECD responses were observed during the MIP investigation. These are the "S" series wells indicating shallow screens. Concentrations greater than 1,500 µg/L (one percent of the solubility of PCE, e.g., indicative of the potential presence of NAPL) were detected in MW-14S (100,000 µg/L), MW-12S (71,000 µg/L), MW-11S (9,000 µg/L), MW-13S (2,500 µg/L), and MW-16S (2,200 µg/L). MW-14S is located near the east side of the site building. MW-11S, MW-12S, and MW-13S are located near the northeast corner of the building. MW-16S is located near the south end (the front) of the building. Concentrations in MW-14S and MW-16S have decreased since 2008. Concentrations in MW-11S, MW-13S, and MW-12S have increased. These increased concentrations may reflect migration of contamination, such as the movement of DNAPL under the force of gravity.

TCE concentrations ranged from 2.6 J µg/L to 2400 µg/L. The highest concentrations detected were located in MW-11S, MW-14S, and MW-13S. TCE concentrations have increased in these wells since 2008 which suggests degradation of PCE is occurring at the site.

Cis-1,2-DCE concentrations ranged from 1.3 J µg/L to 11,000 µg/L. The highest concentrations detected were located in MW-11S, MW-13S, and MW-01 which is located near the front of the site building and screened at the water table (shallower than the S series wells). Concentrations of *cis*-1,2-DCE in MW-11S and MW-13S have increased since 2008 which also suggests degradation of PCE is occurring at the site. MW-01 was not sampled in 2008.

VC concentrations ranged from 0.58 J µg/L to 1,200 JD µg/L. The highest VC concentration was detected in MW-01 which is a shallow well located near the southeast corner of the building.

No VOCs were detected in wells screened below 35 feet bgs (the deep D series wells) except for MW-15D which displayed a detection of cis-1,2-DCE and an exceedance of PCE with a concentration of 5 µg/L. This result is equal to the screening criteria, and much lower than concentrations seen in the shallow wells. In 2008, high PCE concentrations were detected in MW-13D and MW-15D. The lack of contamination in these wells in 2012 could be explained by the nature of NAPL. NAPL may have migrated from the shallow zone downward under the influence of gravity, and was potentially in the vicinity of the deep wells in 2008. Since then, either the NAPL has continued to sink and the most of

the residual contamination has since been transported by advection downgradient, the NAPL dissolved, or it has moved to an unsampled location.

Other VOCs detected above screening criteria include 1,1,2-trichloroethane, 1,1-DCE, and trans-1,2-DCE. The latter two compounds are degradation byproducts of PCE and are site related. VOCs detected below screening criteria include 1,2-dichlorobenzene, 1,4-dichlorobenzene, chlorobenzene, chloroform, chloromethane, ethane, ethene, methane, methyl tert-butyl ether, and toluene. It is not known if these are site related detections. Samples were not analyzed for SVOCs, metals, PCBs, or pesticides.

4.2.3 Air Investigation

Passive air sampling badges were placed in the bank building adjacent to the former Paul Miller site in March of 2011. Analytical results for the target compound, PCE, are presented on Table 4-7 and the laboratory data package is included as Appendix G. No PCE was detected above the detection limit of 1.0 µg/m^3.

Since access was denied to the other nearby building, the restuaruant east of the former Paul Miller building, PCE in air concentrations are unknown in this building.

4.3 Discussion of Contamination

To gain further insight into the horizontal and vertical distribution of the PCE, TCE, cis-1,2-DCE, and VC contamination in groundwater, a series of cross sections was generated. A cross-section transect location map is provided in Figure 4-5. It should be noted that the points exhibited in the cross sections were projected onto the cross section baselines. As mentioned in Section 2, the groundwater

screening and MIP points encountered refusal at some locations. The shallow portion of the aquifer (above 35 ft bgs) consists of unconsolidated glacial till comprised of gravel, silty sands, silt, and clay. The deep aquifer consists of mostly silty sand and well-graded sand.

4.3.1 DNAPL

The first cross section, A to A' shown in Figure 4-6, runs north to south and cuts through the eastern portion of the site building. It is oriented in the direction of shallow groundwater flow. PCE concentrations indicative of the presence of DNAPL were detected near the south end and the northeast corner of the building. These two locations are suspected source areas. The highest PCE concentrations were detected in MW-14S near the east side of the building. Concentrations decreased exponentially directly downgradient from this well but concentrations indicating the presence of DNAPL were observed in the two wells closest to the northeast corner of the building and MW-14S. MW-01, MW-16S, and MIP6 are upgradient from this source location. However, the contaminant concentrations in these wells/boreholes are indicative of the potential for a second source location near the front of the building.

A second cross section, B to B' shown in Figure 4-7, runs parallel to the A to A' cross section along the west side of the building. The shallow groundwater screening sample at MIP5 displayed NAPL-like concentrations. This is also indicative of the potential for an additional source.

4.3.2 Dissolved Phase Contamination

Concentrations indicative of dissolved phase PCE contamination were observed downgradient of the suspected source locations in MW-08S (downgradient of the second suspected source location) on

cross section B-B' and MW-09S in cross section C-C', Figure 4-8, and MW-10S in cross section A-A'. MW-03, displayed in cross section D-D' and on Figure 4-9, located near the northwest corner of the building did not contain high concentrations of contaminants; however, this well was sampled at approximately 15 ft amsl which is above the general depth interval where contamination in this area is observed. The ECD readings and a soil sample taken from a deeper depth in this area give indication of contamination at depths below the sampled depth. Dissolved phase contamination was also observed in the subslab groundwater screening samples. However, there is much uncertainty about the contamination under the building since some boreholes hit refusal at very shallow depths and due to the potential for an additional slab. The highest concentrations of TCE and cis-1,2-DCE occur at MW-11S located near the northeast corner of the building; the highest VC concentration occurs at MW-01 which is located near the south end of the building. The presence of DNAPL at the site will continue to cause widespread dissolved phase PCE contamination as it migrates, potentially leading to higher concentrations of daughter products as it degrades.

4.3.3 Extent of Contamination

The horizontal distribution of contamination in the shallow zone above 35 feet bgs is illustrated on Figure 4-10. The MIP and monitoring well investigation results indicate that contamination extends from MIP5 and MIP6 in the south area of the site to MIP5B to the west, MW13S to the east, MIP1 to the northwest, MIP2 to the north, and MW10S to the northeast. The extent of contamination has been delineated with either groundwater sample results below SCGs or MIP results indicating a lack of contamination in the four directions around the site building. It should be noted that MIP readings were used to discern the presence or absence of contamination in areas where there are not any wells. However, since the MIP tool is qualititative and does not provide quantitative measurements of contaminant concentrations like groundwater samples do, the delineation provided by these locations is an estimate.

The vertical distribution of contamination in the south and north areas differs. In general, the greatest levels of contamination are observed in the shallow aquifer, above 35 ft bgs (-10 ft amsl). In the south area of the site, contamination was observed at approximately 15 ft amsl and -2 ft amsl with the higher concentrations being detected at the shallower depth. In the north area of the site, near the back of the building, contamination is observed in the 5 ft amsl to -10 ft amsl interval. Contamination in the deep wells was not detected or detected at low concentrations.

The EC probe readings and boring log information indicate a greater percentage of sand below approximately -12 ft amsl. The previous RI (2009) reported high concentrations of contaminants in this zone. The more conductive deposits in this zone could explain the lack of identified contamination. Comparing the ECD readings, groundwater screening results, and groundwater results to the soil information, it is suggested that any contamination below this elevation dilutes and disperses more quickly due to the higher hydraulic conductivity.

4.4 Qualitative Human Health Risk Assessment

Utilizing the analytical results collected during the current investigation, the following exposure pathways were assessed:

Exhibit 4-A. Qualitative Human Health Risk Assessment

Environmental Media & Exposure Route	Human Exposure Assessment
Direct contact with surface soils (and incidental ingestion)	People are not coming into contact with surface soils because contaminated soils are covered by pavement and concrete.
Direct contact with subsurface soils (and incidental ingestion)	Contaminated soils are present from the surface to the water table. Proper health and safety practices should be followed to limit potential exposure during ground-intrusive work at the site.
Direct contact with groundwater (including ingestion of groundwater)	Contaminated groundwater is not being used for domestic uses including drinking water, as the area is served by public water supply. Contaminated groundwater is present at approximately 3 to 9 feet bgs, therefore human exposure is possible during intrusive activities.
Inhalation of air (exposures related to soil vapor intrusion)	The 2009 RI identified indoor air concentrations of PCE and PCE degradation products at concentrations exceeding indoor air quality criteria (CDM, 2009). Analysis has concluded that soil and groundwater contamination from beneath the building are not a significant contributing factor to indoor air quality in the on-site structure. Indoor air quality appears to be impacted by contaminated building structure materials, rather than vapor intrusion from the environment. No mitigation measures have been installed to date.

Based on analytical results, an exposure risk exists for soil, groundwater, and air. Proper health and safety practices should be followed to limit potential exposure.

Section 5

Contaminant Fate and Transport

This section examines the primary chemical and physical processes that affect the fate and transport of the contaminants in groundwater and soils at the Site. The focus is on the four indicator contaminants at the site: PCE, TCE, cis-1,2-DCE, and VC. An understanding of the fate and transport of the indicator contaminants aids the evaluation of potential current and future exposure risks and focuses the evaluation of remedial technologies in the feasibility study. This section provides the following:

- A summary of the indicator contaminants and corresponding chemical and physical properties
- A discussion of processes that affect the fate of the indicator contaminants in the environment
- A discussion of processes that affect transport potential of the indicator contaminants
- A discussion of transport mechanisms and pathways
- An evaluation of natural attenuation
- Summary of conceptual site model

5.1 Indicator Contaminants

Indicator contaminants were selected based on a review of the analytical data collected during the RI, analysis of the spatial distribution of contamination, and the historical data for the Site. Hence, in this section the fate and transport of the following indicator contaminants are examined:

- PCE
- TCE
- *cis*-1,2-DCE
- VC

5.2 Chemical and Physical Properties of Indicator Contaminants

To predict the fate, or persistence and potential transport of indicator contaminants that are present in soil, and groundwater, it is necessary to identify which contaminants are likely to migrate or degrade. These processes depend on a given chemical's physical and chemical properties and the properties of the media through which it migrates. **Table 5-1** presents the chemical and physical properties of the indicator contaminants. The properties are defined in the following paragraphs and further discussed in the next section.

The solubility of a chemical is defined as the upper limit of its dissolved concentration in water at a specified temperature. Concentrations in excess of solubility may indicate a co-solvent effect or the

presence of a non-aqueous phase liquid. As shown on **Table 5-1**, all VOCs have relatively high water solubilities: 150 mg/L for PCE, 1,366 mg/L for TCE, 3,500 mg/L for cis-1,2-DCE, and 2,760 mg/L for VC.

Henry's Law constant provides a measure of the extent of chemical partitioning between air (vapor phase) and water (dissolved phase) at equilibrium. The higher the Henry's Law constant, the more likely a chemical is to volatilize. All of the indicator contaminants have Henry's Law constants greater than 10^{-3} atmosphere-m^3/mole (atm-m^3/mol), which indicates they will volatilize from water.

Vapor pressure is the pressure exerted by a chemical vapor, at any given temperature, in equilibrium with its solid or liquid form. It is used to calculate the rate of volatilization of a pure substance from a surface or to estimate a Henry's Law constant for chemicals with low water solubility. The higher the vapor pressure, the more likely a chemical is to exist in a gaseous state. All indicator contaminants have relatively high vapor pressure, ranging from 18.47 (PCE) to 2,600 millimeters (mm) of mercury (Hg) (VC), which indicates that these VOCs will evaporate rapidly from the near-surface soil.

The organic carbon partition coefficient (K_{oc}) provides a measure of the extent of chemical partitioning between organic carbon and water at equilibrium. The higher the K_{oc}, the more likely a chemical is to bind to soil or sediment rather than to remain dissolved in water. The range of K_{OC} values for indicator contaminants is from 15.4 L/kg (VC) to 265 L/kg (PCE), which indicates that these indicator contaminants have a relatively low potential to bind to soil or sediment and are mobile in water.

The soil-water partition coefficient (K_d) provides a soil- or sediment-specific measure of the extent of chemical partitioning between soil or sediment and water, adjusted for dependence upon organic carbon. K_d is adjusted using the fraction of organic carbon (f_{oc}) of the soil/sediment as shown in the formula $K_d = K_{oc} \times f_{oc}$. A higher K_d, indicates that a chemical is more likely to bind to soil or sediment rather than to remain in the dissolved phase, thereby reducing its transport capability. As no data were collected at the Site for fraction of organic carbon, one can either use literature K_d values or assume an f_{oc} of 0.1 percent (0.1%), which is typical for coastal plain environments. The literature K_d values are presented in **Table 5-1** and range from 0.071 cm^3/g (cis-1,2-DCE) to 0.33 cm^3/g (TCE), which indicate low adsorption for these indicator contaminants. The calculated K_d values based on a 0.1% f_{oc} were even lower than the literature K_d values, also suggesting the low adsorption for these indicator contaminants.

The octanol-water partition coefficient (K_{ow}) provides a measure of the extent of chemical partitioning between water and octanol at equilibrium. The greater the K_{ow}, the more likely a chemical is to partition to octanol rather than to remain in water. Octanol is used as a surrogate for lipids, and K_{ow} is used to predict bioconcentration in living organisms. All indicator contaminants have relatively low K_{ow} indicating that they have low potential to bioconcentrate in living organisms.

5.3 Environmental Fate

Contaminant fate describes the length of time that a contaminant will remain in its original chemical state in the environment. Chemicals that persist in a given medium are those that form insoluble precipitates, or resist biodegradation, hydrolysis, and volatilization. The fate of metals depends on the partitioning between soluble and in-soluble particulate solid phases. Partitioning is affected by adsorption, precipitation, co-precipitation, and complexation. These processes are governed by pH,

Eh, ionic strength of the water, concentration of the complexing ions, and the concentration and type of metals.

5.3.1 Processes that Affect Fate and Transport

The major processes that affect the fate, or persistence, of the indicator contaminants are volatilization, degradation, hydrolysis, dissolution, and precipitation. The most persistent chemicals are those that form insoluble compounds, precipitate, or do not hydrolyze or biodegrade.

Dissolution - Dissolution is the process of dissolving, changing, or separating a substance into component parts or changing it from a solid to a fluid state. Mechanisms that cause or enhance dissolution include solution by heat, moisture liquefaction, melting, or decomposition.

Precipitation - In chemistry, precipitation is the condensation of a solid from a solution. This occurs when the solution is saturated, whereupon the solid forms, and usually sinks to the bottom of the solution. Contaminants are converted to an insoluble form (particle) by the chemical reaction with precipitating reagents, the particles formed by this reaction are then removed from solution by settling and/or filtration.

Hydrolysis - Hydrolysis is a chemical decomposition process that uses water to split chemical bonds of substances. There are two types of hydrolysis, acidic and enzymatic. Hydrolysis occurs in certain inorganic salts in solution, in nearly all non-metallic chlorides, in esters, and in other organic substances.

Biodegradation - Biodegradation is the breakdown of organic contaminants by microbial organisms into smaller compounds. The microbial organisms transform the contaminants through metabolic or enzymatic processes. Biodegradation processes vary greatly, but frequently the final product of the degradation is carbon dioxide or methane. Biodegradation can occur under aerobic conditions, where oxygen is present in sufficient concentration, or under anaerobic conditions, where oxygen is lacking.

Volatilization – Volatilization is the conversion of a chemical compounds from a solid state or liquid phase to vapor phase, by application of either heat and/or reducing pressure to overcome the binding force within the original state.

Matrix Diffusion – Matrix diffusion is the general term used to describe a set of physical process that cause the movement of contaminants from groundwater or non-aqueous phase liquid (NAPL) into the pore space of low-permeability matrices such as clay, tight silts, or bedrock. A concentration gradient between contaminants dissolved in groundwater and pore water in the matrix can drive contaminants into the matrix. The movement of a NAPL into the matrix could occur by advection or by matric potential. Diffusion can also occur in the solid phase, though much more slowly, for example by diffusion below the surface in a carbon film on a sand grain. This process can contribute to retardation of plume migration. Back diffusion of contaminants from the matrix can be an ongoing source of groundwater contamination.

5.3.2 Fate of Indicator Contaminants

The fate of VOCs is dictated by their volatility and degradation. Their presence in surface soils is usually short-lived provided that there is no continuous source. The fate of the indicator contaminants is discussed below.

Tetrachloroethene - The dominant fate of PCE that may be present in soils is volatilization. Volatilization is also an important fate process of PCE in groundwater based on its Henry's Law constant of 1.73×10^{-2}atm-m^3/mol.

Based on its K_{oc} value of 265 milliliters per gram (mL/g), PCE is moderately mobile in soils. Consequently, PCE has the potential to migrate through the soil into groundwater. PCE has a specific gravity greater than water (1.62) indicating that pure liquid phase PCE will sink when dissolved in groundwater. The solubility of PCE in water is 150 milligrams per Liter (mg/L).

Chlorinated hydrocarbon compounds, such as PCE and TCE, can be progressively dechlorinated via reductive dechlorination, and ultimately degrade to innocuous end products such as carbon dioxide, ethane, ethene, and water under appropriate subsurface conditions. This process will be discussed in detail in Section 5.5.

The widespread PCE contamination in groundwater indicates that it is a primary contaminant at the Site.

Trichloroethene – The dominant fate of TCE that may be present in vadose zone soils is volatilization. Volatilization can be an important fate process of TCE in groundwater based on its Henry's Law constant of 0.011 atm-m^3/mol, especially TCE near the top of the water table.

Due to its high mobility in soils (i.e., high solubility - 1,366 mg/L, low K_{oc} value etc.), TCE is less likely to bind to soil, and thus has the potential to migrate through the soil into groundwater. TCE has a specific gravity greater than water (1.465), indicating that pure liquid phase TCE will sink when dissolved in groundwater.

Under anaerobic conditions, as might be seen in soil microsites, flooded soils, or within aquifers, TCE is slowly biodegraded via reductive dechlorination (refer to the PCE degradation pathway); however the extent and rate of degradation are dependent upon the strength of the reducing environment, as often observed with the light non-aqueous phase liquid (LNAPL) presence. Biodegradation in soil and groundwater may occur at a relatively slow rate with half-lives on order of months to a year (Lucius *et al.* 1990).

The widespread TCE contamination in groundwater indicates that it is a primary contaminant at the Site. Its presence is likely due to the degradation of PCE.

***cis*-1,2-Dichloroethene** - The dominant fate process of *cis*-1,2-DCE in soil and groundwater is volatilization, because of its high vapor pressure (180 mm Hg) and Henry's Law constant (4.1×10^{-3} atm-m^3/mol).

Based on a K_{oc} value of 43.8 L/kg, little adsorption to soil is expected for *cis*-1,2-DCE (ATSDR 1996). Without significant adsorption to soil, *cis*-1,2-DCE can leach into groundwater where biodegradation should occur (Hazardous Substance Database [HSDB] 2005). The presence of *cis*-1,2-DCE in groundwater, especially under sandy soil conditions (Barber *et al.* 1988), substantiates its leachability. The relatively low K_{oc} and high vapor pressure of *cis*-1,2-DCE indicate that this compound should also readily volatilize from moist soil surfaces (ATSDR 1996). *Cis*-1,2-DCE undergoes slow reductive dechlorination under anaerobic conditions (Fogel *et al.* 1986, ATSDR 1996).

In the reductive dechlorination process, *cis*-1,2-DCE is a breakdown product of the PCE spilled at the sitethe . Under the proper conditions, *cis*-1,2-DCE degrades to VC. The accumulation of *cis*-1,2-DCE in groundwater at the Site indicates that more *cis*-1,2-DCE is being produced than is being degraded.

Vinyl Chloride –VC in soil, and in shallow groundwater, can volatilize because of its high vapor pressure (2,600 mm Hg) and Henry's Law constant (2.78×10^{-2} atm-m^3/mol). Vinyl chloride is an anaerobic biodegradation product of higher chlorinated VOCs such as PCE.

Vinyl chloride is soluble in water and thus can leach through the soil and enter groundwater before evaporation can occur (ATSDR 2006). A K_{oc} value of 15.38 suggests a very low sorption tendency, meaning that this compound would be highly mobile in water. The literature K_d value of 0.037 cm^3/g indicates that VC would be highly to moderately mobile in soil. Thus, VC has the potential to leach into groundwater as shown by its historical and frequent detection in the Site groundwater. Vinyl chloride is degraded by both anaerobic and aerobic degradation processes.

5.4 Contaminant Transport Mechanisms

Contaminant transport pathways and exposure mechanisms provide the ways for chemicals in contaminated media at the Site to travel from the area of deposition and to potentially leave the property.

DNAPL Migration - The Site is underlain by unconsolidated glacial deposits consisting of unsorted sands, silts, clays, gravel and boulders. Site-related contaminants released to the subsurface will migrate downward through the aquifer. If the quantity of solvent reaching the water table is sufficient, some of it can remain in an undissolved state and continue to move downward under the influence of gravity until a physical barrier to flow is encountered, such as a boulder or clay lens.

DNAPL can seep into the pore spaces of silts and clay, where it can reside for long durations. DNAPL accumulated in sands would be exposed to great volumes of water flowing by, which would help dilute it. However, the conductivity of clay, boulders, and silt layers are much lower than that of sands. DNAPL trapped in the pore spaces of these lower permeability layers would not attenuate as rapidly. Instead, it would diffuse, adsorb, and continue to migrate through the less permeable materials and along the surfaces of the layers.

Leaching to Groundwater - The entire Site is developed with buildings, asphalt, or concrete. As such, rainwater is collected in the stormwater system, and only a minimal amount infiltrates the subsurface (through cracks in the pavement etc.). Therefore, leaching of contamination into percolating stormwater is expected to be minimal.

Groundwater Transport - All of the indicator contaminants exhibit relatively high water solubility and/or low Koc values and, therefore, high leachability. Contaminants in groundwater can be transported in either a dissolved or particle-sorbed state. The lithology along with the general topography, is the primary influence on the physical behavior of groundwater. Potential migration/exposure mechanisms for groundwater contaminants include groundwater use. Groundwater transport processes are detailed in Section 5.4.2.

Volatilization - Volatilization is a minor transport process for VOCs and at the Site would have occurred mainly from surface soil contaminants. Subsurface contaminants at or above the water table may also volatilize. Since contaminants were not detected in subsurface soils at or above the water table at concentrations above their respective screening criteria, volatilization is not expected to be a

significant transport mechanism from onsite soils. However, accumulation of vapors can occur underneath these structures and pose risk to human health via vapor intrusion (i.e., discharge into on-site buildings), due to the presence of asphalt parking area and building foundations in portion of the Site which essentially act as a cap. The majority of indoor air contaminant levels in the on site building have been attributed to contaminated building structure materials, and not to soil or groundwater contamination.

Advection - Advection describes the process of solute migration, which due to the average bulk movement of groundwater, is typically the most important factor governing the transport of contaminants in groundwater. Advection defines the direction and velocity of a plume's center of mass. The advective transport term is computed using velocities determined by solving the groundwater flow equation, which is a function of hydraulic conductivity, hydraulic gradient, and flow cross-sectional area. Average linear groundwater velocity (v) is a function of hydraulic conductivity, hydraulic gradient, and effective porosity (η). Effective porosity values typically fall within the range of values of specific yield and total porosity. Specific yield (i.e., the amount of water released from storage per unit drop in piezometric head) represents the lower limit of reasonable effective porosity values.

Dispersion and Dilution -Dilution consists of a series of phenomena, including groundwater mixing (i.e., flushing with uncontaminated or less contaminated groundwater) and hydrodynamic dispersion, which play an important role in naturally attenuating groundwater contamination in a non-destructive manner, as opposed to the natural attenuation specifically via biodegradation that will be discussed later in this section.

Specifically, hydrodynamic dispersion describes the spread of contaminants around an average groundwater flow path, beyond the region they would normally occupy due to advection alone. Hydrodynamic dispersion is the sum of two processes, mechanical dispersion and molecular diffusion. Mechanical dispersion results from mixing that occurs as a consequence of local variations in groundwater velocity and the aquifer's matrix. Molecular diffusion results from variations in solute concentrations within the groundwater system. In general, except when groundwater velocities are very low (e.g., a few centimeters a year), this diffusion effect is generally secondary to, and often negligible, compared to the mechanical dispersion effect. However, at the Site, the diffusion effect is an important factor in the migration of contaminants into tight silts and clays at the site.

Retardation - Dissolved-phase contaminant transport velocity is generally retarded in comparison to groundwater by adsorption processes. The degrees of adsorption and retardation are typically controlled by soil/water partitioning relations, which are a function of the chemical-specific partition coefficient and the soil organic carbon content. A typical method of generally describing this phenomenon in solute transport evaluations is by using a retardation factor.

When contaminated soil and groundwater are in contact, dissolved chemicals partition between them according to soil/water partitioning relations. Some of the chemical mass is irreversibly adsorbed. However, much of the mass is able to adsorb or desorb over time to maintain equilibrium mass balance. In general, adsorption occurs faster than desorption. For this reason, adsorption is commonly associated with retarding chemical transport (e.g., chemical transport velocity is slower than groundwater velocity), whereas desorption is commonly associated with chemical persistence (e.g., contaminated soils leachability to groundwater, attenuating groundwater concentration trends exhibit a "tailing" effect).

Due to the lack of site-specific data such as soil organic carbon content and effective porosity, retardation was not calculated for the indicator contaminants. However, for plumes characteristic of the VOC contaminants encountered at the Site, the contaminant's mass moves at essentially the same rate as the average linear groundwater velocity.

5.5 Natural Attenuation of VOCs in Groundwater

A preliminary assessment to evaluate the natural attenuation potential of the Site was performed. The natural attenuation evaluation consists of evaluating the available historically detected concentrations of the contaminants which are associated with the degradation of PCE, including TCE, cis-1,2-DCE, and VC in conjunction with the natural attenuation indicator parameter data, for evidence indicating potential occurrence of biodegradation processes.

5.5.1 Background on Natural Attenuation Processes

Natural attenuation refers to all of the naturally occurring processes (biodegradation, and other abiotic processes such as dispersion, sorption, volatilization etc.) that affect the fate and transport of contaminants in soil and groundwater, and achieving a reduction in the total mass, toxicity, mobility, volume, or concentration of a contaminant in soil and groundwater. Often misconstrued as "do-nothing", under proper conditions, these processes can be effective in containing and remediating such contamination in a time frame comparable to other alternatives.

Chlorinated ethene compounds, such as PCE and TCE, can be progressively dechlorinated via reductive dechlorination. If sufficient electron donors and appropriate microorganisms are present, complete reductive dechlorination of the highly chlorinated compounds may occur. During this process, the chlorine atoms are replaced by hydrogen, resulting in compounds with reduced carbon and less chlorine. Therefore, the chlorinated solvent is acting as an electron acceptor and needs other carbon substrates to act as electron donors. As such, PCE degrades to TCE which subsequently degrades to DCE, with the cis isomer (cis-1, 2-DCE) predominant over the trans isomer, then VC and, ultimately, ethene and carbon dioxide as shown below (Chapelle 1993; Wiedemeier *et al.* 1998). The complete degradation of PCE and TCE is favored by sequential anoxic/oxic conditions (Chapelle 1996).

PCE(C_2Cl_4)-->TCE (C_2HCl_3)-->DCE(C_2H2Cl_2)-->VC(C_2H_3Cl)-->Ethene (C_2H_4)--> CO_2

Biodegradation of chlorinated hydrocarbon compounds may occur through three different pathways, which are described as below:

Electron Acceptor Reactions – this process involves a reductive dechlorination reaction, during which the chlorinated hydrocarbon compound serves as electron acceptor, and a chlorine atom is replaced by a hydrogen atom. Concurrent with the degradation of the chlorinated hydrocarbon compound, the accumulation of less chlorinated daughter products and an increase of chloride ions will occur. Generally, the more chlorinated compounds are more susceptible to reductive dechlorination. For instance, TCE is the more susceptible to reductive dechlorination, followed by cis 1,2 DCE and then vinyl chloride (USGS, 2002). Reductive dechlorination can occur under a range of reducing conditions, however, it occurs more rapidly under sulfate reducing and methanogenic conditions, as opposed to nitrate reducing and iron reducing conditions (Bouwer 1994). Sufficient source of electron donors must be available to sustain microbial activity. This could be anthropogenic carbon such as petroleum hydrocarbons (i.e., BTEX etc.), landfill leachate rich in organic content, or natural organic matter.

Electron Donor Reactions – This process involves the transfer of electrons either from less chlorinated hydrocarbon such as vinyl chloride under aerobic and some anaerobic conditions. The reactions provide energy for microorganism growth and reproduction. It is generally believed that PCE and TCE do not participate in such reactions as microorganisms cannot gain enough energy to sustain growth. As daughter products of PCE and TCE degradation (cis 1,2 DCE and vinyl chloride) occurring at source area (often associated with more reducing conditions) are transported downgradient to less reducing conditions or even aerobic conditions by groundwater flow, they can be degraded through this pathway.

Cometabolism - This process involves the fortuitous degradation of a chlorinated ethenes catalyzed by an enzyme or cofactor that is produced by microorganisms for other purposes.

5.5.2 Natural Attenuation Evaluation

The US Department of the Navy document, *Technical Guidelines for Evaluating Monitored Natural Attenuation of Petroleum Hydrocarbons and Chlorinated Solvents in Ground Water at Naval and Marine Corps Facilities* (Navy 1998), provides guidelines for assessing the potential for natural attenuation at Sites. The USEPA document (1998) *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water* is also useful. The following information helps to evaluate the occurrence of natural attenuation.

- Change in contaminant mass over time
- Presence/absence of degradation byproducts
- Suitable geochemical (ReDox) conditions
- Available carbon (e.g, electron donor)

During the March 2012 sampling event, natural attenuation indicator parameters were collected and analyzed in order to evaluate whether the subsurface conditions are conducive to in-situ natural degradation of the chlorinated hydrocarbon compounds over time. The natural attenuation indicator parameters that were collected from all the monitoring wells include pH, specific conductivity, DO, temperature, oxidation reduction potential (Eh/ORP), and ferrous ion. The natural attenuation indicator parameters that were collected and sent off-site for laboratory analysis include alkalinity as calcium carbonate, nitrate/nitrite, chloride, sulfate, TOC, MEE.

Table 5-2 provides a summary of the natural attenuation indicator parameters collected from monitoring wells for analysis and an explanation of each parameter's significance. Concentrations of the indicator compounds are also listed to show the presence/absence of daughter products. The concentrations are presented by moles instead of by weight; this allows a direct evaluation of the amount of degradation that has occurred.

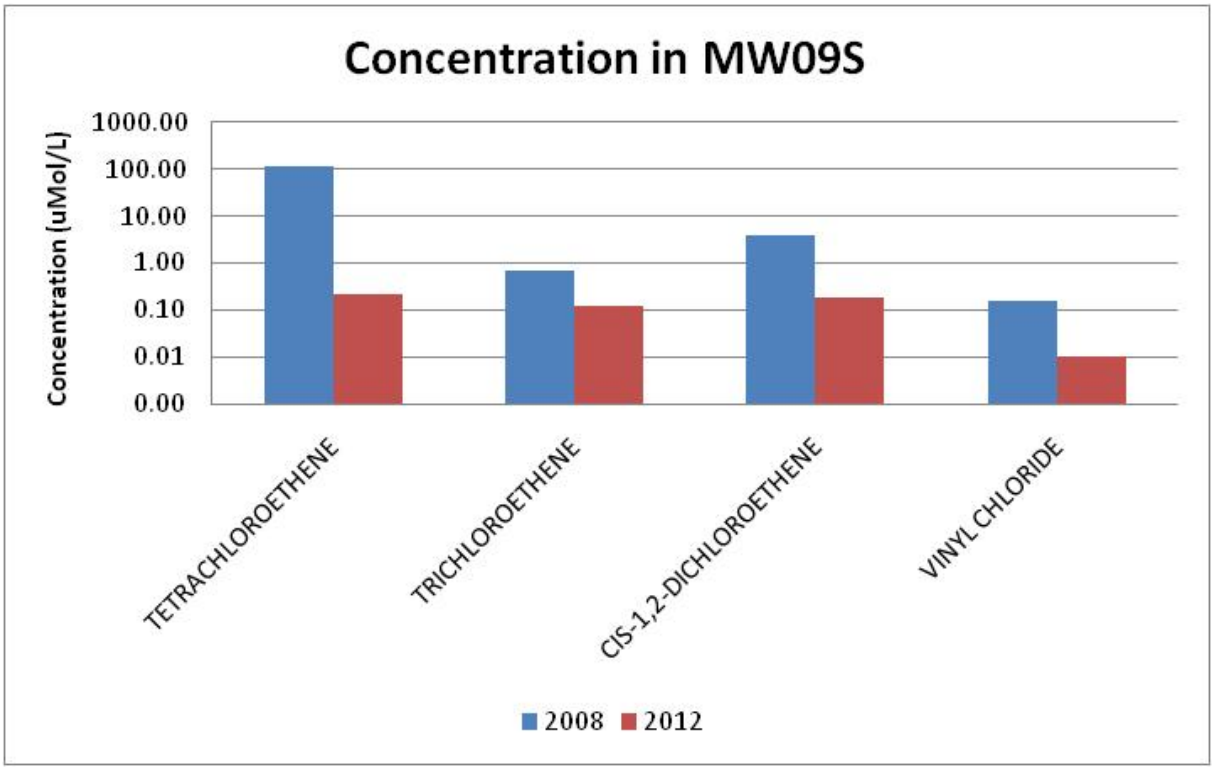
Table 5-3 presents the results of the natural attenuation analysis in different zones of the site. Degradation products of PCE were detected in all the wells where contamination was detected, indicating that at least some degree of reductive dechlorination of PCE has occurred in the past. ReDox conditions varied across the site and according to depth. In general, the most favorable conditions for the reductive dechlorination of PCE and TCE (methanogenic conditions) were identified

in the very shallow wells, MW01, 02, 03, and 04. The remaining wells showed either aerobic or nitrate reducing conditions, redox conditions that are considered unfavorable for natural attenuation of PCE and TCE, but where cis-1,2-DCE and VC are known to be slowly degradable.

Reductive dechlorination requires an organic carbon substrate to be effective. At the site, there is a general relationship evident between the amount of total organic carbon measured and methanogenic conditions. The very shallow wells show high organic carbon and methanogenic conditions, whereas no organic carbon was detected in the deep wells, and more oxidizing conditions are dominant. This indicates that the presence of measured total organic carbon is a proxy for suitable conditions for reductive dechlorination. There is generally a low amount of organic carbon in groundwater at the site. Of particular concern is the lack of measurable carbon in the downgradient well MW09S. The lack of available carbon could limit the future microbial reductive dechlorination of contaminants at the site.

Another line of evidence for natural attenuation is to verify if the plume has been expanding over time. Exhibit 5-A, below, shows the molar concentrations of the indicator contaminants as measured in 2008 and in 2012 (log scale) in the downgradient well MW09S. All four of the indicator compounds showed a decrease in concentration of between one and three orders of magnitude. It should be noted that just two monitoring rounds is too few to fully evaluate trends in concentration. Furthermore, volatilization, dilution, and dispersion can also cause effective decreases in concentration over time, as well as abiotic degradation of VOCs. It is unknown what contribution these other attenuation mechanisms are making to mass reduction.

Exhibit 5-A. Change in Concentrations in MW09S between 2008 and 2012



5.5.3 Summary of the Evaluation of Natural Attenuation

Across the site, the presence of cis-1,2-DCE and VC indicates that dechlorination of PCE has at least occurred at some point in the past. Based on the 2012 round of data, it appears that the more favorable conditions for natural attenuation of PCE and TCE are present in the shallowest parts of the aquifer. Moving deeper into the aquifer and also downgradient, conditions become more oxidizing. This means that conditions are not very suitable for microbial degradation of the parent products, but potentially the daughter products cis-1,2-DCE and VC can be degraded in these areas to non-toxic byproducts.

The relative lack of organic carbon and the less reducing conditions in the more contaminated depths of the aquifer indicate that further microbial reductive dechlorination of PCE and TCE could be limited. Given the finite amount of carbon in the pre-release subsurface,one would expect declining rates of attenuation over time as the available carbon was utilized. Dilution and dispersion also lead to decreasing concentrations. Volatilization and abiotic degradationare other attenuation mechanisms that may be causing the observed concentration reductions.

The monitoring data from 2008 and from 2012 indicate that dissolved phase concentrations in subsurface areas lateral, downgradient, and vertical to the source area are decreasing. More data would be needed to determine if these decreasing concentrations are a temporal trend.

5.6 Conceptual Site Model

5.6.1 Physical Setting

Groundwater at the site is found at an elevation of approximately 19 feet amsl, which corresponds to a relatively thin vadose zone of between three and nine feet thick. The geology at the site is characterized by a heterogeneous mix of soil types above 35 feet bgs, and a relatively homogenous sand or silty sand below 35 feet bgs. The top heterogeneous unit consists of glacial deposits of various permutations of clay, silt, and sand. The unit has relatively low hydraulic conductivity (less than 0.5 feet per day). Due to its more sandy composition, the unit below 35 feet bgs has much higher hydraulic conductivity (greater than 30 feet per day). In the shallow stratum, groundwater flows in a north/northwestern direction from the former Paul Miller building; in the deeper stratum, groundwater flows to the northeast, eventually discharging into Kill Van Kull approximately one mile distant. Figures 3-1 through 3-4 display the general geology of the site in cross section and the potentiometric surfaces.

5.6.2 Contaminant Sources, Migration Pathways, and Fate

High concentrations of VOCs indicative of DNAPL (e.g., aqueous concentrations greater than 1% of the solubility of PCE) were found at multiple locations around the former Paul Miller Dry Cleaners building. This data indicates that waste PCE from the dry cleaning facility may have been disposed of onto the ground in multiple locations under and around the building.

Once in the subsurface, much of the PCE moved by gravity as DNAPL downward through the vadose and saturated zones. Further downward NAPL travel was impeded by locally stratified and less permeable clays and tight silts in the glacial deposits in the upper 35 feet.

NAPL accumulated on top of and between these deposits and is likely still present (as confirmed by the S series monitoring wells and MIP results). NAPL also spilled over the edges of the deposits and continued to travel deeper into the aquifer. Over time, the following processes have likely occurred:

- a portion of the contaminant mass diffused into the clay and silt matrices in the top 35 feet;
- a portion volatilized and rose into the vadose zone and to the surface;
- a portion was diluted by groundwater in the top 35 feet; and
- a portion continued to travel downward into the more homogenous sand below 35 feet, and potentially down to bedrock.

The sum of these actions has resulted in a decrease in the volume of DNAPL in the subsurface below the points of disposal over time, and distribution of dissolved phase mass across different geological matrices.

Since the geology is heterogeneous in the top 35 feet, dissolved phase contamination migrates along preferential pathways with higher hydraulic conductivity. Dilution of the residual DNAPL and back-diffusion of dissolved contaminants from the silt and clay matrices are serving as continual sources of dissolved phase groundwater contamination. The observed heterogeneity means that the mass flux at different elevations in the upper 35 feet of the subsurface and rates of diffusion into and out of the less permeable soils will vary considerably.

DNAPL that continued downward has likely been diluted by groundwater in the sandy stratum. Groundwater travels northeast in this stratum. Dissolved contamination will be carried downgradient by advection. Minimal retardation is expected given the low expected fraction organic carbon in this sandy unit. The sample results from the well immediately downgradient of the Paul Miller building (MW-13D) reinforce this assertion: 6,300 JD ug/L of PCE in 2008 and non-detect in 2012, indicating that mass is not being retained in the unit. It is also possible that DNAPL has sunk further until another low-permeability layer such as bedrock was encountered. Bedrock is expected in this area at a depth of over 100 feet bgs. No wells were screened on top of bedrock, and thus the occurrence of DNAPL here is unknown.

Biodegradation has occurred to varying degrees across the site. The presence of degradation byproducts of PCE indicate that microbial degradation has occurred at some point in the past. The measured geochemistry of the site indicates that the most favorable conditions for natural attenuation of PCE and TCE are present in the shallowest parts of the aquifer (methanogenic redox conditions and available carbon). Moving deeper in the glacial deposits and into the deeper sand stratum, conditions become more oxidizing and less conducive to microbial degradation. Further biodegradation is potentially limited at the site by the lack of available carbon for microbial growth. Overall, the sample results in 2012 appeared to show a decrease in concentrations across most of the wells compared to 2008 data. This observed reduction is likely due to a combination of biodegradation and dilution/dispersion.

A neighboring site, the former Charlton Cleaners, also has a known PCE contamination problem in groundwater. The former Charlton Cleaners building is approximately 300 feet northeast of the former Paul Miller drycleaners building. Based on the Charlton Cleaners RI (LBG 2006), the southwestern extent of Charlton Cleaners contamination does not appear to be fully delineated, especially in the heterogeneous soil above 35ft bgs. The 30 foot bgs potentiometric surface for the

Paul Miller site (Figure 3-3) indicates that groundwater from the Charlton Cleaners may be flowing in part towards Paul Miller. The two PCE plumes may potentially comingle in the immediate vicinity northeast of the Paul Miller site near well MW-10S. The potential plume commingling area is shown on Figure 4-10.

5.6.3 Receptors

No users of groundwater potentially impacted by releases from the former Paul Miller Dry Cleaners have been identified. The 2009 RI (CDM, 2009) identified indoor air and sub-slab vapor concentrations that warrant mitigation. Workers and customers of the current site tenant are therefore potential receptors.

Section 6

Conclusions and Recommendations

This section presents the conclusions and recommendations, which are based upon the analytical results of the soil and groundwater sampling and the MIP investigation.

6.1 Conclusions

6.1.1 Soil

Based upon the results of this investigation, contamination in soil is not the primary concern at the site. No residual source materials were identified in the vadose zone that could be still contributing to the groundwater contamination at the site. PCE and its associated breakdown products were not detected above the Unrestricted Use SCGs in any soil samples collected from above the water table.

6.1.2 Groundwater

Groundwater concentrations exceeding screening criteria at the site consist primarily of PCE and its associated daughter products: TCE, cis-1,2-DCE, and VC. Concentrations detected in samples from monitoring wells and groundwater screening samples east, south, and west of the building indicate the potential presence of NAPL.

The horizontal distribution of dissolved phase contamination in the shallow zone above 35 feet bgs is illustrated on Figure 4-10. The MIP and monitoring well investigation results indicate that contamination extends from MIP5 and MIP6 in the south area of the site to MIP5B to the west, MW13S to the east, MIP1 to the northwest, MIP2 to the north, and MW10S to the northeast. The extent of contamination has been delineated with either groundwater sample results below SCGs or MIP results indicating a lack of contamination in the four directions around the site building. It should be noted that MIP readings were used to discern the presence or absence of contamination in areas where there are not any wells. However, since the MIP tool is qualititative and does not provide quantitative measurements of contaminant concentrations like groundwater samples do, the delineation provided by these locations is an estimate. While the quality of data and degree of estimation is sufficient to conclude that the extent of contamination on and off site has been adequately defined for the purposes of developing remedial alternatives, additional monitoring well installation may be considered during the remedial design if additional quantitative data is deemed necessary.

There was only one detection of PCE at 5 µg/L in the deep wells screened in the sandy stratum below 35 feet bgs. It is likely that due to the high transmissivity of this unit, dissolved phase contamination entering the sandy stratum is diluted and dispersed quickly. A MIP result (MIP-4C) northeast of the building indicated potential contamination in this stratum. However, the Charlton Cleaners site is in this area; the Paul Miller plume and the Charlton Cleaners plume may potentially be commingling in this area (Figure 4-10). Based on the current and historic distribution of contamination at the Site and the transmissivity of the sandy unit below 35 feet, there is no evidence that DNAPL saturated the overburden aquifer and collected above the bedrock. However, no confirmatory samples were collected above the bedrock.

6.1.3 Soil Vapor and Indoor Air

Passive air sampling badges placed in the bank building to the west of the former Paul Miller dry cleaners site for 24 hours did not detect PCE contamination. Given the extent of the plume and the groundwater flow directions determined in this RI, the bank building is not expected to be impacted by the Paul Miller PCE plume. No sampling was conducted at the other adjacent building, the Kentucky Fried Chicken restaurant to the east, because the property owner refused access.

6.2 Recommendations

Based on the findings of the RI, no additional data or activities will be required prior to FS development. However, the following additional activities may be needed to complete a remedial design for the site:

- Continued monitoring of the indoor air for the two adjacent buildings
- Additional delineation is recommended to characterize the potential commingling of the Charlton Cleaners plume and the former Paul Miller Dry Cleaners plume. A recommended approach to this activity would involve developing a potentiometric surface that encompasses both sites, compound-specific isotope analysis to differentiate the contributions of each source to mass in the commingling zone, and additional groundwater screening and/or monitoring well installation and sampling.

Section 7
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Tables

Table 2-1
Membrane Interface Probe Confirmatory Soil Sample Summary
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

Sample ID	Sample Location	Sample Depth (ft bgs)	Date	Time	Notes
80230-MIP-5C-36.5	MIP-5C	36.5	6/24/2011	9:19	
80230-MIP-6B-42.5	MIP-6B	42.5	6/24/2011	10:57	
80230-MW-12S-35	MW-12S	35	6/24/2011	14:37	
80230-DUP3-SO	MIP-6B	50	6/24/2011	21:00	Duplicate of 80230-MIP-6B-42.5
80230-MIP-4C-41	MIP-4C	41	6/17/2011	10:20	
80230-MIP-4B-45	MIP-4B	45	6/17/2011	12:25	MS/MSD
80230-MIP-2C-35	MIP-2C	35	6/16/2011	15:25	
80230-MIP-5E-16	MIP-5E	16	6/16/2011	16:18	
80230-MIP-3-30	MIP-3	30	5/25/2011	9:45	
80230-MIP-1B-14	MIP-1B	14	5/25/2011	12:40	
80230-MIP-5B-22	MIP-5B	22	5/25/2011	15:00	MS/MSD
80230-DUP1-SO	MIP-3	30	5/25/2011	24:00	Duplicate of 80230-MIP-3-30
80230-MIP-3B-45	MIP-3B	45	5/26/2011	9:20	MS/MSD
80230-MIP-2B-40	MIP-2B	40	5/26/2011	10:30	
80230-MIP-1D-37.5	MIP-1D	37.5	5/26/2011	11:40	
80230-MIP-1C-26	MIP-1C	26	5/26/2011	12:25	
80230-MIP-5-11	MIP-5	11	5/24/2011	12:50	
80230-MIP-5-30	MIP-5	30	5/24/2011	13:07	
80230-MIP-1-16.5	MIP-1	16.5	5/24/2011	15:35	
80230-MIP-2-30	MIP-2	30	5/24/2011	16:45	
80230-MIP-6-30	MIP-6	30	5/23/2011	14:00	
80230-MIP-7-38	MIP-7	38	5/23/2011	12:05	
80230-DUP1-SO	MIP-7	38	5/23/2011	19:00	Duplicate of 80230-MIP-7-28
80230-MIP-6-10	MIP-6	10	5/23/2011	13:35	

Notes:

ID - identification

ft bgs - feet below ground surface

MIP = Membrane Interface Probe

MS/MSD - matrix spike/matrix spike duplicate

Table 2-2
Membrane Interface Probe Confirmatory Groundwater Sample Summary
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

Sample ID	Sample Location	Sample Depth (ft bgs)	Date	Time	Notes
80230-GW-MIP-5-15	MIP-5	15	5/24/2011	12:10	
80230-DUP1-GW	MIP-5	15	5/24/2011	18:00	Duplicate of 80230-GW-MIP-5-15
80230-GW-MIP-5-28	MIP-5	28	5/24/2011	10:55	MS/MSD
80230-GW-MIP-6-33.5	MIP-6	33.5	5/23/2011	16:53	
80230-GW-MIP-6-15	MIP-6	15	5/23/2011	17:30	

Notes:

ID - identification

ft bgs - feet below ground surface

MS/MSD - matrix spike/matrix spike duplicate

MIP = Membrane Interface Probe

Table 2-3
Sub-slab Soil Sample Summary
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

Sample ID	Sample Location	Sample Depth (ft bgs)	Date	Time	Notes
PM-SB-7-B-1112011	SB-7	12.5	11/2/2011	13:55	
PM-SB-1B-B-1112011	SB-1B	6	11/2/2011	11:17	
PM-SB-1B-A-1112011	SB-1B	0.5	11/2/2011	11:10	
PM-SB-99-1112011	SB-1B	0.5	11/2/2011	11:10	Duplicate of PM-SB-1b-A-1112011
PM-SB-6-A-1112011	SB-6	0.5	11/1/2011	13:30	
PM-SB-6-B-1112011	SB-6	5	11/1/2011	13:34	
PM-SB-1A-A-1112011	SB-1A	0.5	11/1/2012	11:17	
PM-SB-1A-B-1112011	SB-1A	5	11/1/2012	11:22	
PM-SB-2-A-1112011	SB-2	0.5	11/1/2012	10:55	
PM-SB-2-B-1112011	SB-2	5	11/1/2012	11:03	
PM-SB-3-A-1112011	SB-3	0.5	11/1/2012	12:17	
PM-SB-4-A-1112011	SB-4	0.5	11/1/2012	12:15	
PM-SB-5-A-1112011	SB-5	0.5	11/1/2012	12:33	MS/MSD
PM-SB-5-B-1112011	SB-5	6	11/1/2012	12:35	

Notes:

ID - identification

ft bgs - feet below ground surface

MS/MSD - matrix spike/matrix spike duplicate

SB = soil boring

Table 2-4
Sub-slab Groundwater Sample Summary
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

Sample ID	Sample Location	Sample Depth (ft bgs)	Date	Time	Notes
PM-GWS-5-110311	SB-5	8-9	11/3/2011	11:20	
PM-GWS-6-110311	SB-6	8-9	11/3/2011	10:45	
PM-GWS-99-110311	SB-1A	8-9	11/3/2011	9:50	duplicate of PM-GWS-1A-110311
PM-GWS-1A-110311	SB-1A	8-9	11/3/2011	9:50	
PM-GWS-7-110211	SB-7	12.5	11/2/2011	15:10	
PM-GWS-1B-110211	SB-1B	8-9	11/2/2011	14:15	
PM-GWS-2-110211	SB-2	8-9	11/2/2011	12:30	

Notes:

ID - identification

ft bgs - feet below ground surface

MS/MSD - matrix spike/matrix spike duplicate

GWS = Groundwater screening

Table 2-5
Monitoring Well Sample Summary
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

Sample ID	Sample Location	Sample Depth (ft bgs)	Date	Time	Notes
80230-MW09D-030512	MW-09D	65	3/5/2012	10:50	MS/MSD
80230-MW09S-030512	MW-09S	30	3/5/2012	10:55	
80230-MW10D-030512	MW-10D	65	3/5/2012	13:45	
80230-MW10S-030512	MW-10S	27	3/5/2012	14:00	
80230-MW16S-030612	MW-16S	30	3/6/2012	9:15	
80230-MW01-030612	MW-01	13	3/6/2012	9:10	
80230-MW04-030612	MW-04	9	3/6/2012	12:10	
80230-MW02-030612	MW-02	9	3/6/2012	12:00	
80230-MW15D-030712	MW-15D	65	3/7/2012	8:55	
80230-MW13S-030712	MW-13S	30	3/7/2012	9:20	
80230-MW13D-030712	MW-13D	65	3/7/2012	9:10	
80230-MW08S-030712	MW-08S	30	3/7/2012	11:40	
80230-MW03-030712	MW-03	10	3/7/2012	11:50	
80230-MW11D-030812	MW-11D	65	3/8/2012	9:00	
80230-MW14S-030812	MW-14S	29	3/8/2012	9:00	
80230-MW11S-030812	MW-11S	30	3/8/2012	9:25	
80230-MW12S-030812	MW-12S	30	3/8/2012	11:15	
80230-MW112S-030812	MW-12S	30	3/8/2012	11:15	Duplicate of 80230-MW-12S-030812

Notes:

Sample depth is the middle of the screen

ID - identification

ft bgs - feet below ground surface

MS/MSD - matrix spike/matrix spike duplicate

MW = Monitoring Well

Table 2-6
Groundwater Elevations March 2012
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

Well Name	Northing	Easting	Screen top (ft bgs)	Screen bottom (ft bgs)	Measuring Point Elevations (feet amsl)	Depth to Water (feet bgs)	GW Elevation (Feet amsl)
MW-1	166800.81	946094.63	10	20	28.46	8.94	19.52
MW-2	166999.07	946080.65	5	15	23.96	3.41	20.55
MW-3	166953.80	946095.78	6	16	25.36	3.60	21.76
MW-4	166998.25	946118.12	4	14	24.65	3.56	21.09
MW-8S	166857.43	946018.44	25	35	26.24	7.00	19.24
MW-9S	167042.86	946053.45	25	35	23.3	4.30	19.00
MW-9D	167039.68	946056.62	60	70	23.37	4.32	19.05
MW-10S	167032.46	946144.29	22	32	23.89	4.55	19.34
MW-10D	167035.28	946141.10	60	70	24.36	5.40	18.96
MW-11S	166952.51	946150.01	25	35	25.1	6.00	19.10
MW-11D	166951.23	946144.21	60	70	25.02	5.95	19.07
MW-12S	166927.43	946128.12	25	35	25.24	6.13	19.11
MW-13S	166941.34	946167.86	25	35	27.47	8.40	19.07
MW-13D	166942.04	946170.55	60	70	27.35	8.28	19.07
MW-14S	166880.06	946133.46	24	34	26.26	6.70	19.56
MW-15D	166886.17	946144.74	60	70	25.85	6.68	19.17
MW-16S	166776.64	946099.45	25	35	28.93	9.34	19.59

Notes:

ID - identification

ft amsl - feet above mean sea level

ft bgs - feet below ground surface

GW - groundwater

MW = monitoring well

Table 2-7
Air Sample Summary
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

Sample Name	Sample Location	Date	Exposure Duration	Notes
PMBANK1	Basement	3/10/2011	24 hr	
PMBANBKDUP	Basement	3/10/2011	24 hr	Duplicate of PMBANK
PMAMBAIR	Drive Through	3/10/2011	24 hr	

Table 3-1
Slug Test Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

Location	Test	Stickup (ft)	Total Well Depth (ft bgs)	Well Depth (ft bgs)	Depth to Water (ft TIC)	Aquifer Base (ft bgs)	Aquifer Thickness (ft)	Top of Screen (ft bgs)	Depth to top of Screen from water level (ft)	Screen Length (ft)	Effective Screen Length (ft)	K (ft/day)	Method	Remarks	Strata Notes (from well installation logs)
MW-8S	FH	0	35	35	7.49	70	62.51	25	17.51	10	10	0.62	Bouwer & Rice		Fine sand, loose sand gravel; clayey layers; blow counts 20s-30s; max 50/2"
MW-8S	FH - manual fit	0	35	35	7.49	70	62.51	25	17.51	10	10	0.70	Bouwer & Rice	Preferred fit	
MW-8S	RH	0	35	35	7.49	70	62.51	25	17.51	10	10	0.54	Bouwer & Rice	Preferred fit	
MW-9S	FH	0	35	35	4.76	70	65.24	25	20.24	10	10	0.43	Bouwer & Rice	Preferred fit	Silty medium sand, low blow counts - max 20/6"
MW-9S	RH	0	35	35	4.76	70	65.24	25	20.24	10	10	0.63	Bouwer & Rice		
MW-9S	RH - manual fit	0	35	35	4.76	70	65.24	25	20.24	10	10	0.46	Bouwer & Rice		
MW-11D	FH	0	70	70	6.42	70	63.58	60	53.58	10	10	3.1	Bouwer & Rice	Preferred fit	Med-coarse sand, gravel; blow counts 23-53 per 6"
MW-11D	RH	0	70	70	6.42	70	63.58	60	53.58	10	10	4.7	Bouwer & Rice		
MW-11D	RH - manual fit	0	70	70	6.42	70	63.58	60	53.58	10	10	6.66	Bouwer & Rice	Preferred fit	
MW-12S	FH	0	35	35	6.63	70	63.37	25	18.37	10	10	3.6	Bouwer & Rice	Preferred fit	Dense sand, silt, blow counts generally 22-60 per 6", max 50/2"
MW-12S	RH	0	35	35	6.63	70	63.37	25	18.37	10	10	2.3	Bouwer & Rice		
MW-12S	RH - manual fit	0	35	35	6.63	70	63.37	25	18.37	10	10	3.8	Bouwer & Rice	Preferred fit	
MW-13S	FH	0	35	35	8.89	70	61.11	25	16.11	10	10	4.9	Bouwer & Rice	Preferred fit	Loose fine sand; silty, gravelly; Low blow counts - max 23 per 6"
MW-13S	RH	0	35	35	8.89	70	61.11	25	16.11	10	10	2.6	Bouwer & Rice		
MW-13S	RH - manual fit	0	35	35	8.89	70	61.11	25	16.11	10	10	4.1	Bouwer & Rice	Preferred fit	
MW-14S	FH	0	34	34	7.75	70	62.25	24	16.25	10	10	0.07	Bouwer & Rice		Silty sand, sandy silt; blow counts primarily 30s-40s per 6", up to 50/3"
MW-14S	FH - manual	0	34	34	7.75	70	62.25	24	16.25	10	10	0.05	Bouwer & Rice	Preferred fit	
MW-14S	RH	0	34	34	7.75	70	62.25	24	16.25	10	10	0.07	Bouwer & Rice		
MW-14S	RH - manual fit	0	34	34	7.75	70	62.25	24	16.25	10	10	0.05	Bouwer & Rice	Preferred fit	
MW-15D	FH	0	70	70	7.15	70	62.85	60	52.85	10	10	69.0	Springer-Gelhar	Preferred Test	Medium sand, low blow counts; maximum 15 per 6"
MW-15D	RH	0	70	70	7.15	70	62.85	60	52.85	10	10	59.5	Springer-Gelhar	Preferred Test	
MW-15D	FH2	0	70	70	7.15	70	62.85	60	52.85	10	10	38.7	Springer-Gelhar	Slow insertion	
MW-15D	RH2	0	70	70	7.15	70	62.85	60	52.85	10	10	37.1	Springer-Gelhar	Slow insertion	
MW-16S	FH	0	35	35	9.82	70	60.18	25	15.18	10	10	0.22	Bouwer & Rice	Preferred fit	Fine sand, silty sand; wet layers, dense layers; low blow counts - max 17 per 6"
MW-16S	RH	0	35	35	9.82	70	60.18	25	15.18	10	10	0.17	Bouwer & Rice	Preferred fit	

Notes:
ft - feet
K - hydraulic conductivity
TIC - measurement from top of inner casing
bgs - below ground surface
RH - rising head
FH - falling head

Table 4-1
MIP Soil Screening Results - Detections
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MIP1-16.5	80230-MIP1B-14	80230-MIP1C-26	80230-MIP1D-37.5	80230-MIP2-30	80230-MIP2B-40	80230-MIP2C-35	80230-MIP3-30	80230-DUP2-SO	80230-MIP3B-45
		Sample Location	MIP-1	MIP-1B	MIP-1C	MIP-1D	MIP-2	MIP-2B	MIP-2C	MIP-3	MIP-3	MIP-3B
		Depth	16.5	14	26	37.5	30	40	35	30	30	45
		Sampling Date	05/24/2011	05/25/2011	05/26/2011	05/26/2011	05/24/2011	05/26/2011	06/16/2011	05/25/2011	05/25/2011	05/26/2011
Chemical	**CAS#**	**NYSDEC Unrestricted Use Soil Cleanup Objectives (1)**	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Volatiles (µg/kg)												
1,2-Dichloropropane	78-87-5	NL							3.9 J			
Acetone	67-64-1	50		R				4.3 J			R	R
Cis-1,2-Dichloroethene	156-59-2	250		1.3 J			1.5 J		55	5.4	2.3 J	
Methylene Chloride	75-09-2	50	2.4 J				2.6 J					1.7 J
Naphthalene	91-20-3	12000										
Tetrachloroethene	127-18-4	1300	8.1				53		**1900** J	6.4	2.2 J	
Trichloroethene	79-01-6	470							7	1.9 J		
Semi-Volatiles (µg/kg)												
Benzo(a)Anthracene	56-55-3	1000										
Benzo(a)Pyrene	50-32-8	1000										
Benzo(b)Fluoranthene	205-99-2	1000										
Benzo(g,h,i)Perylene	191-24-2	100000										
Benzo(k)Fluoranthene	207-08-9	800										
Bis(2-ethylhexyl)Phthalate	117-81-7	NL	360 J				160 J		48 J			
Chrysene	218-01-9	1000										
Dibenzo(a,h)Anthracene	53-70-3	330										
Fluoranthene	206-44-0	100000			50 J	55 J						
Indeno(1,2,3-cd)Pyrene	193-39-5	500										
Phenanthrene	85-01-8	100000										
Pyrene	129-00-0	100000			37 J	45 J						
Inorganics (mg/kg)												
Aluminum	7429-90-5	NL		10800		5510		3260	4530			3910
Antimony	7440-36-0	NL				0.35 BNJ						0.52 BNJ
Arsenic	7440-38-2	13		2.4 J		2.4 J		1.7 J	1.5			3.6 J
Barium	7440-39-3	350		81.2		69.3 J		59.1 J	34.9			60.1 J
Beryllium	7440-41-7	7.2		0.86		0.59		0.25 B	0.44			0.29
Cadmium	7440-43-9	2.5		0.18 B		0.2		0.071 B				0.11 B
Calcium	7440-70-2	NL		2900		947		905	2000			926
Chromium	7440-47-3	**30**		26.3 J		16.3		11.3	11.1			11
Cobalt	7440-48-4	NL		11.2 J		6.4 J		5.6 J	5.1			4.9 J
Copper	7440-50-8	50		30.3 J		16.4 J		10.9 J	**188**			10.9 J
Iron	7439-89-6	NL		15600 J		16200 J		11700 J	11400			12200 J
Lead	7439-92-1	63		24.4		6.2		2.8	4.8			2.7
Magnesium	7439-95-4	NL		5820 J		3230		1680	1900			1860
Manganese	7439-96-5	1600		194		336 J		267 J	205			375 J
Mercury	7439-97-6	0.18		0.005 B								
Nickel	7440-02-0	**30**		**31**		14.7		7.6	8.5			7.7
Potassium	7440-09-7	NL		1950 J		1170		399	621			450
Selenium	7782-49-2	3.9		0.51 B		0.57 B						
Sodium	7440-23-5	NL		720 J		90.3		61.5	72.9			60.2
Thallium	7440-28-0	NL		2.8		1.3		1.2				1.1
Vanadium	7440-62-2	NL		39.3 J		23.8 J		22.8 J	18.2			19.9 J
Zinc	7440-66-6	109		61.3 J		30.2		13.8	19.7			17.5
Miscellaneous												
Moisture (%)	MOIST	NL	14	11	10	8 J	7.4 J	15	20	9.5 J	9.9 J	14

Notes:

ID - identification
NL - not listed
µg/kg - milligrams per kilogram

mg/kg - milligrams per kilogram

Indicates exceedance

1. New York State Register and Official Compilation of Codes, Rules and Regulations of the State of New York - Chapter IV - Quality Services - Subpart 375-6: Remedial Program Soil Cleanup Objectives (6 NYCRR Part 375-6.8 (a)), December 14, 2006

Laboratory Data Qualifiers

U - The compound was not detected at the indicated concentration.
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

E (Inorganics) - The reported value is estimated because of the presence of interference.

N - Spiked sample recovery not within control limits

Table 4-1
MIP Soil Screening Results - Detections
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MIP4B-45		80230-MIP4C-41		80230-MIP5-11		80230-MIP5-30		80230-MIP5B-22		80230-MIP5E-16		80230-MIP6-10		80230-MIP6-30		80230-MIP6B-42.5		80230-DUP3-SO		80230-MIP7-38		80230-DUP1-SO	
		Sample Location	MIP-4B		MIP-4C		MIP-5		MIP-5		MIP-5B		MIP-5E		MIP-6		MIP-6		MIP-6B		MIP-6B		MIP-7		MIP-7	
		Depth	45		41		11		30		22		16		10		30		42.5				38		38	
		Sampling Date	6/17/2011		6/17/2011		05/24/2011		05/24/2011		05/25/2011		06/16/2011		05/23/2011		05/23/2011		06/24/2011		06/24/2011		05/23/2011		05/23/2011	
Chemical	**CAS#**	**NYSDEC Unrestricted Use Soil Cleanup Objectives (1)**	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	
Volatiles (µg/kg)																										
1,2-Dichloropropane	78-87-5	NL	2.8	J	2.9	J							2.5	J												
Acetone	67-64-1	50										R														
Cis-1,2-Dichloroethene	156-59-2	250																								
Methylene Chloride	75-09-2	50	1.9	J			2.6	J	1.9	J					2	J	1.9	J					1.7	J	2.1	J
Naphthalene	91-20-3	12000																			1.3	J				
Tetrachloroethene	127-18-4	1300			47	JB	6		18		16		4.7	J	3.1	J	4	J			1.6	J				
Trichloroethene	79-01-6	470																								
Semi-Volatiles (µg/kg)																										
Benzo(a)Anthracene	56-55-3	1000																					48	J	150	J
Benzo(a)Pyrene	50-32-8	1000																					59	J	180	J
Benzo(b)Fluoranthene	205-99-2	1000																					100	J	280	J
Benzo(g,h,i)Perylene	191-24-2	100000																					61	J	160	J
Benzo(k)Fluoranthene	207-08-9	800																							120	J
Bis(2-ethylhexyl)Phthalate	117-81-7	NL					160	J					68	J	50	J	54	J					74	J	69	J
Chrysene	218-01-9	1000																					100	J	260	J
Dibenzo(a,h)Anthracene	53-70-3	330																							38	J
Fluoranthene	206-44-0	100000																					130	J	350	J
Indeno(1,2,3-cd)Pyrene	193-39-5	500																					46	J	120	J
Phenanthrene	85-01-8	100000																					37	J	83	J
Pyrene	129-00-0	100000																					95	J	250	J
Inorganics (mg/kg)																										
Aluminum	7429-90-5	NL									5060		7990													
Antimony	7440-36-0	NL									0.34	BNJ														
Arsenic	7440-38-2	13									2.8	J	3.7													
Barium	7440-39-3	350									45.5		62.6													
Beryllium	7440-41-7	7.2									0.47		0.9													
Cadmium	7440-43-9	2.5									0.17															
Calcium	7440-70-2	NL									1130		2970													
Chromium	7440-47-3	**30**									**34**	J	18.3													
Cobalt	7440-48-4	NL									11.8	J	8.4													
Copper	7440-50-8	50									10.8	J	10.8													
Iron	7439-89-6	NL									15200	J	18900													
Lead	7439-92-1	63									8		12.4													
Magnesium	7439-95-4	NL									2890	J	4980													
Manganese	7439-96-5	1600									348		652													
Mercury	7439-97-6	0.18																								
Nickel	7440-02-0	**30**									**77.9**		19.4													
Potassium	7440-09-7	NL									953	J	1850													
Selenium	7782-49-2	3.9																								
Sodium	7440-23-5	NL									85.6	J	158													
Thallium	7440-28-0	NL									1.1															
Vanadium	7440-62-2	NL									17.8	J	24.7													
Zinc	7440-66-6	109									27.2	J	53													
Miscellaneous																										
Moisture (%)	MOIST	NL	15		14		14		7.3	J	14		14		12		14		7.3	J	7.7	J	8.5	J	11	

Notes:

ID - identification
µg/kg - milligrams per kilogram
mg/kg - milligrams per kilogram
NL - not listed
Indicates exceedance

1. New York State Register and Official Compilation of Codes, Rules and Regulations of the State of New York - Chapter IV - Quality Services - Subpart 375-6: Remedial Program Soil Cleanup Objectives (6 NYCRR Part 375-6.8 (a)), December 14, 2006

Laboratory Data Qualifiers

U - The compound was not detected at the indicated concentration.
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

E (Inorganics) - The reported value is estimated because of the presence of interference.

N - Spiked sample recovery not within control limits

Table 4-2
Sub-slab Soil Screening Results - Detections
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-1A-A-1112011		PM-SB-1A-B-1112011		PM-SB-1B-A-1122011		PM-SB-99-110211		PM-SB-1B-B-1122011		PM-SB-2-A-1112011		PM-SB-2-B-1112011	
		Sample Location	PM-SB-1A-A		PM-SB-1A-B		PM-SB-1B-A		PM-SB-1B-A-DUP		PM-SB-1B-B		PM-SB-2-A		PM-SB-2-B	
		Depth	0.5		5		0.5		0.5		6		0.5		5	
		Sampling Date	11/01/2011		11/01/2011		11/02/2011		11/02/2011		11/02/2011		11/01/2011		11/01/2011	
Chemical	**CAS#**	**NYSDEC Unrestricted Use Soil Cleanup Objectives (1)**	Result		Result		Result		Result		Result		Result		Result	
Volatiles (µg/kg)																
1,2,4-Trimethylbenzene	95-63-6	3600														
Acetone	67-64-1	50	17	J	5.3	J										
Cis-1,2-Dichloroethene	156-59-2	250			3.2	J							3.5	J	14	
Methylene Chloride	75-09-2	50					3	J			2.9	J			2	J
Naphthalene	91-20-3	12000														
Tetrachloroethene	127-18-4	1300			55	J	2.7	J	2.3	J			5.9	J	9.2	J
Toluene	108-88-3	700														
Trichloroethene	79-01-6	470			3.2	J									1.2	J
Miscellaneous																
Moisture (%)	MOIST	NL	16		11		17		19		13		16		18	

Notes:
ID - identification
µg/kg - milligrams per kilogram
mg/kg - milligrams per kilogram
NL - not listed
Indicates exceedance

1. New York State Register and Official Compilation of Codes, Rules and Regulations of the State of New York - Chapter IV - Quality Services - Subpart 375-6: Remedial Program Soil Cleanup Objectives (6 NYCRR Part 375-6.8 (a)), December 14, 2006

Laboratory Data Qualifiers
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater. The concentration given is an approximate value.

Table 4-2
Sub-slab Soil Screening Results - Detections
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-3-A-1112011		PM-SB-4-A-1112011		PM-SB-5-A-1112011		PM-SB-5-B-1112011		PM-SB-6-A-1112011		PM-SB-6-B-1112011		PM-SB-7-B-1122011	
		Sample Location	PM-SB-3-A		PM-SB-4-A		PM-SB-5-A		PM-SB-5-B		PM-SB-6-A		PM-SB-6-B		PM-SB-7-B	
		Depth	0.5		0.5		0.5		6		0.5		5		12.5	
		Sampling Date	11/01/2011		11/01/2011		11/01/2011		11/01/2011		11/01/2011		11/01/2011		11/02/2011	
Chemical	**CAS#**	**NYSDEC Unrestricted Use Soil Cleanup Objectives (1)**	Result		Result		Result		Result		Result		Result		Result	
Volatiles (µg/kg)																
1,2,4-Trimethylbenzene	95-63-6	3600			1.8	J										
Acetone	67-64-1	50			14	J										
Cis-1,2-Dichloroethene	156-59-2	250					12				12					
Methylene Chloride	75-09-2	50			5	J			3.2	J	3.8	J	3	J	2.9	J
Naphthalene	91-20-3	12000			5.8	J										
Tetrachloroethene	127-18-4	1300	22	J	16	J	110	J	4.5	J	26	J				
Toluene	108-88-3	700			3.8	J	2.3	J	1.9	J						
Trichloroethene	79-01-6	470					16	J			6.6	J				
Miscellaneous																
Moisture (%)	MOIST	NL	18		17		30		13		28		15		13	

Notes:
ID - identification
µg/kg - milligrams per kilogram
mg/kg - milligrams per kilogram
NL - not listed
Indicates exceedance

1. New York State Register and Official Compilation of Codes, Rules and Regulations of the State of New York - Chapter IV - Quality Services - Subpart 375-6: Remedial Program Soil Cleanup Objectives (6 NYCRR Part 375-6.8 (a)), December 14, 2006

Laboratory Data Qualifiers
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater. The concentration given is an approximate value.

Table 4-3
Monitoring Well Soil Results - Detections
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

			Sample ID	80230-MW12S-35
			Sample Location	MW-12S
			Depth	35
			Sampling Date	6/24/2011
Chemical	**CAS#**	**NYSDEC Unrestricted Use Soil Cleanup Objectives (1)**	Result	
Volatiles (µg/kg)				
1,2,4-Trimethylbenzene	95-63-6	3600	1.3	J
Acetone	67-64-1	50		
Cis-1,2-Dichloroethene	156-59-2	250	2.3	J
Methylene Chloride	75-09-2	50		
Naphthalene	91-20-3	12000	2.1	J
Tetrachloroethene	127-18-4	1300	1000	
Toluene	108-88-3	700		
Trichloroethene	79-01-6	470		
Miscellaneous				
Moisture (%)	MOIST	NL	12	

Notes:

ID - identification

NL - not listed

µg/kg - milligrams per kilogram

mg/kg - milligrams per kilogram

Indicates exceedance

1. New York State Register and Official Compilation of Codes, Rules and Regulations of the State of New York - Chapter IV - Quality Services - Subpart 375-6: Remedial Program Soil Cleanup Objectives (6 NYCRR Part 375-6.8 (a)), December 14, 2006

Laboratory Data Qualifiers

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater. The concentration given is an approximate value.

Table 4-4
MIP Groundwater Screening Data - Detections
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

	Sample ID	80230-GW-MIP5-15		80230-GW-MIP5-15-DUP		80230-GW-MIP5-28		80230-GW-MIP6-15		80230-GW-MIP6-33.5	
	Sample Location	MIP5		MIP5		MIP5		MIP6		MIP6	
	Depth	15				28		15		33.5	
	Sampling Date	05/24/2011		05/24/2011		05/24/2011		05/23/2011		05/23/2011	
Chemical	NEW YORK STATE CLASS GA	Result		Result		Result		Result		Result	
Volatiles (µg/L)											
1,1,2-Trichloroethane	**1**										
1,1-Dichloroethene	**5**										
1,2-Dichlorobenzene	3										
1,4-Dichlorobenzene	3										
2-Butanone (Mek)	NL										
Acetone	NL										
Carbon Disulfide	60										
Chlorobenzene	5										
Chloroform	7										
Chloromethane	5										
Cis-1,2-Dichloroethene	**5**	**780**				1.7	J	**21**		**11**	
Methyl Tert-Butyl Ether (MTBE)	NL							1.7	J		
Tetrachloroethene	**5**	**32000**	**D**	**33000**		**150**		**2100**	**D**	**380**	**D**
Toluene	5										
Trans-1,2-Dichloroethene	**5**										
Trichloroethene	**5**					2.3	J	**9**		**8.7**	
Vinyl Chloride	**2**										
Semi-Volatiles (µg/L)											
Bis(2-Ethylhexyl)Phthalate	5			1.7	J						
Diethylphthalate	NL	1.1	J								
Inorganics (µg/L)											
Aluminum	NL	516		489		492		249		714	
Barium	1000	81	B	79.2	B	92.6	BEJ	153	BEJ	114	BEJ
Calcium	NL	101000		98000		120000		111000		168000	
Chromium	50	2.4	B	2.2	B	4	B	1.9	B	11	B
Cobalt	NL	7.2	B	7.4	B	1.7	B	4.8	B	4.8	B
Copper	200	4.1	B	4	B					4.5	B
Iron	**300**	**1700**		**1600**		**1410**		**747**		**2660**	
Magnesium	NL	38100		37200		32900		64700		59100	
Manganese	**300**	**2320**		**2250**		202		**1100**		**479**	
Nickel	**100**	38.6	B	37.5	B	16.9	B	31.2	B	**118**	
Potassium	NL	6800		6790		3840		5540		4570	
Sodium	NL	138000		138000		62400		277000		120000	
Vanadium	NL	1.9	B	2.2	B	1.9	B	1.2	B	2.3	B
Zinc	NL	39.1	B	38.5	B	23.6	B	32	B	29.2	B

Notes:

ID - identification

µg/kg - milligrams per kilogram

mg/kg - milligrams per kilogram

NL - not listed

Indicates exceedance

(1) NYSDEC. June 1998. TOGS 1.1.1. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations

Laboratory Data Qualifiers

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

E (Organics) - Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.

D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

R - The reported value was rejected.

Table 4-5
Sub-slab Groundwater Screening Data - Detections
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-GWS-1A-110311		PM-GWS-1A-110311-DUP		PM-GWS-1B-1122011		PM-GWS-2-1122011		PM-GWS-5-110311		PM-GWS-6-110311		PM-GWS-7-1122011	
		Sample Location	PM-GWS-1A		PM-GWS-1A-DUP		PM-GWS-1B		PM-GWS-2		PM-GWS-5		PM-GWS-6		PM-GWS-7	
		Approximate Depth	8-9		8-9		8-9		8-9		8-9		8-9		12.5	
		Sampling Date	11/03/2011		11/03/2011		11/02/2011		11/02/2011		11/03/2011		11/03/2011		11/02/2011	
Chemical	**CAS#**	**NEW YORK STATE CLASS GA**	Result		Result		Result		Result		Result		Result		Result	
Volatiles (µg/L)																
1,1,2-Trichloroethane	79-00-5	**1**														
1,1-Dichloroethene	75-35-4	**5**														
1,2-Dichlorobenzene	95-50-1	3														
1,4-Dichlorobenzene	106-46-7	3														
2-Butanone (Mek)	78-93-3	NL													140	J
Acetone	67-64-1	NL			4.5	J							8.3	J	89	J
Carbon Disulfide	75-15-0	60													2.1	J
Chlorobenzene	108-90-7	5														
Chloroform	67-66-3	7														
Chloromethane	74-87-3	5														
Cis-1,2-Dichloroethene	156-59-2	**5**	**11**		**12**		**12**	**J**	**90**	**J**	**15**	**J**	**12**	**J**	**27**	**J**
Ethane	74-84-0	NL														
Ethene	74-85-1	NL														
Methane	74-82-8	NL														
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	NL														
Tetrachloroethene	127-18-4	**5**	**53**		**57**		**17**	**J**	**150**	**J**	**51**		**11**	**J**	**18**	**J**
Toluene	108-88-3	5	2.2	J	2.5	J										
Trans-1,2-Dichloroethene	156-60-5	**5**														
Trichloroethene	79-01-6	**5**	**5.2**		**5.5**		2.8	J	**16**		**14**		4.3	J	3.1	J
Vinyl Chloride	75-01-4	**2**							**2.1**	**J**						

Notes:

ID - identification

µg/kg - milligrams per kilogram

mg/kg - milligrams per kilogram

NL - not listed

Indicates exceedance

(1) NYSDEC. June 1998. TOGS 1.1.1. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.

Laboratory Data Qualifiers

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

E (Organics) - Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.

D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

R - The reported value was rejected.

Table 4-6
Monitoring Well Data - Detections
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MW01-030612	80230-MW02-030612	80230-MW03-030712	80230-MW04-030612	80230-MW08S-030712	80230-MW09D-030512	80230-MW09S-030512	80230-MW10D-030512	80230-MW10S-030512
		Sample Location	MW01	MW02	MW03	MW04	MW08S	MW09D	MW09S	MW10D	MW10S
		Depth	13	9	10	9	30	65	30	65	27
		Sampling Date	03/06/2012	03/06/2012	03/07/2012	03/06/2012	03/07/2012	03/05/2012	03/05/2012	03/05/2012	03/05/2012
Chemical	**CAS#**	**New York State Standards and Guidance Values for Class GA Groundwater (1)**	Result	Result	Result	Result	Result	Result	Result	Result	Result
Volatiles (µg/L)											
1,1,2-Trichloroethane	79-00-5	**1**	0.6 J				**1.1 J**				
1,1-Dichloroethene	75-35-4	**5**	2.8 J						0.65 J		
1,2-Dichlorobenzene	95-50-1	3									
1,4-Dichlorobenzene	106-46-7	3									
2-Butanone (MEK	78-93-3	NL									
Acetone	67-64-1	NL									
Carbon Disulfide	75-15-0	60									
Chlorobenzene	108-90-7	5	1.1 J								
Chloroform	67-66-3	7					0.81 J		0.66 J		
Chloromethane	74-87-3	5		0.58 J				0.92 J			
Cis-1,2-Dichloroethene	156-59-2	**5**	**4300 D**	**22**	**38**		**26**		**17**		**140**
Ethane	74-84-0	NL	310								3.2
Ethene	74-85-1	NL	700								
Methane	74-82-8	NL	1400	960	130	1500			2.1		45
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	NL									0.76 J
Tetrachloroethene	127-18-4	**5**	**750 D**				**1300 D**		**34**		**6.1**
Toluene	108-88-3	5	2 J								
Trans-1,2-Dichloroethene	156-60-5	**5**	**98**								
Trichloroethene	79-01-6	**5**	**130**				**10**		**16**		2.6 J
Vinyl Chloride	75-01-4	**2**	**1200 JD**	**11 J**		**2.8 J**			0.58 J		1.3 J
Miscellaneous (mg/L)											
Alkalinity, Total (as CaCO3)	ALK	NL	260	300	600	420	170	210	230	130	1000
Ammonia as N	7664-41-7	2	R	R							
Chloride	16887-00-6	**250**	**860**	230	130	**430**	71	90	72	88	150
Hardness As CaCO3	CACOA-H	NL	120	300	440	230	230	320	320	330	620
Nitrate-NO3	14797-55-8	10	0.82	0.65			5.1	5.8	3.3	4.2	
Nitrite-NO2	14797-65-0	1									
Nitrogen, Kjeldahl	KN	NL	R	R	R	R		R	R		
Sulfate	14808-79-8	NL	45	57	2.1 J	15	35	45	44	48	61
Sulfide	18496-25-8	NL	0.4		0.056		0.048		0.083		0.046
Total Dissolved Solids	TDS	NL	1800	800	910	1000	360	370	390	420	690
Total Organic Carbon	TOC	NL	12	12	45	11					5.7 J
Total Suspended Solids	TSS	NL	140	40	80	21	95	68	540	87	230

Notes:

ID - identification

µg/kg - milligrams per kilogram

mg/kg - milligrams per kilogram

NL - not listed

Indicates exceedance

(1) NYSDEC. June 1998. TOGS 1.1.1. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.

Laboratory Data Qualifiers

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

E (Organics) - Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.

D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

R - The reported value was rejected.

Table 4-6
Monitoring Well Data - Detections
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

			Sample ID	80230-MW11D-030812		80230-MW11S-030812		80230-MW12S-030812		80230-MW12S-030812-DUP		80230-MW13D-030712		80230-MW13S-030712		80230-MW14S-030812		80230-MW15D-030712		80230-MW16S-030612	
			Sample Location	MW11D		MW11S		MW12S		MW12S		MW13D		MW13S		MW14S		MW15D		MW16S	
			Depth	65		30		30		--		65		30		29		65		30	
			Sampling Date	03/08/2011		03/08/2011		03/08/2012		03/08/2012		03/07/2012		03/07/2012		03/08/2012		03/07/2012		03/06/2012	
Chemical	**CAS#**	**New York State Standards and Guidance Values for Class GA Groundwater (1)**		Result		Result		Result		Result		Result		Result		Result		Result		Result	
Volatiles (µg/L)																					
1,1,2-Trichloroethane	79-00-5	**1**																			
1,1-Dichloroethene	75-35-4	**5**				**15**								**9.4**							
1,2-Dichlorobenzene	95-50-1	3				2.2	J							1.1	J						
1,4-Dichlorobenzene	106-46-7	3												0.92	J						
2-Butanone (MEK	78-93-3	NL																			
Acetone	67-64-1	NL																			
Carbon Disulfide	75-15-0	60																			
Chlorobenzene	108-90-7	5				2.6	J							3.1	J						
Chloroform	67-66-3	7																			
Chloromethane	74-87-3	5																			
Cis-1,2-Dichloroethene	156-59-2	**5**				**11000**	**D**	**350**	**J**	**380**	**J**			**7000**	**D**	**850**		1.3	J	**34**	
Ethane	74-84-0	NL				10		3.7		4.3				9.3		90					
Ethene	74-85-1	NL												41		33					
Methane	74-82-8	NL				170		31		35				95		39		2			
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	NL				2.1	J							3.1	J						
Tetrachloroethene	127-18-4	**5**				**9000**	**D**	**71000**	**D**	**72000**	**D**			**2500**	**D**	**100000**	**D**	**5**		**2200**	**D**
Toluene	108-88-3	5																			
Trans-1,2-Dichloroethene	156-60-5	**5**				**8.9**								**160**							
Trichloroethene	79-01-6	**5**				**2400**	**D**							**950**	**D**	**1300**				**64**	
Vinyl Chloride	75-01-4	**2**				**37**	**J**							**210**	**JD**						
Miscellaneous (mg/L)																					
Alkalinity, Total (as CaCO3)	ALK	NL		300		360		200		210		330		270		350		310		400	
Ammonia as N	7664-41-7	2																			R
Chloride	16887-00-6	**250**		88		**280**		98		97		91		**250**		**290**		99		**480**	
Hardness As CaCO3	CACOA-H	NL		390		550		290		300		340		560		760		360		600	
Nitrate-NO3	14797-55-8	10		4.5		0.32		5.4		5.1		4.8						5		1.9	
Nitrite-NO2	14797-65-0	1						0.12	J	0.13	J										
Nitrogen, Kjeldahl	KN	NL																			R
Sulfate	14808-79-8	NL		47		94		33		33		46		120		100		47		52	
Sulfide	18496-25-8	NL		0.096		0.095		0.034		0.033						0.1		0.11		0.038	
Total Dissolved Solids	TDS	NL		590		1000		570		590		520		730		1200		400		1200	
Total Organic Carbon	TOC	NL				2.9	J	2	J					6.1	J	3.3	J				
Total Suspended Solids	TSS	NL		420		190		120		100		190		24		180		260		60	

Notes:

ID - identification

µg/kg - milligrams per kilogram

mg/kg - milligrams per kilogram

NL - not listed

Indicates exceedance

(1) NYSDEC. June 1998. TOGS 1.1.1. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.

Laboratory Data Qualifiers

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

E (Organics) - Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.

D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

R - The reported value was rejected.

Table 4-7
Air Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

	Sample ID	PMBANK		PMB ANKDUP		PMAMBAIR		
	Sample Location	Basement		Basement		Drive Through		
	Sampling Date	3/11/2011		3/11/2011		3/11/2011		
Chemical	**NYSDOH Vapor Intrusion Guidance**	Result		Result		Result		
Volatiles (µg/m^3)								
Tetrachloroethene	**100**	**<1**		**<1**		**<1**		

Notes:
ID - identification
µg/m^3 - micrograms per cubic meter
Indicates exceedance

Table 5-1
Fate and Transport Properties of Site-Related Contaminants
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

Compound	CAS Number	Molecular Weight (g/mol)		Water Solubility @25 deg. C (mg/L)		Vapor Pressure @25 deg. C *@20 deg.C (mm Hg)		Henry's Law Constant @25 deg. C (atm-m^3/mol)		Literature Koc (L/kg)		log Kow		Kd Literature based cm^3/g		Retardation Factor (Rf) Calc from Literature Kd	Adsorption based on Literature Kds	Volatilization from Water
cis-1,2-Dichloroethene (cis-1,2-DCE)	156-59-2	96.95	a1	3.5E+03	a1	1.8E+02	a1	4.08E-03	a1	38.28	b	1.9	b	7.1E-02	b	NC	Low	High
Trichloroethene (TCE)	79-01-6	131.4	a2	1.366E+03	a2	7.4E+01	a2	1.1E-02	a2	94.3	b	2.4	b	3.3E-01	b	NC	Low	High
Tetrachloroethene (PCE)	127-18-4	165.83	a3	1.5E+02	a3	1.847E+01	a3	1.8E-02	a3	265	b	3.4	b	3.1E-01	b	NC	Low	High
Vinyl chloride (VC)	75-01-4	62.5	a4	2.76E+03	a4	2.6E+03	a4	2.8E-02	a4	15.38	b	1.4	b	3.7E-02	b	NC	Low	High

Site Variables:

Fraction Organic Carbon, foc = Data unavailable (assume 0.1% for coastal plain environments)
Soil Bulk Density, ρb = Data unavailable
Effective Porosity, η = Data unavailable

Adsorption is	"Low"	if Kd <	0.5
	"High"	if Kd >	2
	"Moderate"	if Kd is in-between	
Volatilization from Water is	"Low"	if H <	1.E-07
	"High"	if H >	1.E-03
	"Moderate"	if H is in-between	
Mobility is	"High"	if Rf <	10
	"Low"	if Rf >	1000
	"Moderate"	if Rf is in-between	

Abbreviations:

atm-m^3/mol	= atmospheres-meters cubed per mole
C	= Celcius
calc	= calculated
cm^3/g	= cubic centimeters per gram
deg.	= degrees
gm/cm^3	= grams per centermeter cubed
g/mL	= gram per milliliter
g/mol	= grams per mole
H	= Henry's Constant
Kow	= n-Octanol/Water Partition Coefficient, dimensionless
L/kg	= liters per kilogram
mg/L	= milligrams per liter
mm Hg	= millimeters of mercury
NC	= not calculated

Equations:
Koc = Soil Organic Carbon/Water Partition Coefficient, L/kg
Kow = n-Octanol/Water Partition Coefficient, dimensionless
Kd = Soil/Water Partition Coefficient [= Koc X foc for organics], cm3/g

References:

a. Agency for Toxic Substances and Disease Registry (ATSDR). Toxicological Profiles. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. (http://www.atsdr.cdc.gov/toxpro2.html)
1. ATSDR. 1996. Toxicological Profile for 1,2-Dichloroethene. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. August.
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3. ATSDR. 1997. Toxicological Profile for Tetrachlorethene. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. September.
4: ATSDR. 2006. Toxicological Profile for Vinyl chloride. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. July.
5. ATSDR. 2006. Toxicological Profile for 1,1,1-Trichloroethane. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. July.
6: ATSDR. 1990. Toxicological Profile for 1,1-Dichloroethane. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. December.
7. ATSDR. 1994. Toxicological Profile for 1,1-Dichloroethene. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. May.
8: ATSDR. 1998. Toxicological Profile for Chloroethane. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. December.

b. EPA. 2005. Human Heath Risk Assessment Protocol for Hazardous Waste Combustion Facilities, Support Materials. Chemical-Specific Data. EPA 530-R-05-006. September. HHRAP Companion Database. (http://www.epa.gov/epaoswer/hazwaste/combust/riskvol.htm#volume2)

Table 5-2
Natural Attenuation Parameters
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Wells screened at water table						Screened at water table										
		Downgradient of source zones			Cross-gradient	Down-gradient	Closer to Charlton Cleaners	Under suspected primary discharge				Near suspected additional discharge		Deep Wells				
	Units	MW02	MW03	MW04	MW08S	MW09S	MW10S	MW11S	MW12S	MW13S	MW14S	MW16S	MW01	MW09D	MW10D	MW11D	MW13D	MW15D
Tetrachloroethene	*uMol/L*	ND	ND	ND	7.84 D	0.21	0.04	54.27 D	428.15 D	15.08 D	603.03 D	13.27 D	4.52 D	ND	ND	ND	ND	0.03
Trichloroethene	*uMol/L*	ND	ND	ND	0.08	0.12	0.02 J	18.26 D	ND	7.23 D	9.89	0.49	0.99	ND	ND	ND	ND	ND
***cis* -1,2-DCE**	*uMol/L*	0.23	0.39	ND	0.27	0.18	1.44	113.46 D	3.61 J	72.2 D	8.77	0.35	44.35 D	ND	ND	ND	ND	0.01 J
Vinyl Chloride	*uMol/L*	0.18 J	ND	0.04 J	ND	0.01 J	0.02 J	0.59 J	ND	3.36 JD	ND	ND	19.2 JD	ND	ND	ND	ND	ND
Alkalinity, Total (as CaCO3)	*mg/L*	300	600	420	170	230	1000	360	200	270	350	400	260	210	130	300	330	310
Oxidation-Reduction Potential	*millivolts*	-63.5	-125.2	-60.7	157.3	-29.4	-31.8	83.5	85.4	-37.5	19.8	129.9	-96.8	126.7	46	114.8	80.4	155.2
pH	--	6.86	7.06	7	7.01	6.82	6.64	6.19	6.78	6.42	6.62	6.85	6.52	7.04	7.26	7.3	7.25	7.14
Specific Conductance	*MS/CM*	1.667	1.408	1.902	0.564	0.804	1.409	1.456	0.692	1.43	1.687	1.859	4.496	0.809	0.773	0.796	0.79	0.722
Temperature	*deg C*	13.4	13.46	14.89	17.99	16.61	17.89	17.13	17.39	16.72	16.3	15.37	15.9	15.42	15.33	15.75	15.94	15.32
Total Organic Carbon	*mg/L*	12	45	11	ND	ND	5.7	2.9	2	6.1	3.3	ND	12	ND	ND	ND	ND	ND
Chloride	*mg/L*	230	130	430	71	72	150	280	98	250	290	480	860	90	88	88	91	99
Dissolved Oxygen	*mg/L*	0.79	0.55	1.17	4.77	0.42	1.5	0.94	1.81	2.17	2.71	1.63	1.73	2.39	0.67	1.53	1.81	2.06
Nitrate-NO3	*mg/L*	0.65	ND	ND	5.1	3.3	ND	0.32	5.4	ND	ND	1.9	0.82	5.8	4.2	4.5	4.8	5
Nitrite-NO2	*mg/L*	ND	ND	ND	ND	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ferrous Iron	*mg/L*	9.2	25.6	5.1	0.05	ND	1.63	0.06	0.22	0.53	0.65	0.07	5.4	ND	ND	0.67	0.01	0.13
Sulfate	*mg/L*	57	2.1	15	35	44	61	94	33	120	100	52	45	45	48	47	46	47
Sulfide	*mg/L*	ND	0.056	ND	0.048	0.083	0.046	0.095	0.034	ND	0.1	0.038	0.4	ND	ND	0.096	ND	0.11
Ethane	*ug/L*	ND	ND	ND	ND	ND	3.2	10	3.7	9.3	90	ND	310	ND	ND	ND	ND	ND
Ethene	*ug/L*	ND	ND	ND	ND	ND	ND	ND	ND	41	33	ND	700	ND	ND	ND	ND	ND
Methane	*ug/L*	960	130	1500	ND	2.1	45	170	31	95	39	ND	1400	ND	ND	ND	ND	2

Concentrations Meausured in March, 2012

EXPLANATION OF SIGNIFICANCE:

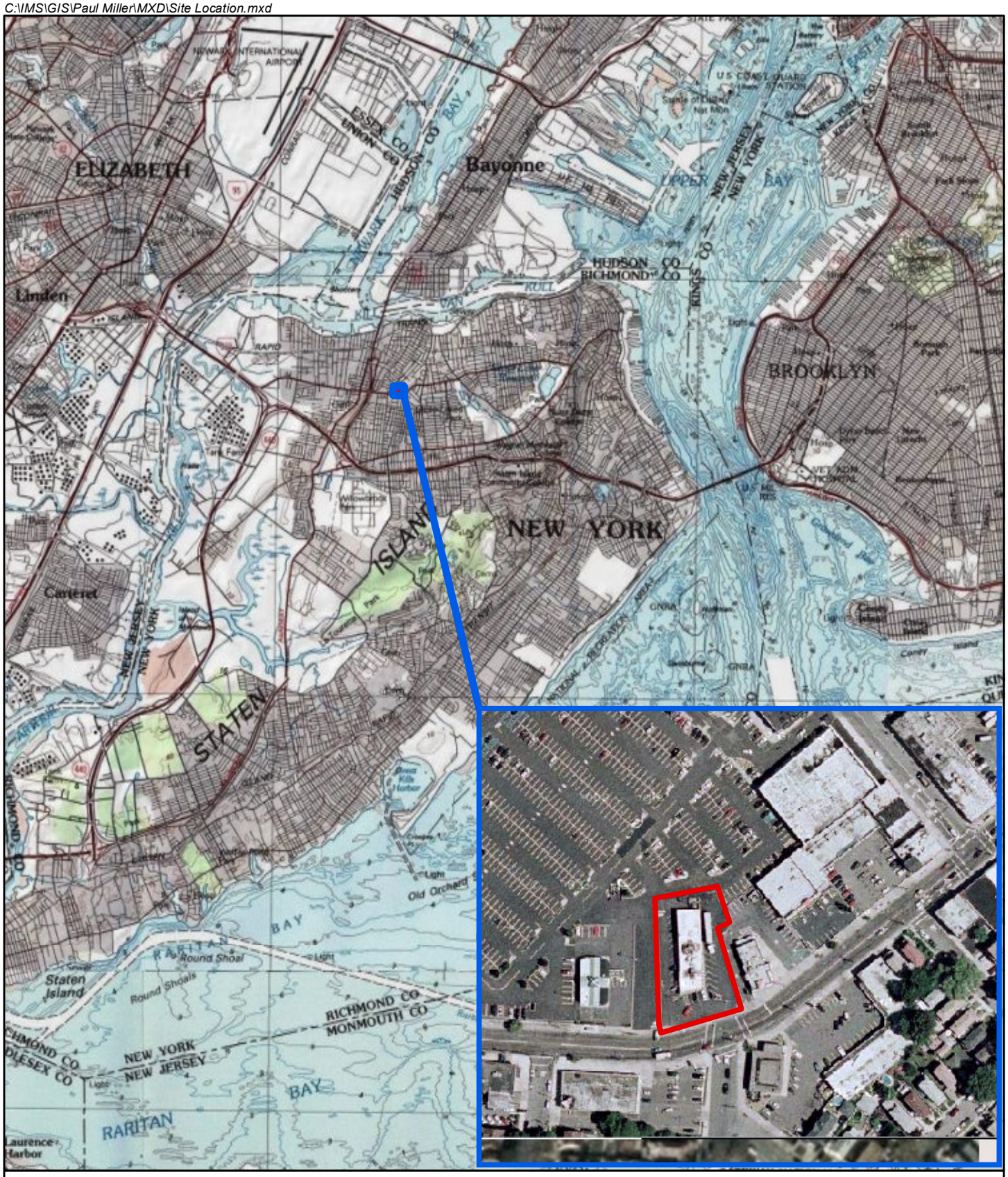
pH	Reductive pathway for chlorinated ethenes is most favorable at a relatively neutral pH (5 to 9 pH units).
Dissolved Oxygen	Oxygen is the preferred electron acceptor for microorganisms that facilitate the biodegradation of chlorinated hydrocarbon compounds, followed by nitrate, iron (III), and sulfate. With the presence of high DO concentrations, the reductive pathway of chlorinated ethenes will be suppressed (DO > 0.5 mg/L) or even inhibited (DO > 5 mg/L); on the other hand, VC is oxidized under aerobic conditions.
Temperature	Active biological growth can generally occur under temperatures ranging from 10 to 35 degrees Celsius (^{O}C), and biochemical process can be accelerated when the temperature is above 20 ^{O}C.
Oxidation Reduction Potential	ORP is an indicator of the ability of a solution to accept or transfer electrons. The most common electron acceptors in subsurface include DO, nitrate, manganese (IV), iron (III), sulfate, and carbonate, which require increasingly reducing conditions. The reductive pathway of chlorinated hydrocarbon compounds occurs more rapidly under sulfate‐reducing and methanogenic conditions.
Nitrate/Nitrite	Once the available DO has been depleted, nitrate is the next preferred electron acceptor for anaerobic biodegradation of hydrocarbon compounds. When at high concentrations (greater than 1 mg/L), nitrate can compete with or even inhibit the reductive pathway of chlorinated ethenes (EPA 1998).
Ferrous Iron	Once the available DO and nitrate sources have been depleted, biologic available iron (III) in the subsurface solid matrix can be utilized as alternate electron acceptor. Iron (III) is reduced into more soluble form, ferrous iron, and thus enters the groundwater. An increase of ferrous iron concentration compared to background levels often indicates an anaerobic biodegradation using iron (III) as an electron acceptor is occurring or has occurred at a Site.
Sulfate	Once the available DO has been depleted and only if insufficient nitrate and iron (III) sources are present, sulfate may be utilized as an alternate electron acceptor. Sulfate is reduced during anaerobic biodegradation to sulfide. At high concentrations (greater than 20 mg/L), sulfate may compete with reductive pathway of chlorinated ethenes.
Chloride	Chloride is an end‐product of biodegradation of chlorinated ethenes. Therefore, elevated chloride concentrations above Site background levels (i.e., greater than two times) indicate biodegradation.
Methane	Methane is a by‐product of anaerobic biodegradation. Therefore, elevated methane concentrations (above Site background levels) are indicative of biodegradation in an anaerobic environment. As discussed earlier, reductive dechlorination occurs more rapidly under methanogenic conditions. Furthermore, ultimate reductive daughter products will accumulate when methane concentration is greater than 0.5 mg/L in groundwater.
Alkalinity	Increased biological activities often results in elevated carbon dioxide concentrations in groundwater, and hence increased alkalinity due to the reaction between carbon dioxide and aquifer minerals. Therefore, elevated alkalinity (i.e., greater than two times of Site background levels) is indicative of biological activity and potential biodegradation.
Ethene/Ethane	Ethene is daughter product of reduction of vinyl chloride, while ethane can be daughter product of reduction of ethene or chloroethane. Therefore, elevated ethane and/or ethane concentrations (above Site background levels and greater than 10 µg/L) are indicative of biodegradation in an anaerobic environment.
Total Organic Carbon	By acting as electron donor, organic carbon is necessary for sustaining bacteria growth and reductive dechlorination. TOC is an indicator of the carbon content in the subsurface.

Table 5-3
Natural Attenuation Analysis
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

	Wells screened at the water table (MW-02, MW-03, MW-04)	**Under suspected primary discharge** (MW-11S, MW-12S, MW-13S, MW-14S)	**Under suspected additional discharge** (MW-01 and MW-16S)	**Downgradient** (MW-09S)	**Cross-gradient** (MW-08S)	**Deep Wells** (MW-09D, MW-10D, MW-11D, MW-13D, MW-15D)
Degradation Byproducts	Yes	Yes	Yes – more so in MW-01 than MW-16S	Yes	*Cis*-1,2-DCE, but no VC. Relatively little compared to parent products	N/A except for MW15D, which has *cis*-1,2-DCE
ReDox conditions	Methanogenic	Aerobic to nitrate reducing	MW-01 is methanogenic; MW-16S is aerobic	Nitrate reducing	Aerobic	Aerobic to nitrate reducing
Available carbon	Carbon limited, except for MW-03	Carbon limited	Carbon limited	Carbon limited	Carbon limited	Carbon limited

Figures

C:\IMS\GIS\Paul Miller\MXD\Site Location.mxd



Site Boundary

N

0 1 2 4 Miles

Map source: USGS

Figure1-1
Site Location
Former Paul Miller Dry Cleaners
Port Richmond, NY

CDM Smith

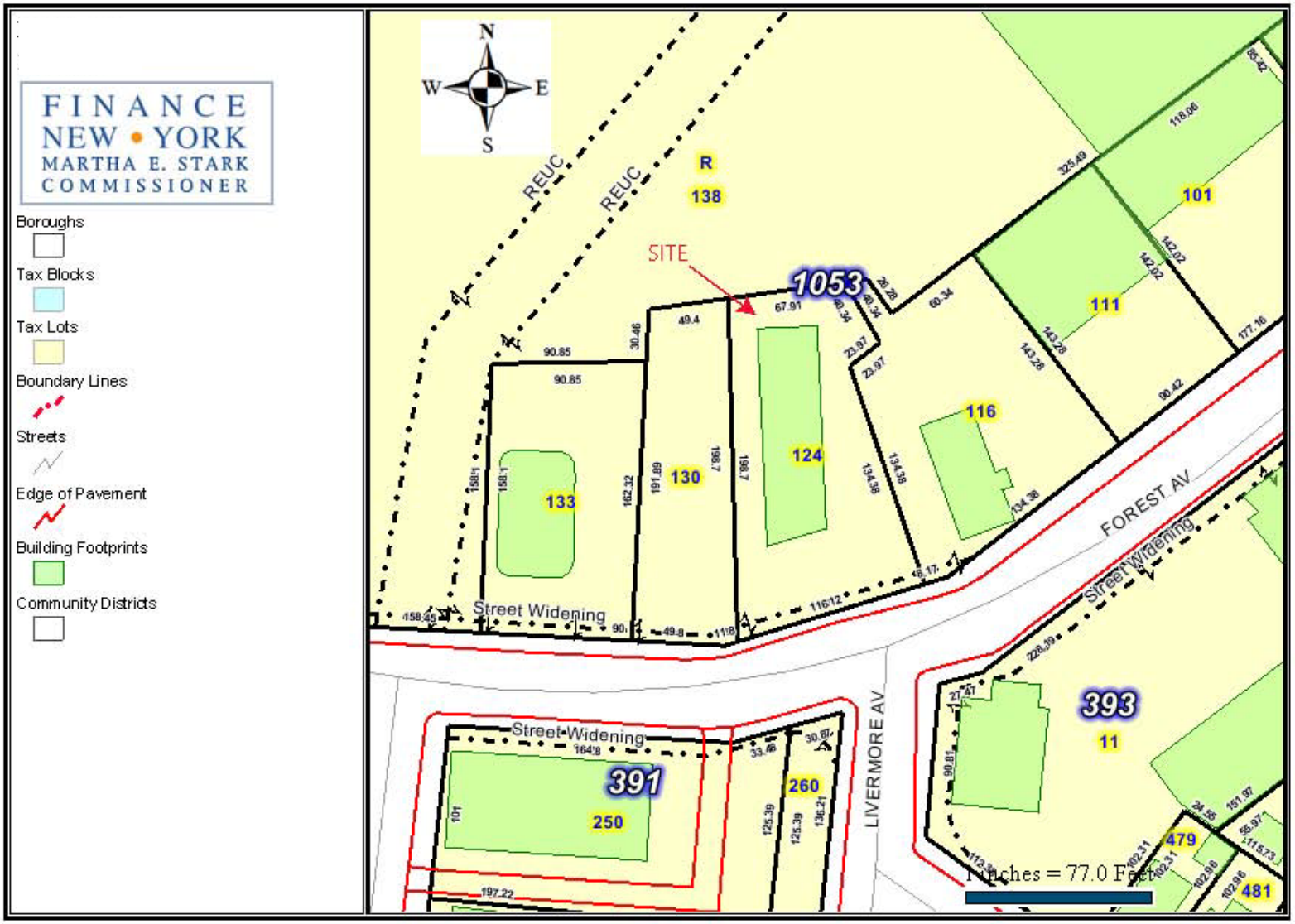


Figure 1-2
Tax Map
Former Paul Miller Dry Cleaners
Port Richmond, NY

MIP Investigation Locations

Figure 2-1
Former Paul Miller Dry Cleaners
Port Richmond, NY

CDM Smith

GURRC C:\IMS\GIS\Paul Miller\MXD\Figure 2-1a MIP Investigation Locations.mxd 6/27/2012

Groundwater Screening, Monitoring Well, and Soil Boring Investigation Locations

Figure 2-2

Former Paul Miller Dry Cleaners
Port Richmond, NY

Note: Two data frames are shown in order to clearly show all locations.

0 10 20 30 40 Feet

CDM Smith

GURRC C:\IMS\GIS\Paul Miller\MXD\Figure 2-2 Soil, GWS, MW locations.mxd 6/27/2012

North

x

South

x'

MIP-3

MW-10S

MW-10D

MW-11S

MW-11D

MW-12S

MW-15D

MW-14S

Ground Surface

Elevation (feet above mean sea level)

Distance Along Baseline (ft)

0 20 40 60 80 100 120 140 160 180 200

20 10 0 -10 -20 -30 -40 -50 -60

2.6 J
140
19.34

9,000 D
2,400 D
19.10
11,000 D
37 J

71,000 D
19.62
500 U
350 J
500 UJ

19.56
1,300
850

5 U
5 U
18.96
5 U
5 U

5 U
5 U
19.07
5 U
5 UJ

5
5 U
19.17
1.3 J
5 UJ

LEGEND:

Cross Section Location

MIP-3
MW-10S
MW-10D
MW-11S
MW-11D
MW-12S
MW-15D
MW-14S
N

Site Map Scale 1 inch equals 75 feet

Sand
Gravel
Silty Sand
Clay
Soil Electrical Conductivity Log
Well Screen

USCS Silty Sand
USCS Low Plasticity Clay
USCS Silt
USCS Well-graded Sand
USCS Well-graded Gravel
USCS Poorly-graded Gravel

Water Level Elevation (feet above mean sea level)
Date: 3/5/12
27.89

Water Level in Shallow Well
Date: 3/5/12

0 15
Horizontal Scale (feet)

Vertical Exaggeration: 1x

0
15
Vertical Scale (feet)

Groundwater Sample Results
Tetrachloroethene
Trichloroethene
cis-1,2-Dichloroethene
1,1-Dichloroethene
All results in micrograms per liter
U - not detected, detection limit is value to left
J - estimated concentration
All U - all analytes were not detected

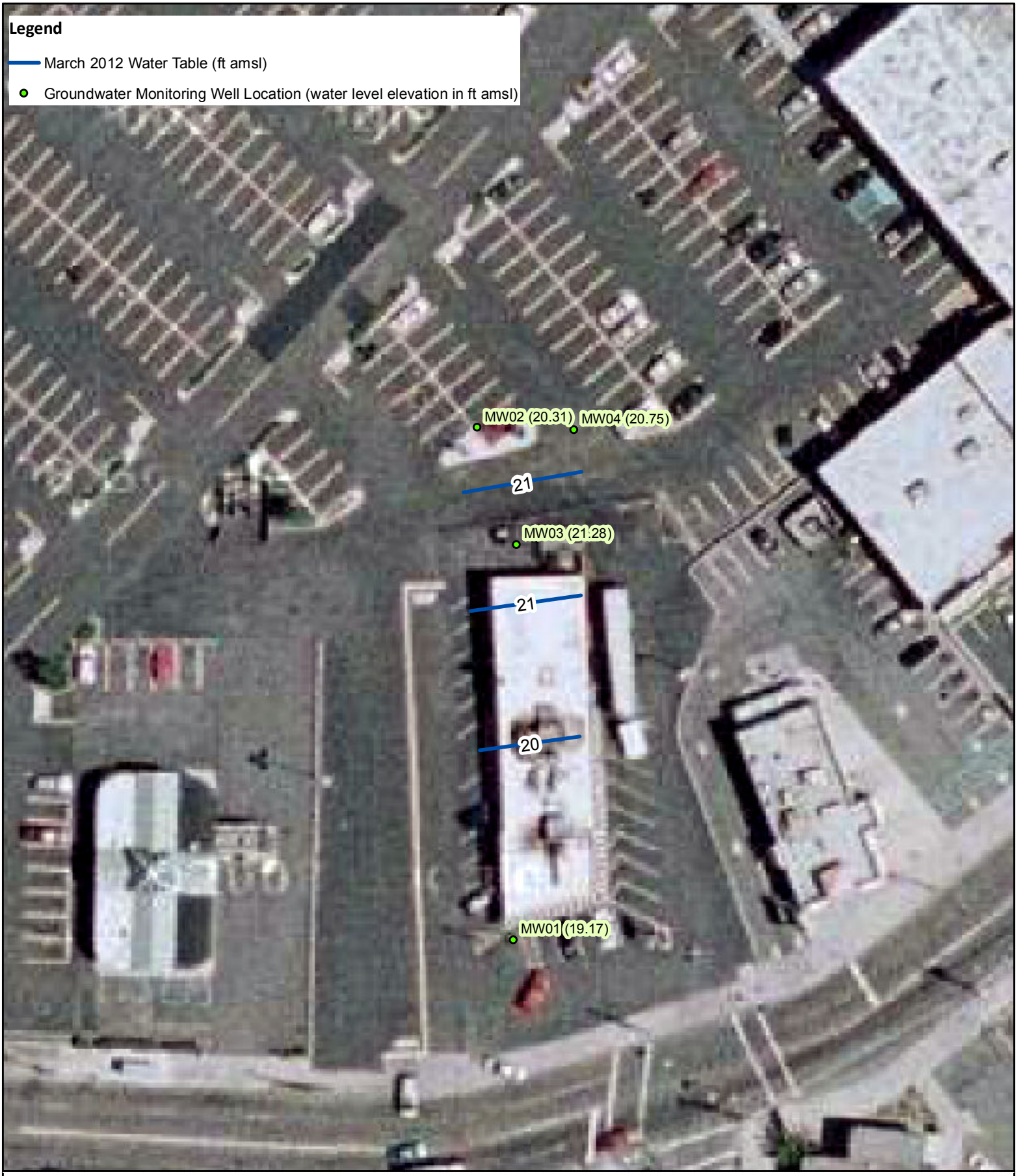
Sample Interval

Screened Interval

CDM Smith

Figure 3-1
Representative Geological Cross Section
Former Paul Miller Dry Cleaners
Port Richmond, NY

STANDARD CROSS SECTION: PAUL MILLER PAUL_MILLER_SMOOTHEDMIPDATA_MAR_2012.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 6/26/12 REV.



Potentiometric Surface at the Water Table

Figure 3-2
Former Paul Miller Dry Cleaners
Port Richmond, NY

N

Note: This potentiometric surface affects the wells shown.
Elevations measured on 3/5/12.

0 10 20 30 40
Feet

CDM Smith

GURRC C:\IMS\GIS\Paul Miller\MXD\Figure 3-1 Potentiometric Surface at the Water Table.mxd 6/28/2012

Potentiometric Surface at 30 ft bgs

Note: This potentiometric surface affects the wells shown. Elevations measured on 3/5/12.

Figure 3-3
Former Paul Miller Dry Cleaners
Port Richmond, NY

CDM Smith

GURRC C:\IMS\GIS\Paul Miller\MXD\Figure 3-2 Potentiometric Surface at the 30 ft bgs Table.mxd 6/28/2012

Potentiometric Surface at 70 ft bgs

Figure 3-4
Former Paul Miller Dry Cleaners
Port Richmond, NY

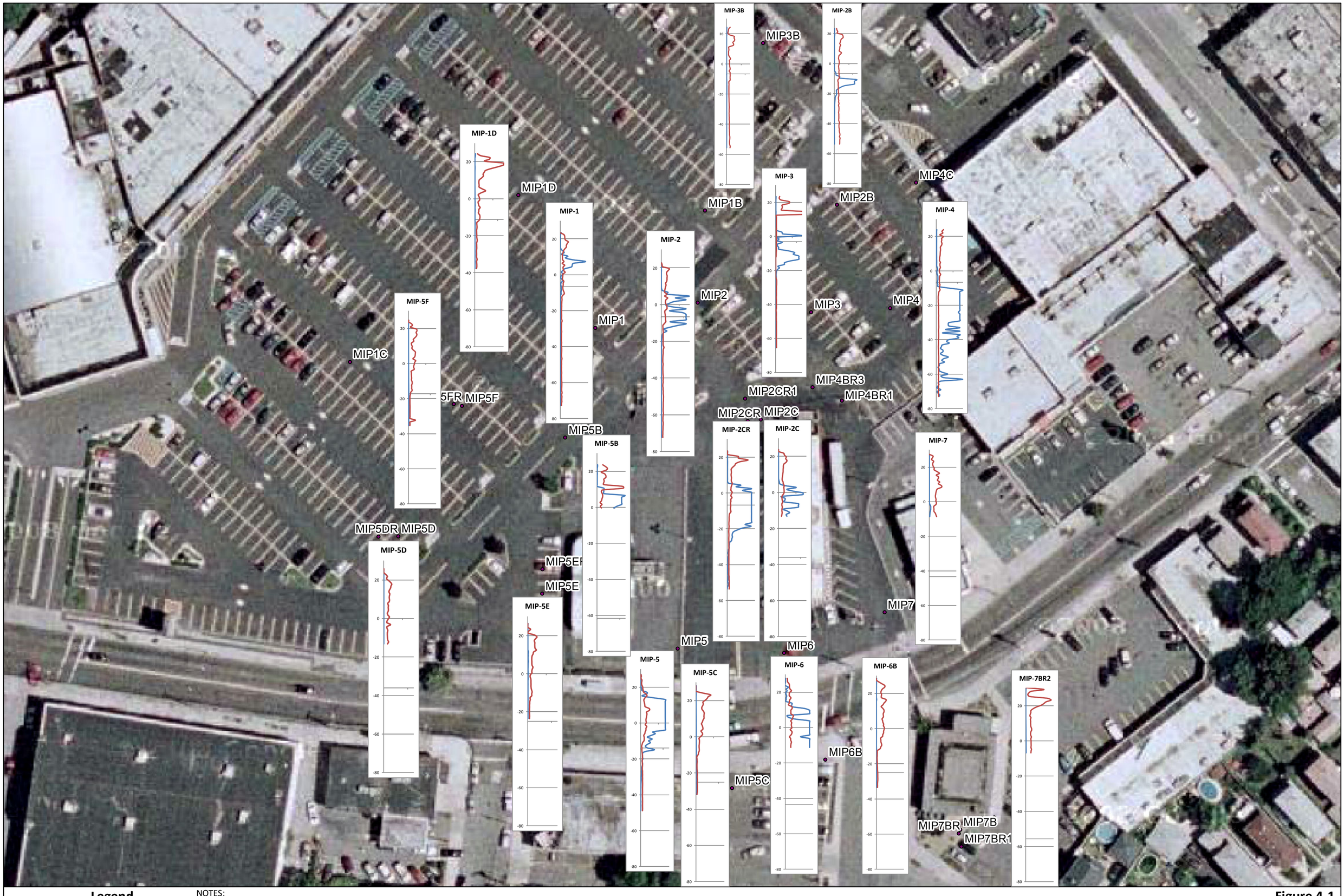
N

Note: This potentiometric surface affects the wells shown.
Elevations measured 3/5/12.

0 10 20 30 40
Feet

CDM Smith

GURRC C:\IMS\GIS\Paul Miller\MXD\Figure 3-3 Potentiometric Surface at the 70 ft bgs Table.mxd 6/28/2012



Legend

- MIP Locations

N

NOTES:

1) Y axis units are feet above mean sea level.
2) Data collected between May and June, 2011.
3) Red line presents relative Soil Conductivity. HIGHER results indicate MORE fine grain sizes (such as silt and clay). LOWER results indicate MORE sand.
4) Blue line presents Electron Capture Detector (ECD) results. HIGHER results indicate HIGHER detections of VOCs in the soil or aquifer.

MIP Results

0 25 50 100 150 200 Feet

Figure 4-1

Former Paul Miller Drycleaners

Port Richmond, NY

CDM Smith

GURRC C:\IMS\GIS\Paul Miller\MXD\Figure 4-1 MIP results figure.mxd 6/15/2012

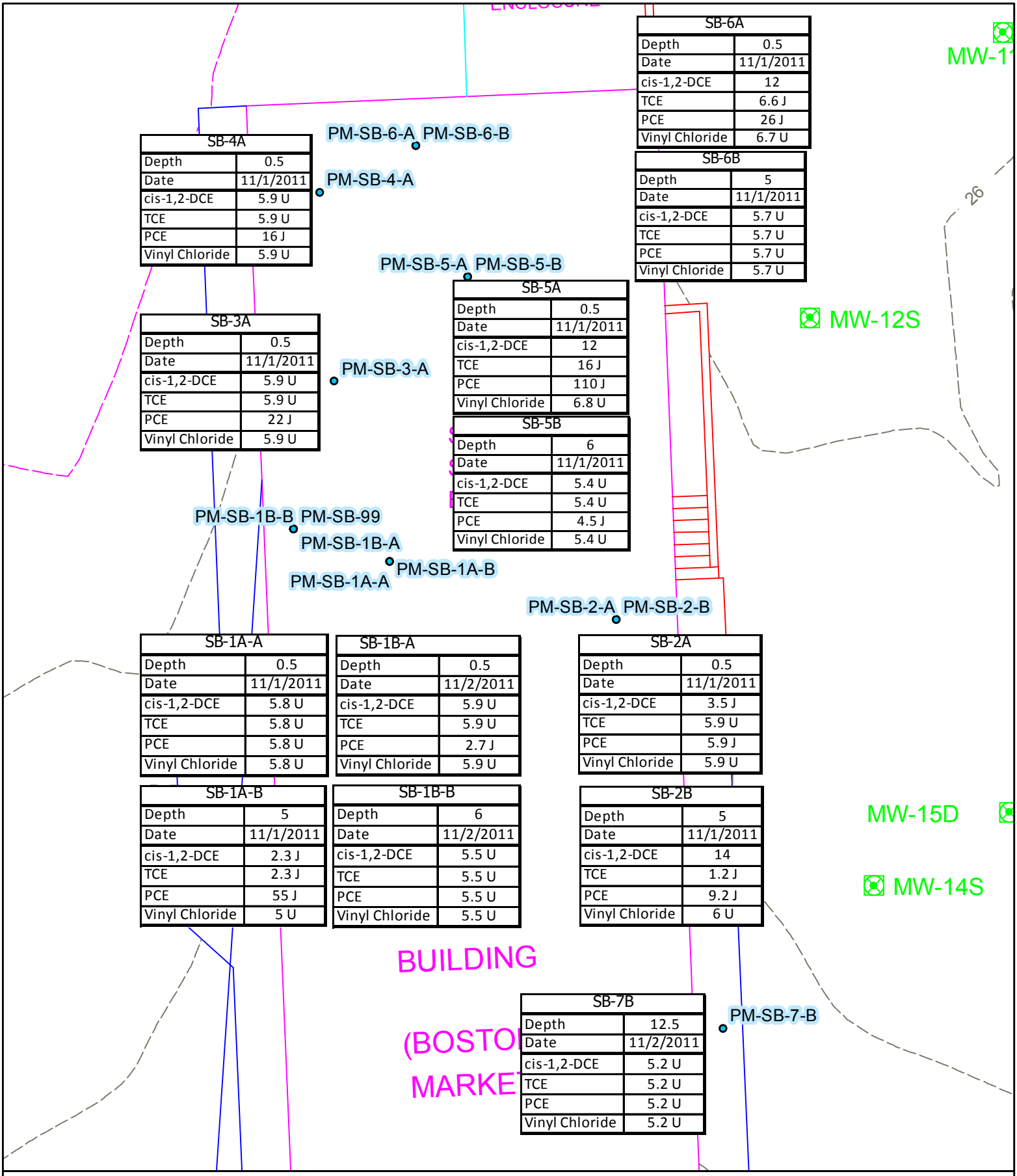


Figure 4-2

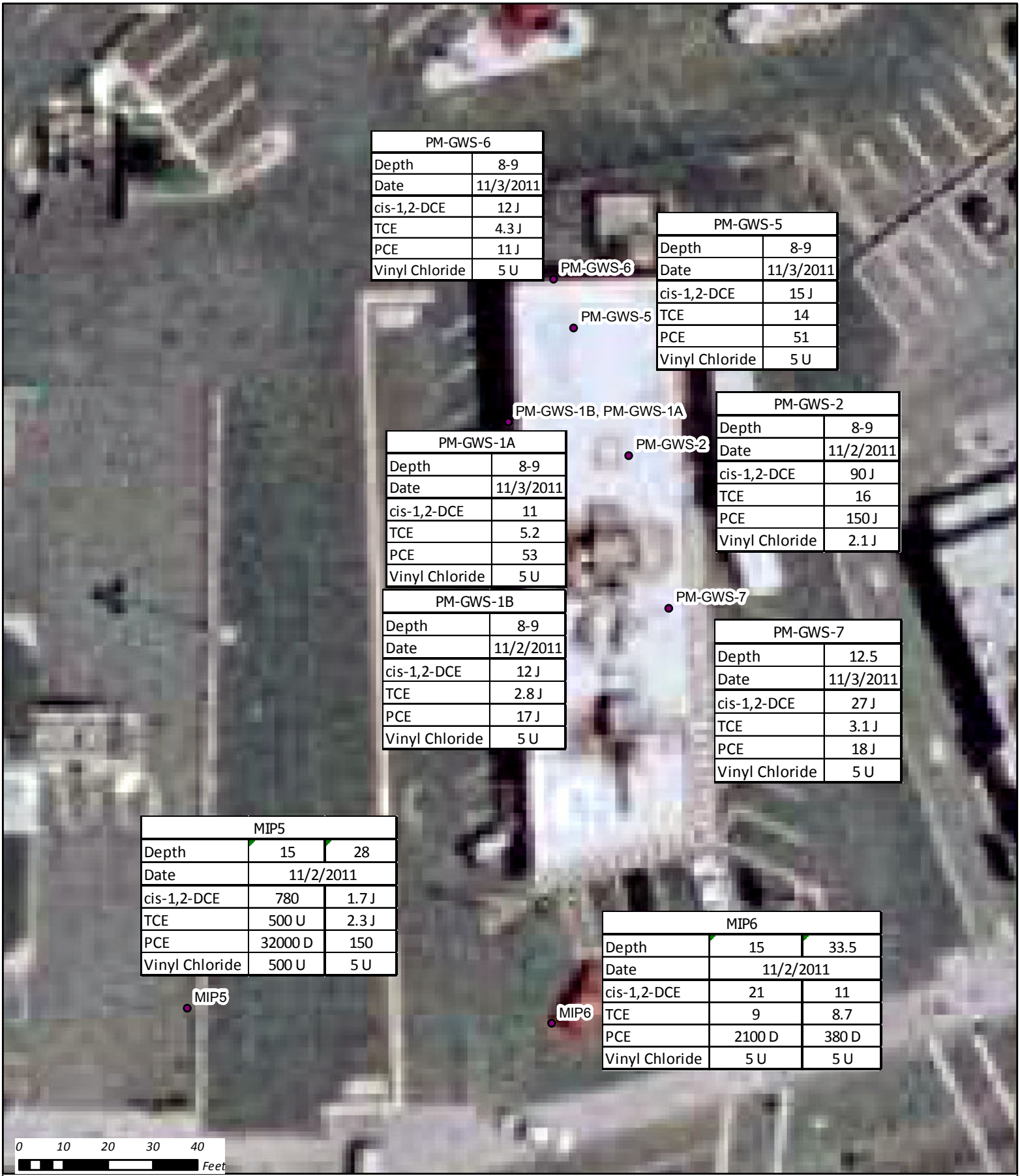
Subslab Soil Sample Results

Former Paul Miller Dry Cleaners
Port Richmond, NY

Depth units are feet below slab.
Analyte units are ug/kg.

CDM Smith

GURRC C:\IMS\GIS\Paul Miller\MXD\Figure 4-2 Soil Boxmap.mxd 6/21/2012



PM-GWS-6	
Depth	8-9
Date	11/3/2011
cis-1,2-DCE	12 J
TCE	4.3 J
PCE	11 J
Vinyl Chloride	5 U

PM-GWS-5	
Depth	8-9
Date	11/3/2011
cis-1,2-DCE	15 J
TCE	14
PCE	51
Vinyl Chloride	5 U

PM-GWS-2	
Depth	8-9
Date	11/2/2011
cis-1,2-DCE	90 J
TCE	16
PCE	150 J
Vinyl Chloride	2.1 J

PM-GWS-1A	
Depth	8-9
Date	11/3/2011
cis-1,2-DCE	11
TCE	5.2
PCE	53
Vinyl Chloride	5 U

PM-GWS-1B	
Depth	8-9
Date	11/2/2011
cis-1,2-DCE	12 J
TCE	2.8 J
PCE	17 J
Vinyl Chloride	5 U

PM-GWS-7	
Depth	12.5
Date	11/3/2011
cis-1,2-DCE	27 J
TCE	3.1 J
PCE	18 J
Vinyl Chloride	5 U

MIP5		
Depth	15	28
Date	11/2/2011	
cis-1,2-DCE	780	1.7 J
TCE	500 U	2.3 J
PCE	32000 D	150
Vinyl Chloride	500 U	5 U

MIP6		
Depth	15	33.5
Date	11/2/2011	
cis-1,2-DCE	21	11
TCE	9	8.7
PCE	2100 D	380 D
Vinyl Chloride	5 U	5 U

N

Legend

- Sample_Locations

Depth units are feet bgs.
Analyte units are ug/L.

Groundwater Screening Results

Figure 4-3
Former Paul Miller Dry Cleaners
Port Richmond, NY

CDM Smith

GURRC C:\IMS\GIS\Paul Miller\MXD\Figure 4-3 GWS Boxmap.mxd 6/21/2012

Concentrations are in ug/L
See Data Usability Summary Report for explanation of qualifiers

MW09S		
Date	10/13/2008	3/5/2012
Vinyl Chloride		0.58 J
cis-1,2-DCE		17
TCE		16
PCE	2400 JD	34

MW09D		
Date	10/13/2008	3/5/2012
Vinyl Chloride		5 UJ
cis-1,2-DCE		5 UJ
TCE		5 UJ
PCE		5 UJ

MW09S
MW09D

MW10S		
Date	10/13/2008	3/5/2012
Vinyl Chloride	2.60	1.3 J
cis-1,2-DCE	110 D	140
TCE	8.4 J	2.6 J
PCE		6.1

MW-10D		
Date	10/13/2008	3/5/2012
Vinyl Chloride		5 U
cis-1,2-DCE		5 U
TCE		5 U
PCE		5 U

MW10D
MW10S

MW11S		
Date	10/14/2008	3/8/2012
Vinyl Chloride	24 J	37 J
cis-1,2-DCE	7400 D	11000 D
TCE	1800 JD	2400 D
PCE	6300 JD	9000 D

MW11D		
Date	10/14/2008	3/8/2012
Vinyl Chloride		5 UJ
cis-1,2-DCE		5 U
TCE		5 U
PCE		5 U

MW02

MW02		
Date	10/14/2008	3/6/2012
Vinyl Chloride		11 J
cis-1,2-DCE		22
TCE		5 U
PCE		5 U

MW04

MW04		
Date	10/14/2008	3/6/2012
Vinyl Chloride	3	2.8 J
cis-1,2-DCE	11	5 U
TCE		5 U
PCE		5 U

MW03

MW03		
Date	10/14/2008	3/7/2012
Vinyl Chloride		5 UJ
cis-1,2-DCE		38
TCE		5 U
PCE		5 U

MW11D
MW11S
MW13S
MW13D

MW-13S		
Date	10/14/2008	3/7/2012
Vinyl Chloride	6.8 J	210 JD
cis-1,2-DCE	1700 D	7000 D
TCE	457 JD	950 D
PCE	641 D	2500 D

MW-13D		
Date	10/14/2008	3/7/2012
Vinyl Chloride		5 UJ
cis-1,2-DCE		5 U
TCE		5 U
PCE	6300 JD	5 U

MW12S

MW12S		
Date	10/15/2008	3/8/2012
Vinyl Chloride	18	500 UJ
cis-1,2-DCE	225.6 D	350 J
TCE	3500000 EDJ	500 U
PCE		71000 D

MW08S

MW08S		
Date	10/13/2008	3/7/2012
Vinyl Chloride	9.70	5 UJ
cis-1,2-DCE	371 D	26
TCE	92 J	10
PCE	19220 JD	1300 D

MW14S
MW15D

MW14S		
Date	10/15/2008	3/8/2012
Vinyl Chloride	4.5	500 UJ
cis-1,2-DCE	183 D	850
TCE	882.2	1300
PCE	160000 D	100000 D

MW-15D		
Date	10/15/2008	3/7/2012
Vinyl Chloride		5 UJ
cis-1,2-DCE		1.3 J
TCE		5 U
PCE	258 EJ	5

MW08S

MW-1S		
Date	10/14/2008	3/6/2012
Vinyl Chloride		1200 JD
cis-1,2-DCE		4300 D
TCE		130
PCE		750 D

MW01

MW16S

MW-16S		
Date	10/14/2008	3/6/2012
Vinyl Chloride		5 UJ
cis-1,2-DCE	100 J	34
TCE	700 JD	64
PCE	6500 JD	2200 D

Legend
- Monitoring Well

N

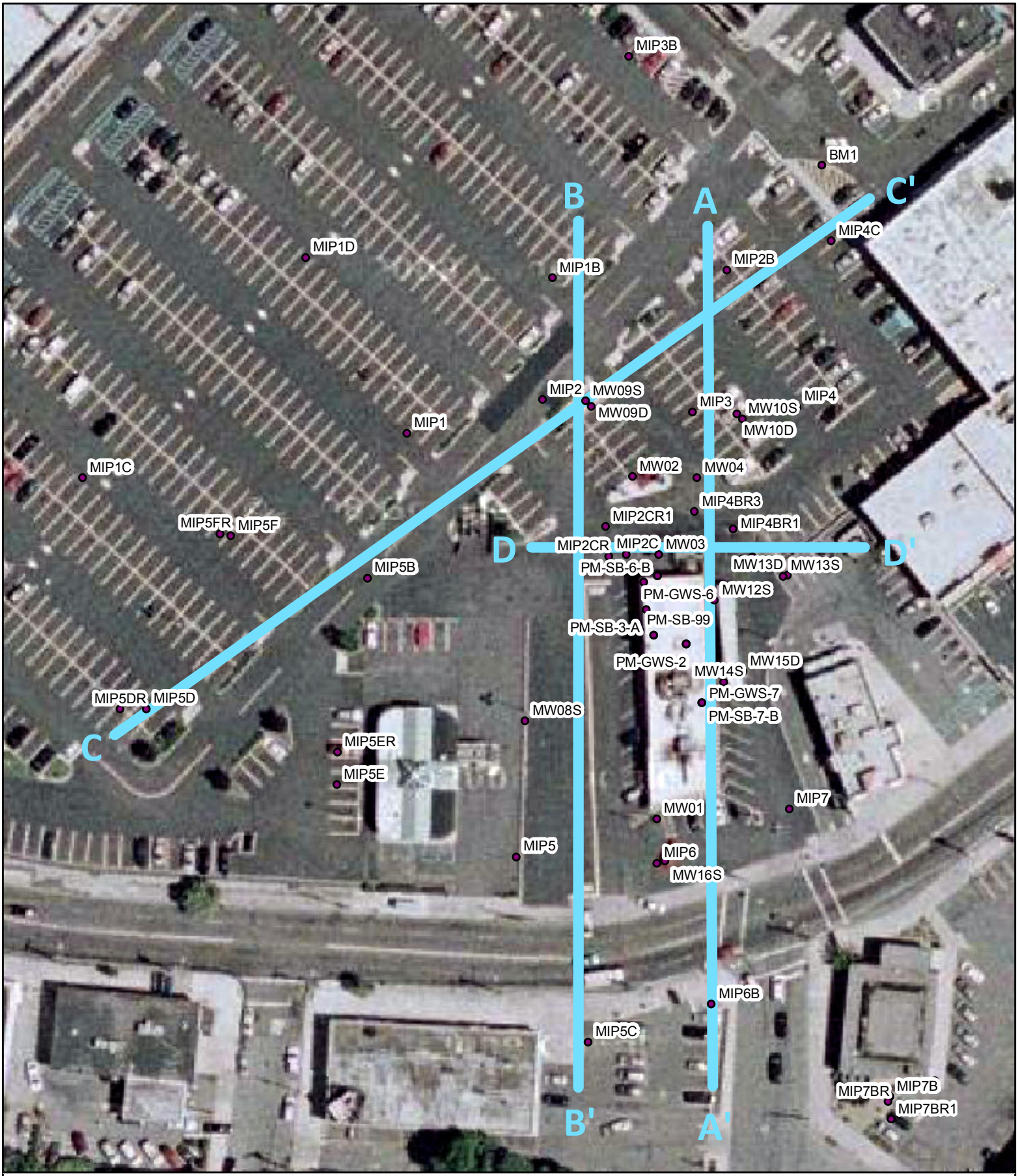
0 25 50 100 Feet

Groundwater Exceedances

Figure 4-4
Former Paul Miller Dry Cleaners
Port Richmond, NY

CDM Smith

QUBIC C:\IMS\GIS\Paul Miller\MXD\Figure 4-4 2012 and 2009 GWExceedBoxman.mxd 6/19/2012



N

Legend

- Sample Locations
- Cross Section Locations

Cross Section Locations

0 25 50 75 100 Feet

Figure 4-5
Former Paul Miller Dry Cleaners
Port Richmond, NY

CDM Smith

GURRC C:\IMS\GIS\Paul Miller\MXD\Figure 4-5 Cross Section Locations.mxd 6/15/2012

North
A

South
A'

MIP-2B
MIP-4
MIP-3
MW-10D
MW-10S
MW-04
MW-11S
MW-11D
MW-12S
MW-15D
MW-14S
MIP-7
MW-16S
MIP-6
MIP-6B

5 U
5 U
5 U
20.75
2.8 J

6.1
2.6 J
140
19.34
1.3 J

9,000 D
19.10
2,400 D
11,000 D
37 J

5 U
5 U
5 U
18.96
5 U

5 U
5 U
5 U
19.07
5 UJ

71,000 D
500 U
350 J
19.62
500 UJ

5
5 U
1.3 J
19.17
5 UJ

100,000 D
1,300
850
19.56
500 UJ

2,200 D
64
34
19.34
5 UJ

2,100 D
9
21
5 U

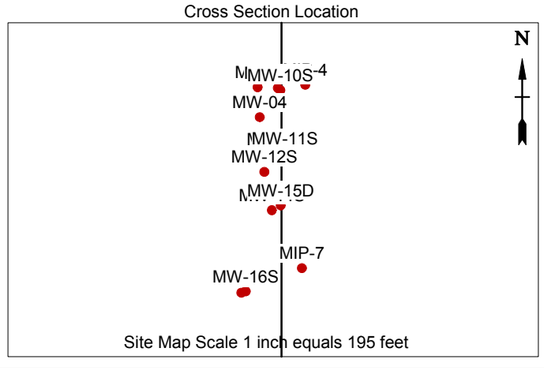
380 D
8.7
11
5 U

Elevation (feet above mean sea level)

Distance Along Baseline (ft)

LEGEND:

Cross Section Location



Site Map Scale 1 inch equals 195 feet

Screened Interval

-Higher relative Soil Conductivity data (BLACK line) indicates presence of silt and/or clay particles.
-Higher relative Electron Capture Detector data (BLUE line) indicates higher detections of VOCs in the soil or aquifer.

USCS Silty Sand
USCS Low Plasticity Clay
USCS Silt
USCS Well-graded Gravel
USCS Well-graded Sand
USCS Poorly-graded Gravel

Water Level Elevation (feet above mean sea level) 19.34
Date:

Groundwater Sample Results
Tetrachloroethene (PCE)
Trichloroethene (TCE)
cis-1,2-Dichloroethene
Vinyl Chloride
All results in micrograms per liter
U - not detected, detection limit is value to left
J - estimated concentration
D - dilution

Horizontal Scale (feet)

Vertical Exaggeration: 2x

Vertical Scale (feet)

CDM Smith

Figure 4-6
Cross Section A-A'
Former Paul Miller Dry Cleaners Site
Port Richmond, NY

STANDARD CROSS SECTION: PAUL_MILLER PAUL_MILLER_SMOOTHEDMIPDATA_MAR_2012.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 5/14/12 REV.

North
B

South
B'

-50 0 50 100 150 200 250 300 350 400 450 500

MIP-1B MW-9S MW-9D MIP-2C MW-8S MIP-5 MIP-5C

MW-9S: 19.00 — 34 / 16 / 17 / 0.58 J

MW-9D: 19.05 — 5 U / 5 U / 5 U / 5 UJ

MW-8S: 19.24 — 1,300 D / 10 / 26 / 5 UJ

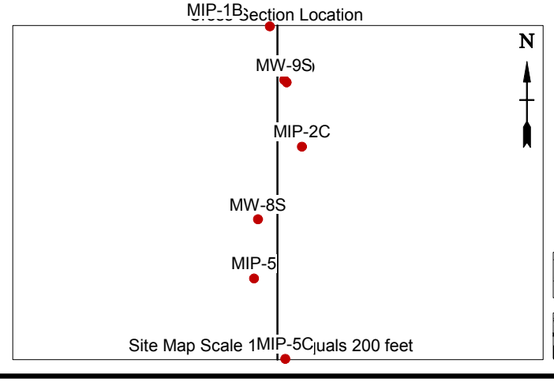
MIP-5: 32,000 D / 500 U / 780 / 500 U; 150 / 2.3 J / 1.7 J / 5 U

Elevation (feet above mean sea level)

20 10 0 -10 -20 -30 -40 -50 -60

Distance Along Baseline (ft)

LEGEND:



Section Location

Screened Interval

-Higher relative Soil Conductivity data (BLACK line) indicates presence of silt and/or clay particles.
-Higher relative Electron Capture Detector data (BLUE line) indicates higher detections of VOCs in the soil or aquifer.

USCS Well-graded Sand
USCS Low Plasticity Clay
USCS Silty Sand
USCS Well-graded Gravel
USCS Silt

Water Level Elevation (feet above mean sea level) 19.05
Date:

Groundwater Sample Results
Tetrachloroethene (PCE)
Trichloroethene (TCE)
cis-1,2-Dichloroethene
Vinyl Chloride
All results in micrograms per liter
U - not detected, detection limit is value to left
J - estimated concentration
D - dilution

0 45
Horizontal Scale (feet)

Vertical Exaggeration: 3x

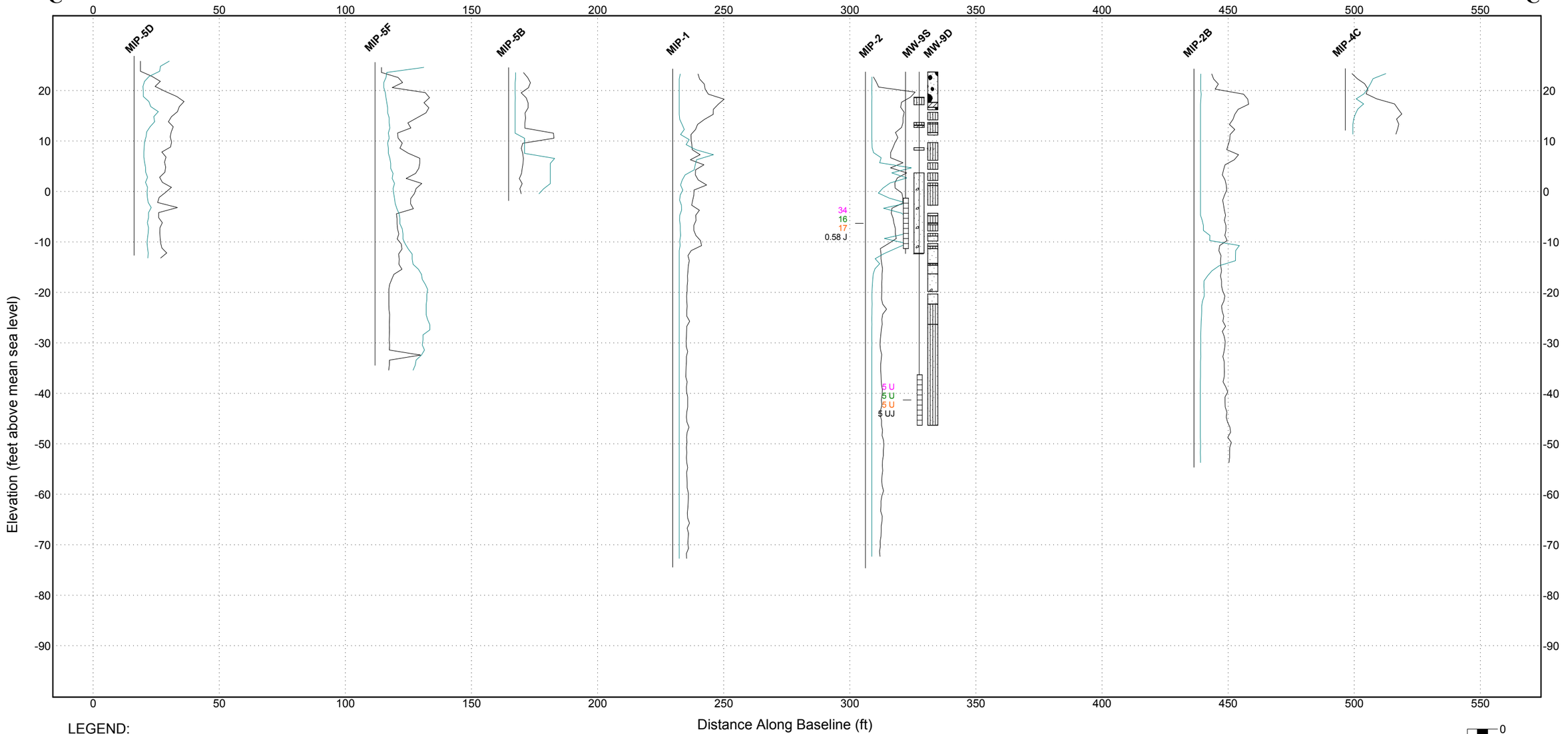
0 15
Vertical Scale (feet)

CDM Smith

Figure 4-7
Cross Section B-B'
Former Paul Miller Dry Cleaners Site
Port Richmond, NY

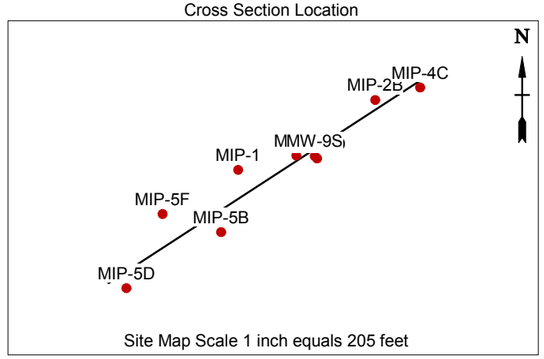
STANDARD CROSS SECTION: PAUL_MILLER PAUL_MILLER_SMOOTHEDMIPDATA_MAR_2012.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 5/14/12 REV.

Southwest C — **Northeast** C'



LEGEND:

Cross Section Location



Screened Interval

-Higher relative Soil Conductivity data (BLACK line) indicates presence of silt and/or clay particles.
-Higher relative Electron Capture Detector data (BLUE line) indicates higher detections of VOCs in the soil or aquifer.

USCS Well-graded Gravel
USCS Low Plasticity Clay
USCS Silty Sand
USCS Well-graded Sand
USCS Silt

Water Level Elevation (feet above mean sea level) 19.05
Date:

Groundwater Sample Results
Tetrachloroethene (PCE)
Trichloroethene (TCE)
cis-1,2-Dichloroethene
Vinyl Chloride
All results in micrograms per liter
U - not detected, detection limit is value to left
J - estimated concentration
D - dilution

0 40
Horizontal Scale (feet)

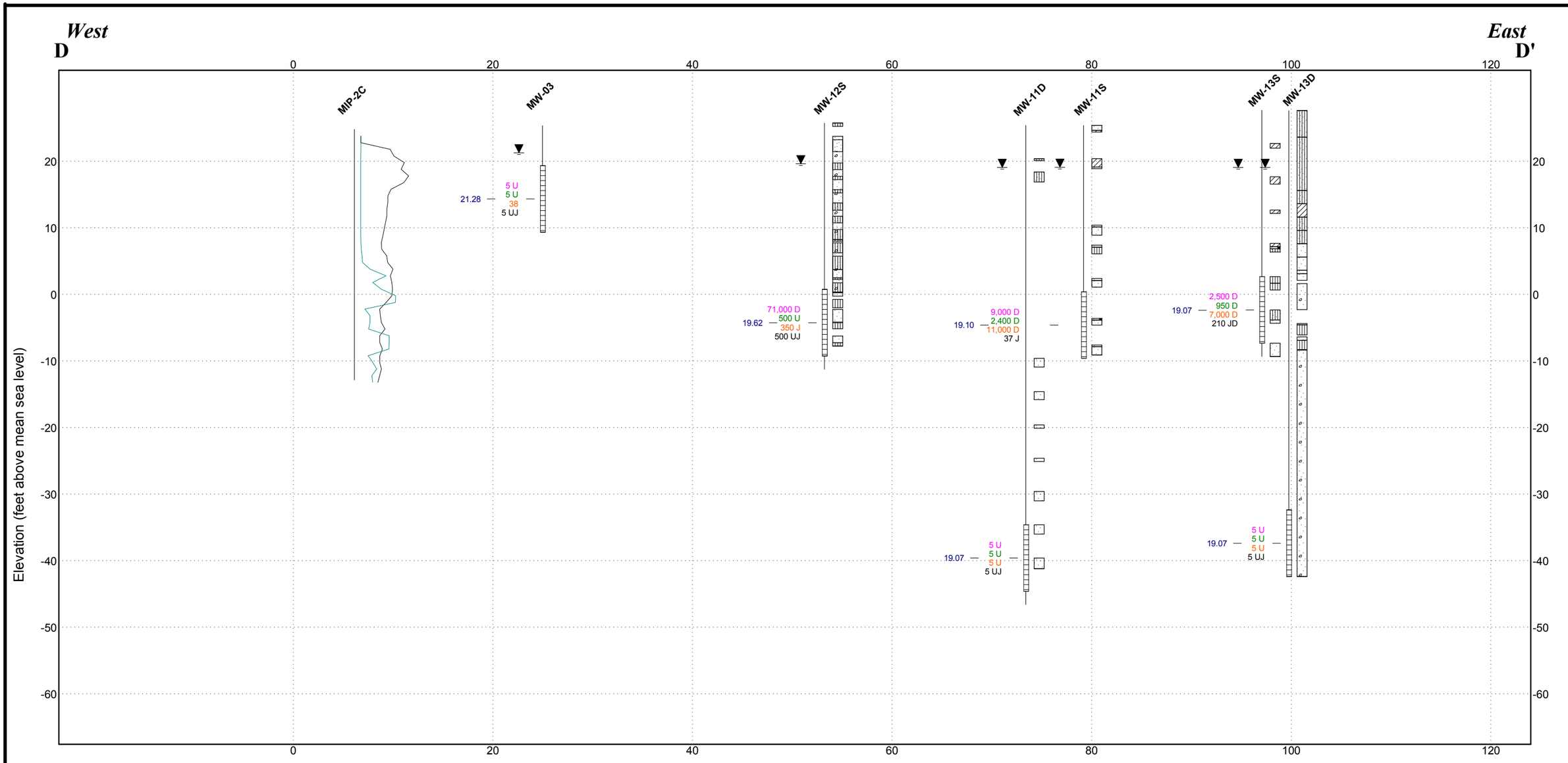
Vertical Exaggeration: 2x

0 20
Vertical Scale (feet)

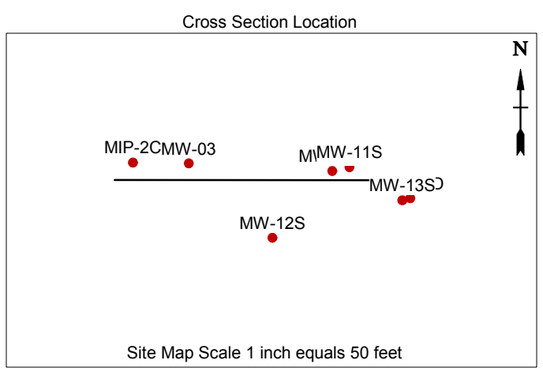
CDM Smith

Figure 4-8
Cross Section C-C'
Former Paul Miller Dry Cleaners Site
Port Richmond, NY

STANDARD CROSS SECTION: PAUL MILLER PAUL_MILLER_SMOOTHEDMIPDATA_MAR_2012.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 5/14/12 REV.



LEGEND:



Screened Interval

-Higher relative Soil Conductivity data (BLACK line) indicates presence of silt and/or clay particles.
-Higher relative Electron Capture Detector data (BLUE line) indicates higher detections of VOCs in the soil or aquifer.

USCS Silty Sand
USCS Well-graded Sand
USCS Low Plasticity Clay
USCS Silt
USCS Well-graded Gravel

Water Level Elevation (feet above mean sea level) 19.10
Date:

Groundwater Sample Results
Tetrachloroethene (PCE)
Trichloroethene (TCE)
cis-1,2-Dichloroethene
Vinyl Chloride
All results in micrograms per liter
U - not detected, detection limit is value to left
J - estimated concentration
D - dilution

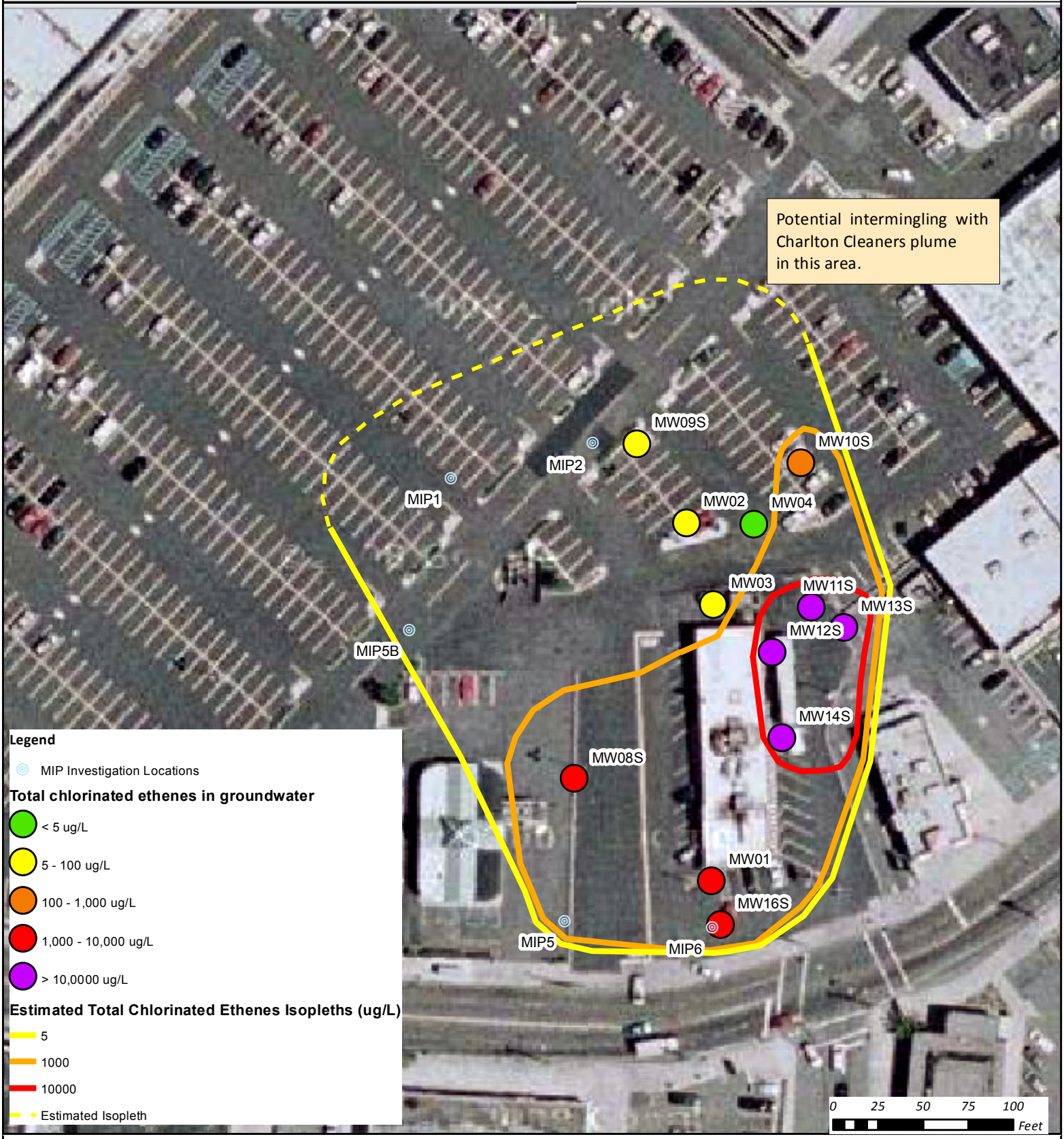
0 10
Horizontal Scale (feet)

Vertical Exaggeration: 0.5x

0
15
Vertical Scale (feet)

CDM Smith

Figure 4-9
Cross Section D-D'
Former Paul Miller Dry Cleaners Site
Port Richmond, NY



N

Shallow Groundwater - Total Chlorinated Ethenes Isopleths

Figure 4-10
Former Paul Miller Dry Cleaners
Port Richmond, NY

Note:
1) Shallow groundwater gradient is north/northwest
2) Shallow groundwater is less than 35 feet bgs

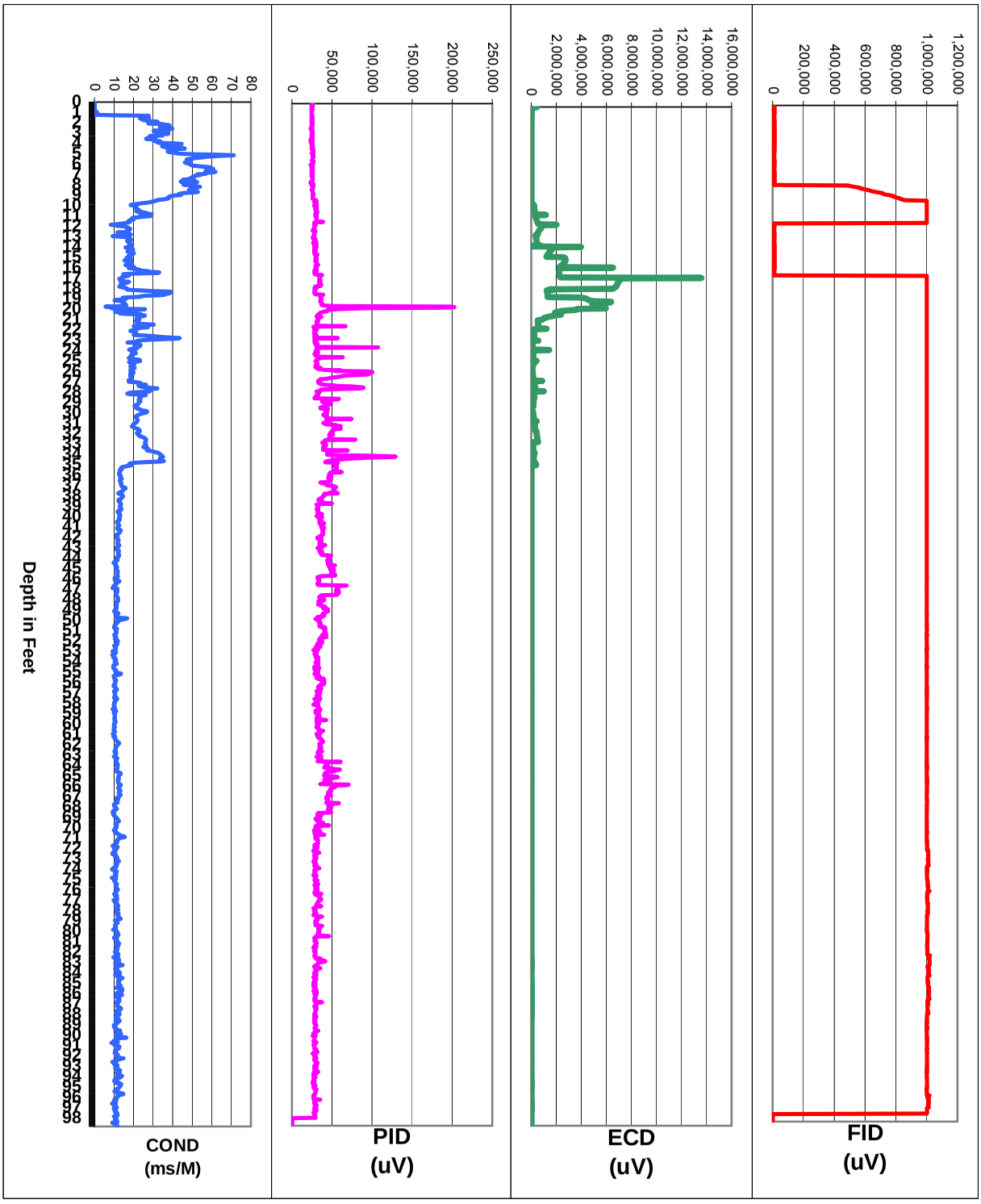
CDM Smith

GURRC C:\IMS\GIS\Paul Miller\MXD\Figure 4-10 Shallow Total Ethenes Isocontour.mxd 9/5/2012

Appendix A

Membrane Interface Probe Results

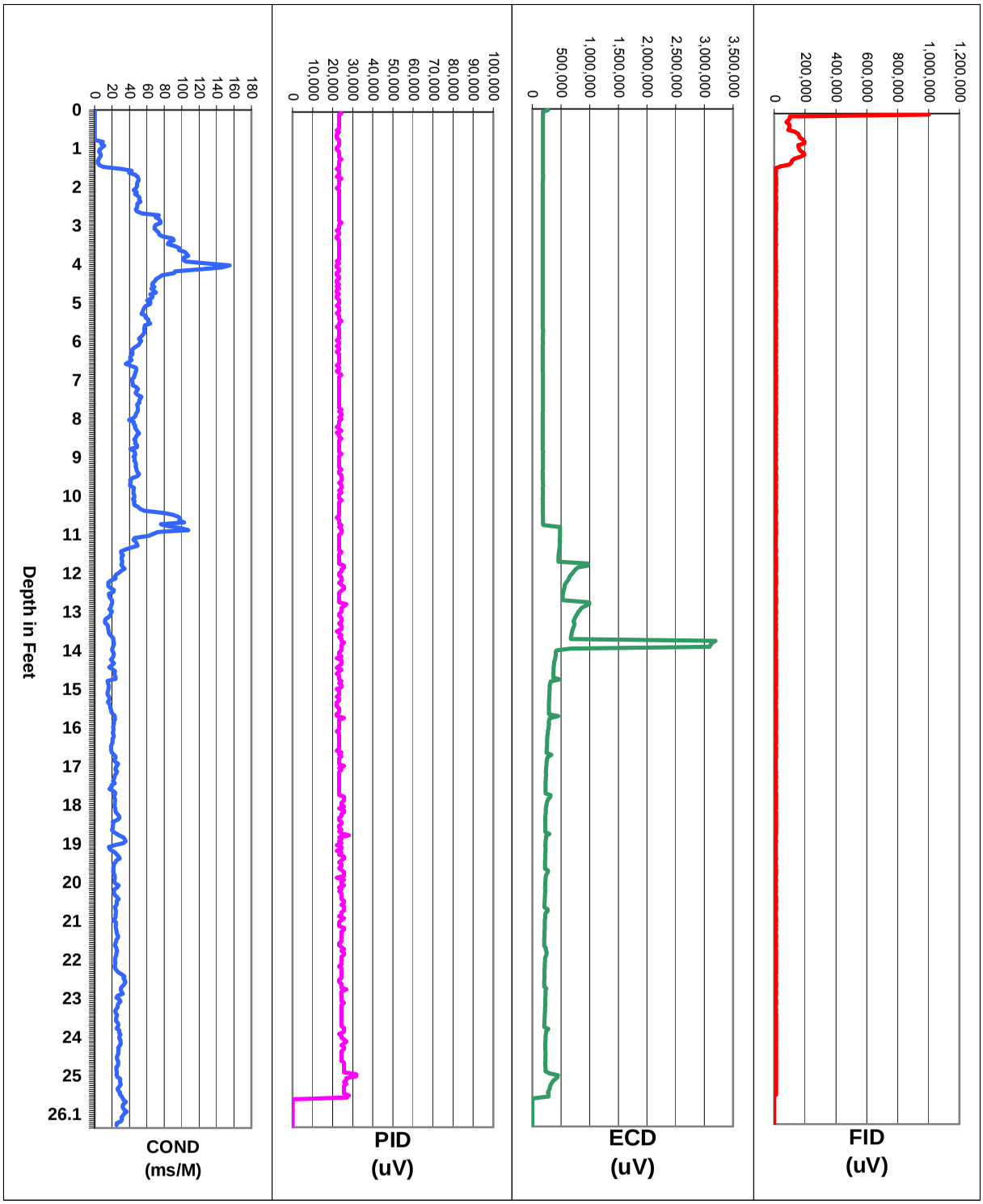
ZEBRA EC/MIP Summary Log, Point CDMMIP1
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 5/10/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 1 of 0

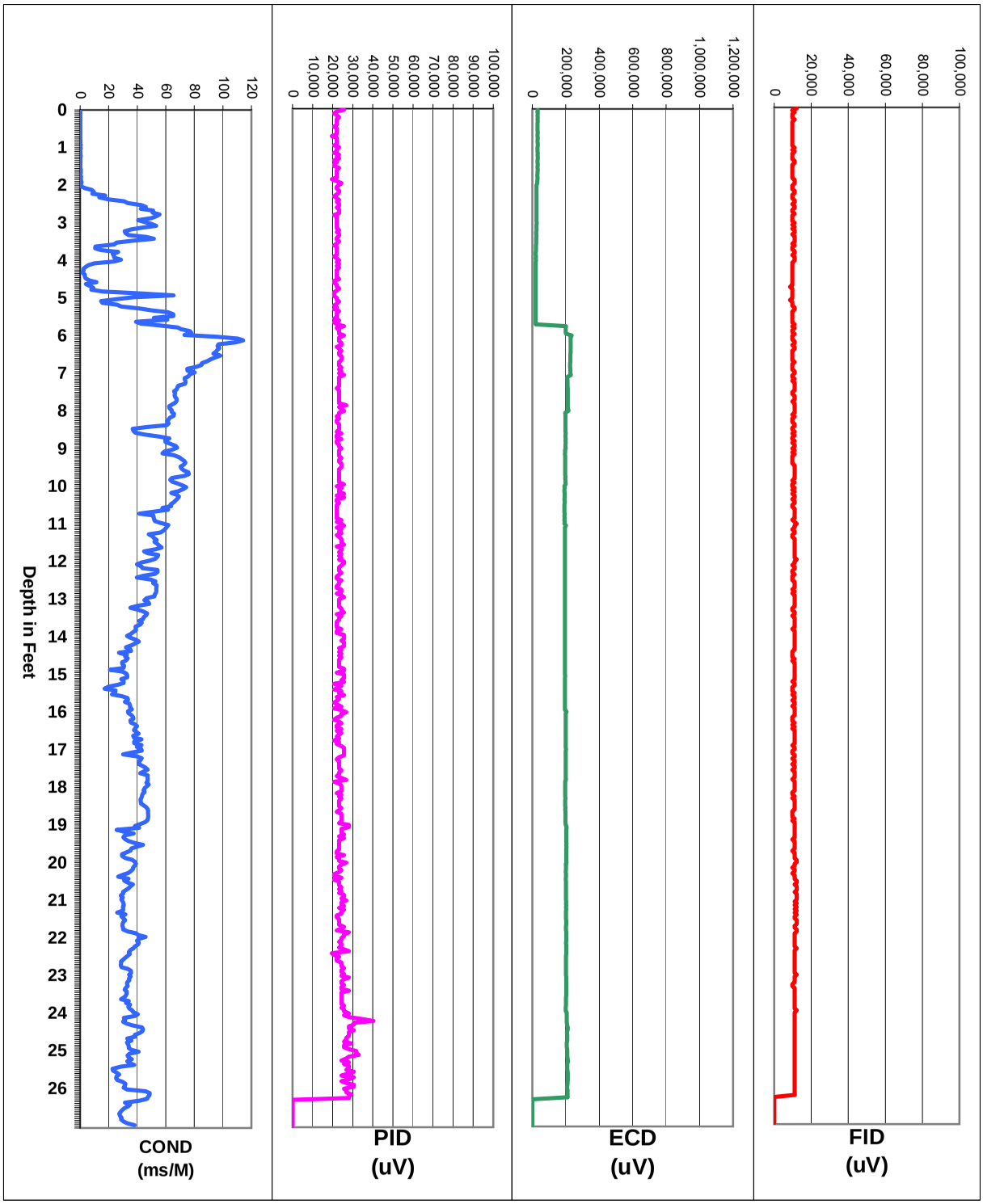
ZEBRA EC/MIP Summary Log, Point CDMMIP1B
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 5/10/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 8 of 0

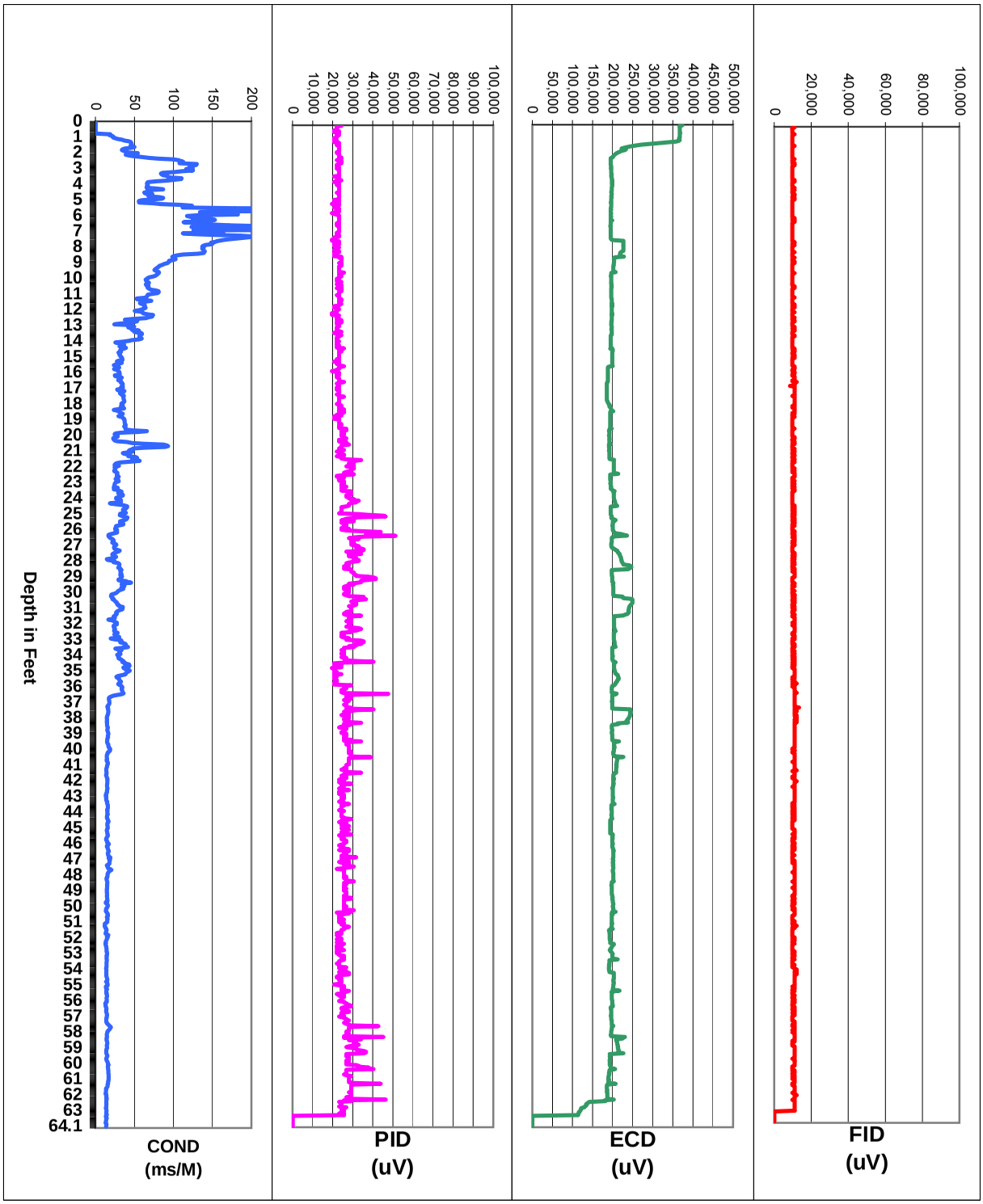
ZEBRA EC/MIP Summary Log, Point CDMMIP1C
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 5/21/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 12 of 0

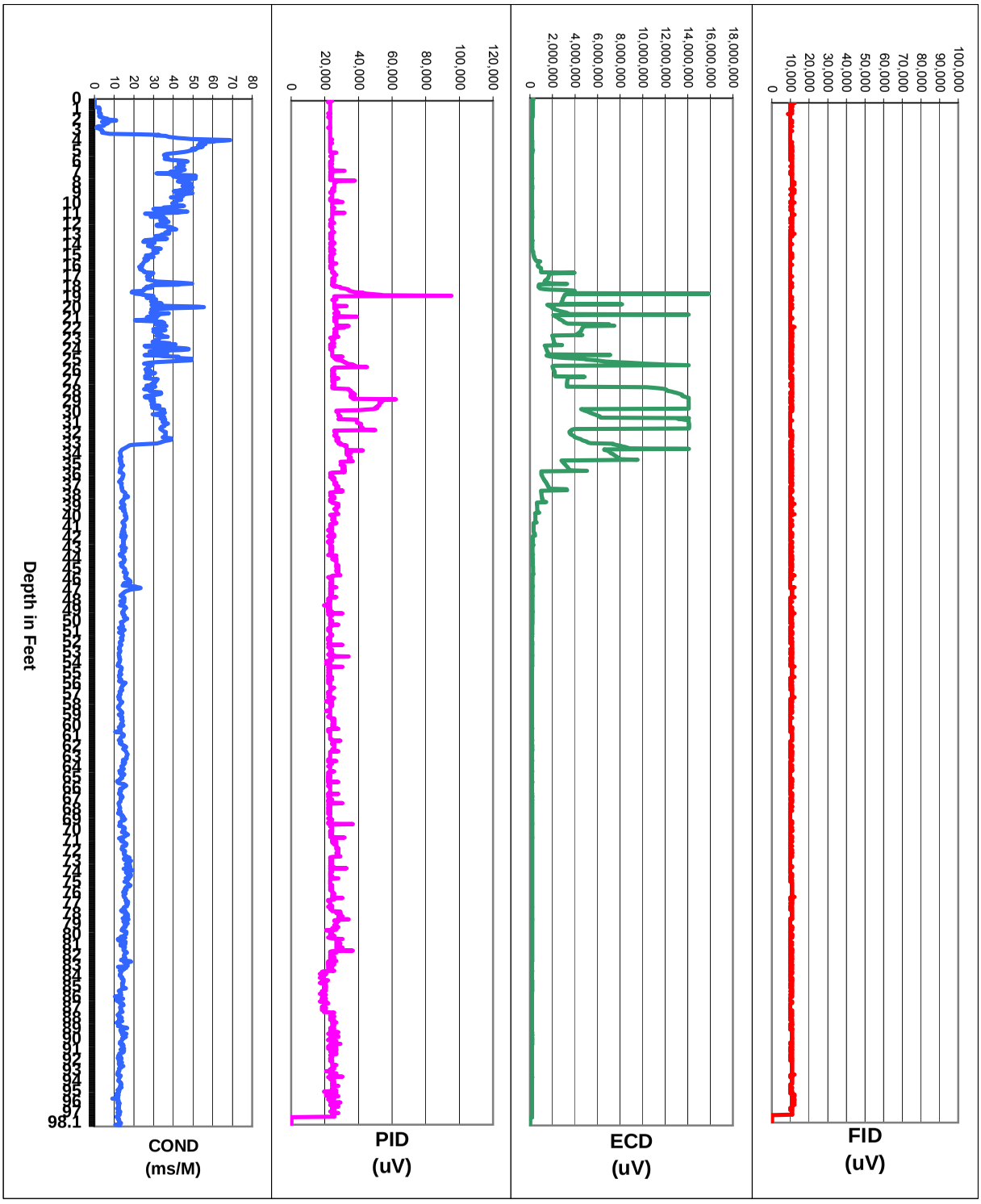
ZEBRA EC/MIP Summary Log, Point CDMMIP1D
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 5/21/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 11 of 0

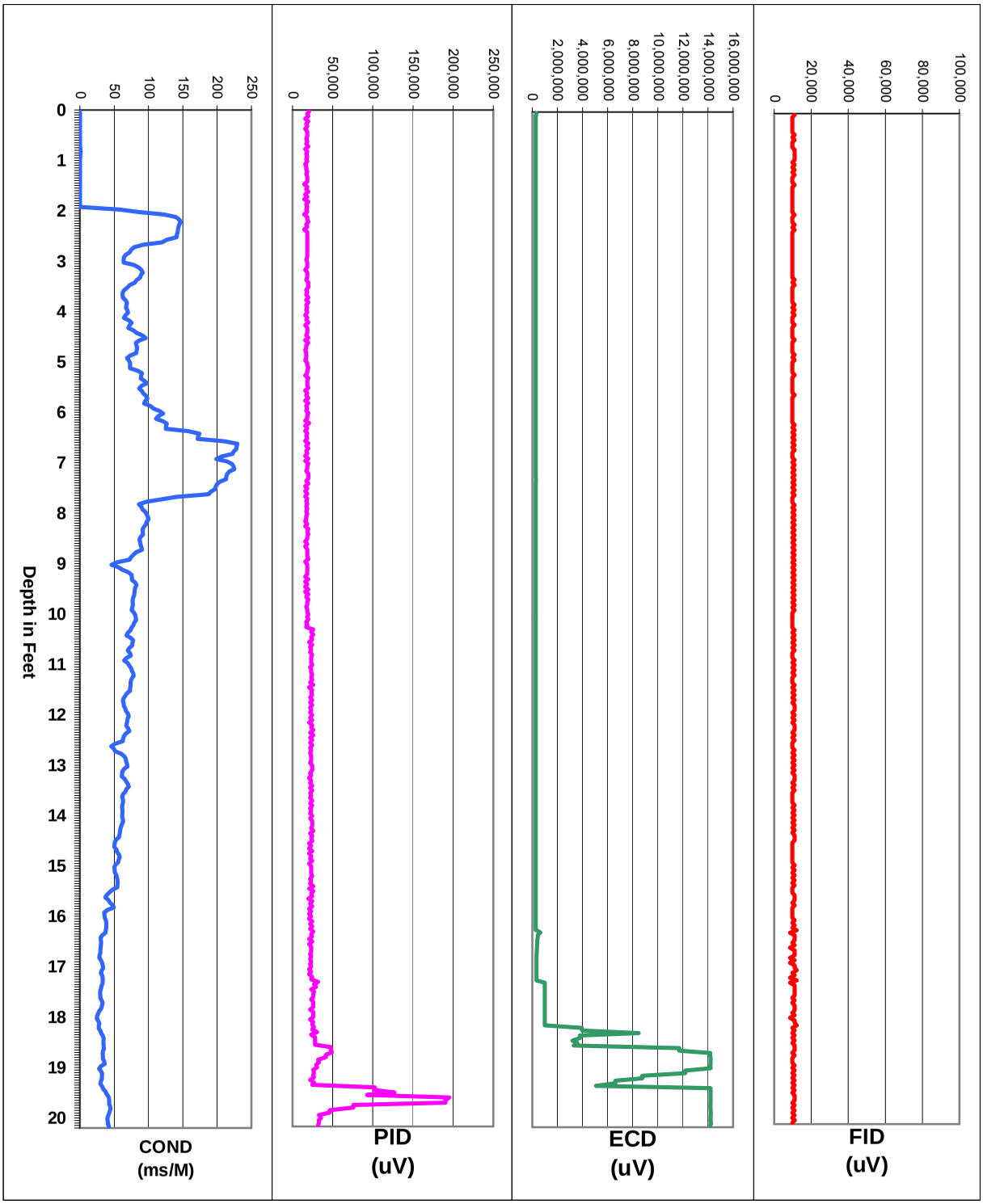
ZEBRA EC/MIP Summary Log, Point CDMMIP2
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 5/11/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 2 of 0

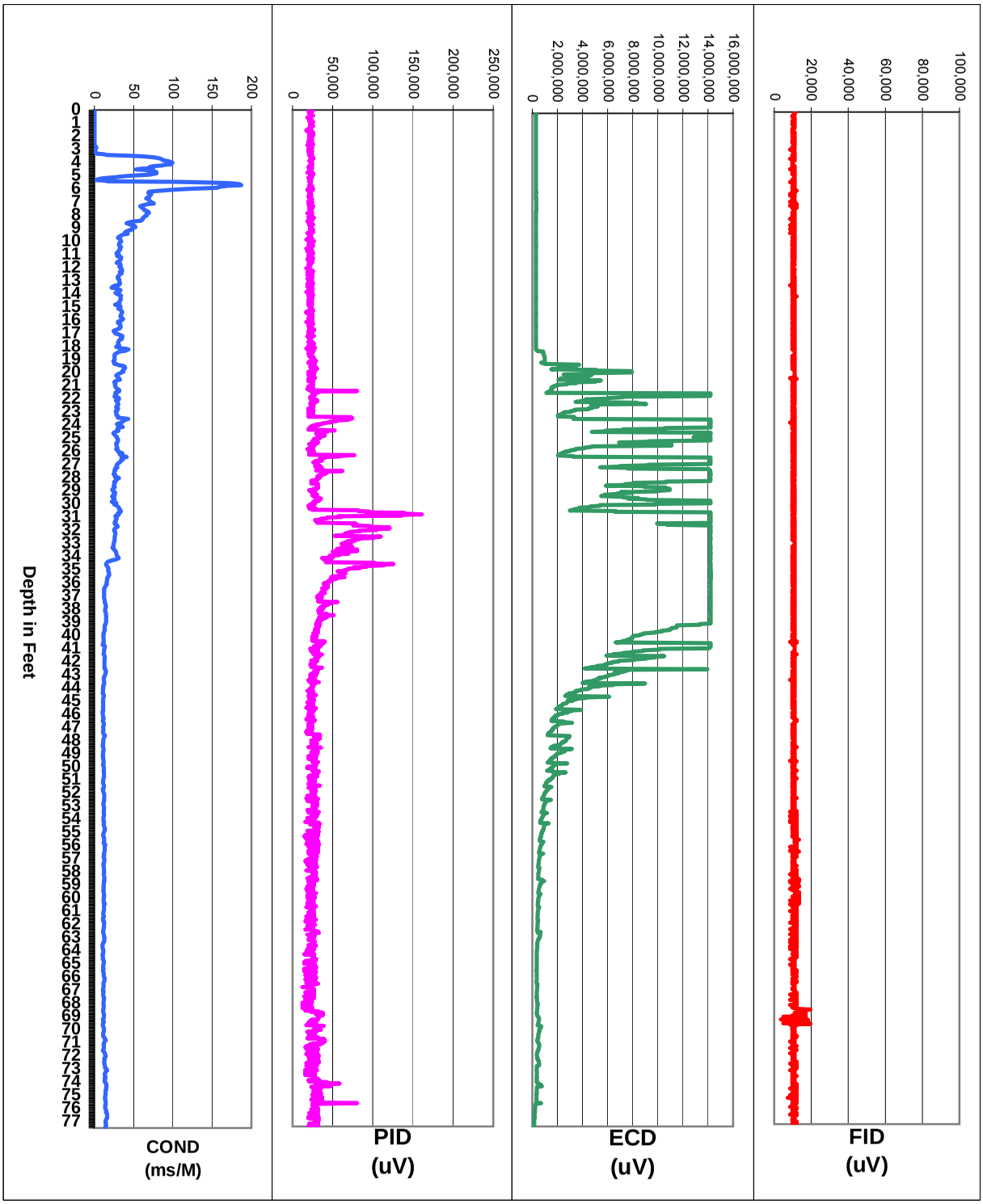
ZEBRA EC/MIP Summary Log, Point CDMMIP2C2
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/16/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 33 of 0

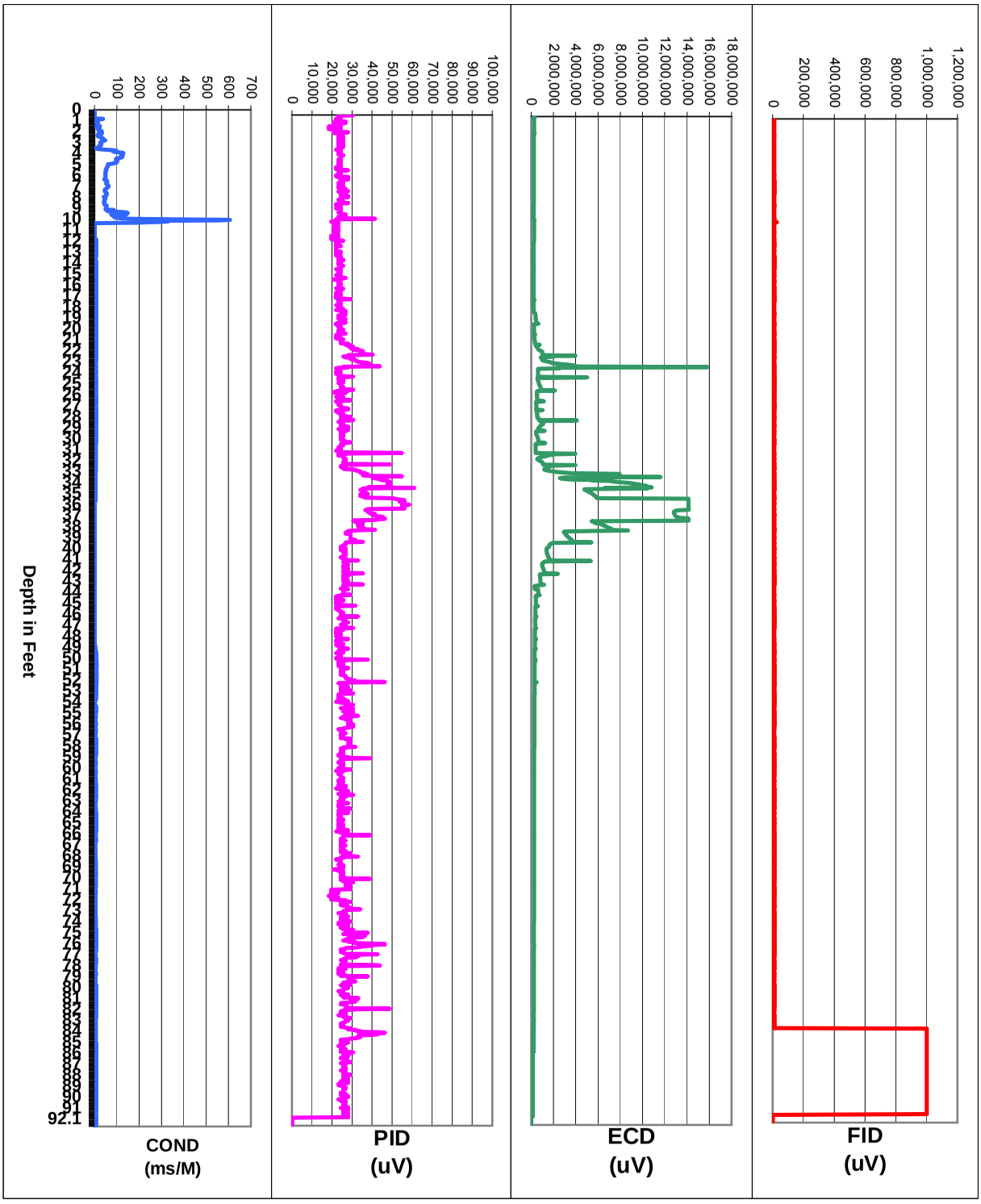
ZEBRA EC/MIP Summary Log, Point CDMMIP2C3
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/16/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 34 of 0

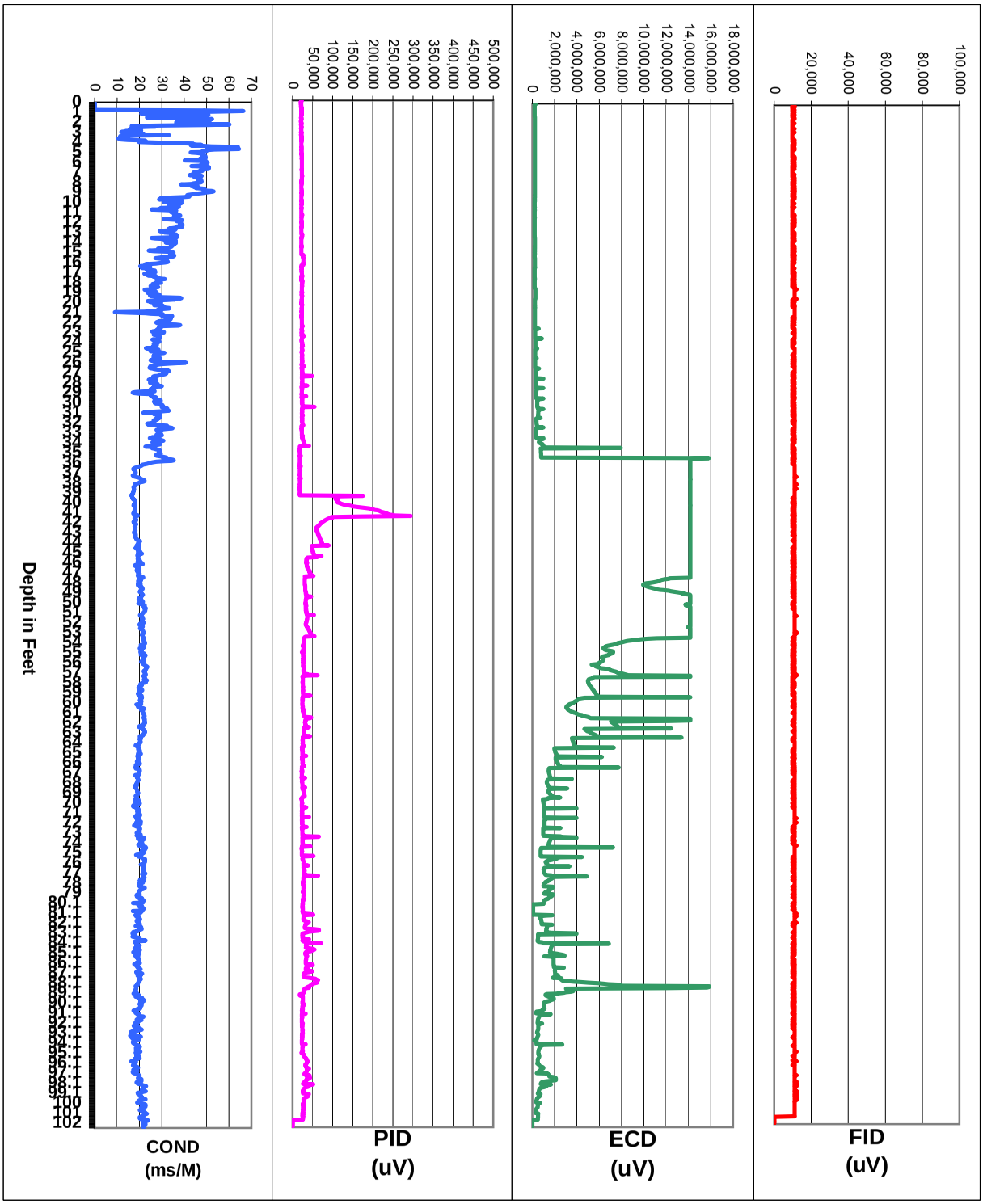
ZEBRA EC/MIP Summary Log, Point CDMMIP3
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 5/12/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 3 of 0

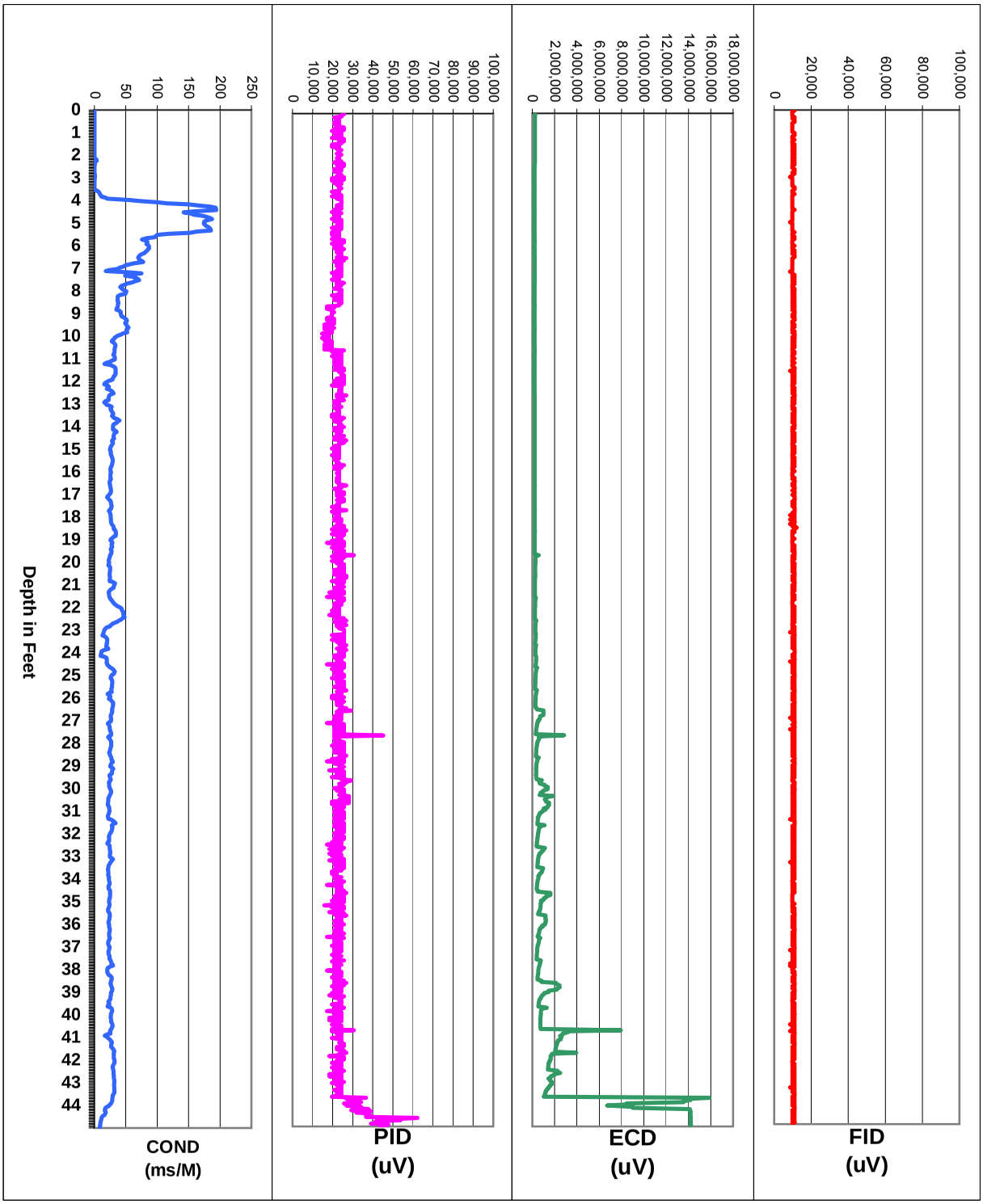
ZEBRA EC/MIP Summary Log, Point CDMMIP4
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 5/13/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 4 of 0

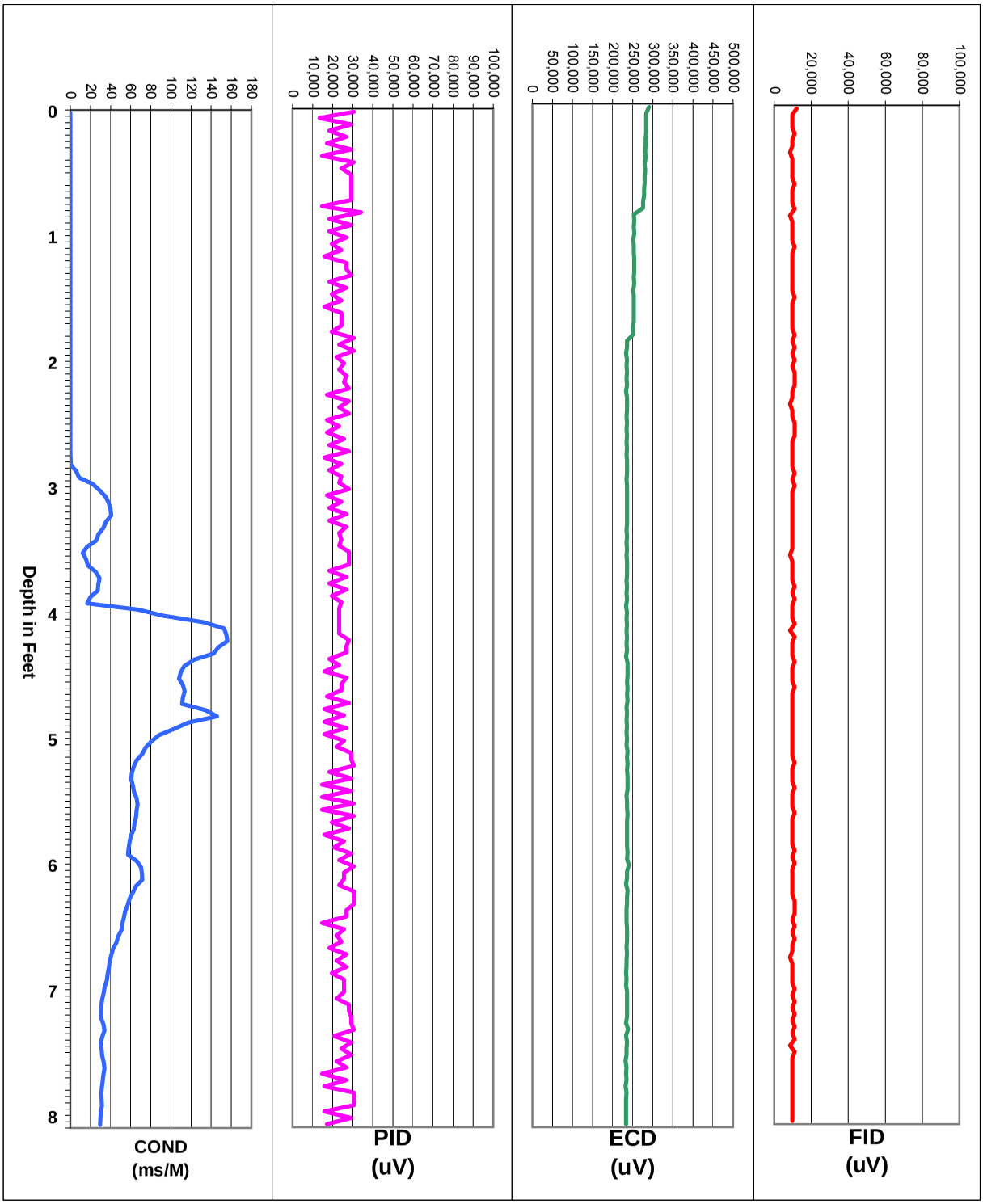
ZEBRA EC/MIP Summary Log, Point CDMMIP4B
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/14/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 29 of 0

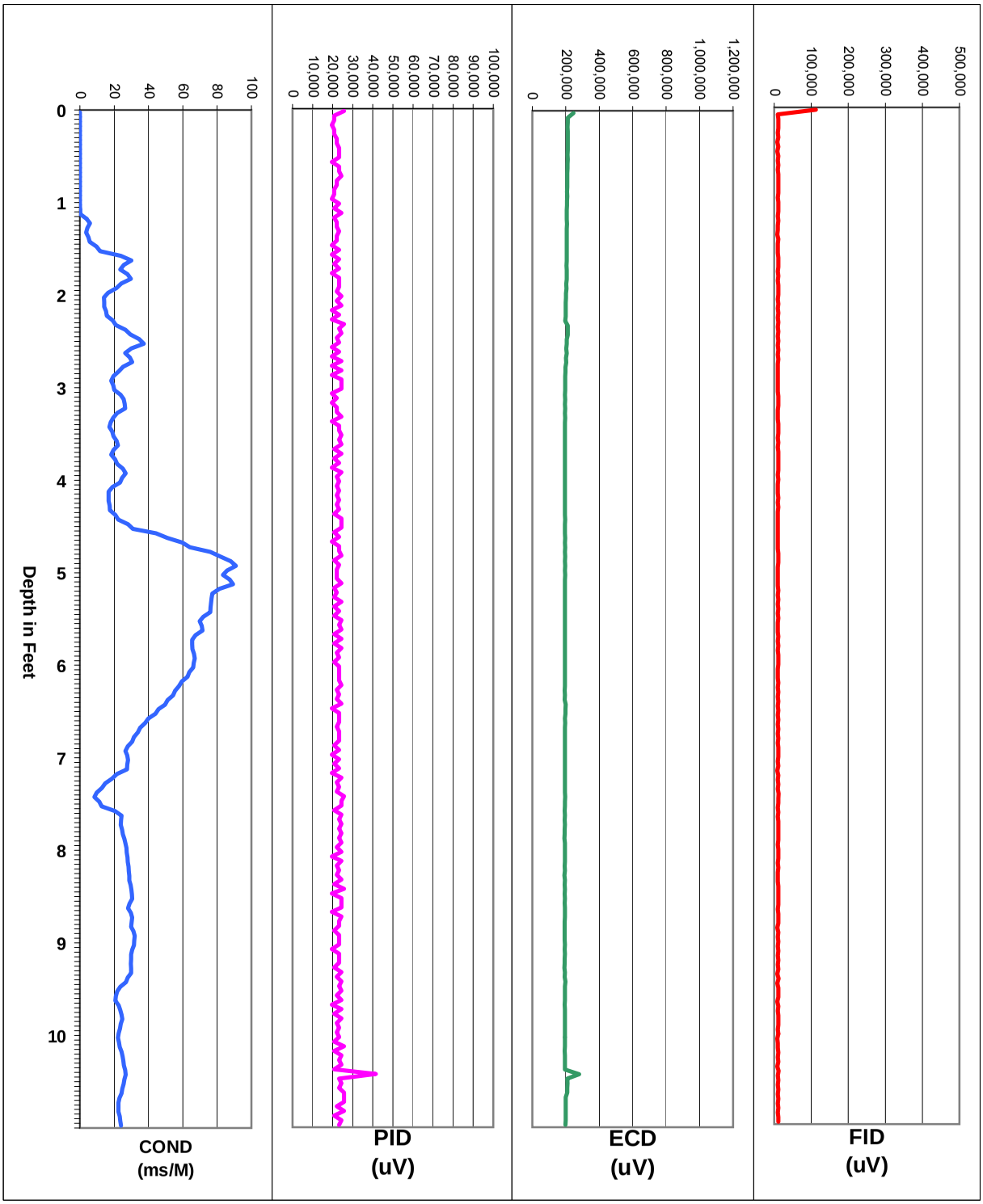
ZEBRA EC/MIP Summary Log, Point CDMMIP4BR2
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/14/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 27 of 0

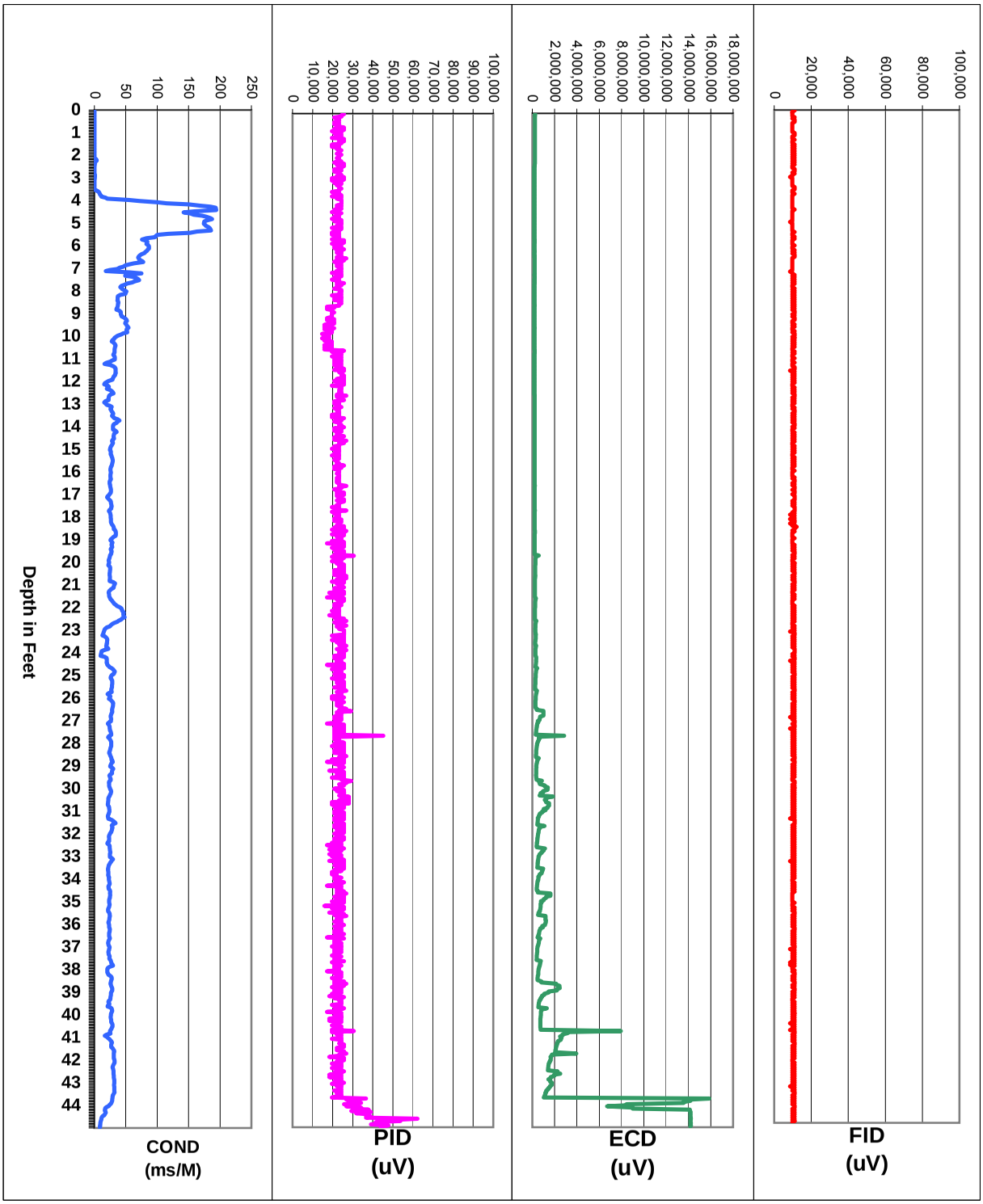
ZEBRA EC/MIP Summary Log, Point CDMMIP4BR3
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/14/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 28 of 0

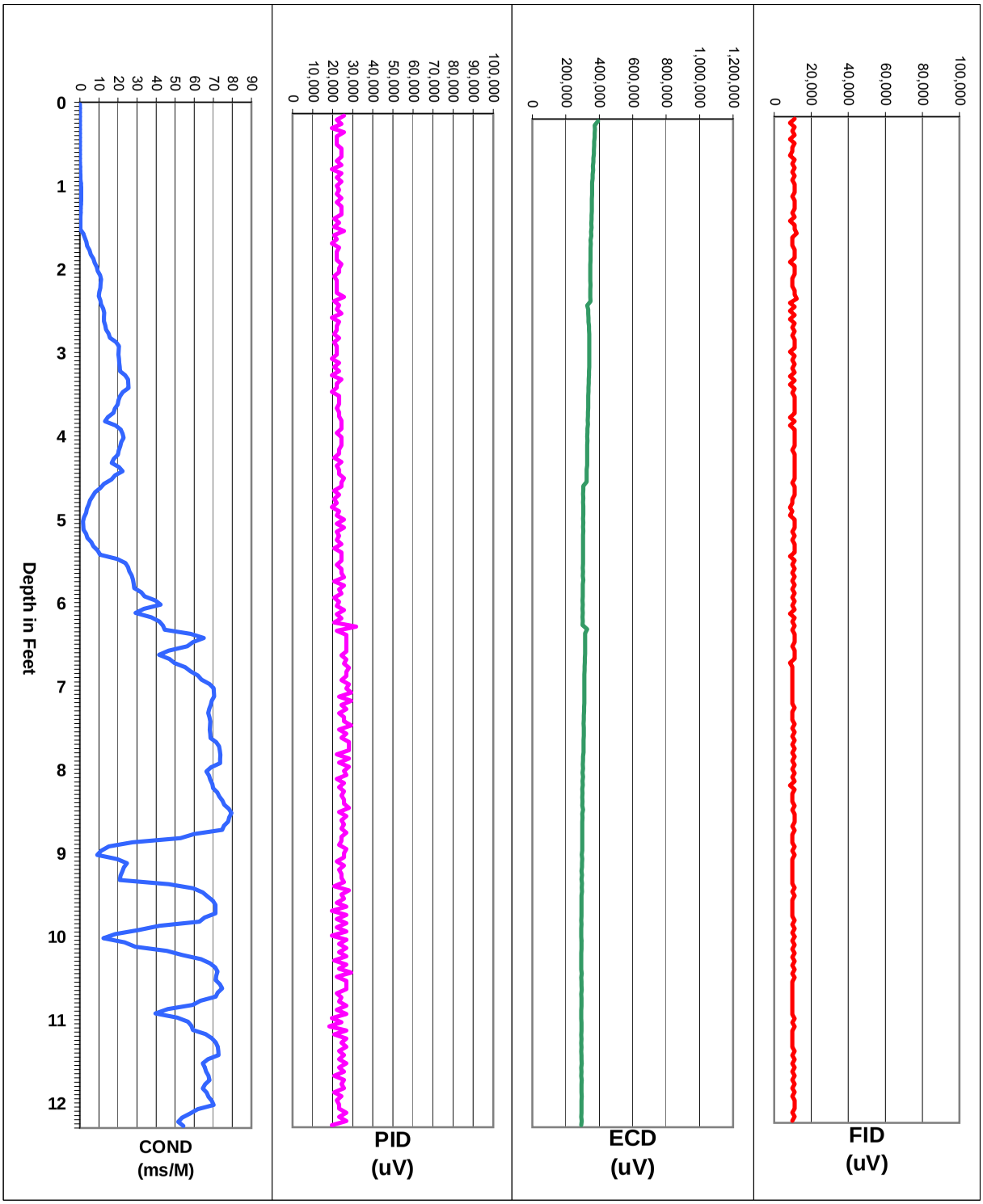
ZEBRA EC/MIP Summary Log, Point CDMMIP4C
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/14/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 29 of 0

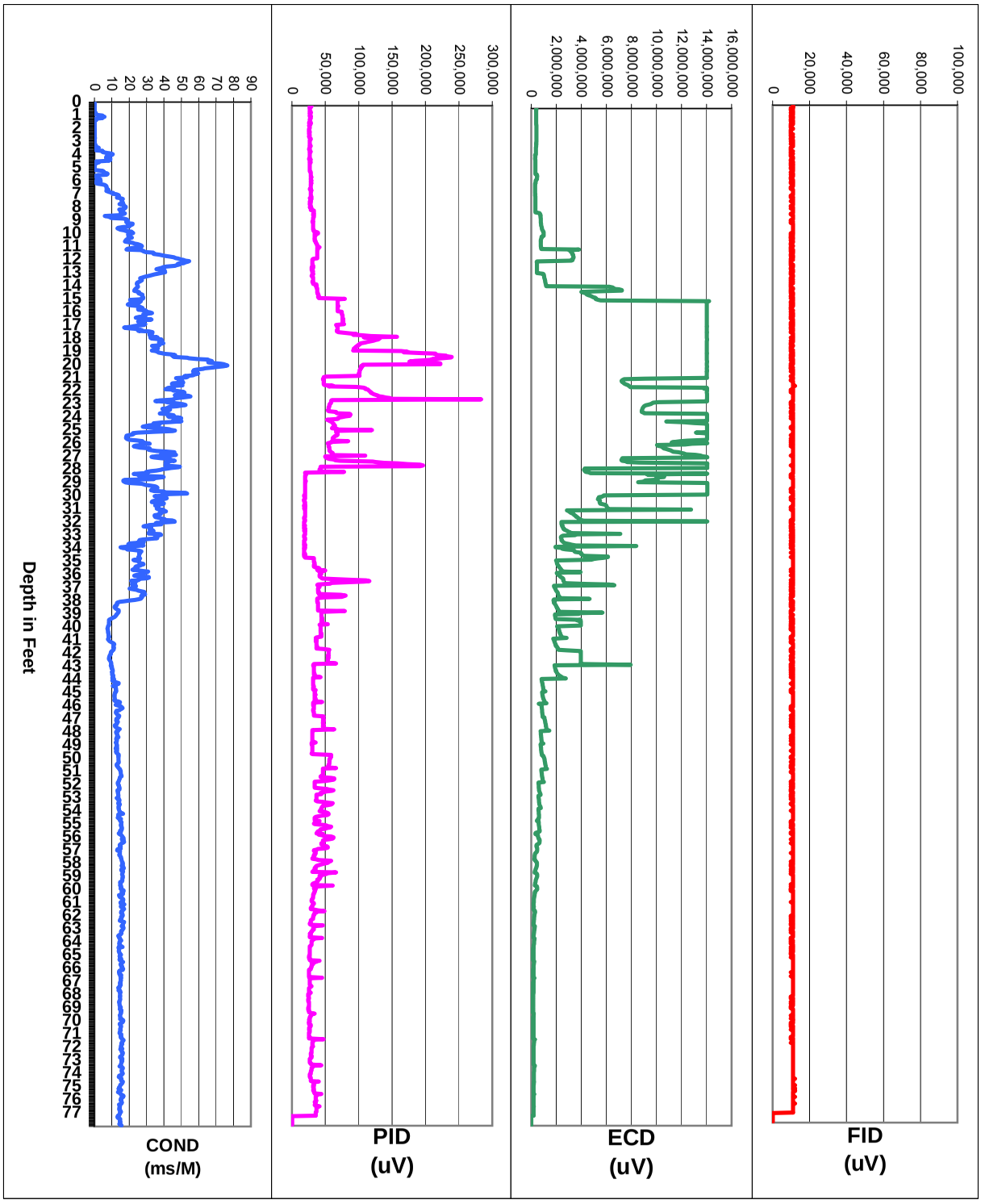
ZEBRA EC/MIP Summary Log, Point CDMMIP4R
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/11/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 20 of 0

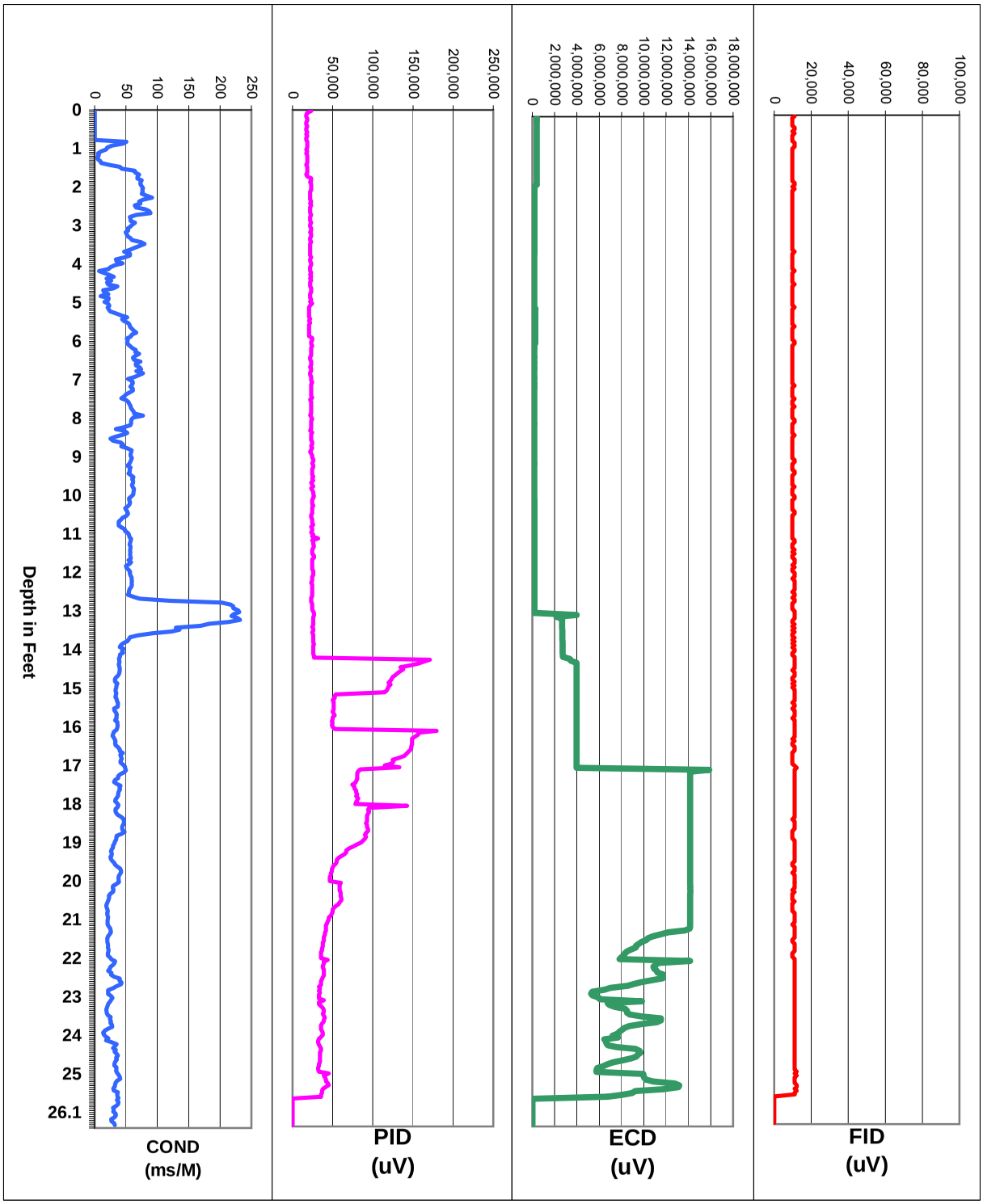
ZEBRA EC/MIP Summary Log, Point CDMMIP5
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 5/17/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 5 of 0

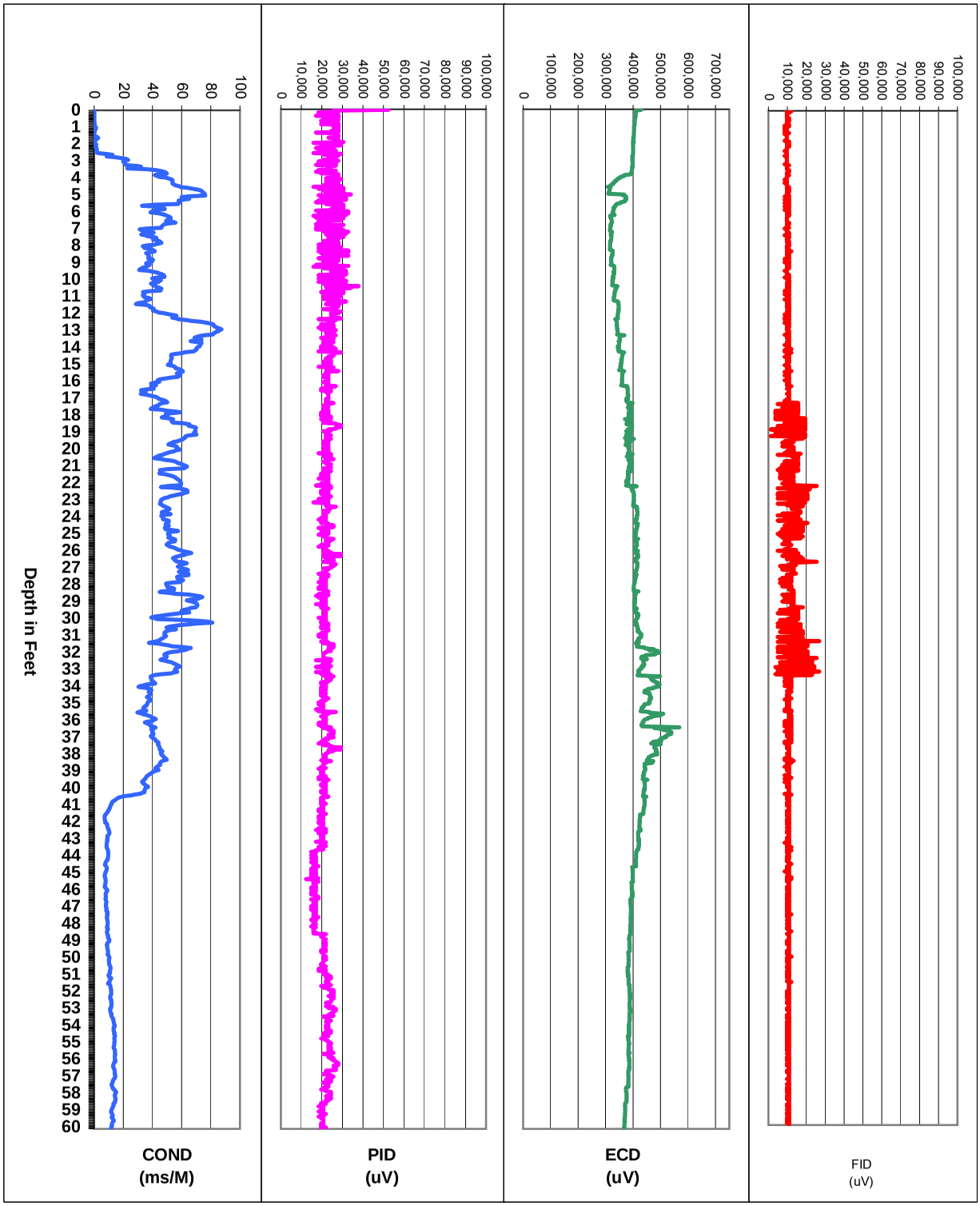
ZEBRA EC/MIP Summary Log, Point CDMMIP5B
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 5/21/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 13 of 0

ZEBRA EC/MIP Summary Log, Point CDMMIP5C

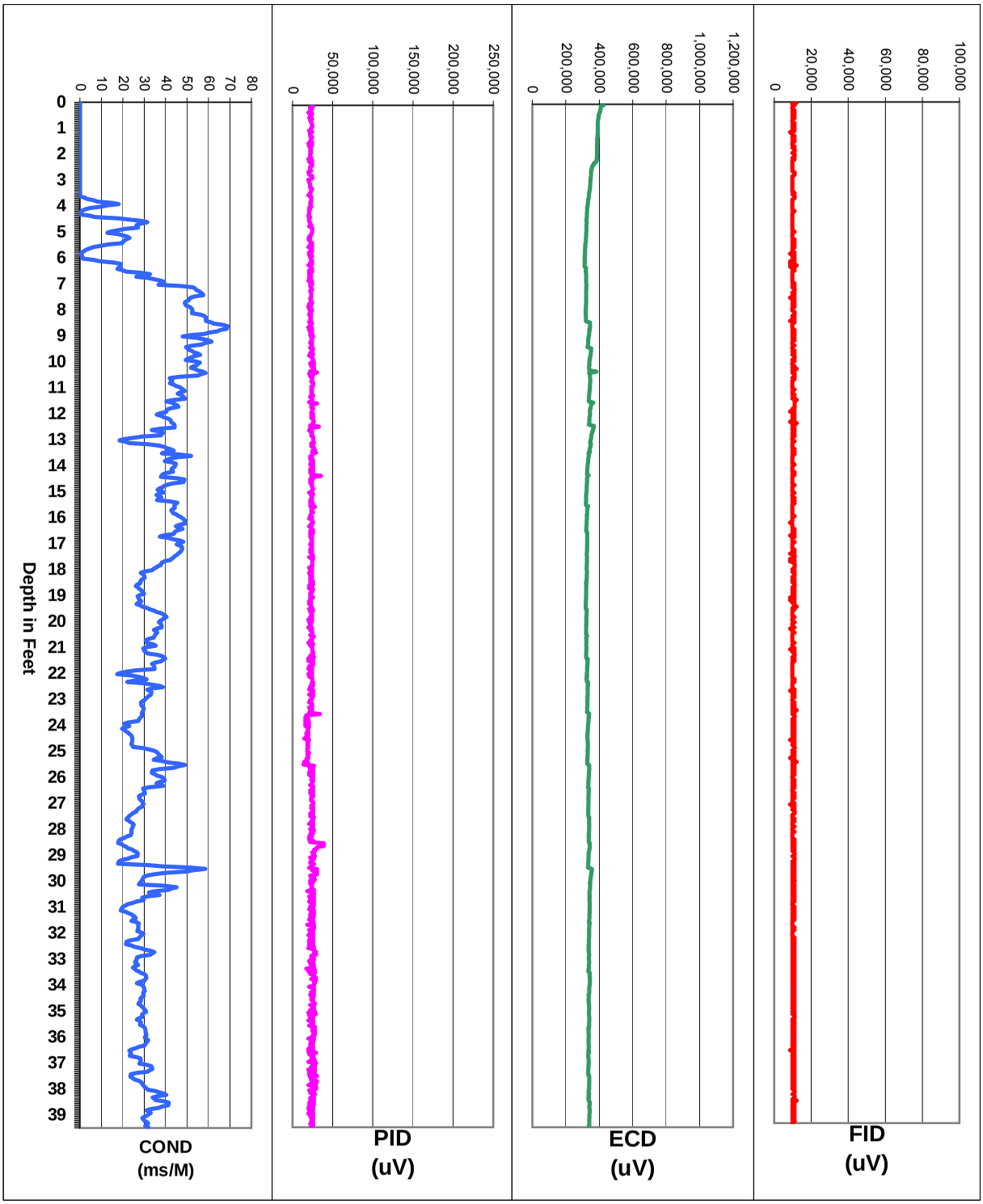


ZEBRA

for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/9/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 14 of 0

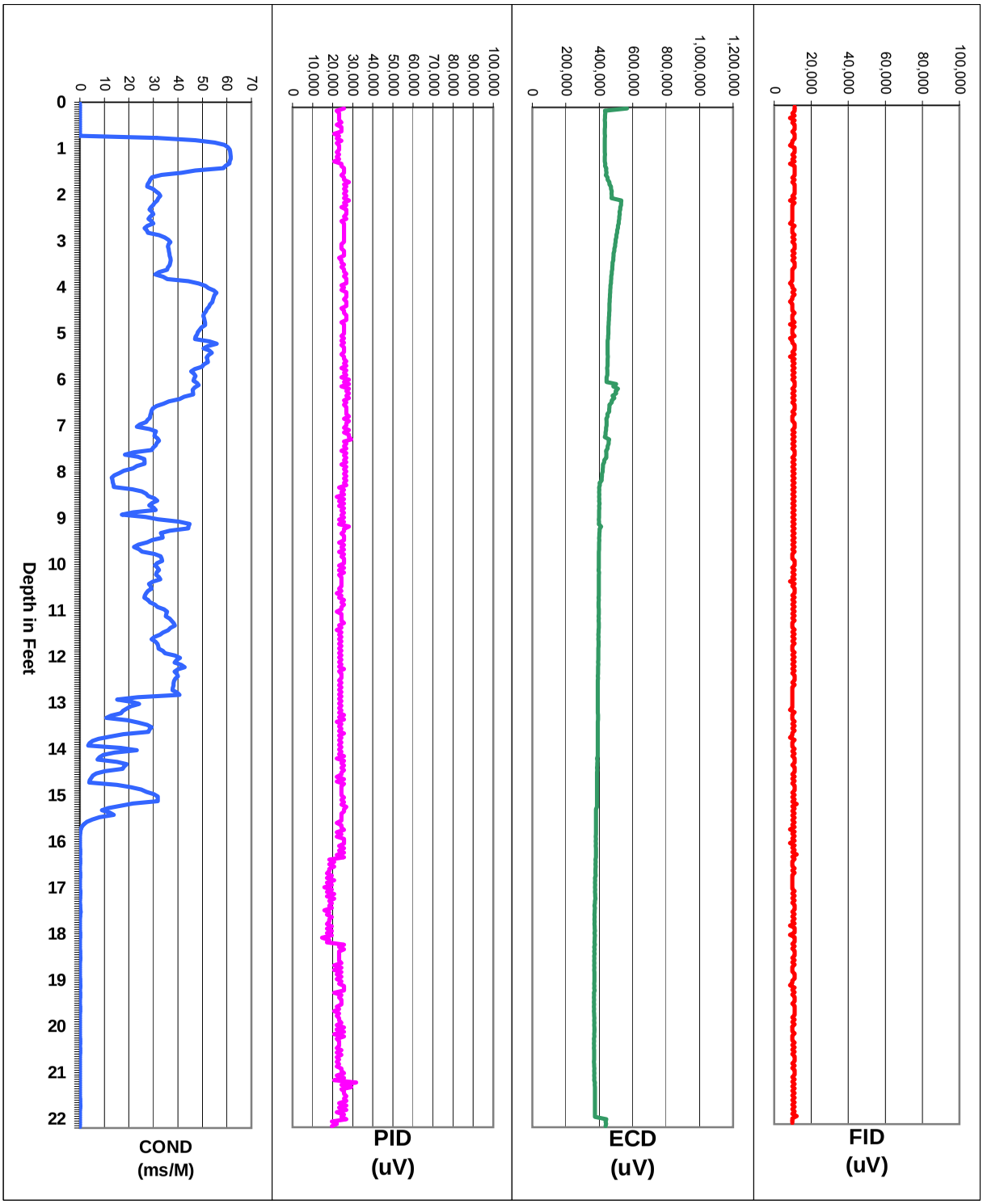
ZEBRA EC/MIP Summary Log, Point CDMMIP5D
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/12/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 23 of 0

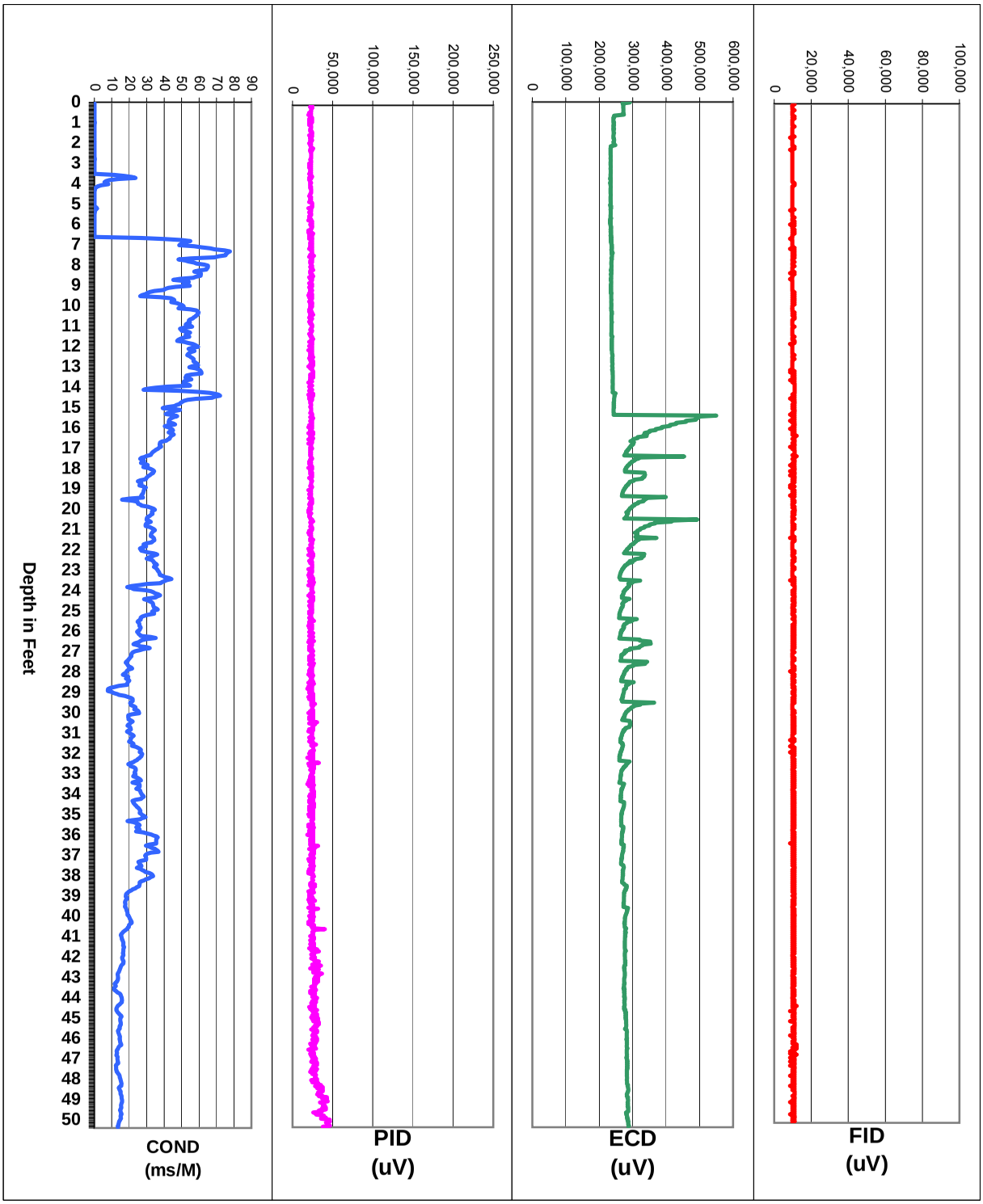
ZEBRA EC/MIP Summary Log, Point CDMMIP5DR
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/12/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 22 of 0

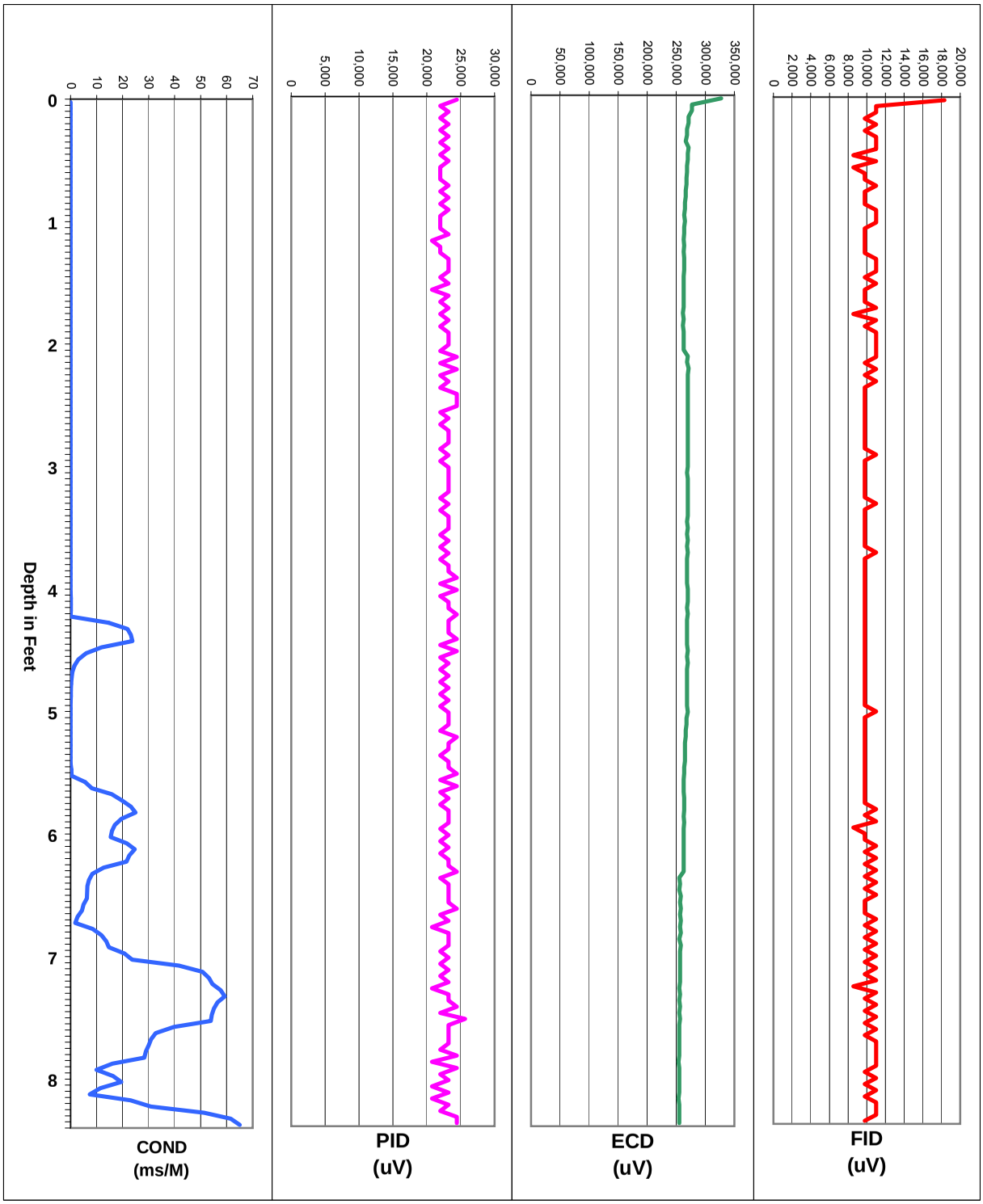
ZEBRA EC/MIP Summary Log, Point CDMMIP5E
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/14/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 26 of 0

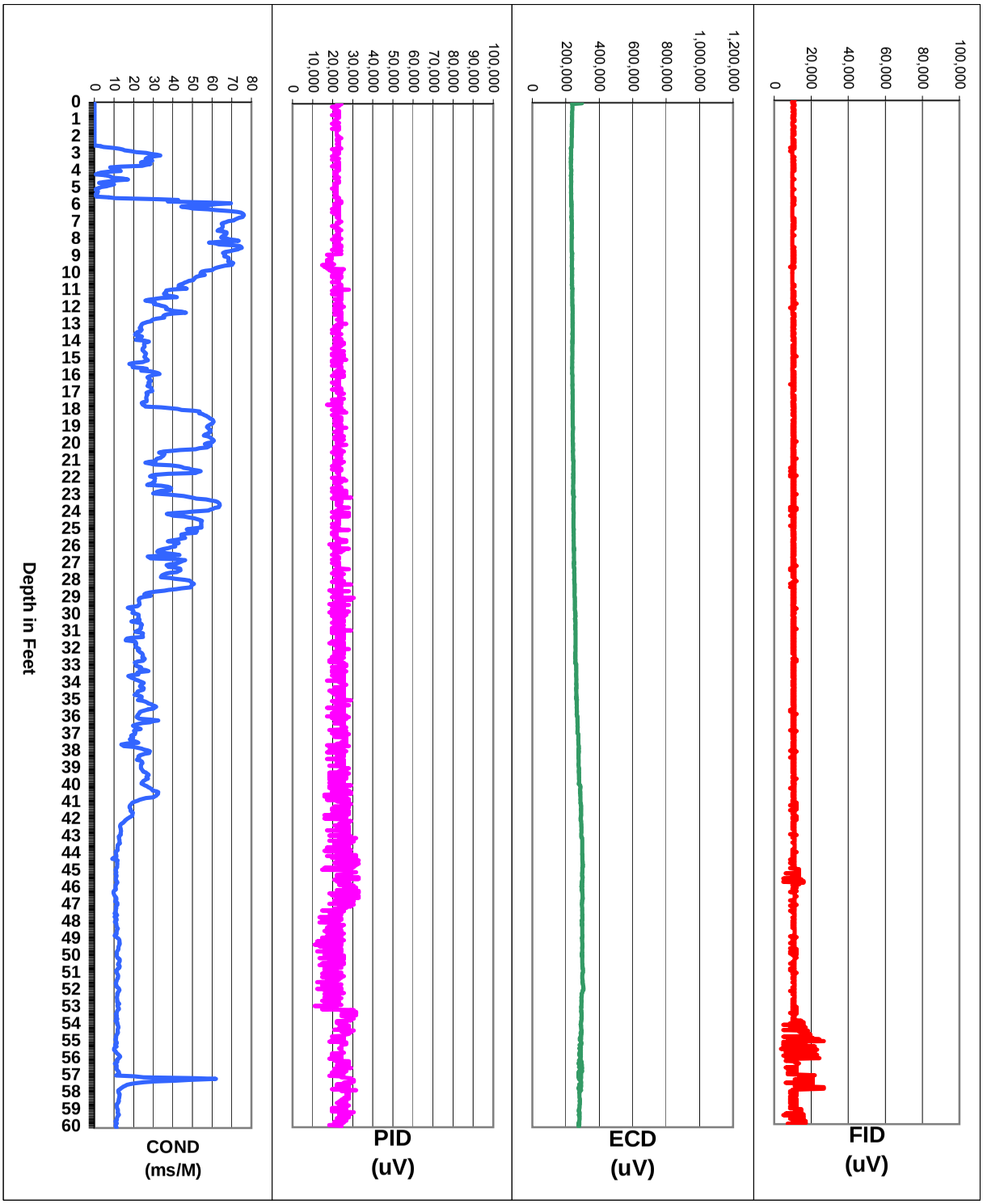
ZEBRA EC/MIP Summary Log, Point CDMMIP5ER
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/14/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 25 of 0

ZEBRA EC/MIP Summary Log, Point CDMMIP5F
Staten Island, NY

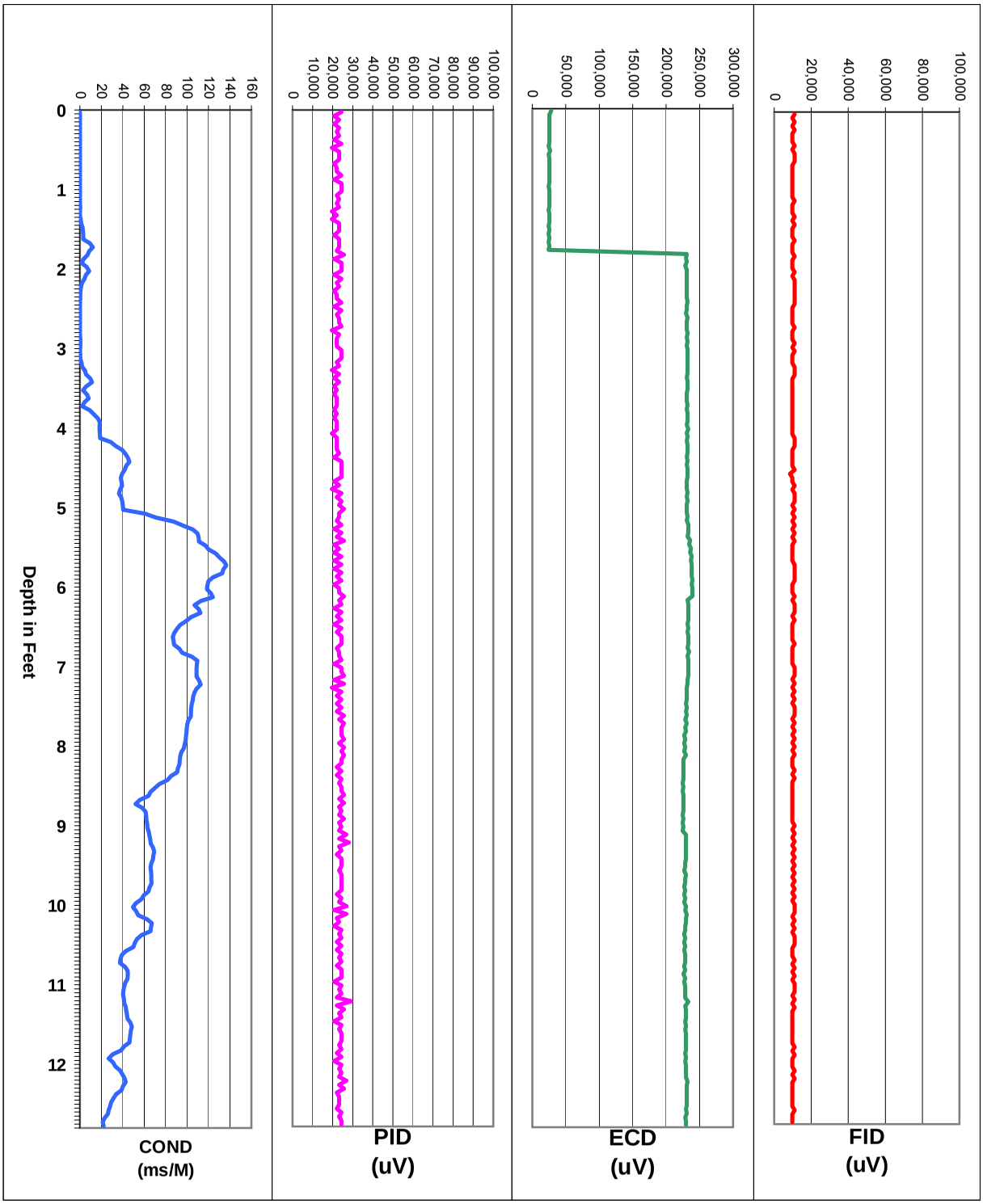


ZEBRA

for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/15/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 31 of 0

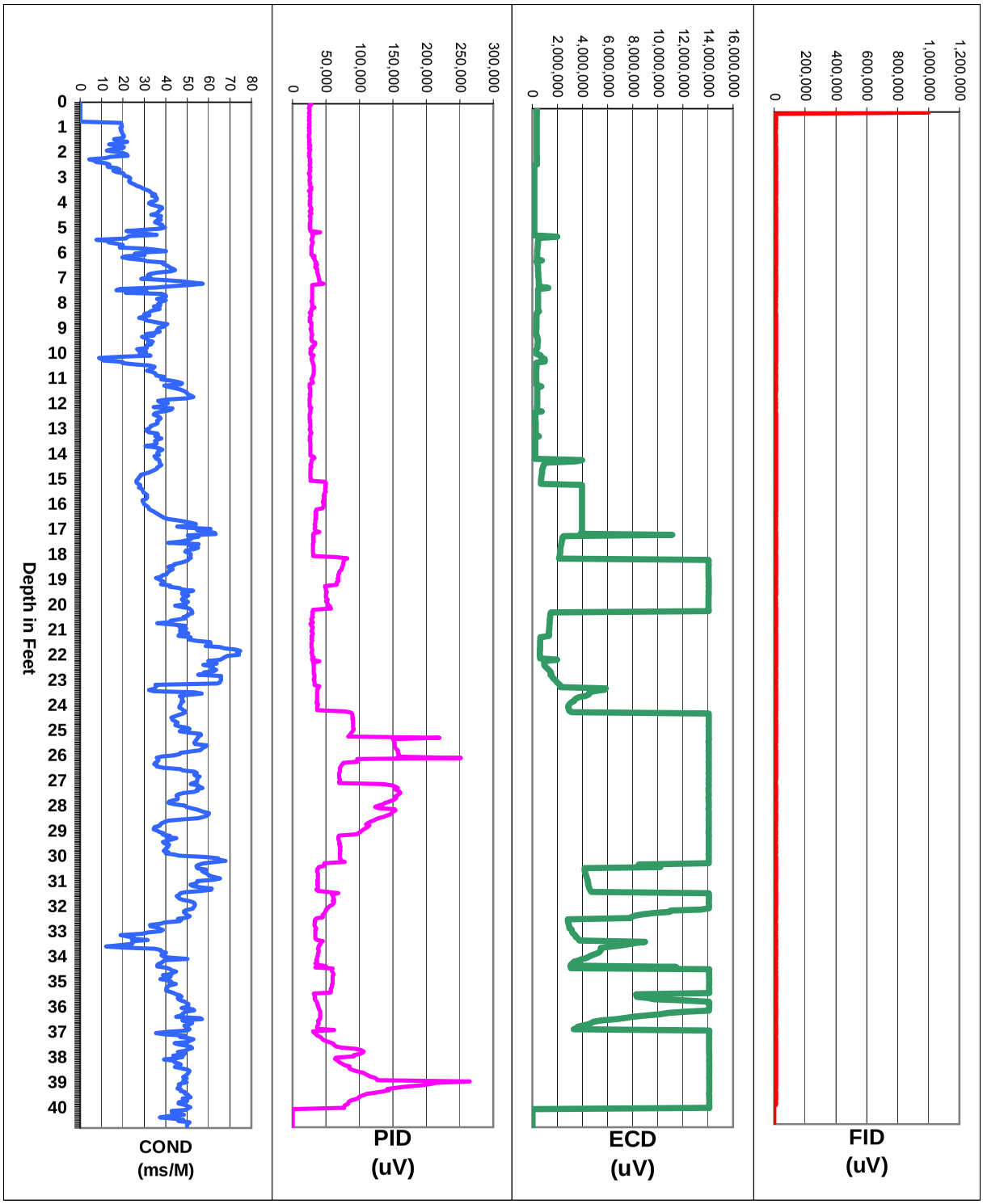
ZEBRA EC/MIP Summary Log, Point CDMMIP5FR
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/15/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 30 of 0

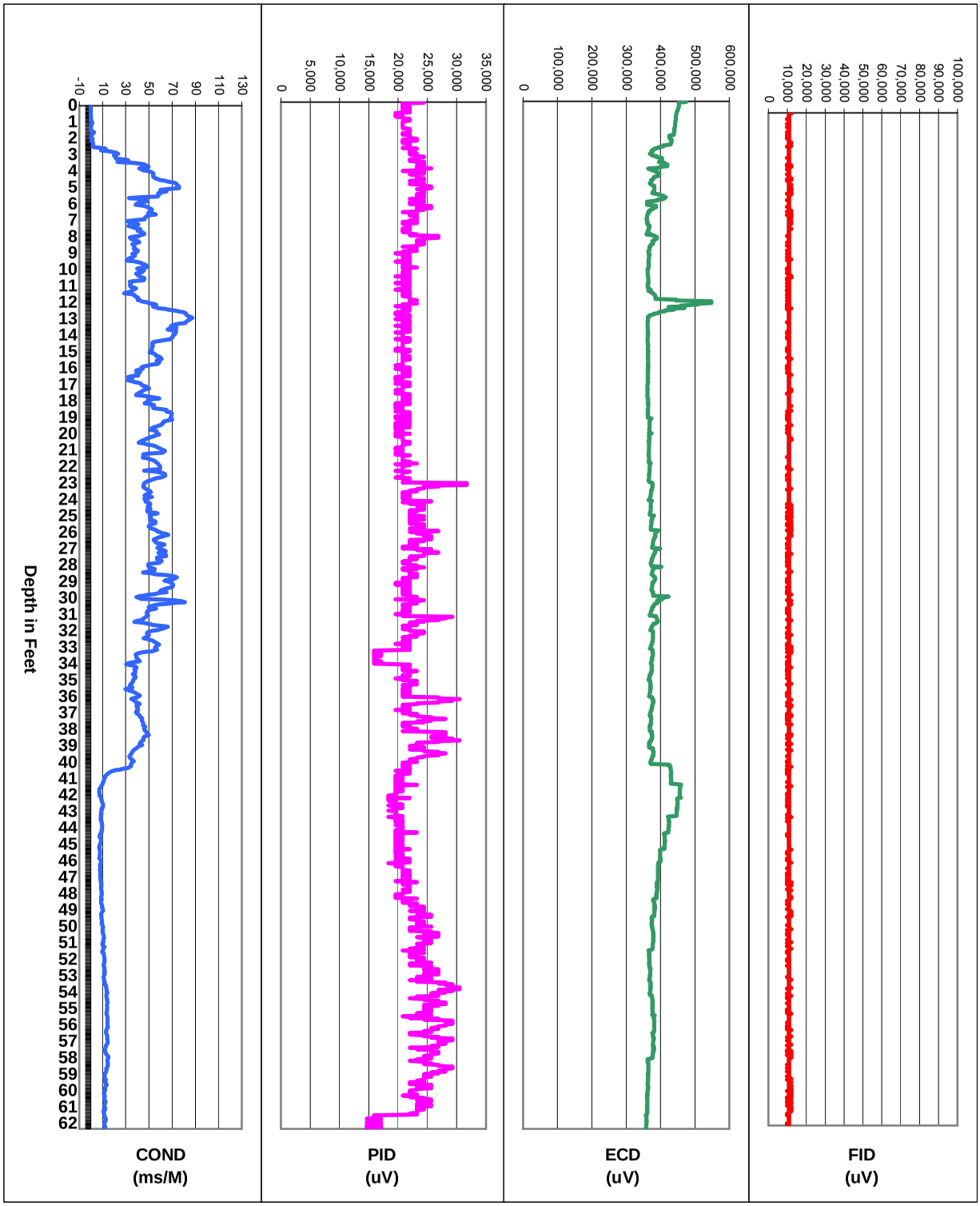
ZEBRA EC/MIP Summary Log, Point CDMMIP6
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 5/17/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 6 of 0

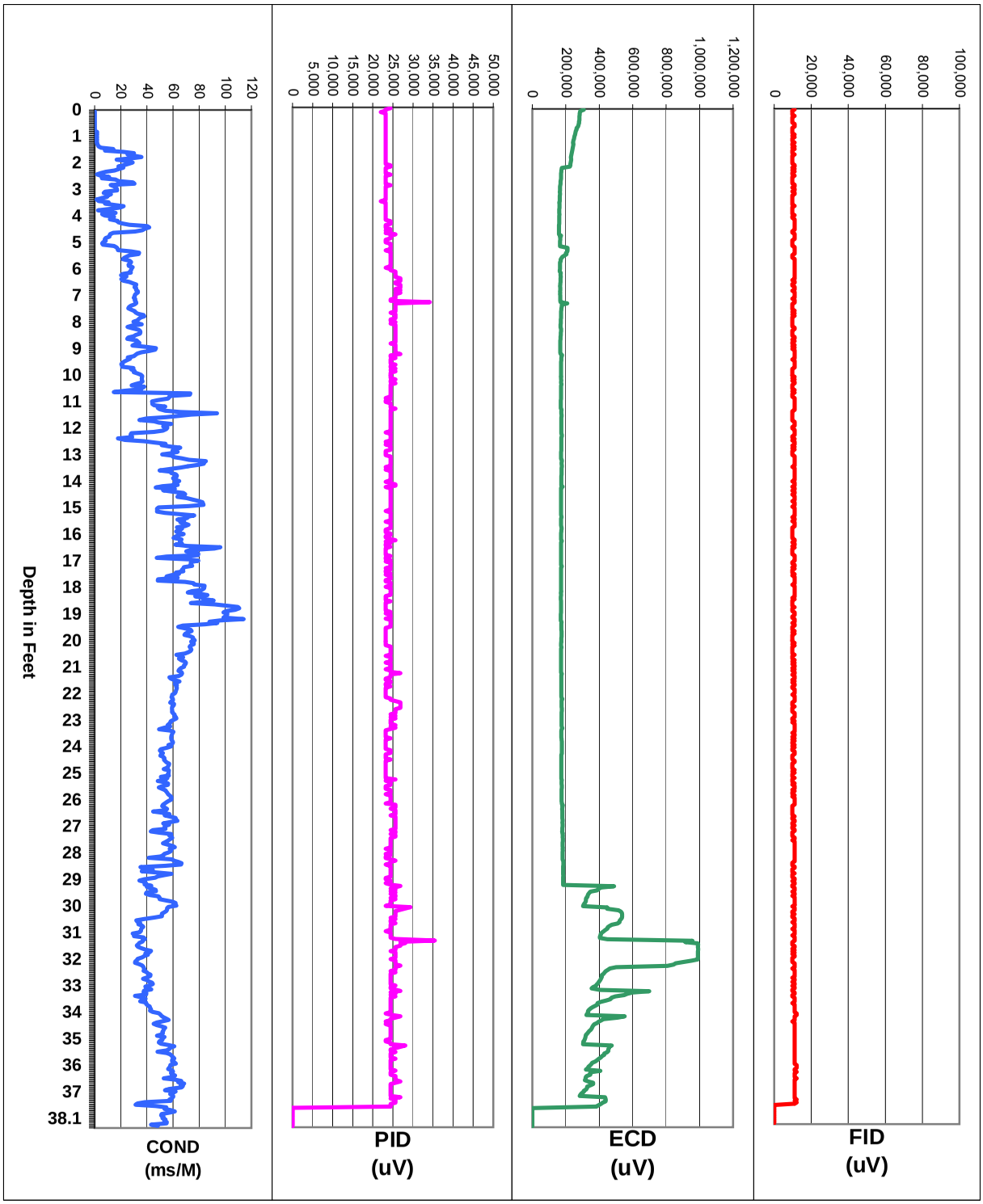
ZEBRA EC/MIP Summary Log, Point CDMMIP6B
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/9/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 15 of 0

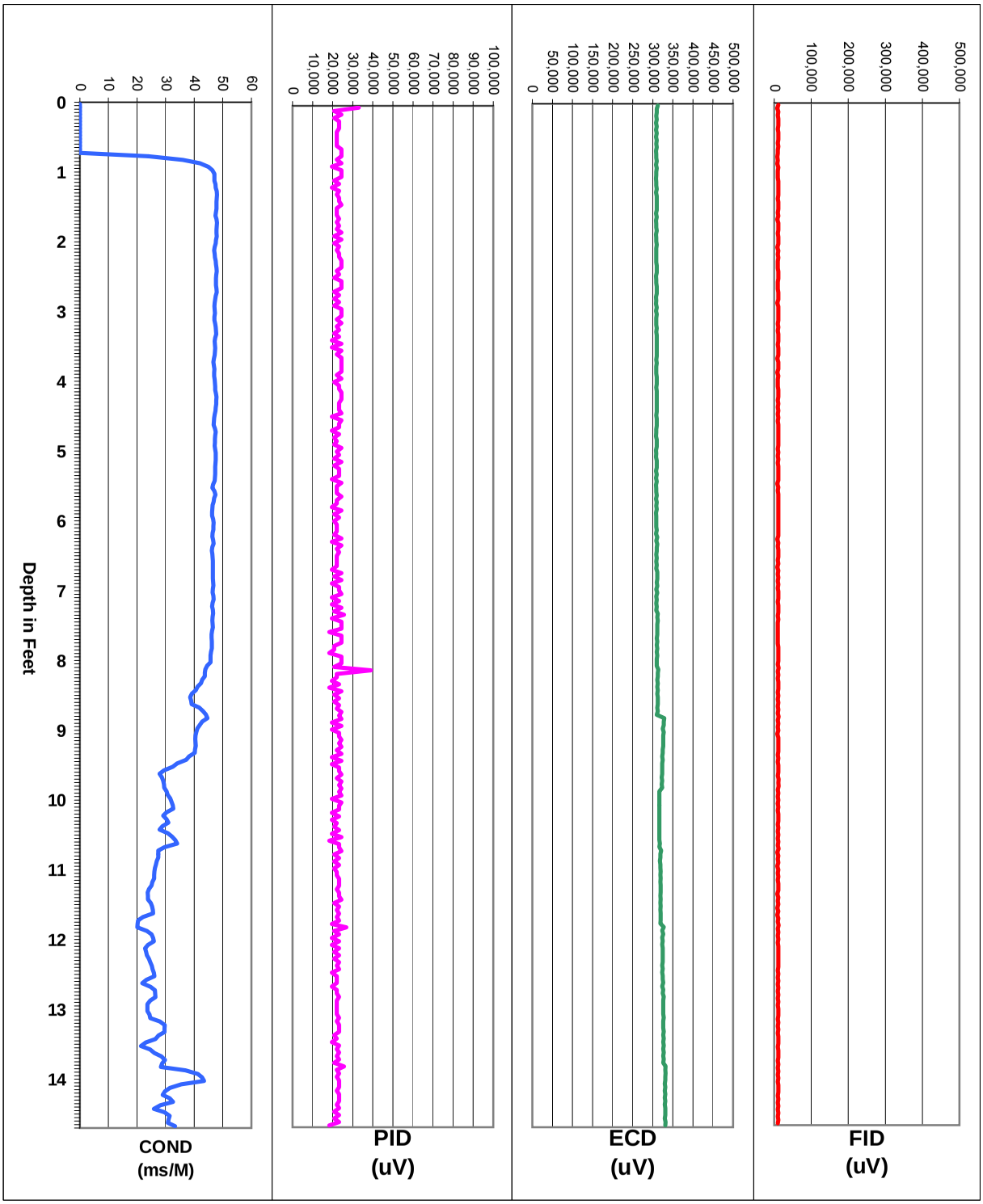
ZEBRA EC/MIP Summary Log, Point CDMMIP7
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 5/10/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 7 of 0

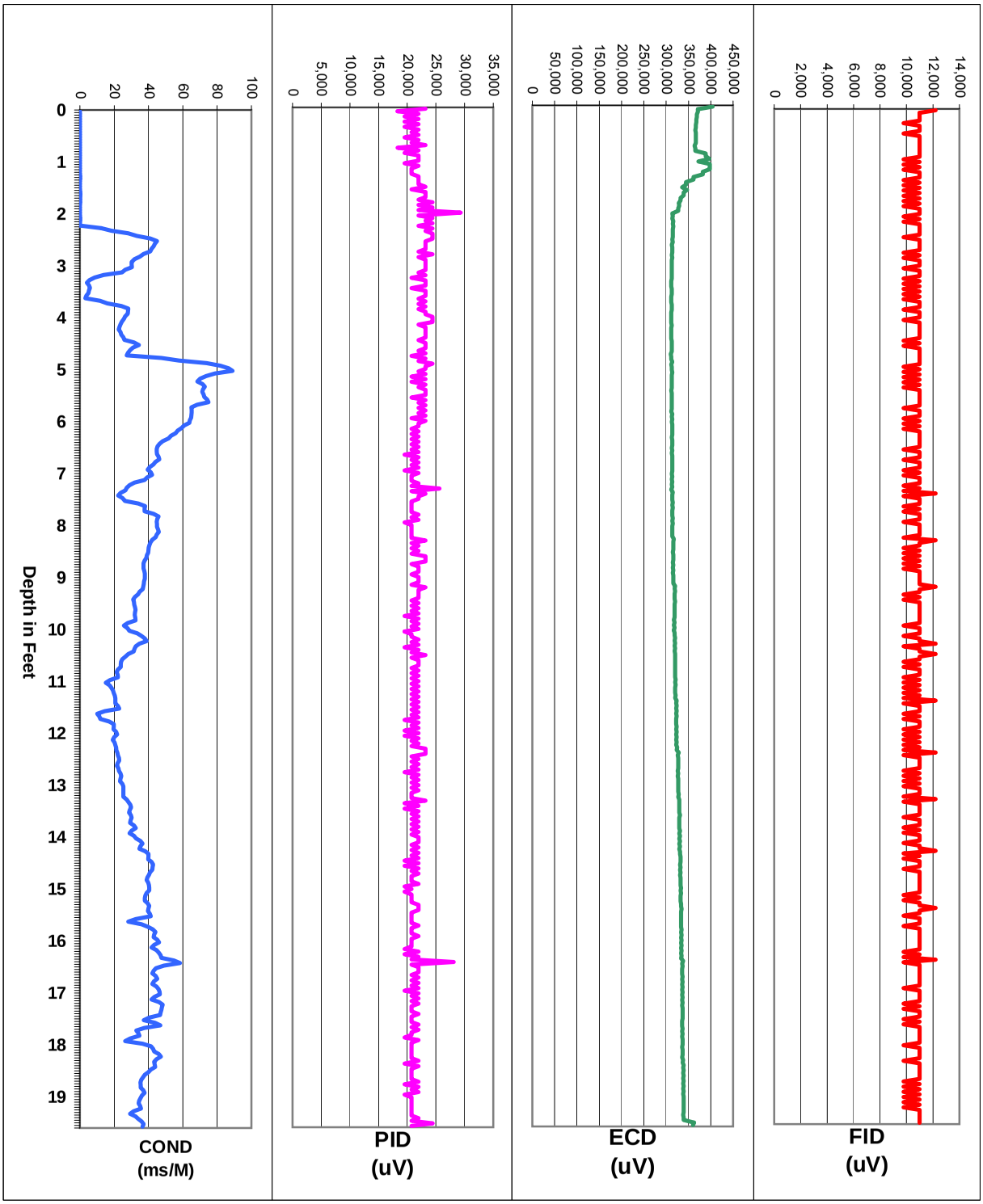
ZEBRA EC/MIP Summary Log, Point CDMMIP7B
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/10/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 16 of 0

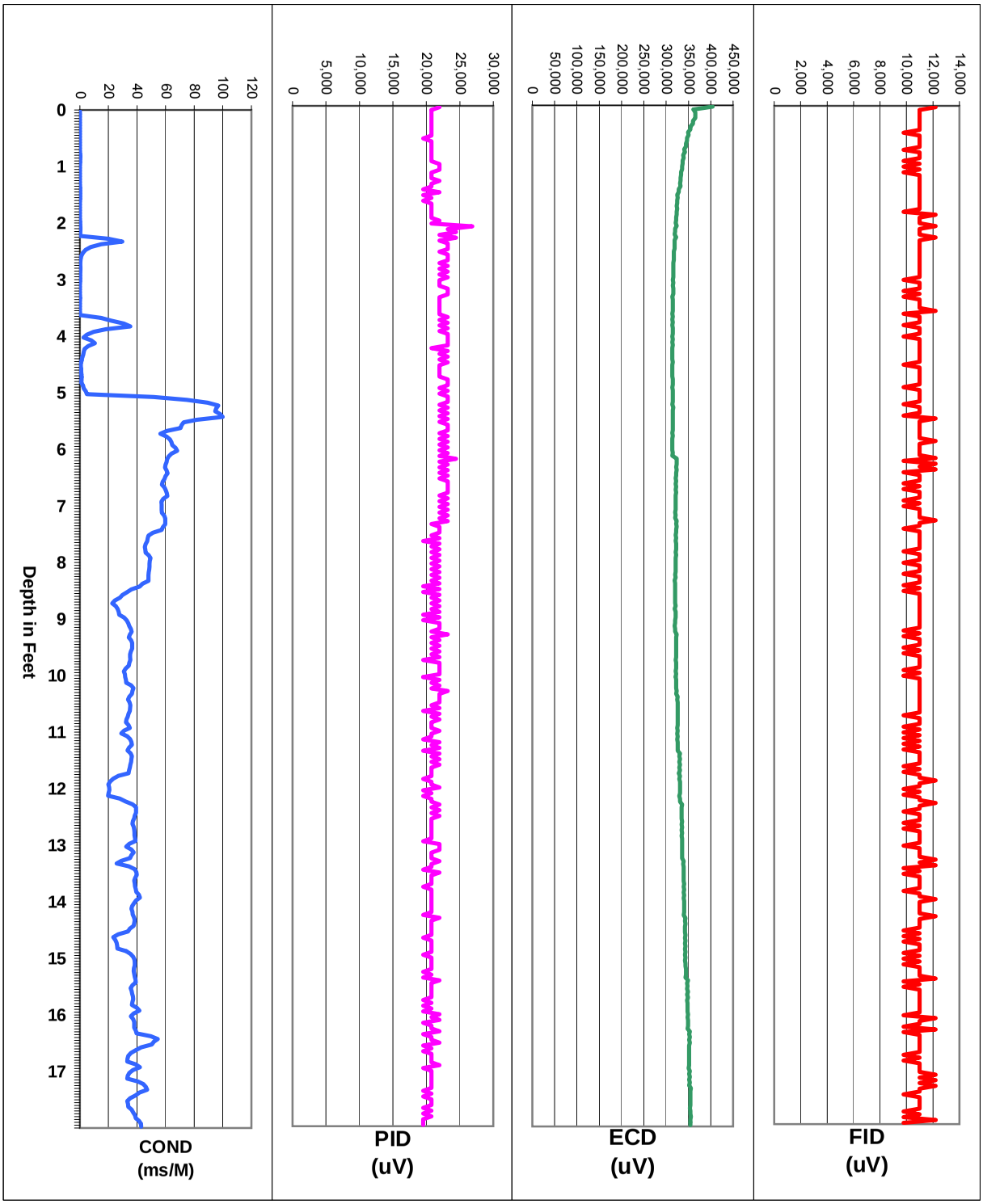
ZEBRA EC/MIP Summary Log, Point CDMMIP7B1
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/10/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 17 of 0

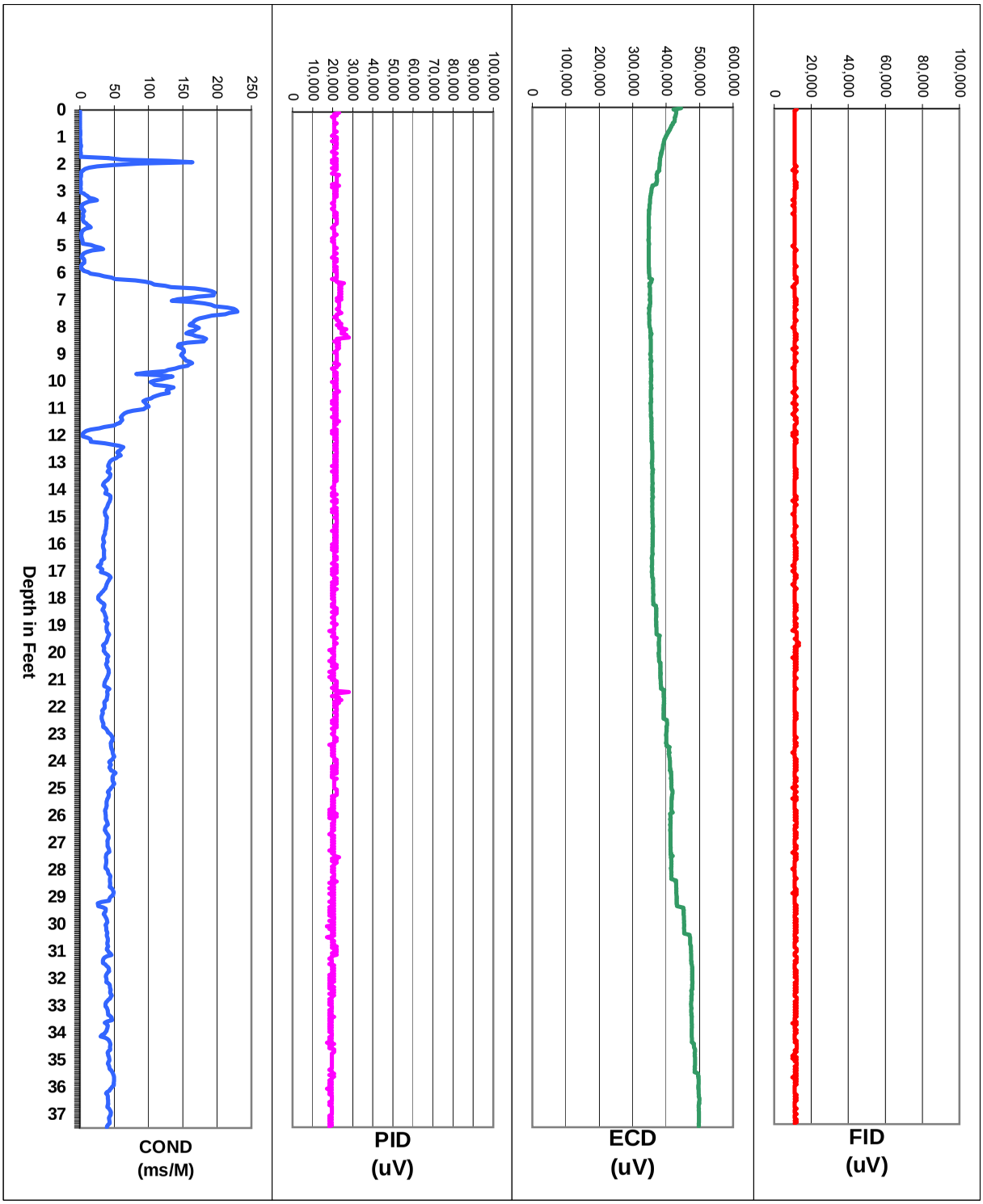
ZEBRA EC/MIP Summary Log, Point CDMMIP7B2
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/10/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 18 of 0

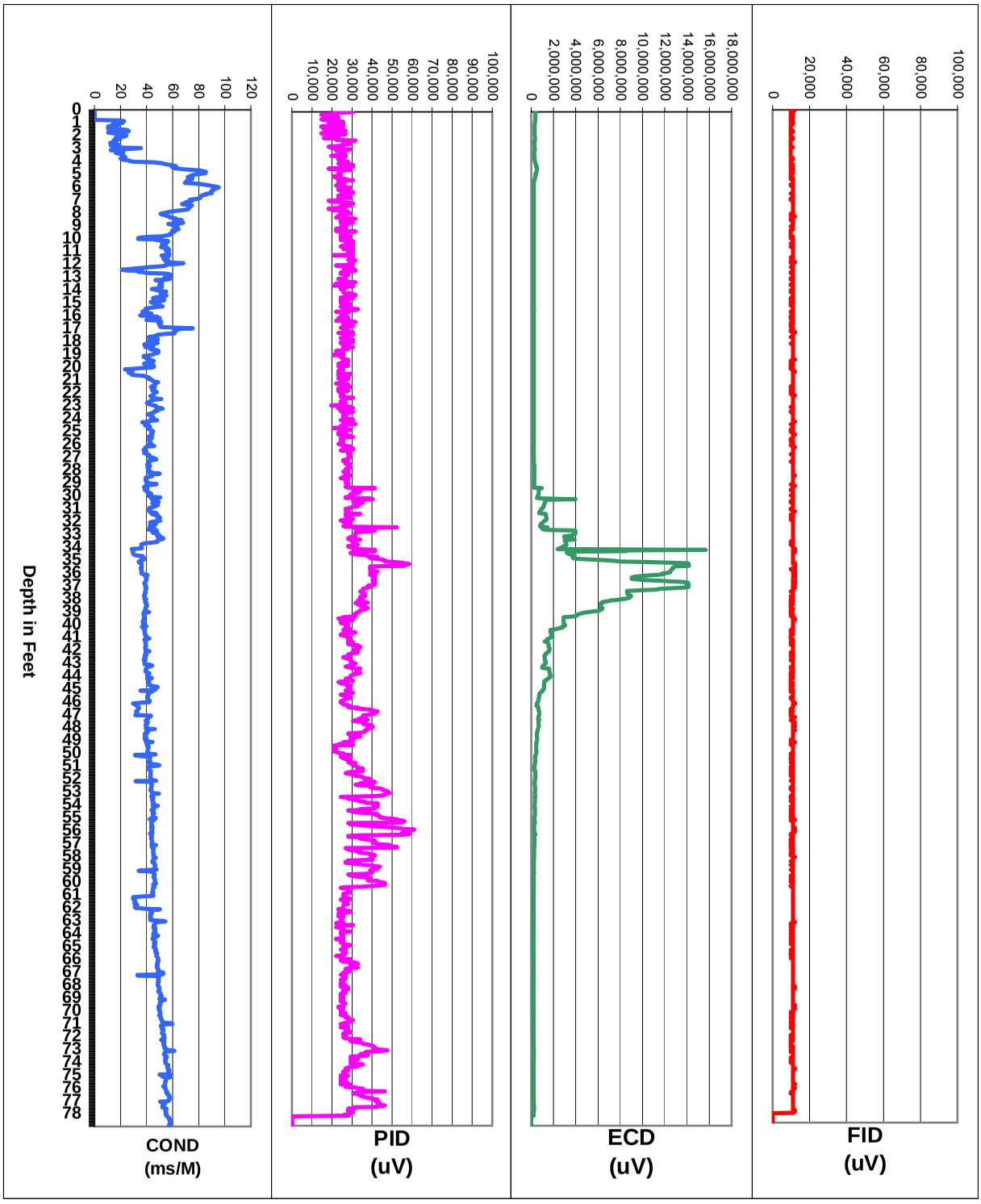
ZEBRA EC/MIP Summary Log, Point CDMMIP7B3
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 6/10/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 19 of 0

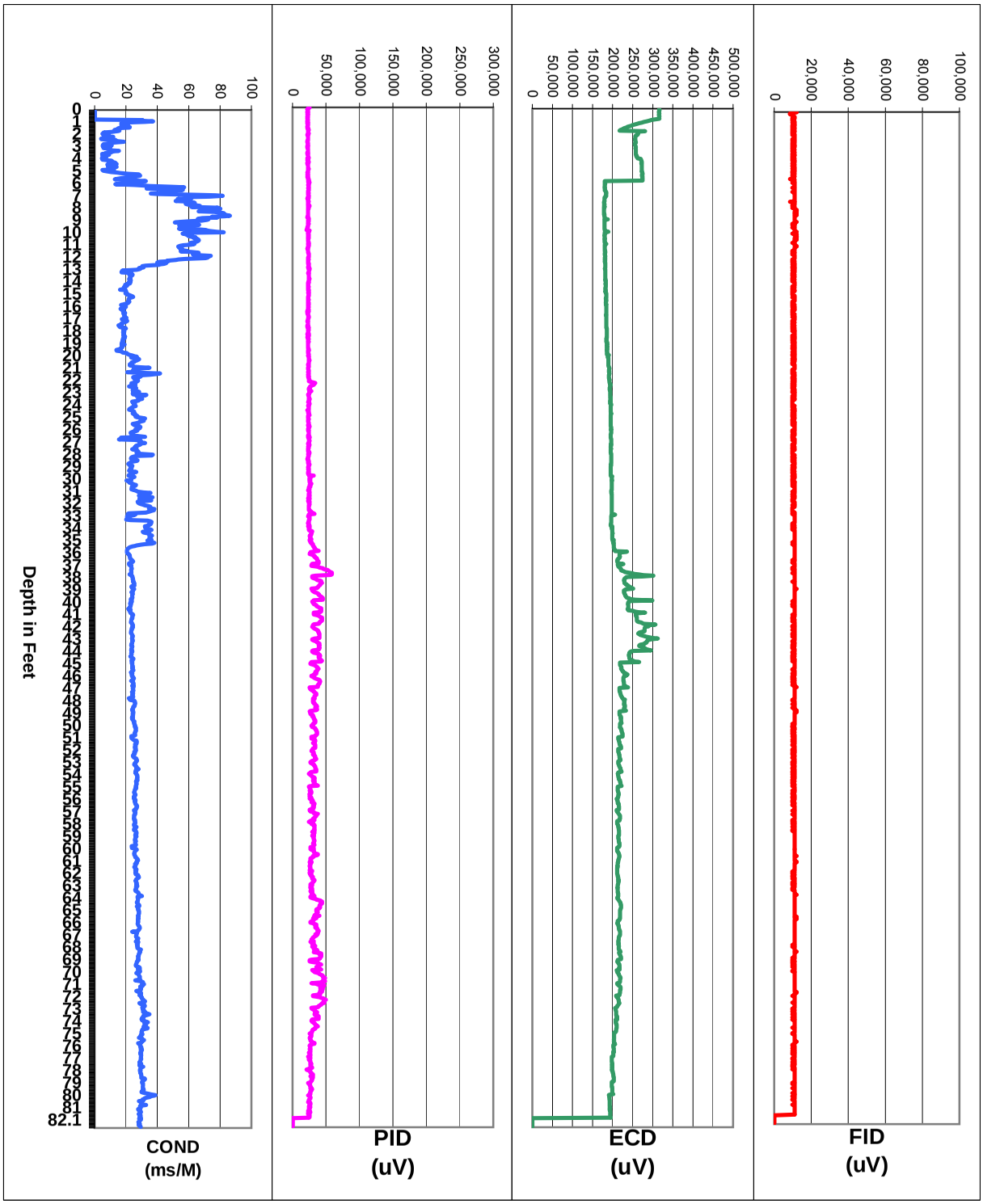
ZEBRA EC/MIP Summary Log, Point CDMP2BB
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 5/19/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 9 of 0

ZEBRA EC/MIP Summary Log, Point CDMP3BBB
Staten Island, NY



for: CDM
by: Zebra Environmental
30 No. Prospect Avenue
Lynbrook, NY 11563
(516) 596-6300

Date: 5/19/2011
Proj. Name: Paul Miller
Proj. #: DS18666
Operators: John Diamond
Point 10 of 0

Appendix B

Investigation Derived Waste Laboratory Data

Report Date:
29-Mar-12 15:53

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

CDM
100 Fieldcrest Avenue
6th Floor
Edison, NJ 08837

Work Order: L0466
Project : Paul Miller Site, IDW
Project #: D004437-35

Attn: Seth Kellogg

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
L0466-01	80230-IDW-AQ	Aqueous	08-Mar-12 11:50	09-Mar-12 09:05
L0466-02	80230-IDW-SOLID	Soil	08-Mar-12 11:00	09-Mar-12 09:05

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Mitkem Laboratories.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and is certified by several States, as well as USEPA and US Department of Defense. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.mitkem.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

Department of Defense	N/A
Connecticut	PH-0153
Delaware	N/A
Maine	2007037
Massachusetts	M-RI907
New Hampshire	2631
New Jersey	RI001
New York	11522
North Carolina	581
Pennsylvania	68-00520
Rhode Island	LAI00301
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-11-033

NELAP ACCREDITED TNI LABORATORY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : CDM

Project: Paul Miller Site, IDW

Laboratory Workorder / SDG #: L0466

SW846 8260C, VOC by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times with the following exceptions:

80230-IDW-AQ (L0466-01ADL) exceed by-6 Days
Please note the initial analysis was performed within method holding time. Dilution analysis matched the initial analysis well. Both results were included in this report.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030
Soil Samples were prepared following procedures in laboratory test code: SW5035

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V1
Instrument Type: GCMS-VOA
Description: HP5890 II / HP5972
Manufacturer: Hewlett-Packard
Model: 5890 / 5972
GC Column used: 30 m X 0.25 mm ID [1.40 um thickness] DB-624 capillary column.

Instrument Code: V5
Instrument Type: GCMS-VOA
Description: HP6890 / HP6890
Manufacturer: Hewlett-Packard
Model: 6890 / 6890
GC Column used: 30 m X 0.25 mm ID [1.40 um thickness] DB-624 capillary column.

Instrument Code: V6
Instrument Type: GCMS-VOA
Description: HP6890 / HP5973
Manufacturer: Hewlett-Packard
Model: 6890 / 5973
GC Column used: 30 m X 0.25 mm ID [1.40 um thickness] DB-624 capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

80230-IDW-SOLID (L0466-02C-TCLP), recovery is above criteria for Dibromofluoromethane at 116% with criteria of (85-115).

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits with the following exceptions. Please note that most test procedures allow for several compounds outside of the QC limits for the LCS, although this may indicate a bias for this specific compound.

LCS-65144 in batch 65144, Percent Recovery is outside QC Limits, recovery is above criteria for Acetone at 160% with criteria of (20-160).

LCS-65160 in batch 65160, Percent Recovery is outside QC Limits, recovery is above criteria for 1,1,1-Trichloroethane at 144% with criteria of (65-130), 2,2-Dichloropropane at 152% with criteria of (70-135), Carbon tetrachloride at 155% with criteria of (65-140) and Iodomethane at 131% with criteria of (72-121).

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

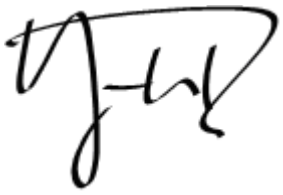
The following samples were analyzed at dilution:

80230-IDW-AQ (L0466-01ADL) : Dilution Factor: 10

G. Samples:

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____  _____

Date:_____3/29/2012_____

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : CDM

Project: Paul Miller Site, IDW

Laboratory Workorder / SDG #: L0466

SW846 8270D, SVOA by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8270D

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: S3
Instrument Type: GCMS-SEMI
Description: HP6890 / HP5973
Manufacturer: Hewlett-Packard
Model: 6890 / 5973
GC Column used: 30 m X 0.25 mm ID [0.25 um thickness] Rxi-5sil MS capillary column.

Instrument Code: S6
Instrument Type: GCMS-Semi
Description: HP7890A
Manufacturer: Agilent
Model: 7890A/5973
GC Column used: 30 m X 0.25 mm ID [0.25 um thickness] Rxi-5sil MS capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits with the following exceptions. Please note that most test procedures allow for several compounds outside of the QC limits for the LCS, although this may indicate a bias for this specific compound.

LCSD-65051 in batch 65051, Percent Recovery is outside QC Limits, recovery is above criteria for Hexachloroethane at 97% with criteria of (30-95).

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

No sample in this SDG required analysis at dilution.

G. Samples:

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____ _____

Date:_____3/26/2012_____

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : CDM

Project: Paul Miller Site, IDW

Laboratory Workorder / SDG #: L0466

SW846 8081B, Organochlorine Pesticides by GC-ECD

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8081B

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: E5
Instrument Type: GC-ECD
Description: HP6890
Manufacturer: Hewlett-Packard
Model: 6890
GC Column used: 30 m X 0.53 mm ID [0.50 um thickness] CLPPest capillary column.
GC Column used: 30 m X 0.53 mm ID [0.42 um thickness] CLPPestII capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

80230-IDW-AQ (L0466-01B), recovery is below criteria for Decachlorobiphenyl on rear column, at 29% with criteria of (30-135) and Decachlorobiphenyl on front column, at 29% with criteria of (30-135).

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Dilutions:

No sample in this SDG required analysis at dilution.

F. Samples:

The lower concentration between the primary and confirmatory GC column concentrations is reported due to the presence of interferences unless otherwise indicated. P flags are assigned to compounds when D% between the two columns are greater than 40%.

No other unusual occurrences were noted during sample analysis.

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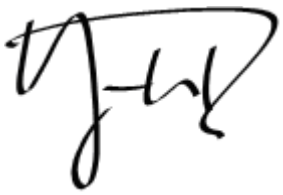
Signed:____  _____

Date:_____3/28/2012_____

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : CDM

Project: Paul Miller Site, IDW

Laboratory Workorder / SDG #: L0466

SW846 8082A, PCB by GC-ECD

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8082A

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510
Soil Samples were prepared following procedures in laboratory test code: SW3550

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: E2
Instrument Type: GC-ECD
Description: HP5890 II +
Manufacturer: Hewlett-Packard
Model: 5890
GC Column used: 30 m X 0.53 mm ID [0.50 um thickness] CLPPest capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

80230-IDW-AQ (L0466-01B), recovery is below criteria for Decachlorobiphenyl on rear column, at 29% with criteria of (40-135) and Decachlorobiphenyl on front column, at 27% with criteria of (40-135).

80230-IDW-SOLID (L0466-02A), recovery is below criteria for Decachlorobiphenyl on rear column, at 52% with criteria of (60-125) and Decachlorobiphenyl on front column, at 48% with criteria of (60-125).

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Dilutions:

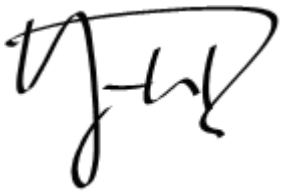
No sample in this SDG required analysis at dilution.

F. Samples:

The lower concentration between the primary and confirmatory GC column concentrations is reported due to the presence of interferences unless otherwise indicated. P flags are assigned to compounds when D% between the two columns are greater than 40%.

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:____  _____

Date:_____3/28/2012_____

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : Sevenson Environmental Services Inc.

Project: Roebling Steel

Laboratory Workorder / SDG #: L0467

SW846 8082A, PCB by GC-ECD

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8082A

IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW3550

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: E2
Instrument Type: GC-ECD
Description: HP5890 II +
Manufacturer: Hewlett-Packard
Model: 5890
GC Column used: 30 m X 0.53 mm ID [0.50 um thickness] CLPPest capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

RS-BF-A7-030812 (L0467-01A), recovery is below criteria for Decachlorobiphenyl on front column, at 54% with criteria of (60-125).

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Dilutions:

No sample in this SDG required analysis at dilution.

F. Samples:

The lower concentration between the primary and confirmatory GC column concentrations is reported due to the presence of interferences unless otherwise indicated. P flags are assigned to compounds when D% between the two columns are greater than 40%.

No other unusual occurrences were noted during sample analysis.

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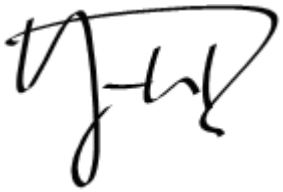
Signed:____  _____

Date:_____3/28/2012_____

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : CDM

Project: Paul Miller Site, IDW

Laboratory Workorder / SDG #: L0466

SW846 8151A, Chlorinated Herbicides by GC-ECD

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8151A

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: E4
Instrument Type: GC-ECD
Description: HP6890
Manufacturer: Hewlett-Packard
Model: 6890
GC Column used: 30 m X 0.53 mm ID [0.50 um thickness] CLPPest capillary column.
GC Column used: 30 m X 0.53 mm ID [0.42 um thickness] CLPPestII capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Dilutions:

No sample in this SDG required analysis at dilution.

F. Samples:

The lower concentration between the primary and confirmatory GC column concentrations is reported due to the presence of

interferences unless otherwise indicated. P flags are assigned to compounds when D% between the two columns are greater than 40%.

No other unusual occurrences were noted during sample analysis.

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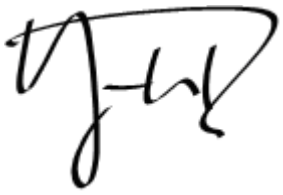
Signed:____  _____

Date:_____3/28/2012_____

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : CDM

Project: Paul Miller Site, IDW

Laboratory Workorder / SDG #: L0466

SW846 6010C, SW846 7470A

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 6010C, SW846 7470A

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3005
Aqueous Samples were prepared following procedures in laboratory test code: SW7470A

V. INSTRUMENTATION

The following instrumentation was used to perform

Instrument Code: FIMS2
Instrument Type: CVAA
Description: FIMS
Manufacturer: Perkin-Elmer
Model: FIMS100

Instrument Code: OPTIMA2
Instrument Type: ICP
Description: Optima 3100 XL
Manufacturer: Perkin-Elmer
Model: 3100 XL

Instrument Code: OPTIMA3
Instrument Type: ICP
Description: Optima ICP-OES
Manufacturer: Perkin-Elmer
Model: 4300 DV

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for laboratory control samples were within the QC limits.

2. Matrix spike (MS):

A matrix spike was not performed on any sample in this SDG.

D. Post Digestion Spike (PDS):

A post-digestion spike was not performed on any sample in this SDG.

E. Duplicate sample:

A duplicate analysis was not performed on any sample in this SDG.

F. Serial Dilution (SD):

Serial Dilution analysis was performed on sample: 80230-IDW-SOLID (L0466-02ASD).

Percent RPD was within the QC limits.

G. Samples:

No other unusual occurrences were noted during sample analysis.

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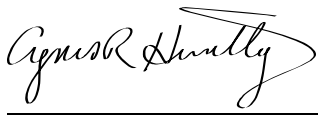
Signed: 

Date: 03/29/12

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : CDM

Project: Paul Miller Site, IDW

Laboratory Workorder / SDG #: L0466

SM 4500 H+ B, SW846 1010, SW846 7.3.3.2, SW846 7.3.4.2, SW846 9045C

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SM 4500 H+ B, SW846 1010, SW846 7.3.3.2, SW846 7.3.4.2, SW846 9045C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SM 4500 H+ B, SW846 1010, SW846 7.3.3.2, SW846 7.3.4.2,

SW846

V. INSTRUMENTATION

The following instrumentation was used to perform

Instrument Code: FLASH1
Instrument Type: WC
Description: Flash Point
Manufacturer: Koehler
Model: K16200

Instrument Code: LACHAT1
Instrument Type: WC
Description: Flow Injection Analyzer
Manufacturer: Zellweger Analytics
Model: Quik-Chem 8000

Instrument Code: SPEC2
Instrument Type: SP
Description: Spectronic 20 Genesys
Manufacturer: Spectronic Instruments
Model: 4004-000

Instrument Code: WC01
Instrument Type: Probe
Description: pH Meter
Manufacturer: Thermo Electron Corporation
Model: Orion 520A+

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

The lab control sample for reactive cyanide typically results in a percent recovery of approximately 10%. This indicates the analysis is only measuring the correct type of cyanide. The LCS is performed with a "total" cyanide spike, only a small portion of which is "reactive". Recovery of significantly greater than this level in the analysis of the LCS indicates the test is over estimating the concentration of reactive cyanide.

2. **Matrix Spike / Matrix Spike Duplicate (MS/MSD):**

No client-requested MS/MSD analyses were included in this SDG.

D. Duplicate sample:

Duplicate analysis was performed on sample: 80230-IDW-AQ (L0466-01CDUP) for pH and 80230-IDW-SOLID (L0466-02BDUP) for pH and Flashpoint.

Percent RPD was within the QC limits for all analyses.

E. Dilutions:

No sample required dilution in this SDG.

F. Samples:

For Flashpoint analysis, the result of "No Flash" indicates that no flash was observed, or that non-ignitable vapors from the sample extinguished the test flame at the temperature indicated. Where non-flammable vapors from the sample extinguished the test flame below 140 degrees, the sample temperature was elevated to at least 140 degrees, and re-exposed to the test flame.

No other unusual occurrences were noted during sample analysis.

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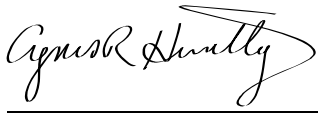
verified by the following signature.

Signed: 

Date: 03/29/12

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

03/29/2012

Client: CDM
Client Sample ID: 80230-IDW-AQ
Lab ID: L0466-01
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS							**SW8260_W**
Dichlorodifluoromethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Chloromethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Vinyl chloride	13		5.0	ug/L	1	03/16/2012 20:35	65160
Bromomethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Chloroethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Trichlorofluoromethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,1-Dichloroethene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Acetone	3.3	J	5.0	ug/L	1	03/16/2012 20:35	65160
Iodomethane	2.2	J	5.0	ug/L	1	03/16/2012 20:35	65160
Carbon disulfide	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Methylene chloride	ND		5.0	ug/L	1	03/16/2012 20:35	65160
trans-1,2-Dichloroethene	3.9	J	5.0	ug/L	1	03/16/2012 20:35	65160
Methyl tert-butyl ether	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,1-Dichloroethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Vinyl acetate	ND		5.0	ug/L	1	03/16/2012 20:35	65160
2-Butanone	ND		5.0	ug/L	1	03/16/2012 20:35	65160
cis-1,2-Dichloroethene	510	E	5.0	ug/L	1	03/16/2012 20:35	65160
2,2-Dichloropropane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Bromochloromethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Chloroform	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,1,1-Trichloroethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,1-Dichloropropene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Carbon tetrachloride	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,2-Dichloroethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Benzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Trichloroethene	87		5.0	ug/L	1	03/16/2012 20:35	65160
1,2-Dichloropropane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Dibromomethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Bromodichloromethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
cis-1,3-Dichloropropene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
4-Methyl-2-pentanone	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Toluene	8.0		5.0	ug/L	1	03/16/2012 20:35	65160
trans-1,3-Dichloropropene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,1,2-Trichloroethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,3-Dichloropropane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Tetrachloroethene	1600	E	5.0	ug/L	1	03/16/2012 20:35	65160
2-Hexanone	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Dibromochloromethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,2-Dibromoethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: CDM
Client Sample ID: 80230-IDW-AQ
Lab ID: L0466-01
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS							**SW8260_W**
Chlorobenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,1,1,2-Tetrachloroethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Ethylbenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
m,p-Xylene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
o-Xylene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Xylene (Total)	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Styrene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Bromoform	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Isopropylbenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,1,2,2-Tetrachloroethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Bromobenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,2,3-Trichloropropane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
n-Propylbenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
2-Chlorotoluene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,3,5-Trimethylbenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
4-Chlorotoluene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
tert-Butylbenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,2,4-Trimethylbenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
sec-Butylbenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
4-Isopropyltoluene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,3-Dichlorobenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,4-Dichlorobenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
n-Butylbenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,2-Dichlorobenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,2-Dibromo-3-chloropropane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,2,4-Trichlorobenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Hexachlorobutadiene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,2,3-Trichlorobenzene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Naphthalene	ND		5.0	ug/L	1	03/16/2012 20:35	65160
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Cyclohexane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Methyl acetate	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Methylcyclohexane	ND		5.0	ug/L	1	03/16/2012 20:35	65160
Surrogate: Dibromofluoromethane	110		85-115	%REC	1	03/16/2012 20:35	65160
Surrogate: 1,2-Dichloroethane-d4	102		70-120	%REC	1	03/16/2012 20:35	65160
Surrogate: Toluene-d8	91.9		85-120	%REC	1	03/16/2012 20:35	65160
Surrogate: Bromofluorobenzene	90.6		75-120	%REC	1	03/16/2012 20:35	65160

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

03/29/2012

Client: CDM
Client Sample ID: 80230-IDW-AQ
Lab ID: L0466-01
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS							**SW8260_W**
Dichlorodifluoromethane	ND		50	ug/L	10	03/28/2012 13:57	65295
Chloromethane	ND		50	ug/L	10	03/28/2012 13:57	65295
Vinyl chloride	15	J	50	ug/L	10	03/28/2012 13:57	65295
Bromomethane	ND		50	ug/L	10	03/28/2012 13:57	65295
Chloroethane	ND		50	ug/L	10	03/28/2012 13:57	65295
Trichlorofluoromethane	ND		50	ug/L	10	03/28/2012 13:57	65295
1,1-Dichloroethene	ND		50	ug/L	10	03/28/2012 13:57	65295
Acetone	ND		50	ug/L	10	03/28/2012 13:57	65295
Iodomethane	9.1	BJ	50	ug/L	10	03/28/2012 13:57	65295
Carbon disulfide	ND		50	ug/L	10	03/28/2012 13:57	65295
Methylene chloride	ND		50	ug/L	10	03/28/2012 13:57	65295
trans-1,2-Dichloroethene	ND		50	ug/L	10	03/28/2012 13:57	65295
Methyl tert-butyl ether	ND		50	ug/L	10	03/28/2012 13:57	65295
1,1-Dichloroethane	ND		50	ug/L	10	03/28/2012 13:57	65295
Vinyl acetate	ND		50	ug/L	10	03/28/2012 13:57	65295
2-Butanone	ND		50	ug/L	10	03/28/2012 13:57	65295
cis-1,2-Dichloroethene	500		50	ug/L	10	03/28/2012 13:57	65295
2,2-Dichloropropane	ND		50	ug/L	10	03/28/2012 13:57	65295
Bromochloromethane	ND		50	ug/L	10	03/28/2012 13:57	65295
Chloroform	ND		50	ug/L	10	03/28/2012 13:57	65295
1,1,1-Trichloroethane	ND		50	ug/L	10	03/28/2012 13:57	65295
1,1-Dichloropropene	ND		50	ug/L	10	03/28/2012 13:57	65295
Carbon tetrachloride	ND		50	ug/L	10	03/28/2012 13:57	65295
1,2-Dichloroethane	ND		50	ug/L	10	03/28/2012 13:57	65295
Benzene	ND		50	ug/L	10	03/28/2012 13:57	65295
Trichloroethene	82		50	ug/L	10	03/28/2012 13:57	65295
1,2-Dichloropropane	ND		50	ug/L	10	03/28/2012 13:57	65295
Dibromomethane	ND		50	ug/L	10	03/28/2012 13:57	65295
Bromodichloromethane	ND		50	ug/L	10	03/28/2012 13:57	65295
cis-1,3-Dichloropropene	ND		50	ug/L	10	03/28/2012 13:57	65295
4-Methyl-2-pentanone	ND		50	ug/L	10	03/28/2012 13:57	65295
Toluene	9.2	J	50	ug/L	10	03/28/2012 13:57	65295
trans-1,3-Dichloropropene	ND		50	ug/L	10	03/28/2012 13:57	65295
1,1,2-Trichloroethane	ND		50	ug/L	10	03/28/2012 13:57	65295
1,3-Dichloropropane	ND		50	ug/L	10	03/28/2012 13:57	65295
Tetrachloroethene	1700		50	ug/L	10	03/28/2012 13:57	65295
2-Hexanone	ND		50	ug/L	10	03/28/2012 13:57	65295
Dibromochloromethane	ND		50	ug/L	10	03/28/2012 13:57	65295
1,2-Dibromoethane	ND		50	ug/L	10	03/28/2012 13:57	65295

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: CDM
Client Sample ID: 80230-IDW-AQ
Lab ID: L0466-01

Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS							**SW8260_W**
Chlorobenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
1,1,1,2-Tetrachloroethane	ND		50	ug/L	10	03/21/2012 15:12	65204
Ethylbenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
m,p-Xylene	ND		50	ug/L	10	03/21/2012 15:12	65204
o-Xylene	ND		50	ug/L	10	03/21/2012 15:12	65204
Xylene (Total)	ND		50	ug/L	10	03/21/2012 15:12	65204
Styrene	ND		50	ug/L	10	03/21/2012 15:12	65204
Bromoform	ND		50	ug/L	10	03/21/2012 15:12	65204
Isopropylbenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
1,1,2,2-Tetrachloroethane	ND		50	ug/L	10	03/21/2012 15:12	65204
Bromobenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
1,2,3-Trichloropropane	ND		50	ug/L	10	03/21/2012 15:12	65204
n-Propylbenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
2-Chlorotoluene	ND		50	ug/L	10	03/21/2012 15:12	65204
1,3,5-Trimethylbenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
4-Chlorotoluene	ND		50	ug/L	10	03/21/2012 15:12	65204
tert-Butylbenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
1,2,4-Trimethylbenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
sec-Butylbenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
4-Isopropyltoluene	ND		50	ug/L	10	03/21/2012 15:12	65204
1,3-Dichlorobenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
1,4-Dichlorobenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
n-Butylbenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
1,2-Dichlorobenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
1,2-Dibromo-3-chloropropane	ND		50	ug/L	10	03/21/2012 15:12	65204
1,2,4-Trichlorobenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
Hexachlorobutadiene	ND		50	ug/L	10	03/21/2012 15:12	65204
1,2,3-Trichlorobenzene	ND		50	ug/L	10	03/21/2012 15:12	65204
Naphthalene	ND		50	ug/L	10	03/21/2012 15:12	65204
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		50	ug/L	10	03/21/2012 15:12	65204
Cyclohexane	ND		50	ug/L	10	03/21/2012 15:12	65204
Methyl acetate	ND		50	ug/L	10	03/21/2012 15:12	65204
Methylcyclohexane	ND		50	ug/L	10	03/21/2012 15:12	65204
Surrogate: Dibromofluoromethane	116	S	85-115	%REC	10	03/21/2012 15:12	65204
Surrogate: 1,2-Dichloroethane-d4	98.1		70-120	%REC	10	03/21/2012 15:12	65204
Surrogate: Toluene-d8	85.7		85-120	%REC	10	03/21/2012 15:12	65204
Surrogate: Bromofluorobenzene	105		75-120	%REC	10	03/21/2012 15:12	65204

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: CDM
Client Sample ID: 80230-IDW-SOLID
Lab ID: L0466-02
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS							**SW8260_LOW_S**
Dichlorodifluoromethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Chloromethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Vinyl chloride	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Bromomethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Chloroethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Trichlorofluoromethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,1-Dichloroethene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Acetone	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Iodomethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Carbon disulfide	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Methylene chloride	1.7	BJ	5.6	ug/Kg	1	03/16/2012 13:19	65144
trans-1,2-Dichloroethene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Methyl tert-butyl ether	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,1-Dichloroethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Vinyl acetate	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
2-Butanone	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
cis-1,2-Dichloroethene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
2,2-Dichloropropane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Bromochloromethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Chloroform	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,1,1-Trichloroethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,1-Dichloropropene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Carbon tetrachloride	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,2-Dichloroethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Benzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Trichloroethene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,2-Dichloropropane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Dibromomethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Bromodichloromethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
cis-1,3-Dichloropropene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
4-Methyl-2-pentanone	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Toluene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
trans-1,3-Dichloropropene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,1,2-Trichloroethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,3-Dichloropropane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Tetrachloroethene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
2-Hexanone	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Dibromochloromethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,2-Dibromoethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: CDM
Client Sample ID: 80230-IDW-SOLID
Lab ID: L0466-02
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS							**SW8260_LOW_S**
Chlorobenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,1,1,2-Tetrachloroethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Ethylbenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
m,p-Xylene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
o-Xylene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Xylene (Total)	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Styrene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Bromoform	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Isopropylbenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,1,2,2-Tetrachloroethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Bromobenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,2,3-Trichloropropane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
n-Propylbenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
2-Chlorotoluene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,3,5-Trimethylbenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
4-Chlorotoluene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
tert-Butylbenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,2,4-Trimethylbenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
sec-Butylbenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
4-Isopropyltoluene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,3-Dichlorobenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,4-Dichlorobenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
n-Butylbenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,2-Dichlorobenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,2-Dibromo-3-chloropropane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,2,4-Trichlorobenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Hexachlorobutadiene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,2,3-Trichlorobenzene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Naphthalene	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Cyclohexane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Methyl acetate	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Methylcyclohexane	ND		5.6	ug/Kg	1	03/16/2012 13:19	65144
Surrogate: Dibromofluoromethane	106		65-132	%REC	1	03/16/2012 13:19	65144
Surrogate: 1,2-Dichloroethane-d4	105		65-128	%REC	1	03/16/2012 13:19	65144
Surrogate: Toluene-d8	90.8		85-115	%REC	1	03/16/2012 13:19	65144
Surrogate: Bromofluorobenzene	92.6		77-111	%REC	1	03/16/2012 13:19	65144
SW846 8260C -- VOC by GC-MS							**SW8260_W**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: CDM
Client Sample ID: 80230-IDW-SOLID
Lab ID: L0466-02
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS							**SW8260_W**
Vinyl chloride -- TCLP	ND		5.0	ug/L	1	03/20/2012 17:26	65195
1,1-Dichloroethene -- TCLP	ND		5.0	ug/L	1	03/20/2012 17:26	65195
2-Butanone -- TCLP	ND		5.0	ug/L	1	03/20/2012 17:26	65195
Chloroform -- TCLP	ND		5.0	ug/L	1	03/20/2012 17:26	65195
Carbon tetrachloride -- TCLP	ND		5.0	ug/L	1	03/20/2012 17:26	65195
1,2-Dichloroethane -- TCLP	ND		5.0	ug/L	1	03/20/2012 17:26	65195
Benzene -- TCLP	ND		5.0	ug/L	1	03/20/2012 17:26	65195
Trichloroethene -- TCLP	ND		5.0	ug/L	1	03/20/2012 17:26	65195
Tetrachloroethene -- TCLP	ND		5.0	ug/L	1	03/20/2012 17:26	65195
Chlorobenzene -- TCLP	ND		5.0	ug/L	1	03/20/2012 17:26	65195
Surrogate: Dibromofluoromethane -- TCLP	116	S	85-115	%REC	1	03/20/2012 17:26	65195
Surrogate: 1,2-Dichloroethane-d4 -- TCLP	104		70-120	%REC	1	03/20/2012 17:26	65195
Surrogate: Toluene-d8 -- TCLP	88.2		85-120	%REC	1	03/20/2012 17:26	65195
Surrogate: Bromofluorobenzene -- TCLP	103		75-120	%REC	1	03/20/2012 17:26	65195

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S

SW846 8260C -- VOC by GC-MS

Sample ID: **MB-65144** SampType: **MBLK** TestCode: **SW8260_LOW_S** Prep Date: **03/16/12 8:16** Run ID: **V5_120316A**
Client ID: **MB-65144** Batch ID: **65144** Units: **ug/Kg** Analysis Date: **03/16/12 11:29** SeqNo: **1707523**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	0.98	5.0									
Chloromethane	ND	0.80	5.0									
Vinyl chloride	ND	0.63	5.0									
Bromomethane	ND	1.1	5.0									
Chloroethane	ND	1.0	5.0									
Trichlorofluoromethane	ND	0.42	5.0									
1,1-Dichloroethene	ND	0.95	5.0									
Acetone	ND	1.6	5.0									
Iodomethane	ND	0.69	5.0									
Carbon disulfide	ND	0.30	5.0									
Methylene chloride	1.424	1.3	5.0									J
trans-1,2-Dichloroethene	ND	0.53	5.0									
Methyl tert-butyl ether	ND	0.61	5.0									
1,1-Dichloroethane	ND	0.67	5.0									
Vinyl acetate	ND	0.37	5.0									
2-Butanone	ND	2.0	5.0									
cis-1,2-Dichloroethene	ND	0.75	5.0									
2,2-Dichloropropane	ND	0.29	5.0									
Bromochloromethane	ND	0.76	5.0									
Chloroform	ND	0.64	5.0									
1,1,1-Trichloroethane	ND	0.53	5.0									
1,1-Dichloropropene	ND	0.81	5.0									
Carbon tetrachloride	ND	0.33	5.0									
1,2-Dichloroethane	ND	0.54	5.0									
Benzene	ND	0.61	5.0									
Trichloroethene	ND	0.62	5.0									
1,2-Dichloropropane	ND	0.69	5.0									
Dibromomethane	ND	0.58	5.0									
Bromodichloromethane	ND	0.97	5.0									
cis-1,3-Dichloropropene	ND	0.67	5.0									
4-Methyl-2-pentanone	ND	0.73	5.0									
Toluene	ND	0.47	5.0									
trans-1,3-Dichloropropene	ND	0.68	5.0									
1,1,2-Trichloroethane	ND	0.48	5.0									
1,3-Dichloropropane	ND	0.87	5.0									
Tetrachloroethene	ND	0.62	5.0									

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S
SW846 8260C -- VOC by GC-MS

Sample ID: **MB-65144** SampType: **MBLK** TestCode: **SW8260_LOW_S** Prep Date: **03/16/12 8:16** Run ID: **V5_120316A**
Client ID: **MB-65144** Batch ID: **65144** Units: **ug/Kg** Analysis Date: **03/16/12 11:29** SeqNo: **1707523**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Hexanone	ND	0.83	5.0									
Dibromochloromethane	ND	0.65	5.0									
1,2-Dibromoethane	ND	0.74	5.0									
Chlorobenzene	ND	0.51	5.0									
1,1,1,2-Tetrachloroethane	ND	0.77	5.0									
Ethylbenzene	ND	0.50	5.0									
m,p-Xylene	ND	1.6	5.0									
o-Xylene	ND	0.47	5.0									
Xylene (Total)	ND	0.47	5.0									
Styrene	ND	0.52	5.0									
Bromoform	ND	2.0	5.0									
Isopropylbenzene	ND	0.58	5.0									
1,1,2,2-Tetrachloroethane	ND	0.68	5.0									
Bromobenzene	ND	0.58	5.0									
1,2,3-Trichloropropane	ND	0.87	5.0									
n-Propylbenzene	ND	0.44	5.0									
2-Chlorotoluene	ND	0.74	5.0									
1,3,5-Trimethylbenzene	ND	0.61	5.0									
4-Chlorotoluene	ND	0.84	5.0									
tert-Butylbenzene	ND	0.52	5.0									
1,2,4-Trimethylbenzene	ND	0.57	5.0									
sec-Butylbenzene	ND	0.62	5.0									
4-Isopropyltoluene	ND	0.71	5.0									
1,3-Dichlorobenzene	ND	0.70	5.0									
1,4-Dichlorobenzene	ND	0.80	5.0									
n-Butylbenzene	ND	0.67	5.0									
1,2-Dichlorobenzene	ND	0.62	5.0									
1,2-Dibromo-3-chloropropane	ND	1.3	5.0									
1,2,4-Trichlorobenzene	ND	0.63	5.0									
Hexachlorobutadiene	ND	0.62	5.0									
1,2,3-Trichlorobenzene	ND	0.64	5.0									
Naphthalene	ND	0.78	5.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	3.0	5.0									
Cyclohexane	ND	1.7	5.0									
Methyl acetate	ND	1.4	5.0									
Methylcyclohexane	ND	1.8	5.0									

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S

SW846 8260C -- VOC by GC-MS

Sample ID: **MB-65144** SampType: **MBLK** TestCode: **SW8260_LOW_S** Prep Date: **03/16/12 8:16** Run ID: **V5_120316A**

Client ID: **MB-65144** Batch ID: **65144** Units: **ug/Kg** Analysis Date: **03/16/12 11:29** SeqNo: **1707523**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: Dibromofluoromethane	51.45		5.0	50.00	0	103	65	132	0			
Surrogate: 1,2-Dichloroethane-d4	51.40		5.0	50.00	0	103	65	128	0			
Surrogate: Toluene-d8	47.09		5.0	50.00	0	94.2	85	115	0			
Surrogate: Bromofluorobenzene	47.02		5.0	50.00	0	94.0	77	111	0			

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S
SW846 8260C -- VOC by GC-MS

Sample ID: **LCS-65144** SampType: **LCS** TestCode: **SW8260_LOW_S** Prep Date: **03/16/12 8:16** Run ID: **V5_120316A**
Client ID: **LCS-65144** Batch ID: **65144** Units: **ug/Kg** Analysis Date: **03/16/12 10:34** SeqNo: **1707519**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	44.92	0.98	5.0	50.00	0	89.8	35	135	0			
Chloromethane	49.83	0.80	5.0	50.00	0	99.7	50	130	0			
Vinyl chloride	50.17	0.63	5.0	50.00	0	100	60	125	0			
Bromomethane	49.96	1.1	5.0	50.00	0	99.9	30	160	0			
Chloroethane	51.51	1.0	5.0	50.00	0	103	40	155	0			
Trichlorofluoromethane	49.49	0.42	5.0	50.00	0	99.0	25	185	0			
1,1-Dichloroethene	55.30	0.95	5.0	50.00	0	111	65	135	0			
Acetone	80.13	1.6	5.0	50.00	0	160	20	160	0			S
Iodomethane	51.76	0.69	5.0	50.00	0	104	70	126	0			
Carbon disulfide	53.61	0.30	5.0	50.00	0	107	45	160	0			
Methylene chloride	44.38	1.3	5.0	50.00	0	88.8	55	140	0			B
trans-1,2-Dichloroethene	52.96	0.53	5.0	50.00	0	106	65	135	0			
Methyl tert-butyl ether	47.34	0.61	5.0	50.00	0	94.7	75	126	0			
1,1-Dichloroethane	51.18	0.67	5.0	50.00	0	102	75	125	0			
Vinyl acetate	48.79	0.37	5.0	50.00	0	97.6	65	138	0			
2-Butanone	67.97	2.0	5.0	50.00	0	136	30	160	0			
cis-1,2-Dichloroethene	51.30	0.75	5.0	50.00	0	103	65	125	0			
2,2-Dichloropropane	53.39	0.29	5.0	50.00	0	107	65	135	0			
Bromochloromethane	48.15	0.76	5.0	50.00	0	96.3	70	125	0			
Chloroform	49.23	0.64	5.0	50.00	0	98.5	70	125	0			
1,1,1-Trichloroethane	51.57	0.53	5.0	50.00	0	103	70	135	0			
1,1-Dichloropropene	51.81	0.81	5.0	50.00	0	104	70	135	0			
Carbon tetrachloride	50.09	0.33	5.0	50.00	0	100	65	135	0			
1,2-Dichloroethane	47.09	0.54	5.0	50.00	0	94.2	70	135	0			
Benzene	51.25	0.61	5.0	50.00	0	102	75	125	0			
Trichloroethene	51.22	0.62	5.0	50.00	0	102	75	125	0			
1,2-Dichloropropane	48.93	0.69	5.0	50.00	0	97.9	70	120	0			
Dibromomethane	47.62	0.58	5.0	50.00	0	95.2	75	130	0			
Bromodichloromethane	47.93	0.97	5.0	50.00	0	95.9	70	130	0			
cis-1,3-Dichloropropene	49.85	0.67	5.0	50.00	0	99.7	70	125	0			
4-Methyl-2-pentanone	55.28	0.73	5.0	50.00	0	111	45	145	0			
Toluene	51.11	0.47	5.0	50.00	0	102	70	125	0			
trans-1,3-Dichloropropene	49.70	0.68	5.0	50.00	0	99.4	65	125	0			
1,1,2-Trichloroethane	47.87	0.48	5.0	50.00	0	95.7	60	125	0			
1,3-Dichloropropane	49.30	0.87	5.0	50.00	0	98.6	75	125	0			
Tetrachloroethene	50.71	0.62	5.0	50.00	0	101	65	140	0			
2-Hexanone	65.60	0.83	5.0	50.00	0	131	45	145	0			
Dibromochloromethane	46.38	0.65	5.0	50.00	0	92.8	65	130	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

mm11.12.11.A

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S

SW846 8260C -- VOC by GC-MS

Sample ID: **LCS-65144** SampType: **LCS** TestCode: **SW8260_LOW_S** Prep Date: **03/16/12 8:16** Run ID: **V5_120316A**

Client ID: **LCS-65144** Batch ID: **65144** Units: **ug/Kg** Analysis Date: **03/16/12 10:34** SeqNo: **1707519**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	47.52	0.74	5.0	50.00	0	95.0	70	125	0			
Chlorobenzene	50.81	0.51	5.0	50.00	0	102	75	125	0			
1,1,1,2-Tetrachloroethane	49.41	0.77	5.0	50.00	0	98.8	75	125	0			
Ethylbenzene	53.06	0.50	5.0	50.00	0	106	75	125	0			
m,p-Xylene	107.8	1.6	5.0	100.0	0	108	80	125	0			
o-Xylene	51.75	0.47	5.0	50.00	0	104	75	125	0			
Xylene (Total)	159.5	0.47	5.0	150.0	0	106	83	125	0			
Styrene	52.35	0.52	5.0	50.00	0	105	75	125	0			
Bromoform	47.38	2.0	5.0	50.00	0	94.8	55	135	0			
Isopropylbenzene	51.40	0.58	5.0	50.00	0	103	75	130	0			
1,1,2,2-Tetrachloroethane	50.35	0.68	5.0	50.00	0	101	55	130	0			
Bromobenzene	52.09	0.58	5.0	50.00	0	104	65	120	0			
1,2,3-Trichloropropane	49.05	0.87	5.0	50.00	0	98.1	65	130	0			
n-Propylbenzene	53.99	0.44	5.0	50.00	0	108	65	135	0			
2-Chlorotoluene	53.07	0.74	5.0	50.00	0	106	70	130	0			
1,3,5-Trimethylbenzene	53.47	0.61	5.0	50.00	0	107	65	135	0			
4-Chlorotoluene	54.80	0.84	5.0	50.00	0	110	75	125	0			
tert-Butylbenzene	56.33	0.52	5.0	50.00	0	113	65	130	0			
1,2,4-Trimethylbenzene	51.37	0.57	5.0	50.00	0	103	65	135	0			
sec-Butylbenzene	53.16	0.62	5.0	50.00	0	106	65	130	0			
4-Isopropyltoluene	53.10	0.71	5.0	50.00	0	106	75	135	0			
1,3-Dichlorobenzene	52.99	0.70	5.0	50.00	0	106	70	125	0			
1,4-Dichlorobenzene	50.52	0.80	5.0	50.00	0	101	70	125	0			
n-Butylbenzene	55.42	0.67	5.0	50.00	0	111	65	140	0			
1,2-Dichlorobenzene	48.97	0.62	5.0	50.00	0	97.9	75	120	0			
1,2-Dibromo-3-chloropropane	44.77	1.3	5.0	50.00	0	89.5	40	135	0			
1,2,4-Trichlorobenzene	51.04	0.63	5.0	50.00	0	102	65	130	0			
Hexachlorobutadiene	49.39	0.62	5.0	50.00	0	98.8	55	140	0			
1,2,3-Trichlorobenzene	50.31	0.64	5.0	50.00	0	101	60	135	0			
Naphthalene	61.08	0.78	5.0	50.00	0	122	40	125	0			
1,1,2-Trichloro-1,2,2-trifluoroethane	52.75	3.0	5.0	50.00	0	105	70	130	0			
Cyclohexane	51.37	1.7	5.0	50.00	0	103	70	130	0			
Methyl acetate	46.89	1.4	5.0	50.00	0	93.8	70	130	0			
Methylcyclohexane	51.46	1.8	5.0	50.00	0	103	70	130	0			
Surrogate: Dibromofluoromethane	48.69		5.0	50.00	0	97.4	65	132	0			

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S
SW846 8260C -- VOC by GC-MS

Sample ID: **LCS-65144** SampType: **LCS** TestCode: **SW8260_LOW_S** Prep Date: **03/16/12 8:16** Run ID: **V5_120316A**
Client ID: **LCS-65144** Batch ID: **65144** Units: **ug/Kg** Analysis Date: **03/16/12 10:34** SeqNo: **1707519**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: 1,2-Dichloroethane-d4	46.11		5.0	50.00	0	92.2	65	128	0			
Surrogate: Toluene-d8	49.63		5.0	50.00	0	99.3	85	115	0			
Surrogate: Bromofluorobenzene	49.18		5.0	50.00	0	98.4	77	111	0			

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_W

SW846 8260C -- VOC by GC-MS

Sample ID: **MB-65080** SampType: **MBLK** TestCode: **SW8260_W** Prep Date: **03/20/12 9:05** Run ID: **V5_120320B**

Client ID: **MB-65080** Batch ID: **65195** Units: **ug/L** Analysis Date: **03/20/12 16:32** SeqNo: **1708675**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride -- TCLP	ND	0.50	5.0	0	0	0	0	0	0			
1,1-Dichloroethene -- TCLP	ND	0.39	5.0	0	0	0	0	0	0			
2-Butanone -- TCLP	ND	2.1	5.0	0	0	0	0	0	0			
Chloroform -- TCLP	ND	0.33	5.0	0	0	0	0	0	0			
Carbon tetrachloride -- TCLP	ND	0.54	5.0	0	0	0	0	0	0			
1,2-Dichloroethane -- TCLP	ND	0.41	5.0	0	0	0	0	0	0			
Benzene -- TCLP	ND	0.33	5.0	0	0	0	0	0	0			
Trichloroethene -- TCLP	ND	0.36	5.0	0	0	0	0	0	0			
Tetrachloroethene -- TCLP	ND	0.65	5.0	0	0	0	0	0	0			
Chlorobenzene -- TCLP	ND	0.26	5.0	0	0	0	0	0	0			
Surrogate: Dibromofluoromethane -- TCLP	56.66		5.0	50.00	0	113	85	115	0			
Surrogate: 1,2-Dichloroethane-d4 -- TCLP	49.19		5.0	50.00	0	98.4	70	120	0			
Surrogate: Toluene-d8 -- TCLP	44.02		5.0	50.00	0	88.0	85	120	0			
Surrogate: Bromofluorobenzene -- TCLP	51.99		5.0	50.00	0	104	75	120	0			

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_W

SW846 8260C -- VOC by GC-MS

Sample ID: **MB-65160** SampType: **MBLK** TestCode: **SW8260_W** Prep Date: **03/16/12 16:38** Run ID: **V1_120316B**
Client ID: **MB-65160** Batch ID: **65160** Units: **ug/L** Analysis Date: **03/16/12 19:13** SeqNo: **1708143**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	0.66	5.0									
Chloromethane	ND	0.26	5.0									
Vinyl chloride	ND	0.50	5.0									
Bromomethane	ND	0.80	5.0									
Chloroethane	ND	0.48	5.0									
Trichlorofluoromethane	ND	0.54	5.0									
1,1-Dichloroethene	ND	0.39	5.0									
Acetone	ND	2.2	5.0									
Iodomethane	ND	0.63	5.0									
Carbon disulfide	ND	0.34	5.0									
Methylene chloride	ND	0.41	5.0									
trans-1,2-Dichloroethene	ND	0.65	5.0									
Methyl tert-butyl ether	ND	0.24	5.0									
1,1-Dichloroethane	ND	0.25	5.0									
Vinyl acetate	ND	0.35	5.0									
2-Butanone	ND	2.1	5.0									
cis-1,2-Dichloroethene	ND	0.48	5.0									
2,2-Dichloropropane	ND	0.30	5.0									
Bromochloromethane	ND	0.43	5.0									
Chloroform	ND	0.33	5.0									
1,1,1-Trichloroethane	ND	0.50	5.0									
1,1-Dichloropropene	ND	0.50	5.0									
Carbon tetrachloride	ND	0.54	5.0									
1,2-Dichloroethane	ND	0.41	5.0									
Benzene	ND	0.33	5.0									
Trichloroethene	ND	0.36	5.0									
1,2-Dichloropropane	ND	0.61	5.0									
Dibromomethane	ND	0.49	5.0									
Bromodichloromethane	ND	0.26	5.0									
cis-1,3-Dichloropropene	ND	0.45	5.0									
4-Methyl-2-pentanone	ND	0.82	5.0									
Toluene	ND	0.32	5.0									
trans-1,3-Dichloropropene	ND	0.48	5.0									
1,1,2-Trichloroethane	ND	0.38	5.0									
1,3-Dichloropropane	ND	0.22	5.0									
Tetrachloroethene	ND	0.65	5.0									
2-Hexanone	ND	1.7	5.0									
Dibromochloromethane	ND	0.57	5.0									

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_W

SW846 8260C -- VOC by GC-MS

Sample ID: **MB-65160** SampType: **MBLK** TestCode: **SW8260_W** Prep Date: **03/16/12 16:38** Run ID: **V1_120316B**
Client ID: **MB-65160** Batch ID: **65160** Units: **ug/L** Analysis Date: **03/16/12 19:13** SeqNo: **1708143**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.50	5.0									
Chlorobenzene	ND	0.26	5.0									
1,1,1,2-Tetrachloroethane	ND	0.41	5.0									
Ethylbenzene	ND	0.35	5.0									
m,p-Xylene	ND	0.77	5.0									
o-Xylene	ND	0.36	5.0									
Xylene (Total)	ND	0.36	5.0									
Styrene	ND	0.50	5.0									
Bromoform	ND	0.77	5.0									
Isopropylbenzene	ND	0.38	5.0									
1,1,2,2-Tetrachloroethane	ND	0.42	5.0									
Bromobenzene	ND	0.36	5.0									
1,2,3-Trichloropropane	ND	0.82	5.0									
n-Propylbenzene	ND	0.64	5.0									
2-Chlorotoluene	ND	0.54	5.0									
1,3,5-Trimethylbenzene	ND	0.45	5.0									
4-Chlorotoluene	ND	0.45	5.0									
tert-Butylbenzene	ND	0.37	5.0									
1,2,4-Trimethylbenzene	ND	0.40	5.0									
sec-Butylbenzene	ND	0.28	5.0									
4-Isopropyltoluene	ND	0.46	5.0									
1,3-Dichlorobenzene	ND	0.29	5.0									
1,4-Dichlorobenzene	ND	0.40	5.0									
n-Butylbenzene	ND	0.33	5.0									
1,2-Dichlorobenzene	ND	0.33	5.0									
1,2-Dibromo-3-chloropropane	ND	0.75	5.0									
1,2,4-Trichlorobenzene	ND	0.26	5.0									
Hexachlorobutadiene	ND	0.41	5.0									
1,2,3-Trichlorobenzene	ND	0.33	5.0									
Naphthalene	ND	0.80	5.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.82	5.0									
Cyclohexane	ND	0.71	5.0									
Methyl acetate	ND	0.29	5.0									
Methylcyclohexane	ND	0.76	5.0									
Surrogate: Dibromofluoromethane	54.08		5.0	50.00	0	108	85	115	0			

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_W

SW846 8260C -- VOC by GC-MS

Sample ID: **MB-65160**	SampType: **MBLK**	TestCode: **SW8260_W**			Prep Date: **03/16/12 16:38**			Run ID: **V1_120316B**			
Client ID: **MB-65160**	Batch ID: **65160**	Units: **ug/L**			Analysis Date: **03/16/12 19:13**			SeqNo: **1708143**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: 1,2-Dichloroethane-d4	50.59		5.0	50.00	0	101	70	120	0			
Surrogate: Toluene-d8	49.98		5.0	50.00	0	100	85	120	0			
Surrogate: Bromofluorobenzene	47.49		5.0	50.00	0	95.0	75	120	0			

Sample ID: **MB-65195**	SampType: **MBLK**	TestCode: **SW8260_W**			Prep Date: **03/20/12 9:05**			Run ID: **V5_120320B**			
Client ID: **MB-65195**	Batch ID: **65195**	Units: **ug/L**			Analysis Date: **03/20/12 15:38**			SeqNo: **1708673**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.50	1.0									
1,1-Dichloroethene	ND	0.39	1.0									
2-Butanone	ND	2.1	5.0									
Chloroform	ND	0.33	1.0									
Carbon tetrachloride	ND	0.54	1.0									
1,2-Dichloroethane	ND	0.41	1.0									
Benzene	ND	0.33	1.0									
Trichloroethene	ND	0.36	1.0									
Tetrachloroethene	ND	0.65	1.0									
Chlorobenzene	ND	0.26	1.0									
Surrogate: Dibromofluoromethane	55.87		5.0	50.00	0	112	85	115	0			
Surrogate: 1,2-Dichloroethane-d4	51.00		5.0	50.00	0	102	70	120	0			
Surrogate: Toluene-d8	44.81		5.0	50.00	0	89.6	85	120	0			
Surrogate: Bromofluorobenzene	51.73		5.0	50.00	0	103	75	120	0			

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_W

SW846 8260C -- VOC by GC-MS

Sample ID: **MB-65204** SampType: **MBLK** TestCode: **SW8260_W** Prep Date: **03/21/12 7:34** Run ID: **V5_120321A**
Client ID: **MB-65204** Batch ID: **65204** Units: **ug/L** Analysis Date: **03/21/12 9:38** SeqNo: **1708818**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	0.66	1.0									
Chloromethane	ND	0.26	1.0									
Vinyl chloride	ND	0.50	1.0									
Bromomethane	ND	0.80	1.0									
Chloroethane	ND	0.48	1.0									
Trichlorofluoromethane	ND	0.54	1.0									
1,1-Dichloroethene	ND	0.39	1.0									
Acetone	ND	2.2	5.0									
Iodomethane	ND	0.63	1.0									
Carbon disulfide	ND	0.34	1.0									
Methylene chloride	ND	0.41	1.0									
trans-1,2-Dichloroethene	ND	0.65	1.0									
Methyl tert-butyl ether	ND	0.24	1.0									
1,1-Dichloroethane	ND	0.25	1.0									
Vinyl acetate	ND	0.35	1.0									
2-Butanone	ND	2.1	5.0									
cis-1,2-Dichloroethene	ND	0.48	1.0									
2,2-Dichloropropane	ND	0.30	1.0									
Bromochloromethane	ND	0.43	1.0									
Chloroform	ND	0.33	1.0									
1,1,1-Trichloroethane	ND	0.50	1.0									
1,1-Dichloropropene	ND	0.50	1.0									
Carbon tetrachloride	ND	0.54	1.0									
1,2-Dichloroethane	ND	0.41	1.0									
Benzene	ND	0.33	1.0									
Trichloroethene	ND	0.36	1.0									
1,2-Dichloropropane	ND	0.61	1.0									
Dibromomethane	ND	0.49	1.0									
Bromodichloromethane	ND	0.26	1.0									
cis-1,3-Dichloropropene	ND	0.45	1.0									
4-Methyl-2-pentanone	ND	0.82	5.0									
Toluene	ND	0.32	1.0									
trans-1,3-Dichloropropene	ND	0.48	1.0									
1,1,2-Trichloroethane	ND	0.38	1.0									
1,3-Dichloropropane	ND	0.22	1.0									
Tetrachloroethene	ND	0.65	1.0									
2-Hexanone	ND	1.7	5.0									
Dibromochloromethane	ND	0.57	1.0									

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_W

SW846 8260C -- VOC by GC-MS

Sample ID: **MB-65204** SampType: **MBLK** TestCode: **SW8260_W** Prep Date: **03/21/12 7:34** Run ID: **V5_120321A**
Client ID: **MB-65204** Batch ID: **65204** Units: **ug/L** Analysis Date: **03/21/12 9:38** SeqNo: **1708818**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.50	1.0									
Chlorobenzene	ND	0.26	1.0									
1,1,1,2-Tetrachloroethane	ND	0.41	1.0									
Ethylbenzene	ND	0.35	1.0									
m,p-Xylene	ND	0.77	1.0									
o-Xylene	ND	0.36	1.0									
Xylene (Total)	ND	0.36	1.0									
Styrene	ND	0.50	1.0									
Bromoform	ND	0.77	1.0									
Isopropylbenzene	ND	0.38	1.0									
1,1,2,2-Tetrachloroethane	ND	0.42	1.0									
Bromobenzene	ND	0.36	1.0									
1,2,3-Trichloropropane	ND	0.82	1.0									
n-Propylbenzene	ND	0.64	1.0									
2-Chlorotoluene	ND	0.54	1.0									
1,3,5-Trimethylbenzene	ND	0.45	1.0									
4-Chlorotoluene	ND	0.45	1.0									
tert-Butylbenzene	ND	0.37	1.0									
1,2,4-Trimethylbenzene	ND	0.40	1.0									
sec-Butylbenzene	ND	0.28	1.0									
4-Isopropyltoluene	ND	0.46	1.0									
1,3-Dichlorobenzene	ND	0.29	1.0									
1,4-Dichlorobenzene	ND	0.40	1.0									
n-Butylbenzene	ND	0.33	1.0									
1,2-Dichlorobenzene	ND	0.33	1.0									
1,2-Dibromo-3-chloropropane	ND	0.75	1.0									
1,2,4-Trichlorobenzene	ND	0.26	1.0									
Hexachlorobutadiene	ND	0.41	1.0									
1,2,3-Trichlorobenzene	ND	0.33	1.0									
Naphthalene	ND	0.80	1.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.82	1.0									
Cyclohexane	ND	0.71	1.0									
Methyl acetate	ND	0.29	1.0									
Methylcyclohexane	ND	0.76	1.0									
Surrogate: Dibromofluoromethane	57.65		5.0	50.00	0	115	85	115	0			S

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_W

SW846 8260C -- VOC by GC-MS

Sample ID: **MB-65204** SampType: **MBLK** TestCode: **SW8260_W** Prep Date: **03/21/12 7:34** Run ID: **V5_120321A**
Client ID: **MB-65204** Batch ID: **65204** Units: **ug/L** Analysis Date: **03/21/12 9:38** SeqNo: **1708818**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: 1,2-Dichloroethane-d4	48.29		5.0	50.00	0	96.6	70	120	0			
Surrogate: Toluene-d8	42.83		5.0	50.00	0	85.7	85	120	0			
Surrogate: Bromofluorobenzene	52.34		5.0	50.00	0	105	75	120	0			

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_W

SW846 8260C -- VOC by GC-MS

Sample ID: **LCS-65160** SampType: **LCS** TestCode: **SW8260_W** Prep Date: **03/16/12 16:38** Run ID: **V1_120316B**

Client ID: **LCS-65160** Batch ID: **65160** Units: **ug/L** Analysis Date: **03/16/12 16:57** SeqNo: **1708142**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	52.36	0.66	5.0	50.00	0	105	30	155	0			
Chloromethane	47.90	0.26	5.0	50.00	0	95.8	40	125	0			
Vinyl chloride	52.21	0.50	5.0	50.00	0	104	50	145	0			
Bromomethane	60.91	0.80	5.0	50.00	0	122	30	145	0			
Chloroethane	57.49	0.48	5.0	50.00	0	115	60	135	0			
Trichlorofluoromethane	53.64	0.54	5.0	50.00	0	107	60	145	0			
1,1-Dichloroethene	45.21	0.39	5.0	50.00	0	90.4	70	130	0			
Acetone	50.96	2.2	5.0	50.00	0	102	40	140	0			
Iodomethane	65.65	0.63	5.0	50.00	0	131	72	121	0			S
Carbon disulfide	54.12	0.34	5.0	50.00	0	108	35	160	0			
Methylene chloride	48.22	0.41	5.0	50.00	0	96.4	55	140	0			
trans-1,2-Dichloroethene	50.69	0.65	5.0	50.00	0	101	60	140	0			
Methyl tert-butyl ether	59.94	0.24	5.0	50.00	0	120	65	125	0			
1,1-Dichloroethane	58.23	0.25	5.0	50.00	0	116	70	135	0			
Vinyl acetate	55.80	0.35	5.0	50.00	0	112	38	163	0			
2-Butanone	57.23	2.1	5.0	50.00	0	114	30	150	0			
cis-1,2-Dichloroethene	51.01	0.48	5.0	50.00	0	102	70	125	0			
2,2-Dichloropropane	76.09	0.30	5.0	50.00	0	152	70	135	0			S
Bromochloromethane	63.36	0.43	5.0	50.00	0	127	65	130	0			
Chloroform	53.76	0.33	5.0	50.00	0	108	65	135	0			
1,1,1-Trichloroethane	71.98	0.50	5.0	50.00	0	144	65	130	0			S
1,1-Dichloropropene	53.95	0.50	5.0	50.00	0	108	75	130	0			
Carbon tetrachloride	77.74	0.54	5.0	50.00	0	155	65	140	0			S
1,2-Dichloroethane	52.68	0.41	5.0	50.00	0	105	70	130	0			
Benzene	52.88	0.33	5.0	50.00	0	106	80	120	0			
Trichloroethene	51.59	0.36	5.0	50.00	0	103	70	125	0			
1,2-Dichloropropane	52.01	0.61	5.0	50.00	0	104	75	125	0			
Dibromomethane	55.18	0.49	5.0	50.00	0	110	75	125	0			
Bromodichloromethane	53.67	0.26	5.0	50.00	0	107	75	120	0			
cis-1,3-Dichloropropene	58.19	0.45	5.0	50.00	0	116	70	130	0			
4-Methyl-2-pentanone	55.54	0.82	5.0	50.00	0	111	60	135	0			
Toluene	52.09	0.32	5.0	50.00	0	104	75	120	0			
trans-1,3-Dichloropropene	61.75	0.48	5.0	50.00	0	123	55	140	0			
1,1,2-Trichloroethane	51.63	0.38	5.0	50.00	0	103	75	125	0			
1,3-Dichloropropane	54.49	0.22	5.0	50.00	0	109	75	125	0			
Tetrachloroethene	49.55	0.65	5.0	50.00	0	99.1	45	150	0			
2-Hexanone	54.61	1.7	5.0	50.00	0	109	55	130	0			
Dibromochloromethane	56.25	0.57	5.0	50.00	0	113	60	135	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank

J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_W

SW846 8260C -- VOC by GC-MS

Sample ID: **LCS-65160** SampType: **LCS** TestCode: **SW8260_W** Prep Date: **03/16/12 16:38** Run ID: **V1_120316B**

Client ID: **LCS-65160** Batch ID: **65160** Units: **ug/L** Analysis Date: **03/16/12 16:57** SeqNo: **1708142**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	56.14	0.50	5.0	50.00	0	112	80	120	0			
Chlorobenzene	51.00	0.26	5.0	50.00	0	102	80	120	0			
1,1,1,2-Tetrachloroethane	52.88	0.41	5.0	50.00	0	106	80	130	0			
Ethylbenzene	53.85	0.35	5.0	50.00	0	108	75	125	0			
m,p-Xylene	106.6	0.77	5.0	100.0	0	107	75	130	0			
o-Xylene	53.53	0.36	5.0	50.00	0	107	80	120	0			
Xylene (Total)	160.1	0.36	5.0	150.0	0	107	81	121	0			
Styrene	55.20	0.50	5.0	50.00	0	110	65	135	0			
Bromoform	62.52	0.77	5.0	50.00	0	125	70	130	0			
Isopropylbenzene	52.50	0.38	5.0	50.00	0	105	75	125	0			
1,1,2,2-Tetrachloroethane	59.05	0.42	5.0	50.00	0	118	65	130	0			
Bromobenzene	54.68	0.36	5.0	50.00	0	109	75	125	0			
1,2,3-Trichloropropane	58.30	0.82	5.0	50.00	0	117	75	125	0			
n-Propylbenzene	60.20	0.64	5.0	50.00	0	120	70	130	0			
2-Chlorotoluene	54.60	0.54	5.0	50.00	0	109	75	125	0			
1,3,5-Trimethylbenzene	55.41	0.45	5.0	50.00	0	111	75	130	0			
4-Chlorotoluene	55.87	0.45	5.0	50.00	0	112	75	130	0			
tert-Butylbenzene	54.06	0.37	5.0	50.00	0	108	70	130	0			
1,2,4-Trimethylbenzene	57.12	0.40	5.0	50.00	0	114	75	130	0			
sec-Butylbenzene	55.49	0.28	5.0	50.00	0	111	70	125	0			
4-Isopropyltoluene	55.01	0.46	5.0	50.00	0	110	75	130	0			
1,3-Dichlorobenzene	54.13	0.29	5.0	50.00	0	108	75	125	0			
1,4-Dichlorobenzene	54.66	0.40	5.0	50.00	0	109	75	125	0			
n-Butylbenzene	54.46	0.33	5.0	50.00	0	109	70	135	0			
1,2-Dichlorobenzene	52.05	0.33	5.0	50.00	0	104	70	120	0			
1,2-Dibromo-3-chloropropane	51.24	0.75	5.0	50.00	0	102	50	130	0			
1,2,4-Trichlorobenzene	47.81	0.26	5.0	50.00	0	95.6	65	135	0			
Hexachlorobutadiene	45.02	0.41	5.0	50.00	0	90.0	50	140	0			
1,2,3-Trichlorobenzene	44.86	0.33	5.0	50.00	0	89.7	55	140	0			
Naphthalene	36.62	0.80	5.0	50.00	0	73.2	55	140	0			
1,1,2-Trichloro-1,2,2-trifluoroethane	53.59	0.82	5.0	50.00	0	107	70	130	0			
Cyclohexane	58.38	0.71	5.0	50.00	0	117	70	130	0			
Methyl acetate	53.76	0.29	5.0	50.00	0	108	70	130	0			
Methylcyclohexane	55.42	0.76	5.0	50.00	0	111	70	130	0			
Surrogate: Dibromofluoromethane	52.82		5.0	50.00	0	106	85	115	0			

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_W

SW846 8260C -- VOC by GC-MS

Sample ID: **LCS-65160** SampType: **LCS** TestCode: **SW8260_W** Prep Date: **03/16/12 16:38** Run ID: **V1_120316B**
Client ID: **LCS-65160** Batch ID: **65160** Units: **ug/L** Analysis Date: **03/16/12 16:57** SeqNo: **1708142**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: 1,2-Dichloroethane-d4	54.78		5.0	50.00	0	110	70	120	0			
Surrogate: Toluene-d8	50.39		5.0	50.00	0	101	85	120	0			
Surrogate: Bromofluorobenzene	50.13		5.0	50.00	0	100	75	120	0			

Sample ID: **LCS-65195** SampType: **LCS** TestCode: **SW8260_W** Prep Date: **03/20/12 9:05** Run ID: **V5_120320B**
Client ID: **LCS-65195** Batch ID: **65195** Units: **ug/L** Analysis Date: **03/20/12 14:18** SeqNo: **1708671**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	47.18	0.50	5.0	50.00	0	94.4	50	145	0			
1,1-Dichloroethene	49.38	0.39	5.0	50.00	0	98.8	70	130	0			
2-Butanone	51.45	2.1	5.0	50.00	0	103	30	150	0			
Chloroform	56.61	0.33	5.0	50.00	0	113	65	135	0			
Carbon tetrachloride	61.51	0.54	5.0	50.00	0	123	65	140	0			
1,2-Dichloroethane	60.51	0.41	5.0	50.00	0	121	70	130	0			
Benzene	54.05	0.33	5.0	50.00	0	108	80	120	0			
Trichloroethene	59.50	0.36	5.0	50.00	0	119	70	125	0			
Tetrachloroethene	46.21	0.65	5.0	50.00	0	92.4	45	150	0			
Chlorobenzene	51.02	0.26	5.0	50.00	0	102	80	120	0			
Surrogate: Dibromofluoromethane	54.88		5.0	50.00	0	110	85	115	0			
Surrogate: 1,2-Dichloroethane-d4	52.10		5.0	50.00	0	104	70	120	0			
Surrogate: Toluene-d8	46.83		5.0	50.00	0	93.7	85	120	0			
Surrogate: Bromofluorobenzene	54.21		5.0	50.00	0	108	75	120	0			

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_W

SW846 8260C -- VOC by GC-MS

Sample ID: **LCS-65204** SampType: **LCS** TestCode: **SW8260_W** Prep Date: **03/21/12 7:34** Run ID: **V5_120321A**

Client ID: **LCS-65204** Batch ID: **65204** Units: **ug/L** Analysis Date: **03/21/12 8:44** SeqNo: **1708817**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	54.38	0.66	5.0	50.00	0	109	30	155	0			
Chloromethane	44.56	0.26	5.0	50.00	0	89.1	40	125	0			
Vinyl chloride	40.41	0.50	5.0	50.00	0	80.8	50	145	0			
Bromomethane	42.48	0.80	5.0	50.00	0	85.0	30	145	0			
Chloroethane	39.96	0.48	5.0	50.00	0	79.9	60	135	0			
Trichlorofluoromethane	56.56	0.54	5.0	50.00	0	113	60	145	0			
1,1-Dichloroethene	42.44	0.39	5.0	50.00	0	84.9	70	130	0			
Acetone	48.47	2.2	5.0	50.00	0	96.9	40	140	0			
Iodomethane	51.33	0.63	5.0	50.00	0	103	72	121	0			
Carbon disulfide	45.23	0.34	5.0	50.00	0	90.5	35	160	0			
Methylene chloride	46.42	0.41	5.0	50.00	0	92.8	55	140	0			
trans-1,2-Dichloroethene	48.74	0.65	5.0	50.00	0	97.5	60	140	0			
Methyl tert-butyl ether	54.88	0.24	5.0	50.00	0	110	65	125	0			
1,1-Dichloroethane	50.46	0.25	5.0	50.00	0	101	70	135	0			
Vinyl acetate	59.01	0.35	5.0	50.00	0	118	38	163	0			
2-Butanone	53.31	2.1	5.0	50.00	0	107	30	150	0			
cis-1,2-Dichloroethene	49.76	0.48	5.0	50.00	0	99.5	70	125	0			
2,2-Dichloropropane	55.52	0.30	5.0	50.00	0	111	70	135	0			
Bromochloromethane	55.88	0.43	5.0	50.00	0	112	65	130	0			
Chloroform	52.48	0.33	5.0	50.00	0	105	65	135	0			
1,1,1-Trichloroethane	57.66	0.50	5.0	50.00	0	115	65	130	0			
1,1-Dichloropropene	46.92	0.50	5.0	50.00	0	93.8	75	130	0			
Carbon tetrachloride	56.86	0.54	5.0	50.00	0	114	65	140	0			
1,2-Dichloroethane	62.08	0.41	5.0	50.00	0	124	70	130	0			
Benzene	47.90	0.33	5.0	50.00	0	95.8	80	120	0			
Trichloroethene	52.18	0.36	5.0	50.00	0	104	70	125	0			
1,2-Dichloropropane	51.10	0.61	5.0	50.00	0	102	75	125	0			
Dibromomethane	55.37	0.49	5.0	50.00	0	111	75	125	0			
Bromodichloromethane	54.89	0.26	5.0	50.00	0	110	75	120	0			
cis-1,3-Dichloropropene	53.36	0.45	5.0	50.00	0	107	70	130	0			
4-Methyl-2-pentanone	62.72	0.82	5.0	50.00	0	125	60	135	0			
Toluene	49.64	0.32	5.0	50.00	0	99.3	75	120	0			
trans-1,3-Dichloropropene	60.76	0.48	5.0	50.00	0	122	55	140	0			
1,1,2-Trichloroethane	51.97	0.38	5.0	50.00	0	104	75	125	0			
1,3-Dichloropropane	44.02	0.22	5.0	50.00	0	88.0	75	125	0			
Tetrachloroethene	39.27	0.65	5.0	50.00	0	78.5	45	150	0			
2-Hexanone	42.54	1.7	5.0	50.00	0	85.1	55	130	0			
Dibromochloromethane	48.36	0.57	5.0	50.00	0	96.7	60	135	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank

J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_W

SW846 8260C -- VOC by GC-MS

Sample ID: **LCS-65204** SampType: **LCS** TestCode: **SW8260_W** Prep Date: **03/21/12 7:34** Run ID: **V5_120321A**

Client ID: **LCS-65204** Batch ID: **65204** Units: **ug/L** Analysis Date: **03/21/12 8:44** SeqNo: **1708817**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	45.89	0.50	5.0	50.00	0	91.8	80	120	0			
Chlorobenzene	42.51	0.26	5.0	50.00	0	85.0	80	120	0			
1,1,1,2-Tetrachloroethane	46.05	0.41	5.0	50.00	0	92.1	80	130	0			
Ethylbenzene	42.25	0.35	5.0	50.00	0	84.5	75	125	0			
m,p-Xylene	84.82	0.77	5.0	100.0	0	84.8	75	130	0			
o-Xylene	40.67	0.36	5.0	50.00	0	81.3	80	120	0			
Xylene (Total)	125.5	0.36	5.0	150.0	0	83.7	81	121	0			
Styrene	44.45	0.50	5.0	50.00	0	88.9	65	135	0			
Bromoform	49.60	0.77	5.0	50.00	0	99.2	70	130	0			
Isopropylbenzene	43.64	0.38	5.0	50.00	0	87.3	75	125	0			
1,1,2,2-Tetrachloroethane	40.05	0.42	5.0	50.00	0	80.1	65	130	0			
Bromobenzene	40.42	0.36	5.0	50.00	0	80.8	75	125	0			
1,2,3-Trichloropropane	42.58	0.82	5.0	50.00	0	85.2	75	125	0			
n-Propylbenzene	41.61	0.64	5.0	50.00	0	83.2	70	130	0			
2-Chlorotoluene	41.46	0.54	5.0	50.00	0	82.9	75	125	0			
1,3,5-Trimethylbenzene	43.99	0.45	5.0	50.00	0	88.0	75	130	0			
4-Chlorotoluene	41.52	0.45	5.0	50.00	0	83.0	75	130	0			
tert-Butylbenzene	44.13	0.37	5.0	50.00	0	88.3	70	130	0			
1,2,4-Trimethylbenzene	43.25	0.40	5.0	50.00	0	86.5	75	130	0			
sec-Butylbenzene	43.40	0.28	5.0	50.00	0	86.8	70	125	0			
4-Isopropyltoluene	47.71	0.46	5.0	50.00	0	95.4	75	130	0			
1,3-Dichlorobenzene	44.56	0.29	5.0	50.00	0	89.1	75	125	0			
1,4-Dichlorobenzene	41.17	0.40	5.0	50.00	0	82.3	75	125	0			
n-Butylbenzene	45.77	0.33	5.0	50.00	0	91.5	70	135	0			
1,2-Dichlorobenzene	44.18	0.33	5.0	50.00	0	88.4	70	120	0			
1,2-Dibromo-3-chloropropane	50.36	0.75	5.0	50.00	0	101	50	130	0			
1,2,4-Trichlorobenzene	47.37	0.26	5.0	50.00	0	94.7	65	135	0			
Hexachlorobutadiene	52.84	0.41	5.0	50.00	0	106	50	140	0			
1,2,3-Trichlorobenzene	46.55	0.33	5.0	50.00	0	93.1	55	140	0			
Naphthalene	47.59	0.80	5.0	50.00	0	95.2	55	140	0			
1,1,2-Trichloro-1,2,2-trifluoroethane	48.23	0.82	5.0	50.00	0	96.5	70	130	0			
Cyclohexane	49.76	0.71	5.0	50.00	0	99.5	70	130	0			
Methyl acetate	51.92	0.29	5.0	50.00	0	104	70	130	0			
Methylcyclohexane	53.08	0.76	5.0	50.00	0	106	70	130	0			
Surrogate: Dibromofluoromethane	57.10		5.0	50.00	0	114	85	115	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank; J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8260_W

SW846 8260C -- VOC by GC-MS

Sample ID: **LCS-65204** SampType: **LCS** TestCode: **SW8260_W** Prep Date: **03/21/12 7:34** Run ID: **V5_120321A**
Client ID: **LCS-65204** Batch ID: **65204** Units: **ug/L** Analysis Date: **03/21/12 8:44** SeqNo: **1708817**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: 1,2-Dichloroethane-d4	52.15		5.0	50.00	0	104	70	120	0			
Surrogate: Toluene-d8	43.97		5.0	50.00	0	87.9	85	120	0			
Surrogate: Bromofluorobenzene	54.26		5.0	50.00	0	109	75	120	0			

Sample ID: **LCSD-65195** SampType: **LCSD** TestCode: **SW8260_W** Prep Date: **03/20/12 9:05** Run ID: **V5_120320B**
Client ID: **LCSD-65195** Batch ID: **65195** Units: **ug/L** Analysis Date: **03/20/12 14:44** SeqNo: **1708672**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	45.43	0.50	5.0	50.00	0	90.9	50	145	47.18	3.78	40	
1,1-Dichloroethene	48.71	0.39	5.0	50.00	0	97.4	70	130	49.38	1.37	40	
2-Butanone	53.12	2.1	5.0	50.00	0	106	30	150	51.45	3.2	40	
Chloroform	55.07	0.33	5.0	50.00	0	110	65	135	56.61	2.75	40	
Carbon tetrachloride	62.40	0.54	5.0	50.00	0	125	65	140	61.51	1.44	40	
1,2-Dichloroethane	57.21	0.41	5.0	50.00	0	114	70	130	60.51	5.6	40	
Benzene	52.26	0.33	5.0	50.00	0	105	80	120	54.05	3.37	40	
Trichloroethene	56.83	0.36	5.0	50.00	0	114	70	125	59.50	4.6	40	
Tetrachloroethene	45.26	0.65	5.0	50.00	0	90.5	45	150	46.21	2.08	40	
Chlorobenzene	48.02	0.26	5.0	50.00	0	96.0	80	120	51.02	6.04	40	
Surrogate: Dibromofluoromethane	55.14		5.0	50.00	0	110	85	115	0	0	40	
Surrogate: 1,2-Dichloroethane-d4	47.60		5.0	50.00	0	95.2	70	120	0	0	40	
Surrogate: Toluene-d8	47.19		5.0	50.00	0	94.4	85	120	0	0	40	
Surrogate: Bromofluorobenzene	53.29		5.0	50.00	0	107	75	120	0	0	40	

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

Client: CDM
Client Sample ID: 80230-IDW-AQ
Lab ID: L0466-01
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_W**
Phenol	9.8	J	10	ug/L	1	03/13/2012 16:22	65051
Bis(2-chloroethyl)ether	ND		10	ug/L	1	03/13/2012 16:22	65051
2-Chlorophenol	ND		10	ug/L	1	03/13/2012 16:22	65051
2-Methylphenol	ND		10	ug/L	1	03/13/2012 16:22	65051
2,2´-oxybis(1-Chloropropane)	ND		10	ug/L	1	03/13/2012 16:22	65051
4-Methylphenol	ND		10	ug/L	1	03/13/2012 16:22	65051
N-Nitroso-di-n-propylamine	ND		10	ug/L	1	03/13/2012 16:22	65051
Hexachloroethane	ND		10	ug/L	1	03/13/2012 16:22	65051
Nitrobenzene	ND		10	ug/L	1	03/13/2012 16:22	65051
Isophorone	20		10	ug/L	1	03/13/2012 16:22	65051
2-Nitrophenol	ND		10	ug/L	1	03/13/2012 16:22	65051
2,4-Dimethylphenol	ND		10	ug/L	1	03/13/2012 16:22	65051
2,4-Dichlorophenol	ND		10	ug/L	1	03/13/2012 16:22	65051
Naphthalene	2.4	J	10	ug/L	1	03/13/2012 16:22	65051
4-Chloroaniline	ND		10	ug/L	1	03/13/2012 16:22	65051
Bis(2-chloroethoxy)methane	ND		10	ug/L	1	03/13/2012 16:22	65051
Hexachlorobutadiene	ND		10	ug/L	1	03/13/2012 16:22	65051
4-Chloro-3-methylphenol	ND		10	ug/L	1	03/13/2012 16:22	65051
2-Methylnaphthalene	ND		10	ug/L	1	03/13/2012 16:22	65051
Hexachlorocyclopentadiene	ND		10	ug/L	1	03/13/2012 16:22	65051
2,4,6-Trichlorophenol	ND		10	ug/L	1	03/13/2012 16:22	65051
2,4,5-Trichlorophenol	ND		20	ug/L	1	03/13/2012 16:22	65051
2-Chloronaphthalene	ND		10	ug/L	1	03/13/2012 16:22	65051
2-Nitroaniline	ND		20	ug/L	1	03/13/2012 16:22	65051
Dimethylphthalate	7.3	J	10	ug/L	1	03/13/2012 16:22	65051
Acenaphthylene	ND		10	ug/L	1	03/13/2012 16:22	65051
2,6-Dinitrotoluene	ND		10	ug/L	1	03/13/2012 16:22	65051
3-Nitroaniline	ND		20	ug/L	1	03/13/2012 16:22	65051
Acenaphthene	ND		10	ug/L	1	03/13/2012 16:22	65051
2,4-Dinitrophenol	ND		20	ug/L	1	03/13/2012 16:22	65051
4-Nitrophenol	ND		20	ug/L	1	03/13/2012 16:22	65051
Dibenzofuran	ND		10	ug/L	1	03/13/2012 16:22	65051
2,4-Dinitrotoluene	ND		10	ug/L	1	03/13/2012 16:22	65051
Diethylphthalate	1.4	J	10	ug/L	1	03/13/2012 16:22	65051
4-Chlorophenyl-phenylether	ND		10	ug/L	1	03/13/2012 16:22	65051
Fluorene	ND		10	ug/L	1	03/13/2012 16:22	65051
4-Nitroaniline	ND		20	ug/L	1	03/13/2012 16:22	65051
4,6-Dinitro-2-methylphenol	ND		20	ug/L	1	03/13/2012 16:22	65051
N-Nitrosodiphenylamine	ND		10	ug/L	1	03/13/2012 16:22	65051

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: CDM
Client Sample ID: 80230-IDW-AQ
Lab ID: L0466-01
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_W**
4-Bromophenyl-phenylether	ND		10	ug/L	1	03/13/2012 16:22	65051
Hexachlorobenzene	ND		10	ug/L	1	03/13/2012 16:22	65051
Pentachlorophenol	ND		20	ug/L	1	03/13/2012 16:22	65051
Phenanthrene	ND		10	ug/L	1	03/13/2012 16:22	65051
Anthracene	ND		10	ug/L	1	03/13/2012 16:22	65051
Carbazole	ND		10	ug/L	1	03/13/2012 16:22	65051
Di-n-butylphthalate	ND		10	ug/L	1	03/13/2012 16:22	65051
Fluoranthene	ND		10	ug/L	1	03/13/2012 16:22	65051
Pyrene	ND		10	ug/L	1	03/13/2012 16:22	65051
Butylbenzylphthalate	ND		10	ug/L	1	03/13/2012 16:22	65051
3,3´-Dichlorobenzidine	ND		10	ug/L	1	03/13/2012 16:22	65051
Benzo(a)anthracene	ND		10	ug/L	1	03/13/2012 16:22	65051
Chrysene	ND		10	ug/L	1	03/13/2012 16:22	65051
Bis(2-ethylhexyl)phthalate	3.0	J	10	ug/L	1	03/13/2012 16:22	65051
Di-n-octylphthalate	ND		10	ug/L	1	03/13/2012 16:22	65051
Benzo(b)fluoranthene	ND		10	ug/L	1	03/13/2012 16:22	65051
Benzo(k)fluoranthene	ND		10	ug/L	1	03/13/2012 16:22	65051
Benzo(a)pyrene	ND		10	ug/L	1	03/13/2012 16:22	65051
Indeno(1,2,3-cd)pyrene	ND		10	ug/L	1	03/13/2012 16:22	65051
Dibenzo(a,h)anthracene	ND		10	ug/L	1	03/13/2012 16:22	65051
Benzo(g,h,i)perylene	ND		10	ug/L	1	03/13/2012 16:22	65051
1,1´-Biphenyl	ND		10	ug/L	1	03/13/2012 16:22	65051
Acetophenone	ND		10	ug/L	1	03/13/2012 16:22	65051
Atrazine	ND		10	ug/L	1	03/13/2012 16:22	65051
Benzaldehyde	ND		10	ug/L	1	03/13/2012 16:22	65051
Caprolactam	ND		10	ug/L	1	03/13/2012 16:22	65051
Surrogate: Nitrobenzene-d5	80.2		40-110	%REC	1	03/13/2012 16:22	65051
Surrogate: 2-Fluorobiphenyl	82.5		50-110	%REC	1	03/13/2012 16:22	65051
Surrogate: Terphenyl-d14	58.5		50-135	%REC	1	03/13/2012 16:22	65051
Surrogate: Phenol-d5	14.3		10-115	%REC	1	03/13/2012 16:22	65051
Surrogate: 2-Fluorophenol	28.0		20-110	%REC	1	03/13/2012 16:22	65051
Surrogate: 2,4,6-Tribromophenol	90.4		40-125	%REC	1	03/13/2012 16:22	65051

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: CDM
Client Sample ID: 80230-IDW-SOLID
Lab ID: L0466-02
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_W**
1,4-Dichlorobenzene -- TCLP	ND		33	ug/L	1	03/16/2012 17:36	65098
2-Methylphenol -- TCLP	ND		33	ug/L	1	03/16/2012 17:36	65098
4-Methylphenol -- TCLP	ND		33	ug/L	1	03/16/2012 17:36	65098
Hexachloroethane -- TCLP	ND		33	ug/L	1	03/16/2012 17:36	65098
Nitrobenzene -- TCLP	ND		33	ug/L	1	03/16/2012 17:36	65098
Hexachlorobutadiene -- TCLP	ND		33	ug/L	1	03/16/2012 17:36	65098
2,4,6-Trichlorophenol -- TCLP	ND		33	ug/L	1	03/16/2012 17:36	65098
2,4,5-Trichlorophenol -- TCLP	ND		67	ug/L	1	03/16/2012 17:36	65098
2,4-Dinitrotoluene -- TCLP	ND		33	ug/L	1	03/16/2012 17:36	65098
Hexachlorobenzene -- TCLP	ND		33	ug/L	1	03/16/2012 17:36	65098
Pentachlorophenol -- TCLP	ND		67	ug/L	1	03/16/2012 17:36	65098
Pyridine -- TCLP	ND		67	ug/L	1	03/16/2012 17:36	65098
Surrogate: Nitrobenzene-d5 -- TCLP	71.8		40-110	%REC	1	03/16/2012 17:36	65098
Surrogate: 2-Fluorobiphenyl -- TCLP	76.2		50-110	%REC	1	03/16/2012 17:36	65098
Surrogate: Terphenyl-d14 -- TCLP	77.2		50-135	%REC	1	03/16/2012 17:36	65098
Surrogate: Phenol-d5 -- TCLP	61.8		10-115	%REC	1	03/16/2012 17:36	65098
Surrogate: 2-Fluorophenol -- TCLP	69.3		20-110	%REC	1	03/16/2012 17:36	65098
Surrogate: 2,4,6-Tribromophenol -- TCLP	93.2		40-125	%REC	1	03/16/2012 17:36	65098

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8270_W

SW846 8270D -- SVOA by GC-MS

Sample ID: **MB-65051** SampType: **MBLK** TestCode: **SW8270_W** Prep Date: **03/11/12 11:00** Run ID: **S3_120313B**
Client ID: **MB-65051** Batch ID: **65051** Units: **ug/L** Analysis Date: **03/13/12 11:59** SeqNo: **1705288**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	ND	0.75	10									
Bis(2-chloroethyl)ether	ND	0.75	10									
2-Chlorophenol	ND	0.61	10									
2-Methylphenol	ND	0.96	10									
2,2´-oxybis(1-Chloropropane)	ND	0.78	10									
4-Methylphenol	ND	1.4	10									
N-Nitroso-di-n-propylamine	ND	0.63	10									
Hexachloroethane	ND	0.55	10									
Nitrobenzene	ND	1.6	10									
Isophorone	ND	0.47	10									
2-Nitrophenol	ND	0.60	10									
2,4-Dimethylphenol	ND	1.8	10									
2,4-Dichlorophenol	ND	0.57	10									
Naphthalene	ND	0.96	10									
4-Chloroaniline	ND	2.0	10									
Bis(2-chloroethoxy)methane	ND	1.1	10									
Hexachlorobutadiene	ND	0.75	10									
4-Chloro-3-methylphenol	ND	0.60	10									
2-Methylnaphthalene	ND	0.94	10									
Hexachlorocyclopentadiene	ND	1.0	10									
2,4,6-Trichlorophenol	ND	0.53	10									
2,4,5-Trichlorophenol	ND	0.26	20									
2-Chloronaphthalene	ND	0.81	10									
2-Nitroaniline	ND	0.71	20									
Dimethylphthalate	ND	0.37	10									
Acenaphthylene	ND	0.42	10									
2,6-Dinitrotoluene	ND	0.52	10									
3-Nitroaniline	ND	0.97	20									
Acenaphthene	ND	0.65	10									
2,4-Dinitrophenol	ND	3.5	20									
4-Nitrophenol	ND	0.53	20									
Dibenzofuran	ND	0.52	10									
2,4-Dinitrotoluene	ND	0.41	10									
Diethylphthalate	ND	0.45	10									
4-Chlorophenyl-phenylether	ND	0.41	10									
Fluorene	ND	0.44	10									

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8270_W

SW846 8270D -- SVOA by GC-MS

Sample ID: **MB-65051** SampType: **MBLK** TestCode: **SW8270_W** Prep Date: **03/11/12 11:00** Run ID: **S3_120313B**
Client ID: **MB-65051** Batch ID: **65051** Units: **ug/L** Analysis Date: **03/13/12 11:59** SeqNo: **1705288**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Nitroaniline	ND	0.96	20									
4,6-Dinitro-2-methylphenol	ND	0.79	20									
N-Nitrosodiphenylamine	ND	1.1	10									
4-Bromophenyl-phenylether	ND	0.54	10									
Hexachlorobenzene	ND	0.44	10									
Pentachlorophenol	ND	1.7	20									
Phenanthrene	ND	0.45	10									
Anthracene	ND	0.48	10									
Carbazole	ND	0.64	10									
Di-n-butylphthalate	ND	0.48	10									
Fluoranthene	ND	0.33	10									
Pyrene	ND	0.44	10									
Butylbenzylphthalate	ND	0.32	10									
3,3´-Dichlorobenzidine	ND	1.7	10									
Benzo(a)anthracene	ND	0.40	10									
Chrysene	ND	0.42	10									
Bis(2-ethylhexyl)phthalate	ND	1.3	10									
Di-n-octylphthalate	ND	0.47	10									
Benzo(b)fluoranthene	ND	0.94	10									
Benzo(k)fluoranthene	ND	1.2	10									
Benzo(a)pyrene	ND	1.2	10									
Indeno(1,2,3-cd)pyrene	ND	0.38	10									
Dibenzo(a,h)anthracene	ND	0.44	10									
Benzo(g,h,i)perylene	ND	0.39	10									
1,1´-Biphenyl	ND	0.65	10									
Acetophenone	ND	0.51	10									
Atrazine	ND	1.3	10									
Benzaldehyde	ND	0.51	10									
Caprolactam	ND	1.1	10									
Surrogate: Nitrobenzene-d5	44.51		10	50.00	0	89.0	40	110	0			
Surrogate: 2-Fluorobiphenyl	42.87		10	50.00	0	85.7	50	110	0			
Surrogate: Terphenyl-d14	45.37		10	50.00	0	90.7	50	135	0			
Surrogate: Phenol-d5	35.58		10	50.00	0	71.2	10	115	0			
Surrogate: 2-Fluorophenol	41.10		10	50.00	0	82.2	20	110	0			
Surrogate: 2,4,6-Tribromophenol	61.05		10	50.00	0	122	40	125	0			

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8270_W

SW846 8270D -- SVOA by GC-MS

Sample ID: **MB-65091** SampType: **MBLK** TestCode: **SW8270_W** Prep Date: **03/14/12 8:22** Run ID: **S6_120316A**
Client ID: **MB-65091** Batch ID: **65098** Units: **ug/L** Analysis Date: **03/16/12 16:35** SeqNo: **1707457**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene -- TCLP	ND	3.7	33									
2-Methylphenol -- TCLP	ND	3.2	33									
4-Methylphenol -- TCLP	ND	4.7	33									
Hexachloroethane -- TCLP	ND	1.8	33									
Nitrobenzene -- TCLP	ND	5.3	33									
Hexachlorobutadiene -- TCLP	ND	2.5	33									
2,4,6-Trichlorophenol -- TCLP	ND	1.8	33									
2,4,5-Trichlorophenol -- TCLP	ND	0.87	67									
2,4-Dinitrotoluene -- TCLP	ND	1.4	33									
Hexachlorobenzene -- TCLP	ND	1.5	33									
Pentachlorophenol -- TCLP	ND	5.7	67									
Pyridine -- TCLP	ND	1.9	67									
Surrogate: Nitrobenzene-d5 -- TCLP	125.0		33	166.7	0	75.0	40	110	0			
Surrogate: 2-Fluorobiphenyl -- TCLP	131.0		33	166.7	0	78.6	50	110	0			
Surrogate: Terphenyl-d14 -- TCLP	133.9		33	166.7	0	80.3	50	135	0			
Surrogate: Phenol-d5 -- TCLP	131.5		33	166.7	0	78.9	10	115	0			
Surrogate: 2-Fluorophenol -- TCLP	130.3		33	166.7	0	78.2	20	110	0			
Surrogate: 2,4,6-Tribromophenol -- TCLP	163.9		33	166.7	0	98.3	40	125	0			

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8270_W

SW846 8270D -- SVOA by GC-MS

Sample ID: **LCS-65051** SampType: **LCS** TestCode: **SW8270_W** Prep Date: **03/11/12 11:00** Run ID: **S3_120313B**

Client ID: **LCS-65051** Batch ID: **65051** Units: **ug/L** Analysis Date: **03/13/12 12:19** SeqNo: **1705289**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	30.81	0.75	10	50.00	0	61.6	0	115	0			
Bis(2-chloroethyl)ether	37.05	0.75	10	50.00	0	74.1	35	110	0			
2-Chlorophenol	34.79	0.61	10	50.00	0	69.6	35	105	0			
2-Methylphenol	31.54	0.96	10	50.00	0	63.1	40	110	0			
2,2´-oxybis(1-Chloropropane)	39.15	0.78	10	50.00	0	78.3	30	123	0			
4-Methylphenol	30.83	1.4	10	50.00	0	61.7	30	110	0			
N-Nitroso-di-n-propylamine	29.74	0.63	10	50.00	0	59.5	35	130	0			
Hexachloroethane	44.75	0.55	10	50.00	0	89.5	30	95	0			
Nitrobenzene	42.81	1.6	10	50.00	0	85.6	45	110	0			
Isophorone	34.98	0.47	10	50.00	0	70.0	50	110	0			
2-Nitrophenol	40.94	0.60	10	50.00	0	81.9	40	115	0			
2,4-Dimethylphenol	39.03	1.8	10	50.00	0	78.1	30	110	0			
2,4-Dichlorophenol	38.42	0.57	10	50.00	0	76.8	50	105	0			
Naphthalene	40.41	0.96	10	50.00	0	80.8	40	100	0			
4-Chloroaniline	36.42	2.0	10	50.00	0	72.8	15	110	0			
Bis(2-chloroethoxy)methane	34.03	1.1	10	50.00	0	68.1	45	105	0			
Hexachlorobutadiene	48.77	0.75	10	50.00	0	97.5	25	105	0			
4-Chloro-3-methylphenol	36.63	0.60	10	50.00	0	73.3	45	110	0			
2-Methylnaphthalene	37.12	0.94	10	50.00	0	74.2	45	105	0			
Hexachlorocyclopentadiene	52.24	1.0	10	50.00	0	104	27	147	0			
2,4,6-Trichlorophenol	39.78	0.53	10	50.00	0	79.6	50	115	0			
2,4,5-Trichlorophenol	39.05	0.26	20	50.00	0	78.1	50	110	0			
2-Chloronaphthalene	43.50	0.81	10	50.00	0	87.0	50	105	0			
2-Nitroaniline	46.74	0.71	20	50.00	0	93.5	50	115	0			
Dimethylphthalate	42.46	0.37	10	50.00	0	84.9	25	125	0			
Acenaphthylene	41.78	0.42	10	50.00	0	83.6	50	105	0			
2,6-Dinitrotoluene	39.87	0.52	10	50.00	0	79.7	50	115	0			
3-Nitroaniline	36.40	0.97	20	50.00	0	72.8	20	125	0			
Acenaphthene	41.80	0.65	10	50.00	0	83.6	45	110	0			
2,4-Dinitrophenol	64.45	3.5	20	50.00	0	129	15	140	0			
4-Nitrophenol	56.37	0.53	20	50.00	0	113	0	125	0			
Dibenzofuran	41.63	0.52	10	50.00	0	83.3	55	105	0			
2,4-Dinitrotoluene	41.38	0.41	10	50.00	0	82.8	50	120	0			
Diethylphthalate	44.26	0.45	10	50.00	0	88.5	40	120	0			
4-Chlorophenyl-phenylether	40.93	0.41	10	50.00	0	81.9	50	110	0			
Fluorene	44.14	0.44	10	50.00	0	88.3	50	110	0			
4-Nitroaniline	34.84	0.96	20	50.00	0	69.7	35	120	0			
4,6-Dinitro-2-methylphenol	47.32	0.79	20	50.00	0	94.6	40	130	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank

J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8270_W

SW846 8270D -- SVOA by GC-MS

Sample ID: **LCS-65051** SampType: **LCS** TestCode: **SW8270_W** Prep Date: **03/11/12 11:00** Run ID: **S3_120313B**
Client ID: **LCS-65051** Batch ID: **65051** Units: **ug/L** Analysis Date: **03/13/12 12:19** SeqNo: **1705289**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	39.31	1.1	10	50.00	0	78.6	50	110	0			
4-Bromophenyl-phenylether	43.73	0.54	10	50.00	0	87.5	50	115	0			
Hexachlorobenzene	47.48	0.44	10	50.00	0	95.0	50	110	0			
Pentachlorophenol	41.16	1.7	20	50.00	0	82.3	40	115	0			
Phenanthrene	41.09	0.45	10	50.00	0	82.2	50	115	0			
Anthracene	41.06	0.48	10	50.00	0	82.1	55	110	0			
Carbazole	39.14	0.64	10	50.00	0	78.3	50	115	0			
Di-n-butylphthalate	42.65	0.48	10	50.00	0	85.3	55	115	0			
Fluoranthene	40.37	0.33	10	50.00	0	80.7	55	115	0			
Pyrene	37.73	0.44	10	50.00	0	75.5	50	130	0			
Butylbenzylphthalate	39.76	0.32	10	50.00	0	79.5	45	115	0			
3,3´-Dichlorobenzidine	25.28	1.7	10	50.00	0	50.6	20	110	0			
Benzo(a)anthracene	40.49	0.40	10	50.00	0	81.0	55	110	0			
Chrysene	42.19	0.42	10	50.00	0	84.4	55	110	0			
Bis(2-ethylhexyl)phthalate	40.83	1.3	10	50.00	0	81.7	40	125	0			
Di-n-octylphthalate	38.95	0.47	10	50.00	0	77.9	35	135	0			
Benzo(b)fluoranthene	43.01	0.94	10	50.00	0	86.0	45	120	0			
Benzo(k)fluoranthene	42.82	1.2	10	50.00	0	85.6	45	125	0			
Benzo(a)pyrene	41.48	1.2	10	50.00	0	83.0	55	110	0			
Indeno(1,2,3-cd)pyrene	47.26	0.38	10	50.00	0	94.5	45	125	0			
Dibenzo(a,h)anthracene	47.54	0.44	10	50.00	0	95.1	40	125	0			
Benzo(g,h,i)perylene	47.73	0.39	10	50.00	0	95.5	40	125	0			
1,1´-Biphenyl	43.65	0.65	10	50.00	0	87.3	55	108	0			
Acetophenone	40.51	0.51	10	50.00	0	81.0	56	145	0			
Atrazine	58.40	1.3	10	50.00	0	117	52	175	0			
Benzaldehyde	23.13	0.51	10	50.00	0	46.3	10	133	0			
Caprolactam	27.43	1.1	10	50.00	0	54.9	10	146	0			
Surrogate: Nitrobenzene-d5	44.63		10	50.00	0	89.3	40	110	0			
Surrogate: 2-Fluorobiphenyl	42.09		10	50.00	0	84.2	50	110	0			
Surrogate: Terphenyl-d14	36.78		10	50.00	0	73.6	50	135	0			
Surrogate: Phenol-d5	34.05		10	50.00	0	68.1	10	115	0			
Surrogate: 2-Fluorophenol	39.28		10	50.00	0	78.6	20	110	0			
Surrogate: 2,4,6-Tribromophenol	56.13		10	50.00	0	112	40	125	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

mm11.12.11.A

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8270_W

SW846 8270D -- SVOA by GC-MS

Sample ID: **LCS-65098** SampType: **LCS** TestCode: **SW8270_W** Prep Date: **03/14/12 8:22** Run ID: **S6_120316A**

Client ID: **LCS-65098** Batch ID: **65098** Units: **ug/L** Analysis Date: **03/16/12 16:56** SeqNo: **1707460**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	130.6	3.7	33	166.7	0	78.4	30	100	0			
2-Methylphenol	115.6	3.2	33	166.7	0	69.4	40	110	0			
4-Methylphenol	123.5	4.7	33	166.7	0	74.1	30	110	0			
Hexachloroethane	104.1	1.8	33	166.7	0	62.4	30	95	0			
Nitrobenzene	126.5	5.3	33	166.7	0	75.9	45	110	0			
Hexachlorobutadiene	140.2	2.5	33	166.7	0	84.1	25	105	0			
2,4,6-Trichlorophenol	142.4	1.8	33	166.7	0	85.4	50	115	0			
2,4,5-Trichlorophenol	139.7	0.87	67	166.7	0	83.8	50	110	0			
2,4-Dinitrotoluene	135.3	1.4	33	166.7	0	81.2	50	120	0			
Hexachlorobenzene	148.7	1.5	33	166.7	0	89.2	50	110	0			
Pentachlorophenol	167.7	5.7	67	166.7	0	101	40	115	0			
Pyridine	140.7	1.9	67	166.7	0	84.4	10	106	0			
Surrogate: Nitrobenzene-d5	119.8		33	166.7	0	71.9	40	110	0			
Surrogate: 2-Fluorobiphenyl	126.3		33	166.7	0	75.8	50	110	0			
Surrogate: Terphenyl-d14	127.6		33	166.7	0	76.6	50	135	0			
Surrogate: Phenol-d5	122.6		33	166.7	0	73.6	10	115	0			
Surrogate: 2-Fluorophenol	118.7		33	166.7	0	71.2	20	110	0			
Surrogate: 2,4,6-Tribromophenol	156.5		33	166.7	0	93.9	40	125	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank

J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8270_W

SW846 8270D -- SVOA by GC-MS

Sample ID: **LCSD-65051** SampType: **LCSD** TestCode: **SW8270_W** Prep Date: **03/11/12 11:00** Run ID: **S3_120313B**

Client ID: **LCSD-65051** Batch ID: **65051** Units: **ug/L** Analysis Date: **03/13/12 12:40** SeqNo: **1705290**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	33.27	0.75	10	50.00	0	66.5	0	115	30.81	7.66	40	
Bis(2-chloroethyl)ether	35.90	0.75	10	50.00	0	71.8	35	110	37.05	3.16	40	
2-Chlorophenol	37.25	0.61	10	50.00	0	74.5	35	105	34.79	6.81	40	
2-Methylphenol	34.02	0.96	10	50.00	0	68.0	40	110	31.54	7.57	40	
2,2´-oxybis(1-Chloropropane)	41.19	0.78	10	50.00	0	82.4	30	123	39.15	5.09	40	
4-Methylphenol	32.85	1.4	10	50.00	0	65.7	30	110	30.83	6.35	40	
N-Nitroso-di-n-propylamine	31.85	0.63	10	50.00	0	63.7	35	130	29.74	6.85	40	
Hexachloroethane	48.41	0.55	10	50.00	0	96.8	30	95	44.75	7.85	40	S
Nitrobenzene	43.84	1.6	10	50.00	0	87.7	45	110	42.81	2.38	40	
Isophorone	35.66	0.47	10	50.00	0	71.3	50	110	34.98	1.92	40	
2-Nitrophenol	43.32	0.60	10	50.00	0	86.6	40	115	40.94	5.64	40	
2,4-Dimethylphenol	42.68	1.8	10	50.00	0	85.4	30	110	39.03	8.94	40	
2,4-Dichlorophenol	40.40	0.57	10	50.00	0	80.8	50	105	38.42	5.03	40	
Naphthalene	41.68	0.96	10	50.00	0	83.4	40	100	40.41	3.09	40	
4-Chloroaniline	34.23	2.0	10	50.00	0	68.5	15	110	36.42	6.19	40	
Bis(2-chloroethoxy)methane	35.49	1.1	10	50.00	0	71.0	45	105	34.03	4.2	40	
Hexachlorobutadiene	50.10	0.75	10	50.00	0	100	25	105	48.77	2.69	40	
4-Chloro-3-methylphenol	36.99	0.60	10	50.00	0	74.0	45	110	36.63	0.982	40	
2-Methylnaphthalene	38.62	0.94	10	50.00	0	77.2	45	105	37.12	3.96	40	
Hexachlorocyclopentadiene	57.38	1.0	10	50.00	0	115	27	147	52.24	9.38	40	
2,4,6-Trichlorophenol	42.24	0.53	10	50.00	0	84.5	50	115	39.78	5.99	40	
2,4,5-Trichlorophenol	40.83	0.26	20	50.00	0	81.7	50	110	39.05	4.46	40	
2-Chloronaphthalene	43.91	0.81	10	50.00	0	87.8	50	105	43.50	0.916	40	
2-Nitroaniline	46.35	0.71	20	50.00	0	92.7	50	115	46.74	0.841	40	
Dimethylphthalate	41.86	0.37	10	50.00	0	83.7	25	125	42.46	1.44	40	
Acenaphthylene	40.90	0.42	10	50.00	0	81.8	50	105	41.78	2.12	40	
2,6-Dinitrotoluene	38.59	0.52	10	50.00	0	77.2	50	115	39.87	3.26	40	
3-Nitroaniline	35.27	0.97	20	50.00	0	70.5	20	125	36.40	3.17	40	
Acenaphthene	40.69	0.65	10	50.00	0	81.4	45	110	41.80	2.7	40	
2,4-Dinitrophenol	67.82	3.5	20	50.00	0	136	15	140	64.45	5.11	40	
4-Nitrophenol	59.75	0.53	20	50.00	0	120	0	125	56.37	5.82	40	
Dibenzofuran	40.71	0.52	10	50.00	0	81.4	55	105	41.63	2.23	40	
2,4-Dinitrotoluene	39.70	0.41	10	50.00	0	79.4	50	120	41.38	4.14	40	
Diethylphthalate	42.36	0.45	10	50.00	0	84.7	40	120	44.26	4.39	40	
4-Chlorophenyl-phenylether	41.74	0.41	10	50.00	0	83.5	50	110	40.93	1.96	40	
Fluorene	43.58	0.44	10	50.00	0	87.2	50	110	44.14	1.28	40	
4-Nitroaniline	32.92	0.96	20	50.00	0	65.8	35	120	34.84	5.66	40	
4,6-Dinitro-2-methylphenol	50.01	0.79	20	50.00	0	100	40	130	47.32	5.51	40	

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank

J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8270_W

SW846 8270D -- SVOA by GC-MS

Sample ID: **LCSD-65051** SampType: **LCSD** TestCode: **SW8270_W** Prep Date: **03/11/12 11:00** Run ID: **S3_120313B**
Client ID: **LCSD-65051** Batch ID: **65051** Units: **ug/L** Analysis Date: **03/13/12 12:40** SeqNo: **1705290**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	39.56	1.1	10	50.00	0	79.1	50	110	39.31	0.636	40	
4-Bromophenyl-phenylether	47.62	0.54	10	50.00	0	95.2	50	115	43.73	8.51	40	
Hexachlorobenzene	50.97	0.44	10	50.00	0	102	50	110	47.48	7.09	40	
Pentachlorophenol	47.64	1.7	20	50.00	0	95.3	40	115	41.16	14.6	40	
Phenanthrene	41.51	0.45	10	50.00	0	83.0	50	115	41.09	1.0	40	
Anthracene	41.01	0.48	10	50.00	0	82.0	55	110	41.06	0.138	40	
Carbazole	37.70	0.64	10	50.00	0	75.4	50	115	39.14	3.75	40	
Di-n-butylphthalate	43.10	0.48	10	50.00	0	86.2	55	115	42.65	1.06	40	
Fluoranthene	39.42	0.33	10	50.00	0	78.8	55	115	40.37	2.38	40	
Pyrene	40.19	0.44	10	50.00	0	80.4	50	130	37.73	6.32	40	
Butylbenzylphthalate	41.05	0.32	10	50.00	0	82.1	45	115	39.76	3.19	40	
3,3´-Dichlorobenzidine	23.75	1.7	10	50.00	0	47.5	20	110	25.28	6.24	40	
Benzo(a)anthracene	41.56	0.40	10	50.00	0	83.1	55	110	40.49	2.59	40	
Chrysene	41.60	0.42	10	50.00	0	83.2	55	110	42.19	1.4	40	
Bis(2-ethylhexyl)phthalate	41.26	1.3	10	50.00	0	82.5	40	125	40.83	1.06	40	
Di-n-octylphthalate	42.04	0.47	10	50.00	0	84.1	35	135	38.95	7.62	40	
Benzo(b)fluoranthene	39.60	0.94	10	50.00	0	79.2	45	120	43.01	8.25	40	
Benzo(k)fluoranthene	49.77	1.2	10	50.00	0	99.5	45	125	42.82	15	40	
Benzo(a)pyrene	42.47	1.2	10	50.00	0	84.9	55	110	41.48	2.35	40	
Indeno(1,2,3-cd)pyrene	46.23	0.38	10	50.00	0	92.5	45	125	47.26	2.21	40	
Dibenzo(a,h)anthracene	47.87	0.44	10	50.00	0	95.7	40	125	47.54	0.683	40	
Benzo(g,h,i)perylene	45.91	0.39	10	50.00	0	91.8	40	125	47.73	3.88	40	
1,1´-Biphenyl	43.64	0.65	10	50.00	0	87.3	55	108	43.65	0.0174	40	
Acetophenone	44.23	0.51	10	50.00	0	88.5	56	145	40.51	8.77	40	
Atrazine	50.69	1.3	10	50.00	0	101	52	175	58.40	14.2	40	
Benzaldehyde	25.09	0.51	10	50.00	0	50.2	10	133	23.13	8.15	40	
Caprolactam	26.29	1.1	10	50.00	0	52.6	10	146	27.43	4.26	40	
Surrogate: Nitrobenzene-d5	44.48		10	50.00	0	89.0	40	110	0			
Surrogate: 2-Fluorobiphenyl	42.26		10	50.00	0	84.5	50	110	0			
Surrogate: Terphenyl-d14	40.23		10	50.00	0	80.5	50	135	0			
Surrogate: Phenol-d5	36.18		10	50.00	0	72.4	10	115	0			
Surrogate: 2-Fluorophenol	40.69		10	50.00	0	81.4	20	110	0			
Surrogate: 2,4,6-Tribromophenol	61.61		10	50.00	0	123	40	125	0			

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8270_W

SW846 8270D -- SVOA by GC-MS

Sample ID: **LCSD-65098** SampType: **LCSD** TestCode: **SW8270_W** Prep Date: **03/14/12 8:22** Run ID: **S6_120316A**
Client ID: **LCSD-65098** Batch ID: **65098** Units: **ug/L** Analysis Date: **03/16/12 17:16** SeqNo: **1707464**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	132.1	3.7	33	166.7	0	79.3	30	100	130.6	1.14	40	
2-Methylphenol	118.2	3.2	33	166.7	0	70.9	40	110	115.6	2.19	40	
4-Methylphenol	126.5	4.7	33	166.7	0	75.9	30	110	123.5	2.42	40	
Hexachloroethane	105.8	1.8	33	166.7	0	63.5	30	95	104.1	1.62	40	
Nitrobenzene	129.0	5.3	33	166.7	0	77.4	45	110	126.5	1.91	40	
Hexachlorobutadiene	140.3	2.5	33	166.7	0	84.2	25	105	140.2	0.042	40	
2,4,6-Trichlorophenol	144.1	1.8	33	166.7	0	86.5	50	115	142.4	1.18	40	
2,4,5-Trichlorophenol	142.0	0.87	67	166.7	0	85.2	50	110	139.7	1.67	40	
2,4-Dinitrotoluene	134.8	1.4	33	166.7	0	80.9	50	120	135.3	0.379	40	
Hexachlorobenzene	147.4	1.5	33	166.7	0	88.4	50	110	148.7	0.892	40	
Pentachlorophenol	169.3	5.7	67	166.7	0	102	40	115	167.7	0.953	40	
Pyridine	145.5	1.9	67	166.7	0	87.3	10	106	140.7	3.39	40	
Surrogate: Nitrobenzene-d5	123.8		33	166.7	0	74.3	40	110	0			
Surrogate: 2-Fluorobiphenyl	129.5		33	166.7	0	77.7	50	110	0			
Surrogate: Terphenyl-d14	127.8		33	166.7	0	76.7	50	135	0			
Surrogate: Phenol-d5	126.1		33	166.7	0	75.7	10	115	0			
Surrogate: 2-Fluorophenol	123.1		33	166.7	0	73.9	20	110	0			
Surrogate: 2,4,6-Tribromophenol	160.6		33	166.7	0	96.4	40	125	0			

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

Client: CDM
Client Sample ID: 80230-IDW-AQ
Lab ID: L0466-01

Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8081B -- Organochlorine Pesticides by GC-ECD							**SW8081_W**
alpha-BHC	ND		0.050	ug/L	1	03/12/2012 14:31	65046
beta-BHC	ND		0.050	ug/L	1	03/12/2012 14:31	65046
delta-BHC	ND		0.050	ug/L	1	03/12/2012 14:31	65046
gamma-BHC (Lindane)	ND		0.050	ug/L	1	03/12/2012 14:31	65046
Heptachlor	ND		0.050	ug/L	1	03/12/2012 14:31	65046
Aldrin	ND		0.050	ug/L	1	03/12/2012 14:31	65046
Heptachlor epoxide	ND		0.050	ug/L	1	03/12/2012 14:31	65046
Endosulfan I	ND		0.050	ug/L	1	03/12/2012 14:31	65046
Dieldrin	ND		0.10	ug/L	1	03/12/2012 14:31	65046
4,4´-DDE	ND		0.10	ug/L	1	03/12/2012 14:31	65046
Endrin	ND		0.10	ug/L	1	03/12/2012 14:31	65046
Endosulfan II	ND		0.10	ug/L	1	03/12/2012 14:31	65046
4,4´-DDD	ND		0.10	ug/L	1	03/12/2012 14:31	65046
Endosulfan sulfate	ND		0.10	ug/L	1	03/12/2012 14:31	65046
4,4´-DDT	ND		0.10	ug/L	1	03/12/2012 14:31	65046
Methoxychlor	ND		0.50	ug/L	1	03/12/2012 14:31	65046
Endrin ketone	ND		0.10	ug/L	1	03/12/2012 14:31	65046
Endrin aldehyde	ND		0.10	ug/L	1	03/12/2012 14:31	65046
alpha-Chlordane	ND		0.050	ug/L	1	03/12/2012 14:31	65046
gamma-Chlordane	ND		0.050	ug/L	1	03/12/2012 14:31	65046
Toxaphene	ND		5.0	ug/L	1	03/12/2012 14:31	65046
Surrogate: Tetrachloro-m-xylene	44.9		25-140	%REC	1	03/12/2012 14:31	65046
Surrogate: Decachlorobiphenyl	28.7	S	30-135	%REC	1	03/12/2012 14:31	65046

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: CDM
Client Sample ID: 80230-IDW-SOLID
Lab ID: L0466-02
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8081B -- Organochlorine Pesticides by GC-ECD							**SW8081_W**
gamma-BHC (Lindane) -- TCLP	ND		0.17	ug/L	1	03/14/2012 13:58	65096
Heptachlor -- TCLP	ND		0.17	ug/L	1	03/14/2012 13:58	65096
Heptachlor epoxide -- TCLP	ND		0.17	ug/L	1	03/14/2012 13:58	65096
Endrin -- TCLP	ND		0.33	ug/L	1	03/14/2012 13:58	65096
Methoxychlor -- TCLP	ND		1.7	ug/L	1	03/14/2012 13:58	65096
Toxaphene -- TCLP	ND		17	ug/L	1	03/14/2012 13:58	65096
Chlordane (technical) -- TCLP	ND		8.3	ug/L	1	03/14/2012 13:58	65096
Surrogate: Tetrachloro-m-xylene -- TCLP	93.2		25-140	%REC	1	03/14/2012 13:58	65096
Surrogate: Decachlorobiphenyl -- TCLP	86.3		30-135	%REC	1	03/14/2012 13:58	65096

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8081_W

SW846 8081B -- Organochlorine Pesticides by GC-ECD

Sample ID: **MB-65046** SampType: **MBLK** TestCode: **SW8081_W** Prep Date: **03/10/12 11:00** Run ID: **E5_120312A**
Client ID: **MB-65046** Batch ID: **65046** Units: **ug/L** Analysis Date: **03/12/12 13:32** SeqNo: **1704181**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
alpha-BHC	ND	0.0018	0.050									
beta-BHC	ND	0.0020	0.050									
delta-BHC	ND	0.0027	0.050									
gamma-BHC (Lindane)	ND	0.0019	0.050									
Heptachlor	ND	0.0039	0.050									
Aldrin	ND	0.0043	0.050									
Heptachlor epoxide	ND	0.0028	0.050									
Endosulfan I	ND	0.0029	0.050									
Dieldrin	ND	0.0056	0.10									
4,4´-DDE	ND	0.0056	0.10									
Endrin	ND	0.0035	0.10									
Endosulfan II	ND	0.0031	0.10									
4,4´-DDD	ND	0.0064	0.10									
Endosulfan sulfate	ND	0.0045	0.10									
4,4´-DDT	ND	0.0070	0.10									
Methoxychlor	ND	0.031	0.50									
Endrin ketone	ND	0.0046	0.10									
Endrin aldehyde	ND	0.015	0.10									
alpha-Chlordane	ND	0.0024	0.050									
gamma-Chlordane	ND	0.0026	0.050									
Toxaphene	ND	0.14	5.0									

Sample ID: **MB-65046** SampType: **MBLK** TestCode: **SW8081_W** Prep Date: **03/10/12 11:00** Run ID: **E5_120312B**
Client ID: **MB-65046** Batch ID: **65046** Units: **ug/L** Analysis Date: **03/12/12 13:32** SeqNo: **1704212**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: Tetrachloro-m-xylene	0.5776		0.050	0.6000	0	96.3	25	140	0			
Surrogate: Decachlorobiphenyl	1.167		0.10	1.200	0	97.2	30	135	0			

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8081_W

SW846 8081B -- Organochlorine Pesticides by GC-ECD

Sample ID: **MB-65091** SampType: **MBLK** TestCode: **SW8081_W** Prep Date: **03/14/12 8:18** Run ID: **E5_120314A**
Client ID: **MB-65091** Batch ID: **65096** Units: **ug/L** Analysis Date: **03/14/12 13:14** SeqNo: **1705164**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
gamma-BHC (Lindane) -- TCLP	ND	0.0063	0.17									
Heptachlor -- TCLP	ND	0.013	0.17									
Heptachlor epoxide -- TCLP	ND	0.0093	0.17									
Endrin -- TCLP	ND	0.012	0.33									
Methoxychlor -- TCLP	ND	0.10	1.7									
Toxaphene -- TCLP	ND	0.47	17									
Chlordane (technical) -- TCLP	ND	0.21	8.3									
Surrogate: Tetrachloro-m-xylene -- TCLP	1.836		0.17	2.000	0	91.8	25	140	0			
Surrogate: Decachlorobiphenyl -- TCLP	4.145		0.33	4.000	0	104	30	135	0			

Sample ID: **LCS-65046** SampType: **LCS** TestCode: **SW8081_W** Prep Date: **03/10/12 11:00** Run ID: **E5_120312A**
Client ID: **LCS-65046** Batch ID: **65046** Units: **ug/L** Analysis Date: **03/12/12 13:47** SeqNo: **1704182**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
beta-BHC	0.1897	0.0020	0.050	0.2000	0	94.8	65	125	0			
gamma-BHC (Lindane)	0.2024	0.0019	0.050	0.2000	0	101	25	135	0			
Aldrin	0.1982	0.0043	0.050	0.2000	0	99.1	25	140	0			
Heptachlor epoxide	0.2034	0.0028	0.050	0.2000	0	102	60	130	0			
Dieldrin	0.4138	0.0056	0.10	0.4000	0	103	60	130	0			
4,4´-DDE	0.4044	0.0056	0.10	0.4000	0	101	35	140	0			
Endrin	0.4279	0.0035	0.10	0.4000	0	107	55	135	0			
Endosulfan II	0.3932	0.0031	0.10	0.4000	0	98.3	30	130	0			
4,4´-DDD	0.4030	0.0064	0.10	0.4000	0	101	25	150	0			
4,4´-DDT	0.3993	0.0070	0.10	0.4000	0	99.8	45	140	0			
Endrin ketone	0.4001	0.0046	0.10	0.4000	0	100	75	125	0			
alpha-Chlordane	0.1958	0.0024	0.050	0.2000	0	97.9	65	125	0			
gamma-Chlordane	0.2017	0.0026	0.050	0.2000	0	101	60	125	0			
Surrogate: Tetrachloro-m-xylene	0.5491		0.050	0.6000	0	91.5	25	140	0			

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8081_W

SW846 8081B -- Organochlorine Pesticides by GC-ECD

Sample ID: **LCS-65046** SampType: **LCS** TestCode: **SW8081_W** Prep Date: **03/10/12 11:00** Run ID: **E5_120312B**
Client ID: **LCS-65046** Batch ID: **65046** Units: **ug/L** Analysis Date: **03/12/12 13:47** SeqNo: **1704213**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
alpha-BHC	0.1981	0.0018	0.050	0.2000	0	99.0	60	130	0			
delta-BHC	0.2048	0.0027	0.050	0.2000	0	102	45	135	0			
Heptachlor	0.1992	0.0039	0.050	0.2000	0	99.6	40	130	0			
Endosulfan I	0.1924	0.0029	0.050	0.2000	0	96.2	50	110	0			
Endosulfan sulfate	0.4192	0.0045	0.10	0.4000	0	105	55	135	0			
Methoxychlor	2.099	0.031	0.50	2.000	0	105	55	150	0			
Endrin aldehyde	0.4098	0.015	0.10	0.4000	0	102	55	135	0			
Surrogate: Decachlorobiphenyl	1.241		0.10	1.200	0	103	30	135	0			

Sample ID: **LCS-65096** SampType: **LCS** TestCode: **SW8081_W** Prep Date: **03/14/12 8:18** Run ID: **E5_120314A**
Client ID: **LCS-65096** Batch ID: **65096** Units: **ug/L** Analysis Date: **03/14/12 13:28** SeqNo: **1705165**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
gamma-BHC (Lindane)	0.7070	0.0063	0.17	0.6667	0	106	25	135	0			
Heptachlor	0.6779	0.013	0.17	0.6667	0	102	40	130	0			
Heptachlor epoxide	0.7033	0.0093	0.17	0.6667	0	105	60	130	0			
Endrin	1.497	0.012	0.33	1.333	0	112	55	135	0			
Methoxychlor	7.014	0.10	1.7	6.667	0	105	55	150	0			
Surrogate: Tetrachloro-m-xylene	1.932		0.17	2.000	0	96.6	25	140	0			
Surrogate: Decachlorobiphenyl	4.297		0.33	4.000	0	107	30	135	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8081_W

SW846 8081B -- Organochlorine Pesticides by GC-ECD

Sample ID: **LCSD-65046** SampType: **LCSD** TestCode: **SW8081_W** Prep Date: **03/10/12 11:00** Run ID: **E5_120312A**
Client ID: **LCSD-65046** Batch ID: **65046** Units: **ug/L** Analysis Date: **03/12/12 14:02** SeqNo: **1704183**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
gamma-BHC (Lindane)	0.2114	0.0019	0.050	0.2000	0	106	25	135	0.2024	4.38	30	
Aldrin	0.2063	0.0043	0.050	0.2000	0	103	25	140	0.1982	4.03	30	
Heptachlor epoxide	0.2113	0.0028	0.050	0.2000	0	106	60	130	0.2034	3.81	30	
Endosulfan I	0.2004	0.0029	0.050	0.2000	0	100	50	110	0.1939	3.29	30	
Dieldrin	0.4288	0.0056	0.10	0.4000	0	107	60	130	0.4138	3.58	30	
4,4´-DDE	0.4158	0.0056	0.10	0.4000	0	104	35	140	0.4044	2.79	30	
Endrin	0.4441	0.0035	0.10	0.4000	0	111	55	135	0.4279	3.73	30	
Endosulfan II	0.4185	0.0031	0.10	0.4000	0	105	30	130	0.3932	6.23	30	
4,4´-DDD	0.4383	0.0064	0.10	0.4000	0	110	25	150	0.4030	8.4	30	
4,4´-DDT	0.4289	0.0070	0.10	0.4000	0	107	45	140	0.3993	7.14	30	
Methoxychlor	2.246	0.031	0.50	2.000	0	112	55	150	2.115	6.02	30	
Endrin aldehyde	0.4357	0.015	0.10	0.4000	0	109	55	135	0.4140	5.13	30	
alpha-Chlordane	0.2040	0.0024	0.050	0.2000	0	102	65	125	0.1958	4.12	30	
gamma-Chlordane	0.2116	0.0026	0.050	0.2000	0	106	60	125	0.2017	4.8	30	
Surrogate: Tetrachloro-m-xylene	0.5806		0.050	0.6000	0	96.8	25	140	0			

Sample ID: **LCSD-65046** SampType: **LCSD** TestCode: **SW8081_W** Prep Date: **03/10/12 11:00** Run ID: **E5_120312B**
Client ID: **LCSD-65046** Batch ID: **65046** Units: **ug/L** Analysis Date: **03/12/12 14:02** SeqNo: **1704214**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
alpha-BHC	0.2076	0.0018	0.050	0.2000	0	104	60	130	0.1981	4.68	30	
beta-BHC	0.2004	0.0020	0.050	0.2000	0	100	65	125	0.2146	6.84	30	
delta-BHC	0.2155	0.0027	0.050	0.2000	0	108	45	135	0.2048	5.08	30	
Heptachlor	0.2097	0.0039	0.050	0.2000	0	105	40	130	0.1992	5.14	30	
Endosulfan sulfate	0.4460	0.0045	0.10	0.4000	0	112	55	135	0.4192	6.2	30	
Endrin ketone	0.4233	0.0046	0.10	0.4000	0	106	75	125	0.4042	4.6	30	
Surrogate: Decachlorobiphenyl	1.277		0.10	1.200	0	106	30	135	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8081_W

SW846 8081B -- Organochlorine Pesticides by GC-ECD

Sample ID: **LCSD-65096** SampType: **LCSD** TestCode: **SW8081_W** Prep Date: **03/14/12 8:18** Run ID: **E5_120314A**
Client ID: **LCSD-65096** Batch ID: **65096** Units: **ug/L** Analysis Date: **03/14/12 13:43** SeqNo: **1705166**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
gamma-BHC (Lindane)	0.7081	0.0063	0.17	0.6667	0	106	25	135	0.7070	0.152	30	
Heptachlor	0.6968	0.013	0.17	0.6667	0	105	40	130	0.6779	2.75	30	
Heptachlor epoxide	0.7014	0.0093	0.17	0.6667	0	105	60	130	0.7033	0.281	30	
Endrin	1.508	0.012	0.33	1.333	0	113	55	135	1.497	0.728	30	
Methoxychlor	7.137	0.10	1.7	6.667	0	107	55	150	7.014	1.74	30	
Surrogate: Tetrachloro-m-xylene	1.923		0.17	2.000	0	96.2	25	140	0			

Sample ID: **LCSD-65096** SampType: **LCSD** TestCode: **SW8081_W** Prep Date: **03/14/12 8:18** Run ID: **E5_120314B**
Client ID: **LCSD-65096** Batch ID: **65096** Units: **ug/L** Analysis Date: **03/14/12 13:43** SeqNo: **1705185**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: Decachlorobiphenyl	4.209		0.33	4.000	0	105	30	135	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

Client: CDM
Client Sample ID: 80230-IDW-AQ
Lab ID: L0466-01

Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_W**
Aroclor-1016	ND		1.0	ug/L	1	03/12/2012 14:05	65047
Aroclor-1221	ND		1.0	ug/L	1	03/12/2012 14:05	65047
Aroclor-1232	ND		1.0	ug/L	1	03/12/2012 14:05	65047
Aroclor-1242	ND		1.0	ug/L	1	03/12/2012 14:05	65047
Aroclor-1248	ND		1.0	ug/L	1	03/12/2012 14:05	65047
Aroclor-1254	ND		1.0	ug/L	1	03/12/2012 14:05	65047
Aroclor-1260	ND		1.0	ug/L	1	03/12/2012 14:05	65047
Surrogate: Tetrachloro-m-xylene	48.0		34-137	%REC	1	03/12/2012 14:05	65047
Surrogate: Decachlorobiphenyl	27.4	S	40-135	%REC	1	03/12/2012 14:05	65047

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: CDM
Client Sample ID: 80230-IDW-SOLID
Lab ID: L0466-02
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		37	ug/Kg	1	03/12/2012 15:50	65049
Aroclor-1221	ND		37	ug/Kg	1	03/12/2012 15:50	65049
Aroclor-1232	ND		37	ug/Kg	1	03/12/2012 15:50	65049
Aroclor-1242	ND		37	ug/Kg	1	03/12/2012 15:50	65049
Aroclor-1248	ND		37	ug/Kg	1	03/12/2012 15:50	65049
Aroclor-1254	ND		37	ug/Kg	1	03/12/2012 15:50	65049
Aroclor-1260	ND		37	ug/Kg	1	03/12/2012 15:50	65049
Surrogate: Tetrachloro-m-xylene	58.0		34-147	%REC	1	03/12/2012 15:50	65049
Surrogate: Decachlorobiphenyl	48.4	S	60-125	%REC	1	03/12/2012 15:50	65049

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8082_S

SW846 8082A -- PCB by GC-ECD

Sample ID: **MB-65049** SampType: **MBLK** TestCode: **SW8082_S** Prep Date: **03/10/12 11:00** Run ID: **E2_120312A**
Client ID: **MB-65049** Batch ID: **65049** Units: **ug/Kg** Analysis Date: **03/12/12 14:26** SeqNo: **1704094**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	ND	2.5	33									
Aroclor-1221	ND	4.4	33									
Aroclor-1232	ND	2.4	33									
Aroclor-1242	ND	2.5	33									
Aroclor-1248	ND	3.8	33									
Aroclor-1254	ND	4.4	33									
Aroclor-1260	ND	1.8	33									
Surrogate: Tetrachloro-m-xylene	18.38		1.7	20.00	0	91.9	34	147	0			
Surrogate: Decachlorobiphenyl	35.88		3.3	40.00	0	89.7	60	125	0			

Sample ID: **LCS-65049** SampType: **LCS** TestCode: **SW8082_S** Prep Date: **03/10/12 11:00** Run ID: **E2_120312A**
Client ID: **LCS-65049** Batch ID: **65049** Units: **ug/Kg** Analysis Date: **03/12/12 14:47** SeqNo: **1704095**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	131.3	2.5	33	133.3	0	98.5	40	140	0			
Aroclor-1260	135.4	1.8	33	133.3	0	102	60	130	0			
Surrogate: Tetrachloro-m-xylene	18.86		1.7	20.00	0	94.3	34	147	0			
Surrogate: Decachlorobiphenyl	36.67		3.3	40.00	0	91.7	60	125	0			

Sample ID: **LCSD-65049** SampType: **LCSD** TestCode: **SW8082_S** Prep Date: **03/10/12 11:00** Run ID: **E2_120312A**
Client ID: **LCSD-65049** Batch ID: **65049** Units: **ug/Kg** Analysis Date: **03/12/12 15:08** SeqNo: **1704096**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	130.7	2.5	33	133.3	0	98.0	40	140	131.3	0.456	30	
Aroclor-1260	135.1	1.8	33	133.3	0	101	60	130	135.4	0.207	30	
Surrogate: Tetrachloro-m-xylene	18.65		1.7	20.00	0	93.3	34	147	0			
Surrogate: Decachlorobiphenyl	36.75		3.3	40.00	0	91.9	60	125	0			

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8082_W

SW846 8082A -- PCB by GC-ECD

Sample ID: **MB-65047** SampType: **MBLK** TestCode: **SW8082_W** Prep Date: **03/10/12 11:00** Run ID: **E2_120312A**
Client ID: **MB-65047** Batch ID: **65047** Units: **ug/L** Analysis Date: **03/12/12 12:42** SeqNo: **1704089**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	ND	0.12	1.0									
Aroclor-1221	ND	0.095	1.0									
Aroclor-1232	ND	0.19	1.0									
Aroclor-1242	ND	0.030	1.0									
Aroclor-1248	ND	0.063	1.0									
Aroclor-1254	ND	0.20	1.0									
Aroclor-1260	ND	0.11	1.0									
Surrogate: Tetrachloro-m-xylene	0.5324		0.050	0.6000	0	88.7	34	137	0			
Surrogate: Decachlorobiphenyl	0.9473		0.10	1.200	0	78.9	40	135	0			

Sample ID: **LCS-65047** SampType: **LCS** TestCode: **SW8082_W** Prep Date: **03/10/12 11:00** Run ID: **E2_120312A**
Client ID: **LCS-65047** Batch ID: **65047** Units: **ug/L** Analysis Date: **03/12/12 13:03** SeqNo: **1704090**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	3.732	0.12	1.0	4.000	0	93.3	25	145	0			
Aroclor-1260	3.868	0.11	1.0	4.000	0	96.7	30	145	0			
Surrogate: Tetrachloro-m-xylene	0.5373		0.050	0.6000	0	89.5	34	137	0			
Surrogate: Decachlorobiphenyl	0.9982		0.10	1.200	0	83.2	40	135	0			

Sample ID: **LCSD-65047** SampType: **LCSD** TestCode: **SW8082_W** Prep Date: **03/10/12 11:00** Run ID: **E2_120312A**
Client ID: **LCSD-65047** Batch ID: **65047** Units: **ug/L** Analysis Date: **03/12/12 13:23** SeqNo: **1704091**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	3.918	0.12	1.0	4.000	0	97.9	25	145	3.732	4.86	30	
Aroclor-1260	4.055	0.11	1.0	4.000	0	101	30	145	3.868	4.73	30	
Surrogate: Tetrachloro-m-xylene	0.5559		0.050	0.6000	0	92.6	34	137	0			
Surrogate: Decachlorobiphenyl	1.049		0.10	1.200	0	87.4	40	135	0			

Qualifiers: ND - Not Detected at the MDL; J - Analyte detected below quanititation limits; S - Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; MDL - Method Detection Limit; RL - Reporting Limit; B - Analyte detected in the associated Method Blank

Client: CDM
Client Sample ID: 80230-IDW-AQ
Lab ID: L0466-01
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8151A -- Chlorinated Herbicides by GC-ECD							**SW8151_W**
Dalapon	ND		2.5	µg/L	1	03/13/2012 15:49	65050
Dicamba	ND		0.10	µg/L	1	03/13/2012 15:49	65050
MCPP	ND		100	µg/L	1	03/13/2012 15:49	65050
MCPA	ND		100	µg/L	1	03/13/2012 15:49	65050
Dichlorprop	ND		1.0	µg/L	1	03/13/2012 15:49	65050
2,4-D	ND		1.0	µg/L	1	03/13/2012 15:49	65050
2,4,5-TP (Silvex)	ND		0.10	µg/L	1	03/13/2012 15:49	65050
2,4,5-T	ND		0.10	µg/L	1	03/13/2012 15:49	65050
2,4-DB	ND		1.0	µg/L	1	03/13/2012 15:49	65050
Dinoseb	ND		0.50	µg/L	1	03/13/2012 15:49	65050
Surrogate: DCAA	51.3		23-139	%REC	1	03/13/2012 15:49	65050

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: CDM
Client Sample ID: 80230-IDW-SOLID
Lab ID: L0466-02
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8151A -- Chlorinated Herbicides by GC-ECD							**SW8151_W**
2,4-D -- TCLP	ND		3.3	µg/L	1	03/14/2012 16:29	65097
2,4,5-TP (Silvex) -- TCLP	ND		0.33	µg/L	1	03/14/2012 16:29	65097
Surrogate: DCAA -- TCLP	56.1		23-139	%REC	1	03/14/2012 16:29	65097

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8151_W

SW846 8151A -- Chlorinated Herbicides by GC-ECD

Sample ID: **MB-65050**	SampType: **MBLK**	TestCode: **SW8151_W**	Prep Date: **03/10/12 11:00**	Run ID: **E4_120313A**
Client ID: **MB-65050**	Batch ID: **65050**	Units: **µg/L**	Analysis Date: **03/13/12 14:50**	SeqNo: **1704809**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	ND	0.67	1.0									
2,4,5-TP (Silvex)	ND	0.046	0.10									

Sample ID: **MB-65050**	SampType: **MBLK**	TestCode: **SW8151_W**	Prep Date: **03/10/12 11:00**	Run ID: **E4_120313B**
Client ID: **MB-65050**	Batch ID: **65050**	Units: **µg/L**	Analysis Date: **03/13/12 14:50**	SeqNo: **1704854**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: DCAA	2.946		1.0	5.000	0	58.9	23	139	0			

Sample ID: **MB-65091**	SampType: **MBLK**	TestCode: **SW8151_W**	Prep Date: **03/14/12 8:20**	Run ID: **E4_120314A**
Client ID: **MB-65091**	Batch ID: **65097**	Units: **µg/L**	Analysis Date: **03/14/12 15:30**	SeqNo: **1705349**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D -- TCLP	ND	2.2	3.3									
2,4,5-TP (Silvex) -- TCLP	ND	0.15	0.33									

Sample ID: **MB-65091**	SampType: **MBLK**	TestCode: **SW8151_W**	Prep Date: **03/14/12 8:20**	Run ID: **E4_120314B**
Client ID: **MB-65091**	Batch ID: **65097**	Units: **µg/L**	Analysis Date: **03/14/12 15:30**	SeqNo: **1705357**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: DCAA -- TCLP	5.512		3.3	16.67	0	33.1	23	139	0			

Sample ID: **LCS-65050**	SampType: **LCS**	TestCode: **SW8151_W**	Prep Date: **03/10/12 11:00**	Run ID: **E4_120313A**
Client ID: **LCS-65050**	Batch ID: **65050**	Units: **µg/L**	Analysis Date: **03/13/12 15:09**	SeqNo: **1704974**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dalapon	4.314	0.46	2.5	12.50	0	34.5	10	100	0			
2,4-DB	4.562	0.34	1.0	5.000	0	91.2	26	114	0			

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8151_W

SW846 8151A -- Chlorinated Herbicides by GC-ECD

Sample ID: **LCS-65050** SampType: **LCS** TestCode: **SW8151_W** Prep Date: **03/10/12 11:00** Run ID: **E4_120313B**
Client ID: **LCS-65050** Batch ID: **65050** Units: **µg/L** Analysis Date: **03/13/12 15:09** SeqNo: **1704977**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	0.4353	0.024	0.10	0.5000	0	87.1	10	107	0			
MCPP	396.2	40	100	500.0	0	79.2	51	105	0			
MCPA	428.9	55	100	500.0	0	85.8	45	103	0			
Dichlorprop	5.090	0.64	1.0	5.000	0	102	65	120	0			
2,4-D	4.461	0.67	1.0	5.000	0	89.2	27	113	0			
2,4,5-TP (Silvex)	0.4141	0.046	0.10	0.5000	0	82.8	38	116	0			
2,4,5-T	0.4068	0.049	0.10	0.5000	0	81.4	43	104	0			
Dinoseb	2.493	0.42	0.50	2.500	0	99.7	44	130	0			
Surrogate: DCAA	4.151		1.0	5.000	0	83.0	23	139	0			

Sample ID: **LCS-65097** SampType: **LCS** TestCode: **SW8151_W** Prep Date: **03/14/12 8:20** Run ID: **E4_120314B**
Client ID: **LCS-65097** Batch ID: **65097** Units: **µg/L** Analysis Date: **03/14/12 15:50** SeqNo: **1705358**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	7.868	2.2	3.3	16.67	0	47.2	27	113	0			
2,4,5-TP (Silvex)	1.019	0.15	0.33	1.667	0	61.2	38	116	0			
Surrogate: DCAA	9.213		3.3	16.67	0	55.3	23	139	0			

Sample ID: **LCSD-65050** SampType: **LCSD** TestCode: **SW8151_W** Prep Date: **03/10/12 11:00** Run ID: **E4_120313A**
Client ID: **LCSD-65050** Batch ID: **65050** Units: **µg/L** Analysis Date: **03/13/12 15:29** SeqNo: **1704975**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dalapon	4.138	0.46	2.5	12.50	0	33.1	10	100	4.314	4.16	30	

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW8151_W

SW846 8151A -- Chlorinated Herbicides by GC-ECD

Sample ID: **LCSD-65050** SampType: **LCSD** TestCode: **SW8151_W** Prep Date: **03/10/12 11:00** Run ID: **E4_120313B**
Client ID: **LCSD-65050** Batch ID: **65050** Units: **µg/L** Analysis Date: **03/13/12 15:29** SeqNo: **1704978**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	0.4113	0.024	0.10	0.5000	0	82.3	10	107	0.4353	5.67	30	
MCPP	396.0	40	100	500.0	0	79.2	51	105	396.2	0.0538	30	
MCPA	420.9	55	100	500.0	0	84.2	45	103	428.9	1.87	30	
Dichlorprop	5.024	0.64	1.0	5.000	0	100	65	120	5.090	1.3	30	
2,4-D	4.312	0.67	1.0	5.000	0	86.2	27	113	4.461	3.38	30	
2,4,5-TP (Silvex)	0.3544	0.046	0.10	0.5000	0	70.9	38	116	0.4141	15.5	30	
2,4,5-T	0.3335	0.049	0.10	0.5000	0	66.7	43	104	0.4068	19.8	30	
2,4-DB	3.651	0.34	1.0	5.000	0	73.0	26	114	4.599	23	30	
Dinoseb	2.499	0.42	0.50	2.500	0	100	44	130	2.493	0.221	30	
Surrogate: DCAA	4.057		1.0	5.000	0	81.1	23	139	0			

Sample ID: **LCSD-65097** SampType: **LCSD** TestCode: **SW8151_W** Prep Date: **03/14/12 8:20** Run ID: **E4_120314B**
Client ID: **LCSD-65097** Batch ID: **65097** Units: **µg/L** Analysis Date: **03/14/12 16:09** SeqNo: **1705359**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-D	10.21	2.2	3.3	16.67	0	61.3	27	113	7.868	25.9	30	
2,4,5-TP (Silvex)	1.120	0.15	0.33	1.667	0	67.2	38	116	1.019	9.37	30	
Surrogate: DCAA	11.27		3.3	16.67	0	67.6	23	139	0			

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

03/27/2012

Client: CDM
Client Sample ID: 80230-IDW-AQ
Lab ID: L0466-01
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_W**
Arsenic	34		20	ug/L	1	03/20/2012 10:54	65140
Barium	650	B	200	ug/L	1	03/20/2012 10:54	65140
Cadmium	4.9	J	5.0	ug/L	1	03/20/2012 10:54	65140
Chromium	480		20	ug/L	1	03/20/2012 10:54	65140
Lead	310		10	ug/L	1	03/20/2012 10:54	65140
Selenium	ND		30	ug/L	1	03/20/2012 10:54	65140
Silver	ND		30	ug/L	1	03/20/2012 10:54	65140
SW846 7470A -- Mercury by FIA							**SW7470**
Mercury	0.37		0.20	µg/L	1	03/19/2012 12:38	65142

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

03/27/2012

Client: CDM
Client Sample ID: 80230-IDW-SOLID
Lab ID: L0466-02
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_W**
Arsenic -- TCLP	ND		20	ug/L	1	03/16/2012 12:36	65121
Barium -- TCLP	630		200	ug/L	1	03/16/2012 12:36	65121
Cadmium -- TCLP	1.2	J	5.0	ug/L	1	03/16/2012 12:36	65121
Chromium -- TCLP	1.1	J	20	ug/L	1	03/16/2012 12:36	65121
Lead -- TCLP	36		10	ug/L	1	03/16/2012 12:36	65121
Selenium -- TCLP	14	J	30	ug/L	1	03/16/2012 12:36	65121
Silver -- TCLP	ND		30	ug/L	1	03/16/2012 12:36	65121
SW846 7470A -- Mercury by FIA							**SW7470**
Mercury -- TCLP	0.033	J	0.20	µg/L	1	03/19/2012 12:40	65142

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW6010_W

SW846 6010C -- Metals by ICP

Sample ID: **MB-65091** SampType: **MBLK** TestCode: **SW6010_W** Prep Date: **03/15/12 10:50** Run ID: **OPTIMA2_120316A**
Client ID: **MB-65091** Batch ID: **65121** Units: **ug/L** Analysis Date: **03/16/12 12:12** SeqNo: **1706598**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic -- TCLP	ND	4.3	20	0	0	0	0	0	0			
Barium -- TCLP	ND	1.1	200	0	0	0	0	0	0			
Cadmium -- TCLP	ND	0.89	5.0	0	0	0	0	0	0			
Chromium -- TCLP	ND	0.64	20	0	0	0	0	0	0			
Lead -- TCLP	ND	4.2	10	0	0	0	0	0	0			
Selenium -- TCLP	ND	12	30	0	0	0	0	0	0			
Silver -- TCLP	ND	6.9	30	0	0	0	0	0	0			

Sample ID: **MB-65121** SampType: **MBLK** TestCode: **SW6010_W** Prep Date: **03/15/12 10:50** Run ID: **OPTIMA2_120316A**
Client ID: **MB-65121** Batch ID: **65121** Units: **ug/L** Analysis Date: **03/16/12 12:16** SeqNo: **1706599**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	4.3	20									
Barium	ND	1.1	200									
Cadmium	ND	0.89	5.0									
Chromium	ND	0.64	20									
Lead	ND	4.2	10									
Selenium	ND	12	30									
Silver	ND	6.9	30									

Sample ID: **MB-65140** SampType: **MBLK** TestCode: **SW6010_W** Prep Date: **03/19/12 9:45** Run ID: **OPTIMA3_120320A**
Client ID: **MB-65140** Batch ID: **65140** Units: **ug/L** Analysis Date: **03/20/12 9:43** SeqNo: **1708446**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	4.3	20									
Barium	2.347	1.1	200									J
Cadmium	ND	0.89	5.0									
Chromium	ND	0.64	20									
Lead	ND	4.2	10									
Selenium	ND	12	30									
Silver	ND	6.9	30									

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW6010_W

SW846 6010C -- Metals by ICP

Sample ID: **LCS-65121** SampType: **LCS** TestCode: **SW6010_W** Prep Date: **03/15/12 10:50** Run ID: **OPTIMA2_120316A**
Client ID: **LCS-65121** Batch ID: **65121** Units: **ug/L** Analysis Date: **03/16/12 12:19** SeqNo: **1706600**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	459.7	4.3	20	455.0	0	101	80	120	0			
Barium	9208	1.1	200	9100	0	101	80	120	0			
Cadmium	227.0	0.89	5.0	227.0	0	100	80	120	0			
Chromium	893.4	0.64	20	910.0	0	98.2	80	120	0			
Lead	455.7	4.2	10	455.0	0	100	80	120	0			
Selenium	456.3	12	30	455.0	0	100	80	120	0			
Silver	1175	6.9	30	1130	0	104	80	120	0			

Sample ID: **LCS-65140** SampType: **LCS** TestCode: **SW6010_W** Prep Date: **03/19/12 9:45** Run ID: **OPTIMA3_120320A**
Client ID: **LCS-65140** Batch ID: **65140** Units: **ug/L** Analysis Date: **03/20/12 9:47** SeqNo: **1708447**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	500.0	4.3	20	455.0	0	110	80	120	0			
Barium	9369	1.1	200	9100	0	103	80	120	0			B
Cadmium	235.3	0.89	5.0	227.0	0	104	80	120	0			
Chromium	932.6	0.64	20	910.0	0	102	80	120	0			
Lead	491.9	4.2	10	455.0	0	108	80	120	0			
Selenium	492.9	12	30	455.0	0	108	80	120	0			
Silver	1171	6.9	30	1130	0	104	80	120	0			

Sample ID: **L0466-02ASD** SampType: **SD** TestCode: **SW6010_W** Prep Date: **03/15/12 10:50** Run ID: **OPTIMA2_120316A**
Client ID: **80230-IDW-SOLID** Batch ID: **65121** Units: **ug/L** Analysis Date: **03/16/12 12:40** SeqNo: **1706606**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic -- TCLP	ND	22	100	0	0	0	0	0	0	0	10	
Barium -- TCLP	650.8	5.5	1000	0	0	0	0	0	634.0	2.62	10	J
Cadmium -- TCLP	ND	4.5	25	0	0	0	0	0	1.213	0	10	
Chromium -- TCLP	ND	3.2	100	0	0	0	0	0	1.105	0	10	
Lead -- TCLP	34.79	21	50	0	0	0	0	0	35.76	2.75	10	J
Selenium -- TCLP	ND	60	150	0	0	0	0	0	14.08	0	10	
Silver -- TCLP	ND	35	150	0	0	0	0	0	0	0	10	

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW7470

SW846 7470A -- Mercury by FIA

Sample ID: **MB-65091**	SampType: **MBLK**	TestCode: **SW7470**	Prep Date: **03/16/12 14:15**	Run ID: **FIMS2_120319A**
Client ID: **MB-65091**	Batch ID: **65142**	Units: **µg/L**	Analysis Date: **03/19/12 12:11**	SeqNo: **1707809**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury -- TCLP	ND	0.028	0.20	0	0	0	0	0	0			

Sample ID: **MB-65142**	SampType: **MBLK**	TestCode: **SW7470**	Prep Date: **03/16/12 14:15**	Run ID: **FIMS2_120319A**
Client ID: **MB-65142**	Batch ID: **65142**	Units: **µg/L**	Analysis Date: **03/19/12 12:08**	SeqNo: **1707807**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.028	0.20									

Sample ID: **LCS-65142**	SampType: **LCS**	TestCode: **SW7470**	Prep Date: **03/16/12 14:15**	Run ID: **FIMS2_120319A**
Client ID: **LCS-65142**	Batch ID: **65142**	Units: **µg/L**	Analysis Date: **03/19/12 12:10**	SeqNo: **1707808**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.548	0.028	0.20	4.550	0	100	80	120	0			

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

03/27/2012

Client: CDM
Client Sample ID: 80230-IDW-AQ
Lab ID: L0466-01
Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 4500 H+ B -- pH VALUE							**SM4500_H+**
pH	7.2		1.0	S.U.	1	03/12/2012 11:30	R65823
SW846 1010 -- FLASHPOINT by Pensky-Martens Closed-Cup Method							**SW1010_W**
Ignitability	NO FLASH @ 155		200	°F	1	03/09/2012 10:15	R65903
SW846 7.3.3.2 -- Reactive Cyanide Released from Wastes							**SW7.3.3.2_W**
Reactive Cyanide	ND		0.020	mg/L	1	03/16/2012 16:15	65115
SW846 7.3.4.2 -- Reactive Sulfide Released from Wastes							**SW7.3.4.2_W**
Reactive Sulfide	ND		0.030	mg/L	1	03/14/2012 15:42	65116

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

03/27/2012

Client: CDM
Client Sample ID: 80230-IDW-SOLID
Lab ID: L0466-02

Project: Paul Miller Site, IDW
Collection Date: 03/08/12 11:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 1010 -- FLASHPOINT by Pensky-Martens Closed-Cup Method							**SW1010_S**
Ignitability	NO FLASH @ 140		200	°F	1	03/15/2011 12:00	R65903
SW846 7.3.3.2 -- Reactive Cyanide Released from Wastes							**SW7.3.3.2_S**
Reactive Cyanide	ND		1.1	mg/Kg	1	03/16/2012 16:03	65113
SW846 7.3.4.2 -- Reactive Sulfide Released from Wastes							**SW7.3.4.2_S**
Reactive Sulfide	ND		1.1	mg/Kg	1	03/14/2012 15:36	65114
SW846 9045C -- Soil and Waste pH							**SW9045_S**
pH	8.6		1.0	S.U.	1	03/15/2012 11:00	R65902

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SM4500_H+

SM 4500 H+ B -- pH VALUE

Sample ID: **L0466-01CDUP** SampType: **DUP** TestCode: **SM4500_H+** Prep Date: **03/12/12 11:30** Run ID: **WC01_120312A**

Client ID: **80230-IDW-AQ** Batch ID: **R65823** Units: **S.U.** Analysis Date: **03/12/12 11:37** SeqNo: **1703756**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.200	1.0	1.0	0	0	0	0	0	7.180	0.278	20	

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW1010_S

SW846 1010 -- FLASHPOINT by Pensky-Martens Closed-Cup Method

Sample ID: **L0466-02BDUP** SampType: **DUP** TestCode: **SW1010_S** Prep Date: **03/15/11 13:15** Run ID: **FLASH1_120315A**

Client ID: **80230-IDW-SOLID** Batch ID: **R65903** Units: **°F** Analysis Date: **03/15/11 13:30** SeqNo: **1705570**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ignitability	NO FLASH @ 140	140	200	0	0	0	0	0	0	0	20	

Qualifiers:

ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW7.3.3.2_S

SW846 7.3.3.2 -- Reactive Cyanide Released from Wastes

Sample ID: **MB-65113**	SampType: **MBLK**	TestCode: **SW7.3.3.2_S**			Prep Date: **03/14/12 10:00**				Run ID: **LACHAT1_120316B**				
Client ID: **MB-65113**	Batch ID: **65113**	Units: **mg/Kg**			Analysis Date: **03/16/12 15:55**				SeqNo: **1707106**				
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Reactive Cyanide	ND	1.0	1.0										

Sample ID: **LCS-65113**	SampType: **LCS**	TestCode: **SW7.3.3.2_S**			Prep Date: **03/14/12 10:00**				Run ID: **LACHAT1_120316B**				
Client ID: **LCS-65113**	Batch ID: **65113**	Units: **mg/Kg**			Analysis Date: **03/16/12 15:58**				SeqNo: **1707107**				
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Reactive Cyanide	ND	1.0	1.0	5.000	0	0	0	12.4	0				

Sample ID: **LCSD-65113**	SampType: **LCSD**	TestCode: **SW7.3.3.2_S**			Prep Date: **03/14/12 10:00**				Run ID: **LACHAT1_120316B**				
Client ID: **LCSD-65113**	Batch ID: **65113**	Units: **mg/Kg**			Analysis Date: **03/16/12 16:00**				SeqNo: **1707108**				
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Reactive Cyanide	ND	1.0	1.0	5.000	0	0	0	12.4	0	0	50		

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW7.3.3.2_W

SW846 7.3.3.2 -- Reactive Cyanide Released from Wastes

Sample ID: **MB-65115**	SampType: **MBLK**	TestCode: **SW7.3.3.2_W**			Prep Date: **03/14/12 10:00**				Run ID: **LACHAT1_120316B**				
Client ID: **MB-65115**	Batch ID: **65115**	Units: **mg/L**			Analysis Date: **03/16/12 16:08**				SeqNo: **1707111**				
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Reactive Cyanide	ND	0.020	0.020										

Sample ID: **LCS-65115**	SampType: **LCS**	TestCode: **SW7.3.3.2_W**			Prep Date: **03/14/12 10:00**				Run ID: **LACHAT1_120316B**				
Client ID: **LCS-65115**	Batch ID: **65115**	Units: **mg/L**			Analysis Date: **03/16/12 16:10**				SeqNo: **1707113**				
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Reactive Cyanide	ND	0.020	0.020	0.1000	0	0	0	12.4	0				

Sample ID: **LCSD-65115**	SampType: **LCSD**	TestCode: **SW7.3.3.2_W**			Prep Date: **03/14/12 10:00**				Run ID: **LACHAT1_120316B**				
Client ID: **LCSD-65115**	Batch ID: **65115**	Units: **mg/L**			Analysis Date: **03/16/12 16:13**				SeqNo: **1707114**				
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Reactive Cyanide	ND	0.020	0.020	0.1000	0	0	0	12.4	0	0	50		

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW7.3.4.2_S

SW846 7.3.4.2 -- Reactive Sulfide Released from Wastes

Sample ID: **MB-65114**	SampType: **MBLK**	TestCode: **SW7.3.4.2_S**			Prep Date: **03/14/12 15:30**				Run ID: **SPEC2_120314A**			
Client ID: **MB-65114**	Batch ID: **65114**	Units: **mg/Kg**			Analysis Date: **03/14/12 15:32**				SeqNo: **1705725**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Reactive Sulfide	ND	1.0	1.0									

Sample ID: **LCS-65114**	SampType: **LCS**	TestCode: **SW7.3.4.2_S**			Prep Date: **03/14/12 15:30**				Run ID: **SPEC2_120314A**			
Client ID: **LCS-65114**	Batch ID: **65114**	Units: **mg/Kg**			Analysis Date: **03/14/12 15:33**				SeqNo: **1705726**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Reactive Sulfide	9.724	1.0	1.0	12.50	0	77.8	22.6	114	0			

Sample ID: **LCSD-65114**	SampType: **LCSD**	TestCode: **SW7.3.4.2_S**			Prep Date: **03/14/12 15:30**				Run ID: **SPEC2_120314A**			
Client ID: **LCSD-65114**	Batch ID: **65114**	Units: **mg/Kg**			Analysis Date: **03/14/12 15:35**				SeqNo: **1705727**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Reactive Sulfide	9.778	1.0	1.0	12.50	0	78.2	22.6	114	9.724	0.553	20	

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW7.3.4.2_W

SW846 7.3.4.2 -- Reactive Sulfide Released from Wastes

Sample ID: **MB-65116**	SampType: **MBLK**	TestCode: **SW7.3.4.2_W**			Prep Date: **03/14/12 15:30**				Run ID: **SPEC2_120314A**			
Client ID: **MB-65116**	Batch ID: **65116**	Units: **mg/L**			Analysis Date: **03/14/12 15:38**				SeqNo: **1705730**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Reactive Sulfide	ND	0.030	0.030									

Sample ID: **LCS-65116**	SampType: **LCS**	TestCode: **SW7.3.4.2_W**			Prep Date: **03/14/12 15:30**				Run ID: **SPEC2_120314A**			
Client ID: **LCS-65116**	Batch ID: **65116**	Units: **mg/L**			Analysis Date: **03/14/12 15:40**				SeqNo: **1705731**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Reactive Sulfide	0.3879	0.030	0.030	0.5000	0	77.6	22.6	114	0			

Sample ID: **LCSD-65116**	SampType: **LCSD**	TestCode: **SW7.3.4.2_W**			Prep Date: **03/14/12 15:30**				Run ID: **SPEC2_120314A**			
Client ID: **LCSD-65116**	Batch ID: **65116**	Units: **mg/L**			Analysis Date: **03/14/12 15:41**				SeqNo: **1705732**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Reactive Sulfide	0.3890	0.030	0.030	0.5000	0	77.8	22.6	114	0.3879	0.277	20	

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: CDM
Work Order: L0466
Project: Paul Miller Site, IDW

ANALYTICAL QC SUMMARY REPORT

SW9045_S

SW846 9045C -- Soil and Waste pH

Sample ID: **L0466-02BDUP** SampType: **DUP** TestCode: **SW9045_S** Prep Date: **03/15/12 11:00** Run ID: **WC01_120315A**

Client ID: **80230-IDW-SOLID** Batch ID: **R65902** Units: **S.U.** Analysis Date: **03/15/12 11:05** SeqNo: **1705566**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.570	1.0	1.0	0	0	0	0	0	8.570	0	20	

Qualifiers:

ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

WorkOrder: L0466

Client ID: CDM_NJ
Project: Paul Miller Dry Cleaner Site Port Richmond, NY
WO Name: Paul Miller Site, IDW
Location: PAUL_MILLER, D004437-35
Comments: no HC

Case:
SDG:
PO: D004437-35

HC Due: 03/28/12
Fax Due:
Fax Report: ☐

Report Level: LEVEL 2
Special Program:
EDD: EQUIIS_4_NYSDEC

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
L0466-01A	80230-IDW-AQ	03/08/2012 11:50	03/09/2012	Aqueous	SW8260_W	/ 8260_OLM4, +TICs				Y	VOA
L0466-01B	80230-IDW-AQ	03/08/2012 11:50	03/09/2012	Aqueous	SW8081_W	/					O2
L0466-01B	80230-IDW-AQ	03/08/2012 11:50	03/09/2012	Aqueous	SW8082_W	/					O2
L0466-01B	80230-IDW-AQ	03/08/2012 11:50	03/09/2012	Aqueous	SW8151_W	/					O2
L0466-01B	80230-IDW-AQ	03/08/2012 11:50	03/09/2012	Aqueous	SW8270_W	/ OLM4_SVOA, +TICs				Y	O2
L0466-01C	80230-IDW-AQ	03/08/2012 11:50	03/09/2012	Aqueous	SM4500_H+	/					O2
L0466-01C	80230-IDW-AQ	03/08/2012 11:50	03/09/2012	Aqueous	SW1010_W	/					O2
L0466-01C	80230-IDW-AQ	03/08/2012 11:50	03/09/2012	Aqueous	SW7.3.3.2_W	/ REACTIVITY					O2
L0466-01C	80230-IDW-AQ	03/08/2012 11:50	03/09/2012	Aqueous	SW7.3.4.2_W	/ REACTIVITY					O2
L0466-01D	80230-IDW-AQ	03/08/2012 11:50	03/09/2012	Aqueous	SW6010_W	/ RCRA8				Y	M3
L0466-01D	80230-IDW-AQ	03/08/2012 11:50	03/09/2012	Aqueous	SW7470	/ RCRA8					M3
L0466-02A	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	PMoist	/					O2
L0466-02A	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	SW6010_W	/ TCLP_METALS				Y	O2
L0466-02A	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	SW7470	/ TCLP_METALS					O2
L0466-02A	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	SW8081_W	/ TCLP				Y	O2
L0466-02A	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	SW8082_S	/					O2
L0466-02A	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	SW8151_W	/ TCLP				Y	O2
L0466-02A	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	SW8270_W	/ TCLP				Y	O2
L0466-02B	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	SW1010_S	/					O2
L0466-02B	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	SW7.3.3.2_S	/ REACTIVITY					O2
L0466-02B	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	SW7.3.4.2_S	/ REACTIVITY					O2
L0466-02B	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	SW9045_S	/					O2
L0466-02C	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	SW8260_W	/ TCLP_VOA				Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

WorkOrder: L0466

Client ID: CDM_NJ
Project: Paul Miller Dry Cleaner Site Port Richmond, NY
WO Name: Paul Miller Site, IDW
Location: PAUL_MILLER, D004437-35
Comments: no HC

Case:
SDG:
PO: D004437-35

HC Due: 03/28/12
Fax Due:
Fax Report: ☐

Report Level: LEVEL 2
Special Program:
EDD: EQUIIS_4_NYSDEC

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
L0466-02D	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	SW8260_LOW_S	/ 8260_OLM4, +TICs				Y	VOA
L0466-02D	80230-IDW-SOLID	03/08/2012 11:00	03/09/2012	Soil	SW8260_MED_S	/ 8260_OLM4, +TICs		Y		Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

SPECTRUM ANALYTICAL, INC
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
TAT- Indicate Date Needed: _____
· All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
· Samples disposed of after 30 days unless otherwise instructed.

Report To: Seth Kellogg
Com Smith
110 Fieldcrest Ave #8 | 6th Floor
Edison NJ 08837
732-225-7000
Project Mgr.: S. Kellogg

Invoice To: same

P.O. No.: _____ RQN: _____

Project No.: _____
Site Name: Paul Miller
Location: Port Richmond State: NY
Sampler(s): F. Robinson / E. Kulkosky

1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8= $NaHSO_4$ 9=_____ 10=_____ 11=_____

List preservative code below:

Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	5 Voc	Analyses: Pesticides	Herbicides	PCBs	RCI	metals	VOC	Full TCLP
L04606-01	80230-IDW-AQ	3/8/12	1150	C	GW	2	6		1	✓	✓	✓	✓	✓	✓	✓	
L04606-02	80230-IDW-Solid	3/8/12	1100	C	SO				4				✓	✓		✓	✓

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards:

☐ E-mail to _____
EDD Format _____

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 4°

Relinquished by:	Received by:	Date:	Time:
Fed Ex	Fedex	3/8/12	1215
Fed Ex	Veronica Bruno	3/9/12	9:05

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Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

Received By:	Page 01 of 01
Reviewed By:	Log-in Date 03/09/2012
Work Order: L0466	Client Name: CDM
Project Name/Event: Paul Miller Dry Cleaner Site Port Richmond, NY / D004437-35	

Remarks: (1/2) Please see associated sample/extract transfer logbook pages submitted with this data package.

1. Custody Seal(s)	Present / Absent
	Intact / Broken
2. Custody Seal Nos.	N/A
3. Traffic Reports/ Chain of Custody Records (TR/COCs) or Packing Lists	Present / Absent
4. Airbill	AirBill / Sticker
	Present / Absent
5. Airbill No.	FedEx 8764 5236 7117
6. Sample Tags	Present / Absent
Sample Tag Numbers	Listed / Not Listed on Chain-of-Custody
7. Sample Condition	Intact / Broken / Leaking
8. Cooler Temperature Indicator Bottle	Present / Absent
9. Cooler Temperature	4 °C
10. Does information on TR/COCs and sample tags agree?	Yes / No
11. Date Received at Laboratory	03/09/2012
12. Time Received	09:05

Lab Sample ID	Preservation (pH) HNO3	H2SO4	HCl	NaOH	H3PO4	VOA Matrix	Soil HeadSpace or Air Bubble > or equal to 1/4"
L0466-01	<2					H	
L0466-02						US	

Sample Transfer

Fraction (1) TVOA/VOA	Fraction (2) SVOA/PEST/ARO
Area #	Area #
By	By
On	On

IR Temp Gun ID:MT-1

CoolantCondition: ICE

Preservative Name/Lot No:

VOA Matrix Key:

US = Unpreserved Soil	A= Air
UA = Unpreserved Aqueous	H = HCl
M = MeOH	E = Encore
N = NaHSO4	F = Freeze

See Sample Condition Notification/Corrective Action Form Yes / No

Rad OK Yes / No

Edward Lawler [Warwick]

From: Kellogg, Seth [KelloggDS@cdmsmith.com]
Sent: Tuesday, March 06, 2012 8:02 AM
To: Edward Lawler [Warwick]; Robinson, Frank; Kulkusky, Edward
Subject: FW: IDW sampling

Ed – we also need to run IDW characterization samples for Paul Miller. Can you send bottles for Friday? See parameters below.

Thanks,
Seth

From: Gene Streiter [mailto:streiterseacoast@aol.com]
Sent: Monday, March 05, 2012 9:41 AM
To: Kellogg, Seth
Subject: RE: IDW sampling

You're sampling or I'm sampling?

For aqueous: RCRA Characteristics
PCB
Metals RCRA
VOC-TCLVOA 10
SVOC-TCLBNA 20
Total Herb
Total Pest

For soil: RCRA Characteristics
PCB
Full TCLP

From: Kellogg, Seth [mailto:KelloggDS@cdmsmith.com]
Sent: Monday, March 05, 2012 8:14 AM
To: Gene Streiter
Subject: IDW sampling

Gene,

We're finishing up the work at Paul Miller this week. What analyses do you need for the IDW disposal? We're going to have 4 drums of water and 1 of soil/asphalt.

Thanks,
Seth

Seth Kellogg, P.G.

Senior Project Manager
CDM Smith | 110 Fieldcrest Avenue, #8 | 6th Floor | Edison, New Jersey 08837 | kelloggds@cdmsmith.com
(732) 590-4674 (Phone/Fax)
(732) 354-8463 (cell)

Last Page of Data Report

Norlite Corporation

628 South Saratoga Street
Cohoes, New York 12047
Phone: (518) 235-0401 Fax: (518) 235-0233

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

WASTE STREAM PROFILE No. _____

Approved for Acceptance: ☐ Yes ☐ No
Reviewed by: _____ Date _____
Approved by: _____ Date _____

PLEASE ATTACH: All Material Safety Data Sheets (MSDS), Analysis Reports, Handling Precautions, Additional Hazard Information, Support Data & Comments.

GENERATOR INFORMATION

Site Name PAUL Miller site
Address 1465 Forest Ave
STATEN Island NY
Mailing Name NYSDEC / PAUL Miller site
Address 625 Broadway
ALBANY NY 12233
EPA I.D. # NYD 986 933 299
Technical Contact _____
Phone # _____ Fax # _____
Shipping Contact _____
Phone # _____ Fax # _____

Billing Name Innovative Recycling Tech Inc
Address 690 N Queens Ave
Lindenhurst NY 11757
Contact John Ewer
Phone # 516 816 4766 Fax # _____
Transporter Name Freehold Cartage INC
Address _____
EPA I.D. # NJD 054 126 164
Contact J Ewer
Phone # 516 816 4766 Fax # 631 225 3056

WASTE DESCRIPTION

Generators Name For Waste Groundwater
Process Generating Waste Site investigation OF former dry cleaner

SHIPPING INFORMATION

DOT Shipping Name HAZardous waste Liquid n.o.s
DOT Hazard Class 9 Packing Group III UN/NA No. 3082
EPA Hazardous Waste Codes F002
Estimated Volume 5 / year
Container Type: ☐ Bulk ☒ Drum ☐ Roll-Off

CHEMICAL COMPOSITION - (Totals to 100%)

	%		%
water	99 %		%
Tetrachloroethane 2	1 %		%
	%		%
	%		%
	%		%
	%		%
	%		%

PHYSICAL CHARACTERISTICS @ 70 F

Color Clear
Odor Slight to NONE
Specific Gravity 1
pH 7 % Solids 1 % Water 99+
Viscosity: ☒ Low ☐ Medium ☐ High

☒ Liquid ☐ Single Phase
☐ Semi-Liquid ☐ Bi-Layered
☐ Solid ☐ Multi-Layered

TOTAL METALS

Antimony (Sb) NE ppm		Lead (Pb) NE ppm	
Arsenic (As) _____ ppm		Mercury (Hg) _____ ppm	
Barium (Ba) _____ ppm		Nickel (Ni) _____ ppm	
Beryllium (Be) _____ ppm		Selenium (Se) _____ ppm	
Cadmium (Cd) _____ ppm		Silver (Ag) _____ ppm	
Chromium (Cr) _____ ppm		Thallium (Ti) _____ ppm	
Copper (Cu) _____ ppm		Zinc (Zn) _____ ppm	

WASTE ANALYSIS

Heat of Combustion 0 Btu's/lb. Flash Point 7200 °F
Halogens 0 % Sulfur 0 % Ash 0 %
PCB's 0 ppm Corrosivity 0 mm/yr.

OTHER CHARACTERISTICS (Yes/No)

Reactive NO	Infectous NO	Explosive NO
Biological NO	Pyrophoric NO	Radioactive NO

OTHER COMPONENTS

Herbicides _____ ppm		Cyanide 0 ppm	
Pesticides _____ ppm		Sulfide _____ ppm	
Dioxins _____ ppm		PBB _____ ppm	

List Acute Hazardous Wastes as defined in 40CFR 261.33(e) or 6NYCRR 371.4(d)(5). List any Hazardous Constituents as defined by 40CFR 261 Appendix VIII. Describe any special handling requirements associated with this waste system.

CERTIFICATION: I attest and certify that all information provided is complete and accurate. This low grade fuel is properly described with no willful omissions and that all known or suspected hazards have been disclosed and the low grade fuel is not a PCB waste that is defined in 40 CFR 761.3. Any changes or additional information obtained about this waste stream will be promptly conveyed to the Norlite Corporation.

Seth Kellogg on behalf of NYSDEC — Print Name and Title
Seth Kellogg — Signature
4/9/12 — Date

VEXOR Technology, Inc.
955 West Smith Road
Medina, Ohio 44256
Phone: 330-721-9773
FAX: 330-721-9438
EPA ID# OHD 077772895
www.vexortechnology.com
Email: mail@vexortechnology.com

MATERIAL CHARACTERIZATION

For VEXOR Use Only
Approval # _____
Sample # _____
Sales Rep _____
Date Submitted _____

Generator: Paul Miller Site	Bill To Name: Innovative Recycling Technologies
Site Address: 1465 Forest Avenue	Site Address: 690 No. Queens Avenue
City: Staten Island State: NY Zip: 10302	City: Lindenhurst State: NY Zip: 11757
Phone: (631)225-3044 Fax:	Phone: (631)225-3044 Fax: (631)225-3056
EPA ID #: NYD986933299 SIC Code:	Business Contact: John Dull
Technical Contact	Title: V. President Email: jdull@irtwaste.com
Title Email	

MATERIAL DESCRIPTION

Name and Description of Material: Drill Cuttings & Asphalt

Process Generating Material: From site investigation of former dry cleaner U.S. EPA Hazardous Waste: ☐Yes ☒No

Proper DOT Shipping Name: Drill Cuttings & Asphalt Non-DOT Regulated Material

Method of Shipment: ☐Bulk ☒Drum ☐Tote ☐Cubic Yard Box ☐Other/Explain:

Est. Annual Volume: _____ Cu. Yds. _____ Tons _____ Gallons 5 Drums _____ container material (metal, plastic, etc.)

Frequency: ☐One Time Only ☐Daily ☐Weekly ☐Monthly ☒Other/Explain Yearly Approximate Drum Weight

Special Handling Instructions: _____

Preferred Disposal Method: ☐Landfill ☐Waste to Energy ☐Recycling ☒Other Most cost effective

MATERIAL PROPERTIES AT 78°

a) Physical State: ☒Solid ☐Semi-Solid ☐Powder ☐Liquid ☐Phases

b) Reactivity: ☐Water reactive ☐Acid Reactive ☐Alkaline Reactive ☐Oxidizer ☐Autosetting ☒None

c) Flash Point, °F: ☐ ≤72 ☐ >72-100 ☐ >100-140 ☐ >140-200 ☒ >200 ☐ N/A

d) S.G./Density Solid

e) pH: ☐ ≤2 ☐ >2-6 ☒ >6-9 ☐ >9-12.5 ☐ ≥12.5 ☐N/A

f) Odor: ☒None ☐Mild ☐Strong: Describe

g) Color: Varies

h) Total Organic Halogen (TOX) ☐ppm ☒<1000 ppm ☐>1000 ppm* If this material is considered "USED OIL" and is to be managed as a a "USED OIL", please complete the "USED OIL" ADDENDUM and attach to this profile.

i) PCB Content: ☒ 0 ppm ☐ 1-49 ppm* ☐ ≥50 ppm * Supporting analysis and documentation required.

MATERIAL COMPOSITION: List all components, must add up to 100%.

Constituent	Range % (wt-vol) Min	Max
Soil	95	95
Asphalt	5	5
A combined total should equal 100%		

Above is based on: ☐Generator Knowledge ☒Analytical Data MSDS
Please attach analysis, TCLP information and appropriate MSDS sheets.
SAMPLE SUBMITTED WITH THIS PROFILE: ☐Yes ☒No

For VEXOR Use Only
Evaluated by: _____
Approved - Treatment: _____
Rejected - Reason: _____
Date Completed: _____
Price: _____ /Unit _____
Approved By: _____ Date: _____

GENERATOR CERTIFICATION

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true and accurate description of the material being offered for disposal. Samples of this material submitted to VEXOR are representative of the material described in this profile. I further certify that by utilizing this profile, neither myself not any other employee of the company will deliver for treatment, processing or recycling or attempt to deliver for same any material that is classified as toxic waste, hazardous water, medical or infectious waste or any other material that this facility is prohibited from accepting by law.

Authorized Representative Name (Printed) Seth Kellogg Company On behalf of NYSDEC

Authorized Representative Signature Seth Kellogg Title: On Behalf of NYSDEC Date: 4/9/12

Appendix C

Full Data Tables

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID Sample Location Sampling Date	80230-GW-MIP5-15 MIP5 05/24/2011	80230-GW-MIP5-15-DUP MIP5 05/24/2011	80230-GW-MIP5-28 MIP5 05/24/2011	80230-GW-MIP6-15 MIP6 05/23/2011	80230-GW-MIP6-33.5 MIP6 05/23/2011	80230-MW01-030612 MW01 03/06/2012
Chemical Name	CAS#	New York State Class GA						
Volatile Organic Compounds - SW8260								
1,1,1,2-Tetrachloroethane	630-20-6	5	500 U	2000 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	71-55-6	5	500 U	2000 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	500 U	2000 U	5 U	5 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	500 U	2000 U	5 U	5 U	5 U	5 UJ
1,1,2-Trichloroethane	79-00-5	**1**	500 U	2000 U	5 U	5 U	5 U	0.6 J
1,1-Dichloroethane	75-34-3	5	500 U	2000 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	75-35-4	**5**	500 U	2000 U	5 U	5 U	5 U	2.8 J
1,1-Dichloropropene	563-58-6		500 U	2000 U	5 U	5 U	5 U	5 U
1,2,3-Trichlorobenzene	87-61-6	5	500 U	2000 UJ	5 U	5 U	5 U	5 UJ
1,2,3-Trichloropropane	96-18-4	0.04	500 U	2000 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	120-82-1	5	500 U	2000 UJ	5 UJ	5 UJ	5 UJ	5 U
1,2,4-Trimethylbenzene	95-63-6	5	500 U	2000 U	5 U	5 U	5 U	5 U
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	500 U	2000 U	5 U	5 U	5 U	5 UJ
1,2-Dibromoethane (EDB)	106-93-4	0.0006	500 U	2000 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	95-50-1	3	500 U	2000 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	0.6	500 U	2000 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	78-87-5	1	500 U	2000 U	5 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene	108-67-8	5	500 U	2000 U	5 U	5 U	5 U	5 U
1,3-Dichlorobenzene	541-73-1	3	500 U	2000 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	5	500 U	2000 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	106-46-7	3	500 U	2000 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	5	500 U	2000 U	5 UJ	5 UJ	5 UJ	5 UJ
2-Butanone (MEK)	78-93-3		500 R	2000 R	5 R	5 R	5 R	5 R
2-Chlorotoluene	95-49-8	5	500 U	2000 U	5 U	5 U	5 U	5 U
2-Hexanone	591-78-6		500 U	2000 U	5 U	5 U	5 U	5 UJ
4-Chlorotoluene	106-43-4	5	500 U	2000 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone (MIBK)	108-10-1		500 U	2000 U	5 U	5 U	5 U	5 U
Acetone	67-64-1		500 R	2000 UJ	5 U	5 U	5 U	5 R
Benzene	71-43-2	1	500 U	2000 U	5 R	5 R	5 R	5 U
Bromobenzene	108-86-1	5	500 U	2000 U	5 U	5 U	5 U	5 U
Bromochloromethane	74-97-5	5	500 U	2000 U	5 U	5 U	5 U	5 U
Bromodichloromethane	75-27-4		500 U	2000 U	5 U	5 U	5 U	5 U
Bromoform	75-25-2		500 U	2000 U	5 U	5 U	5 U	5 U
Bromomethane	74-83-9	5	500 U	2000 U	5 U	5 U	5 U	5 U
Carbon Disulfide	75-15-0	60	500 U	2000 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	56-23-5	5	500 U	2000 U	5 U	5 U	5 U	5 U

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-GW-MIP5-15		80230-GW-MIP5-15-DUP		80230-GW-MIP5-28		80230-GW-MIP6-15		80230-GW-MIP6-33.5		80230-MW01-030612	
		Sample Location	MIP5		MIP5		MIP5		MIP6		MIP6		MW01	
		Sampling Date	05/24/2011		05/24/2011		05/24/2011		05/23/2011		05/23/2011		03/06/2012	
Chemical Name	CAS#	New York State Class GA												
Chlorobenzene	108-90-7	5	500	U	2000	U	5	U	5	U	5	U	1.1	J
Chloroethane	75-00-3	5	500	U	2000	U	5	U	5	U	5	U	5	UJ
Chloroform	67-66-3	7	500	U	2000	U	5	U	5	U	5	U	5	U
Chloromethane	74-87-3	5	500	U	2000	U	5	U	5	U	5	U	5	UJ
cis-1,2-Dichloroethene	156-59-2	**5**	**780**		2000	U	1.7	J	**21**		**11**		**4300**	**D**
cis-1,3-Dichloropropene	10061-01-5		500	U	2000	U	5	U	5	U	5	U	5	U
Cyclohexane	110-82-7		500	U	2000	U	5	U	5	U	5	U	5	UJ
Dibromochloromethane	124-48-1		500	U	2000	U	5	U	5	U	5	U	5	U
Dibromomethane	74-95-3	5	500	U	2000	U	5	U	5	U	5	U	5	U
Dichlorodifluoromethane	75-71-8	5	500	UJ	2000	UJ	5	UJ	5	UJ	5	UJ	5	UJ
Ethylbenzene	100-41-4	5	500	U	2000	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	87-68-3	0.5	500	U	2000	UJ	5	U	5	U	5	U	5	U
Isopropylbenzene	98-82-8	5	500	U	2000	U	5	U	5	U	5	U	5	U
m,p-Xylene	179601-23-1		500	U	2000	U	5	U	5	U	5	U	5	U
Methyl Acetate	79-20-9		500	U	2000	UJ	5	UJ	5	UJ	5	UJ	5	UJ
Methyl Iodide	74-88-4	5	500	U	2000	U	5	U	5	U	5	U	5	UJ
Methyl Tert-Butyl Ether (MTBE)	1634-04-4		500	U	2000	U	5	U	1.7	J	5	U	5	U
Methylcyclohexane	108-87-2		500	U	2000	U	5	UJ	5	UJ	5	UJ	5	UJ
Methylene Chloride	75-09-2	5	500	U	2000	U	5	U	5	U	5	U	5	U
Naphthalene	91-20-3		500	U	2000	U	5	U	5	U	5	U	5	UJ
n-Butylbenzene	104-51-8	5	500	U	2000	U	5	U	5	U	5	U	5	U
n-Propylbenzene	103-65-1	5	500	U	2000	U	5	U	5	U	5	U	5	U
o-Xylene	95-47-6	5	500	U	2000	U	5	U	5	U	5	U	5	U
p-Isopropyltoluene	99-87-6	5	500	U	2000	U	5	U	5	U	5	U	5	U
sec-Butylbenzene	135-98-8	5	500	U	2000	U	5	U	5	U	5	U	5	U
Styrene	100-42-5	5	500	U	2000	U	5	U	5	U	5	U	5	U
tert-Butylbenzene	98-06-6	5	500	U	2000	U	5	U	5	U	5	U	5	U
Tetrachloroethene	127-18-4	**5**	**32000**	**D**	**33000**		**150**		**2100**	**D**	**380**	**D**	**750**	**D**
Toluene	108-88-3	5	500	U	2000	U	5	U	5	U	5	U	2	J
Total Xylenes	1330-20-7		500	U	2000	U	5	U	5	U	5	U	5	U
trans-1,2-Dichloroethene	156-60-5	**5**	500	U	2000	U	5	U	5	U	5	U	**98**	
trans-1,3-Dichloropropene	10061-02-6		500	U	2000	U	5	U	5	U	5	U	5	U
Trichloroethene	79-01-6	**5**	500	U	2000	U	2.3	J	**9**		**8.7**		**130**	
Trichlorofluoromethane	75-69-4	5	500	U	2000	U	5	U	5	U	5	U	5	U
Vinyl Acetate	108-05-4		500	U	2000	U	5	UJ	5	UJ	5	UJ	5	U
Vinyl Chloride	75-01-4	**2**	500	U	2000	U	5	U	5	U	5	U	**1200**	**JD**
MEE - RSK175														

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-GW-MIP5-15		80230-GW-MIP5-15-DUP		80230-GW-MIP5-28		80230-GW-MIP6-15		80230-GW-MIP6-33.5		80230-MW01-030612	
		Sample Location	MIP5		MIP5		MIP5		MIP6		MIP6		MW01	
		Sampling Date	05/24/2011		05/24/2011		05/24/2011		05/23/2011		05/23/2011		03/06/2012	
Chemical Name	CAS#	New York State Class GA												
Ethane	74-84-0												310	
Ethene	74-85-1												700	
Methane	74-82-8												1400	
Semi-Volatile Organic Compounds - SW8270														
1,1'-Biphenyl	92-52-4	5	10	U	10	U	10	U	10	U	10	U		
2,4,5-Trichlorophenol	95-95-4		20	U	20	U	20	U	20	U	20	U		
2,4,6-Trichlorophenol	88-06-2		10	U	10	U	10	U	10	U	10	U		
2,4-Dichlorophenol	120-83-2	1	10	U	10	U	10	U	10	U	10	U		
2,4-Dimethylphenol	105-67-9	1	10	U	10	U	10	U	10	U	10	U		
2,4-Dinitrophenol	51-28-5	1	20	UJ	20	UJ	20	UJ	20	UJ	20	UJ		
2,4-Dinitrotoluene	121-14-2	5	10	U	10	U	10	U	10	U	10	U		
2,6-Dinitrotoluene	606-20-2	5	10	U	10	U	10	U	10	U	10	U		
2-Chloronaphthalene	91-58-7		10	U	10	U	10	U	10	U	10	U		
2-Chlorophenol	95-57-8		10	U	10	U	10	U	10	U	10	U		
2-Methylnaphthalene	91-57-6		10	UJ	10	UJ	10	UJ	10	UJ	10	UJ		
2-Methylphenol	95-48-7		10	U	10	U	10	U	10	U	10	U		
2-Nitroaniline	88-74-4	5	20	U	20	U	20	U	20	U	20	U		
2-Nitrophenol	88-75-5		10	U	10	U	10	U	10	U	10	U		
3,3'-Dichlorobenzidine	91-94-1	5	10	U	10	U	10	U	10	U	10	U		
3-Nitroaniline	99-09-2	5	20	U	20	U	20	U	20	U	20	U		
4,6-Dinitro-2-Methylphenol	534-52-1		20	U	20	U	20	U	20	U	20	U		
4-Bromophenyl-Phenylether	101-55-3		10	U	10	U	10	U	10	U	10	U		
4-Chloro-3-Methylphenol	59-50-7		10	U	10	U	10	U	10	U	10	U		
4-Chloroaniline	106-47-8	5	10	U	10	U	10	U	10	U	10	U		
4-Chlorophenyl-Phenylether	7005-72-3		10	U	10	U	10	U	10	U	10	U		
4-Methylphenol	106-44-5		10	U	10	U	10	U	10	U	10	U		
4-Nitroaniline	100-01-6	5	20	U	20	U	20	U	20	U	20	U		
4-Nitrophenol	100-02-7		20	U	20	U	20	U	20	U	20	U		
Acenaphthene	83-32-9		10	U	10	U	10	U	10	U	10	U		
Acenaphthylene	208-96-8		10	U	10	U	10	U	10	U	10	U		
Acetophenone	98-86-2		10	U	10	U	10	U	10	U	10	U		
Anthracene	120-12-7		10	U	10	U	10	U	10	U	10	U		
Atrazine	1912-24-9	7.5	10	U	10	U	10	U	10	U	10	U		
Benzaldehyde	100-52-7		10	U	10	U	10	U	10	U	10	U		
Benzo(a)Anthracene	56-55-3		10	U	10	U	10	U	10	U	10	U		
Benzo(a)Pyrene	50-32-8	0	10	U	10	U	10	U	10	U	10	U		
Benzo(b)Fluoranthene	205-99-2		10	U	10	U	10	U	10	U	10	U		

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-GW-MIP5-15		80230-GW-MIP5-15-DUP		80230-GW-MIP5-28		80230-GW-MIP6-15		80230-GW-MIP6-33.5		80230-MW01-030612	
		Sample Location	MIP5		MIP5		MIP5		MIP6		MIP6		MW01	
		Sampling Date	05/24/2011		05/24/2011		05/24/2011		05/23/2011		05/23/2011		03/06/2012	
Chemical Name	CAS#	New York State Class GA												
Benzo(g,h,i)Perylene	191-24-2		10	U	10	U	10	U	10	U	10	U		
Benzo(k)Fluoranthene	207-08-9		10	U	10	U	10	U	10	U	10	U		
bis(2-Chloroethoxy)Methane	111-91-1	5	10	U	10	U	10	U	10	U	10	U		
bis(2-Chloroethyl)Ether	111-44-4	1	10	U	10	U	10	U	10	U	10	U		
Bis(2-Ethylhexyl)Phthalate	117-81-7	5	10	U	1.7	J	10	U	10	U	10	U		
bis-Chloroisopropyl ether	108-60-1	5	10	U	10	U	10	U	10	U	10	U		
Butylbenzylphthalate	85-68-7		10	U	10	U	10	U	10	U	10	U		
Caprolactam	105-60-2		10	UJ	10	UJ	10	UJ	10	UJ	10	UJ		
Carbazole	86-74-8		10	U	10	U	10	U	10	U	10	U		
Chrysene	218-01-9		10	U	10	U	10	U	10	U	10	U		
Dibenzo(a,h)Anthracene	53-70-3		10	U	10	U	10	U	10	U	10	U		
Dibenzofuran	132-64-9		10	U	10	U	10	U	10	U	10	U		
Diethylphthalate	84-66-2		1.1	J	10	U	10	U	10	U	10	U		
Dimethylphthalate	131-11-3		10	U	10	U	10	U	10	U	10	U		
di-n-butylphthalate	84-74-2	50	10	U	10	U	10	U	10	U	10	U		
di-n-octylphthalate	117-84-0		10	U	10	U	10	U	10	U	10	U		
Fluoranthene	206-44-0		10	U	10	U	10	U	10	U	10	U		
Fluorene	86-73-7		10	U	10	U	10	U	10	U	10	U		
Hexachlorobenzene	118-74-1	0.04	10	U	10	U	10	U	10	U	10	U		
Hexachlorobutadiene	87-68-3	0.5	10	U	10	U	10	U	10	U	10	U		
Hexachlorocyclopentadiene	77-47-4	5	10	U	10	U	10	U	10	U	10	U		
Hexachloroethane	67-72-1	5	10	U	10	U	10	U	10	U	10	U		
Indeno(1,2,3-cd)Pyrene	193-39-5		10	U	10	U	10	U	10	U	10	U		
Isophorone	78-59-1		10	U	10	U	10	U	10	U	10	U		
Naphthalene	91-20-3		10	U	10	U	10	U	10	U	10	U		
Nitrobenzene	98-95-3	0.4	10	U	10	U	10	U	10	U	10	U		
n-Nitroso-di-n-Propylamine	621-64-7		10	U	10	U	10	U	10	U	10	U		
n-Nitrosodiphenylamine	86-30-6		10	U	10	U	10	U	10	U	10	U		
Pentachlorophenol	87-86-5	1	20	U	20	U	20	U	20	U	20	U		
Phenanthrene	85-01-8		10	U	10	U	10	U	10	U	10	U		
Phenol	108-95-2	1	10	U	10	U	10	U	10	U	10	U		
Pyrene	129-00-0		10	U	10	U	10	U	10	U	10	U		
Inorganics - SW6010														
Aluminum	7429-90-5		516		489		492		249		714			
Antimony	7440-36-0	3	20	U	20	U	20	U	20	U	20	U		
Arsenic	7440-38-2	25	20	U	20	U	20	U	20	U	20	U		
Barium	7440-39-3	1000	81	B	79.2	B	92.6	BEJ	153	BEJ	114	BEJ		

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-GW-MIP5-15		80230-GW-MIP5-15-DUP		80230-GW-MIP5-28		80230-GW-MIP6-15		80230-GW-MIP6-33.5		80230-MW01-030612	
		Sample Location	MIP5		MIP5		MIP5		MIP6		MIP6		MW01	
		Sampling Date	05/24/2011		05/24/2011		05/24/2011		05/23/2011		05/23/2011		03/06/2012	
Chemical Name	CAS#	New York State Class GA												
Beryllium	7440-41-7		5	U	5	U	5	U	5	U	5	U		
Cadmium	7440-43-9	5	5	U	5	U	5	U	5	U	5	U		
Calcium	7440-70-2		101000		98000		120000		111000		168000			
Chromium	7440-47-3	50	2.4	B	2.2	B	4	B	1.9	B	11	B		
Cobalt	7440-48-4		7.2	B	7.4	B	1.7	B	4.8	B	4.8	B		
Copper	7440-50-8	200	4.1	B	4	B	30	U	30	U	4.5	B		
Iron	7439-89-6	**300**	**1700**		**1600**		**1410**		**747**		**2660**			
Lead	7439-92-1	25	10	U	10	U	10	U	10	U	10	U		
Magnesium	7439-95-4		38100		37200		32900		64700		59100			
Manganese	7439-96-5	**300**	**2320**		**2250**		202		**1100**		**479**			
Mercury	7439-97-6	0.7	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U		
Nickel	7440-02-0	**100**	38.6	B	37.5	B	16.9	B	31.2	B	**118**			
Potassium	7440-09-7		6800		6790		3840		5540		4570			
Selenium	7782-49-2	10	30	U	30	U	30	U	30	U	30	U		
Silver	7440-22-4	50	30	U	30	U	30	U	30	U	30	U		
Sodium	7440-23-5		138000		138000		62400		277000		120000			
Thallium	7440-28-0		20	U	20	U	20	U	20	U	20	U		
Vanadium	7440-62-2		1.9	B	2.2	B	1.9	B	1.2	B	2.3	B		
Zinc	7440-66-6		39.1	B	38.5	B	23.6	B	32	B	29.2	B		
Wet Chemistry (mg/L)														
Sulfide - 4500-S F	18496-25-8												0.4	
Alkalinity, Total (as CaCO3) - A2320	ALK												260	
Chloride - E300.0	16887-00-6	**250**											**860**	
Nitrate-NO3 - E300.0	14797-55-8	10											0.82	
Nitrite-NO2 - E300.0	14797-65-0	1											0.13	U
Sulfate - E300.0	14808-79-8												45	
Hardness As CaCO3 - SM2340B	CACOA-H												120	
Total Dissolved Solids - SM2540C	TDS												1800	
Total Suspended Solids - SM2540D	TSS												140	
Ammonia as N - SM4500	7664-41-7	2											0.32	R
Nitrogen, Kjeldahl - SM4500-NORGC	KN												1.8	R
Total Organic Carbon - SM5310B	TOC												12	

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Groundwater Sample Results
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		Sample ID	80230-MW02-030612	80230-MW03-030712	80230-MW04-030612	80230-MW08S-030712	80230-MW09D-030512
		Sample Location	MW02	MW03	MW04	MW08S	MW09D
		Sampling Date	03/06/2012	03/07/2012	03/06/2012	03/07/2012	03/05/2012
Chemical Name	CAS#	New York State Class GA					
Volatile Organic Compounds - SW8260							
1,1,1,2-Tetrachloroethane	630-20-6	5	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	71-55-6	5	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
1,1,2-Trichloroethane	79-00-5	**1**	5 U	5 U	5 U	**1.1 J**	5 U
1,1-Dichloroethane	75-34-3	5	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	75-35-4	**5**	5 U	5 U	5 U	5 U	5 U
1,1-Dichloropropene	563-58-6		5 U	5 U	5 U	5 U	5 U
1,2,3-Trichlorobenzene	87-61-6	5	5 UJ	5 U	5 U	5 UJ	5 UJ
1,2,3-Trichloropropane	96-18-4	0.04	5 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	120-82-1	5	5 U	5 U	5 U	5 U	5 U
1,2,4-Trimethylbenzene	95-63-6	5	5 U	5 U	5 U	5 U	5 U
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	5 UJ	5 U	5 U	5 UJ	5 UJ
1,2-Dibromoethane (EDB)	106-93-4	0.0006	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	95-50-1	3	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	0.6	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	78-87-5	1	5 U	5 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene	108-67-8	5	5 U	5 U	5 U	5 U	5 U
1,3-Dichlorobenzene	541-73-1	3	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	5	5 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	106-46-7	3	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	5	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
2-Butanone (MEK)	78-93-3		5 R	5 R	5 R	5 R	5 R
2-Chlorotoluene	95-49-8	5	5 U	5 U	5 U	5 U	5 U
2-Hexanone	591-78-6		5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
4-Chlorotoluene	106-43-4	5	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone (MIBK)	108-10-1		5 U	5 U	5 U	5 U	5 U
Acetone	67-64-1		5 R	5 R	5 R	5 R	5 R
Benzene	71-43-2	1	5 U	5 U	5 U	5 U	5 U
Bromobenzene	108-86-1	5	5 U	5 U	5 U	5 U	5 U
Bromochloromethane	74-97-5	5	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	75-27-4		5 U	5 U	5 U	5 U	5 U
Bromoform	75-25-2		5 U	5 U	5 U	5 U	5 U
Bromomethane	74-83-9	5	5 U	5 U	5 U	5 U	5 U
Carbon Disulfide	75-15-0	60	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	56-23-5	5	5 U	5 U	5 U	5 U	5 U

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Groundwater Sample Results
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		Sample ID	80230-MW02-030612		80230-MW03-030712		80230-MW04-030612		80230-MW08S-030712		80230-MW09D-030512	
		Sample Location	MW02		MW03		MW04		MW08S		MW09D	
		Sampling Date	03/06/2012		03/07/2012		03/06/2012		03/07/2012		03/05/2012	
Chemical Name	CAS#	New York State Class GA										
Chlorobenzene	108-90-7	5	5	U	5	U	5	U	5	U	5	U
Chloroethane	75-00-3	5	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
Chloroform	67-66-3	7	5	U	5	U	5	U	0.81	J	5	U
Chloromethane	74-87-3	5	0.58	J	5	UJ	5	UJ	5	UJ	0.92	J
cis-1,2-Dichloroethene	156-59-2	**5**	**22**		**38**		5	U	**26**		5	U
cis-1,3-Dichloropropene	10061-01-5		5	U	5	U	5	U	5	U	5	U
Cyclohexane	110-82-7		5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
Dibromochloromethane	124-48-1		5	U	5	U	5	U	5	U	5	U
Dibromomethane	74-95-3	5	5	U	5	U	5	U	5	U	5	U
Dichlorodifluoromethane	75-71-8	5	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
Ethylbenzene	100-41-4	5	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	87-68-3	0.5	5	U	5	U	5	U	5	U	5	U
Isopropylbenzene	98-82-8	5	5	U	5	U	5	U	5	U	5	U
m,p-Xylene	179601-23-1		5	U	5	U	5	U	5	U	5	U
Methyl Acetate	79-20-9		5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
Methyl Iodide	74-88-4	5	5	UJ	5	U	5	U	5	UJ	5	UJ
Methyl Tert-Butyl Ether (MTBE)	1634-04-4		5	U	5	U	5	U	5	U	5	U
Methylcyclohexane	108-87-2		5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
Methylene Chloride	75-09-2	5	5	U	5	U	5	U	5	U	5	U
Naphthalene	91-20-3		5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
n-Butylbenzene	104-51-8	5	5	U	5	U	5	U	5	U	5	U
n-Propylbenzene	103-65-1	5	5	U	5	U	5	U	5	U	5	U
o-Xylene	95-47-6	5	5	U	5	U	5	U	5	U	5	U
p-Isopropyltoluene	99-87-6	5	5	U	5	U	5	U	5	U	5	U
sec-Butylbenzene	135-98-8	5	5	U	5	U	5	U	5	U	5	U
Styrene	100-42-5	5	5	U	5	U	5	U	5	U	5	U
tert-Butylbenzene	98-06-6	5	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	127-18-4	**5**	5	U	5	U	5	U	**1300**	**D**	5	U
Toluene	108-88-3	5	5	U	5	U	5	U	5	U	5	U
Total Xylenes	1330-20-7		5	U	5	U	5	U	5	U	5	U
trans-1,2-Dichloroethene	156-60-5	**5**	5	U	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene	10061-02-6		5	U	5	U	5	U	5	U	5	U
Trichloroethene	79-01-6	**5**	5	U	5	U	5	U	**10**		5	U
Trichlorofluoromethane	75-69-4	5	5	U	5	U	5	U	5	U	5	U
Vinyl Acetate	108-05-4		5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	75-01-4	**2**	**11**	**J**	5	UJ	**2.8**	**J**	5	UJ	5	UJ
MEE - RSK175												

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Groundwater Sample Results
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		Sample ID	80230-MW02-030612		80230-MW03-030712		80230-MW04-030612		80230-MW08S-030712		80230-MW09D-030512	
		Sample Location	MW02		MW03		MW04		MW08S		MW09D	
		Sampling Date	03/06/2012		03/07/2012		03/06/2012		03/07/2012		03/05/2012	
Chemical Name	CAS#	New York State Class GA										
Ethane	74-84-0		1.3	U	1.3	U	1.3	U	1.2	U	1.2	U
Ethene	74-85-1		1.6	U	1.6	U	1.6	U	1.5	U	1.5	U
Methane	74-82-8		960		130		1500		0.6	U	0.56	U
Semi-Volatile Organic Compounds - SW8270												
1,1'-Biphenyl	92-52-4	5										
2,4,5-Trichlorophenol	95-95-4											
2,4,6-Trichlorophenol	88-06-2											
2,4-Dichlorophenol	120-83-2	1										
2,4-Dimethylphenol	105-67-9	1										
2,4-Dinitrophenol	51-28-5	1										
2,4-Dinitrotoluene	121-14-2	5										
2,6-Dinitrotoluene	606-20-2	5										
2-Chloronaphthalene	91-58-7											
2-Chlorophenol	95-57-8											
2-Methylnaphthalene	91-57-6											
2-Methylphenol	95-48-7											
2-Nitroaniline	88-74-4	5										
2-Nitrophenol	88-75-5											
3,3'-Dichlorobenzidine	91-94-1	5										
3-Nitroaniline	99-09-2	5										
4,6-Dinitro-2-Methylphenol	534-52-1											
4-Bromophenyl-Phenylether	101-55-3											
4-Chloro-3-Methylphenol	59-50-7											
4-Chloroaniline	106-47-8	5										
4-Chlorophenyl-Phenylether	7005-72-3											
4-Methylphenol	106-44-5											
4-Nitroaniline	100-01-6	5										
4-Nitrophenol	100-02-7											
Acenaphthene	83-32-9											
Acenaphthylene	208-96-8											
Acetophenone	98-86-2											
Anthracene	120-12-7											
Atrazine	1912-24-9	7.5										
Benzaldehyde	100-52-7											
Benzo(a)Anthracene	56-55-3											
Benzo(a)Pyrene	50-32-8	0										
Benzo(b)Fluoranthene	205-99-2											

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Groundwater Sample Results
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		Sample ID	80230-MW02-030612		80230-MW03-030712		80230-MW04-030612		80230-MW08S-030712		80230-MW09D-030512	
		Sample Location	MW02		MW03		MW04		MW08S		MW09D	
		Sampling Date	03/06/2012		03/07/2012		03/06/2012		03/07/2012		03/05/2012	
Chemical Name	CAS#	New York State Class GA										
Benzo(g,h,i)Perylene	191-24-2											
Benzo(k)Fluoranthene	207-08-9											
bis(2-Chloroethoxy)Methane	111-91-1	5										
bis(2-Chloroethyl)Ether	111-44-4	1										
Bis(2-Ethylhexyl)Phthalate	117-81-7	5										
bis-Chloroisopropyl ether	108-60-1	5										
Butylbenzylphthalate	85-68-7											
Caprolactam	105-60-2											
Carbazole	86-74-8											
Chrysene	218-01-9											
Dibenzo(a,h)Anthracene	53-70-3											
Dibenzofuran	132-64-9											
Diethylphthalate	84-66-2											
Dimethylphthalate	131-11-3											
di-n-butylphthalate	84-74-2	50										
di-n-octylphthalate	117-84-0											
Fluoranthene	206-44-0											
Fluorene	86-73-7											
Hexachlorobenzene	118-74-1	0.04										
Hexachlorobutadiene	87-68-3	0.5										
Hexachlorocyclopentadiene	77-47-4	5										
Hexachloroethane	67-72-1	5										
Indeno(1,2,3-cd)Pyrene	193-39-5											
Isophorone	78-59-1											
Naphthalene	91-20-3											
Nitrobenzene	98-95-3	0.4										
n-Nitroso-di-n-Propylamine	621-64-7											
n-Nitrosodiphenylamine	86-30-6											
Pentachlorophenol	87-86-5	1										
Phenanthrene	85-01-8											
Phenol	108-95-2	1										
Pyrene	129-00-0											
Inorganics - SW6010												
Aluminum	7429-90-5											
Antimony	7440-36-0	3										
Arsenic	7440-38-2	25										
Barium	7440-39-3	1000										

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Groundwater Sample Results
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		Sample ID	80230-MW02-030612		80230-MW03-030712		80230-MW04-030612		80230-MW08S-030712		80230-MW09D-030512	
		Sample Location	MW02		MW03		MW04		MW08S		MW09D	
		Sampling Date	03/06/2012		03/07/2012		03/06/2012		03/07/2012		03/05/2012	
Chemical Name	CAS#	New York State Class GA										
Beryllium	7440-41-7											
Cadmium	7440-43-9	5										
Calcium	7440-70-2											
Chromium	7440-47-3	50										
Cobalt	7440-48-4											
Copper	7440-50-8	200										
Iron	7439-89-6	**300**										
Lead	7439-92-1	25										
Magnesium	7439-95-4											
Manganese	7439-96-5	**300**										
Mercury	7439-97-6	0.7										
Nickel	7440-02-0	**100**										
Potassium	7440-09-7											
Selenium	7782-49-2	10										
Silver	7440-22-4	50										
Sodium	7440-23-5											
Thallium	7440-28-0											
Vanadium	7440-62-2											
Zinc	7440-66-6											
Wet Chemistry (mg/L)												
Sulfide - 4500-S F	18496-25-8		0.03	U	0.056		0.03	U	0.048		0.03	U
Alkalinity, Total (as CaCO3) - A2320	ALK		300		600		420		170		210	
Chloride - E300.0	16887-00-6	**250**	230		130		**430**		71		90	
Nitrate-NO3 - E300.0	14797-55-8	10	0.65		0.13	U	0.13	U	5.1		5.8	
Nitrite-NO2 - E300.0	14797-65-0	1	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U
Sulfate - E300.0	14808-79-8		57		2.1	J	15		35		45	
Hardness As CaCO3 - SM2340B	CACOA-H		300		440		230		230		320	
Total Dissolved Solids - SM2540C	TDS		800		910		1000		360		370	
Total Suspended Solids - SM2540D	TSS		40		80		21		95		68	
Ammonia as N - SM4500	7664-41-7	2	1.5	R	0.2	R	0.2	R	0.2	R	0.2	R
Nitrogen, Kjeldahl - SM4500-NORGC	KN		3.8	R	0.57	R	0.86	R	0.2	R	0.2	R
Total Organic Carbon - SM5310B	TOC		12		45		11		10	U	10	U

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MW09S-030512	80230-MW10D-030512	80230-MW10S-030512	80230-MW11D-030812	80230-MW11S-030812
		Sample Location	MW09S	MW10D	MW10S	MW11D	MW11S
		Sampling Date	03/05/2012	03/05/2012	03/05/2012	03/08/2011	03/08/2011
Chemical Name	CAS#	New York State Class GA					
Volatile Organic Compounds - SW8260							
1,1,1,2-Tetrachloroethane	630-20-6	5	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	71-55-6	5	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	5 UJ	5 U	5 UJ	5 UJ	5 UJ
1,1,2-Trichloroethane	79-00-5	**1**	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	75-34-3	5	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	75-35-4	**5**	0.65 J	5 U	5 U	5 U	**15**
1,1-Dichloropropene	563-58-6		5 U	5 U	5 U	5 U	5 U
1,2,3-Trichlorobenzene	87-61-6	5	5 UJ	5 UJ	5 UJ	5 U	5 U
1,2,3-Trichloropropane	96-18-4	0.04	5 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	120-82-1	5	5 U	5 U	5 U	5 U	5 U
1,2,4-Trimethylbenzene	95-63-6	5	5 U	5 U	5 U	5 U	5 U
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	5 UJ	5 UJ	5 UJ	5 U	5 U
1,2-Dibromoethane (EDB)	106-93-4	0.0006	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	95-50-1	3	5 U	5 U	5 U	5 U	2.2 J
1,2-Dichloroethane	107-06-2	0.6	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	78-87-5	1	5 U	5 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene	108-67-8	5	5 U	5 U	5 U	5 U	5 U
1,3-Dichlorobenzene	541-73-1	3	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	142-28-9	5	5 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	106-46-7	3	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	594-20-7	5	5 UJ	5 U	5 UJ	5 UJ	5 UJ
2-Butanone (MEK)	78-93-3		5 R	5 R	5 R	5 R	5 R
2-Chlorotoluene	95-49-8	5	5 U	5 U	5 U	5 U	5 U
2-Hexanone	591-78-6		5 UJ	5 U	5 UJ	5 UJ	5 UJ
4-Chlorotoluene	106-43-4	5	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone (MIBK)	108-10-1		5 U	5 U	5 U	5 U	5 U
Acetone	67-64-1		5 R	5 R	5 R	5 R	5 R
Benzene	71-43-2	1	5 U	5 U	5 U	5 U	5 U
Bromobenzene	108-86-1	5	5 U	5 U	5 U	5 U	5 U
Bromochloromethane	74-97-5	5	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	75-27-4		5 U	5 U	5 U	5 U	5 U
Bromoform	75-25-2		5 U	5 U	5 U	5 U	5 U
Bromomethane	74-83-9	5	5 U	5 U	5 U	5 U	5 U
Carbon Disulfide	75-15-0	60	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	56-23-5	5	5 U	5 U	5 U	5 U	5 U

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Groundwater Sample Results
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		Sample ID	80230-MW09S-030512		80230-MW10D-030512		80230-MW10S-030512		80230-MW11D-030812		80230-MW11S-030812	
		Sample Location	MW09S		MW10D		MW10S		MW11D		MW11S	
		Sampling Date	03/05/2012		03/05/2012		03/05/2012		03/08/2011		03/08/2011	
Chemical Name	CAS#	New York State Class GA										
Chlorobenzene	108-90-7	5	5	U	5	U	5	U	5	U	2.6	J
Chloroethane	75-00-3	5	5	UJ	5	U	5	UJ	5	UJ	5	UJ
Chloroform	67-66-3	7	0.66	J	5	U	5	U	5	U	5	U
Chloromethane	74-87-3	5	5	UJ	5	U	5	UJ	5	UJ	5	UJ
cis-1,2-Dichloroethene	156-59-2	**5**	**17**		5	U	**140**		5	U	**11000**	**D**
cis-1,3-Dichloropropene	10061-01-5		5	U	5	U	5	U	5	U	5	U
Cyclohexane	110-82-7		5	UJ	5	U	5	UJ	5	UJ	5	UJ
Dibromochloromethane	124-48-1		5	U	5	U	5	U	5	U	5	U
Dibromomethane	74-95-3	5	5	U	5	U	5	U	5	U	5	U
Dichlorodifluoromethane	75-71-8	5	5	UJ	5	U	5	UJ	5	UJ	5	UJ
Ethylbenzene	100-41-4	5	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	87-68-3	0.5	5	U	5	U	5	U	5	U	5	U
Isopropylbenzene	98-82-8	5	5	U	5	U	5	U	5	U	5	U
m,p-Xylene	179601-23-1		5	U	5	U	5	U	5	U	5	U
Methyl Acetate	79-20-9		5	UJ	5	U	5	UJ	5	UJ	5	UJ
Methyl Iodide	74-88-4	5	5	UJ	5	UJ	5	UJ	5	U	5	U
Methyl Tert-Butyl Ether (MTBE)	1634-04-4		5	U	5	U	0.76	J	5	U	2.1	J
Methylcyclohexane	108-87-2		5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
Methylene Chloride	75-09-2	5	5	U	5	U	5	U	5	U	5	U
Naphthalene	91-20-3		5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
n-Butylbenzene	104-51-8	5	5	U	5	U	5	U	5	U	5	U
n-Propylbenzene	103-65-1	5	5	U	5	U	5	U	5	U	5	U
o-Xylene	95-47-6	5	5	U	5	U	5	U	5	U	5	U
p-Isopropyltoluene	99-87-6	5	5	U	5	U	5	U	5	U	5	U
sec-Butylbenzene	135-98-8	5	5	U	5	U	5	U	5	U	5	U
Styrene	100-42-5	5	5	U	5	U	5	U	5	U	5	U
tert-Butylbenzene	98-06-6	5	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	127-18-4	**5**	**34**		5	U	**6.1**		5	U	**9000**	**D**
Toluene	108-88-3	5	5	U	5	U	5	U	5	U	5	U
Total Xylenes	1330-20-7		5	U	5	U	5	U	5	U	5	U
trans-1,2-Dichloroethene	156-60-5	**5**	5	U	5	U	5	U	5	U	**8.9**	
trans-1,3-Dichloropropene	10061-02-6		5	U	5	U	5	U	5	U	5	U
Trichloroethene	79-01-6	**5**	**16**		5	U	2.6	J	5	U	**2400**	**D**
Trichlorofluoromethane	75-69-4	5	5	U	5	U	5	U	5	U	5	U
Vinyl Acetate	108-05-4		5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	75-01-4	**2**	0.58	J	5	U	1.3	J	5	UJ	**37**	**J**
MEE - RSK175												

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Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
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		Sample ID	80230-MW09S-030512		80230-MW10D-030512		80230-MW10S-030512		80230-MW11D-030812		80230-MW11S-030812	
		Sample Location	MW09S		MW10D		MW10S		MW11D		MW11S	
		Sampling Date	03/05/2012		03/05/2012		03/05/2012		03/08/2011		03/08/2011	
Chemical Name	CAS#	New York State Class GA										
Ethane	74-84-0		1.2	U	1.2	U	3.2		1.3	U	10	
Ethene	74-85-1		1.5	U	1.5	U	1.5	U	1.6	U	1.6	U
Methane	74-82-8		2.1		0.6	U	45		0.61	U	170	
Semi-Volatile Organic Compounds - SW8270												
1,1'-Biphenyl	92-52-4	5										
2,4,5-Trichlorophenol	95-95-4											
2,4,6-Trichlorophenol	88-06-2											
2,4-Dichlorophenol	120-83-2	1										
2,4-Dimethylphenol	105-67-9	1										
2,4-Dinitrophenol	51-28-5	1										
2,4-Dinitrotoluene	121-14-2	5										
2,6-Dinitrotoluene	606-20-2	5										
2-Chloronaphthalene	91-58-7											
2-Chlorophenol	95-57-8											
2-Methylnaphthalene	91-57-6											
2-Methylphenol	95-48-7											
2-Nitroaniline	88-74-4	5										
2-Nitrophenol	88-75-5											
3,3'-Dichlorobenzidine	91-94-1	5										
3-Nitroaniline	99-09-2	5										
4,6-Dinitro-2-Methylphenol	534-52-1											
4-Bromophenyl-Phenylether	101-55-3											
4-Chloro-3-Methylphenol	59-50-7											
4-Chloroaniline	106-47-8	5										
4-Chlorophenyl-Phenylether	7005-72-3											
4-Methylphenol	106-44-5											
4-Nitroaniline	100-01-6	5										
4-Nitrophenol	100-02-7											
Acenaphthene	83-32-9											
Acenaphthylene	208-96-8											
Acetophenone	98-86-2											
Anthracene	120-12-7											
Atrazine	1912-24-9	7.5										
Benzaldehyde	100-52-7											
Benzo(a)Anthracene	56-55-3											
Benzo(a)Pyrene	50-32-8	0										
Benzo(b)Fluoranthene	205-99-2											

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Groundwater Sample Results
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		Sample ID	80230-MW09S-030512		80230-MW10D-030512		80230-MW10S-030512		80230-MW11D-030812		80230-MW11S-030812	
		Sample Location	MW09S		MW10D		MW10S		MW11D		MW11S	
		Sampling Date	03/05/2012		03/05/2012		03/05/2012		03/08/2011		03/08/2011	
Chemical Name	CAS#	New York State Class GA										
Benzo(g,h,i)Perylene	191-24-2											
Benzo(k)Fluoranthene	207-08-9											
bis(2-Chloroethoxy)Methane	111-91-1	5										
bis(2-Chloroethyl)Ether	111-44-4	1										
Bis(2-Ethylhexyl)Phthalate	117-81-7	5										
bis-Chloroisopropyl ether	108-60-1	5										
Butylbenzylphthalate	85-68-7											
Caprolactam	105-60-2											
Carbazole	86-74-8											
Chrysene	218-01-9											
Dibenzo(a,h)Anthracene	53-70-3											
Dibenzofuran	132-64-9											
Diethylphthalate	84-66-2											
Dimethylphthalate	131-11-3											
di-n-butylphthalate	84-74-2	50										
di-n-octylphthalate	117-84-0											
Fluoranthene	206-44-0											
Fluorene	86-73-7											
Hexachlorobenzene	118-74-1	0.04										
Hexachlorobutadiene	87-68-3	0.5										
Hexachlorocyclopentadiene	77-47-4	5										
Hexachloroethane	67-72-1	5										
Indeno(1,2,3-cd)Pyrene	193-39-5											
Isophorone	78-59-1											
Naphthalene	91-20-3											
Nitrobenzene	98-95-3	0.4										
n-Nitroso-di-n-Propylamine	621-64-7											
n-Nitrosodiphenylamine	86-30-6											
Pentachlorophenol	87-86-5	1										
Phenanthrene	85-01-8											
Phenol	108-95-2	1										
Pyrene	129-00-0											
Inorganics - SW6010												
Aluminum	7429-90-5											
Antimony	7440-36-0	3										
Arsenic	7440-38-2	25										
Barium	7440-39-3	1000										

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Groundwater Sample Results
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		Sample ID	80230-MW09S-030512		80230-MW10D-030512		80230-MW10S-030512		80230-MW11D-030812		80230-MW11S-030812	
		Sample Location	MW09S		MW10D		MW10S		MW11D		MW11S	
		Sampling Date	03/05/2012		03/05/2012		03/05/2012		03/08/2011		03/08/2011	
Chemical Name	CAS#	New York State Class GA										
Beryllium	7440-41-7											
Cadmium	7440-43-9	5										
Calcium	7440-70-2											
Chromium	7440-47-3	50										
Cobalt	7440-48-4											
Copper	7440-50-8	200										
Iron	7439-89-6	**300**										
Lead	7439-92-1	25										
Magnesium	7439-95-4											
Manganese	7439-96-5	**300**										
Mercury	7439-97-6	0.7										
Nickel	7440-02-0	**100**										
Potassium	7440-09-7											
Selenium	7782-49-2	10										
Silver	7440-22-4	50										
Sodium	7440-23-5											
Thallium	7440-28-0											
Vanadium	7440-62-2											
Zinc	7440-66-6											
Wet Chemistry (mg/L)												
Sulfide - 4500-S F	18496-25-8		0.083		0.03	U	0.046		0.096		0.095	
Alkalinity, Total (as CaCO3) - A2320	ALK		230		130		1000		300		360	
Chloride - E300.0	16887-00-6	**250**	72		88		150		88		**280**	
Nitrate-NO3 - E300.0	14797-55-8	10	3.3		4.2		0.13	U	4.5		0.32	
Nitrite-NO2 - E300.0	14797-65-0	1	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U
Sulfate - E300.0	14808-79-8		44		48		61		47		94	
Hardness As CaCO3 - SM2340B	CACOA-H		320		330		620		390		550	
Total Dissolved Solids - SM2540C	TDS		390		420		690		590		1000	
Total Suspended Solids - SM2540D	TSS		540		87		230		420		190	
Ammonia as N - SM4500	7664-41-7	2	0.2	R	0.2	R	0.2	R	0.2	R	0.2	R
Nitrogen, Kjeldahl - SM4500-NORGC	KN		0.28	R	0.2	R	0.2	R	0.2	R	0.2	R
Total Organic Carbon - SM5310B	TOC		10	U	10	U	5.7	J	10	U	2.9	J

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Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
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		Sample ID	80230-MW12S-030812		80230-MW12S-030812-DUP		80230-MW13D-030712		80230-MW13S-030712		80230-MW14S-030812	
		Sample Location	MW12S		MW12S		MW13D		MW13S		MW14S	
		Sampling Date	03/08/2012		03/08/2012		03/07/2012		03/07/2012		03/08/2012	
Chemical Name	CAS#	New York State Class GA										
Volatile Organic Compounds - SW8260												
1,1,1,2-Tetrachloroethane	630-20-6	5	500	U	500	U	5	U	5	U	500	U
1,1,1-Trichloroethane	71-55-6	5	500	U	500	U	5	U	5	U	500	U
1,1,2,2-Tetrachloroethane	79-34-5	5	500	U	500	U	5	U	5	U	500	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	500	UJ	500	UJ	5	UJ	5	UJ	500	UJ
1,1,2-Trichloroethane	79-00-5	**1**	500	U	500	U	5	U	5	U	500	U
1,1-Dichloroethane	75-34-3	5	500	U	500	U	5	U	5	U	500	U
1,1-Dichloroethene	75-35-4	**5**	500	U	500	U	5	U	**9.4**		500	U
1,1-Dichloropropene	563-58-6		500	U	500	U	5	U	5	U	500	U
1,2,3-Trichlorobenzene	87-61-6	5	500	U	500	U	5	U	5	UJ	500	U
1,2,3-Trichloropropane	96-18-4	0.04	500	U	500	U	5	U	5	U	500	U
1,2,4-Trichlorobenzene	120-82-1	5	500	U	500	U	5	U	5	U	500	U
1,2,4-Trimethylbenzene	95-63-6	5	500	U	500	U	5	U	5	U	500	U
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	500	U	500	U	5	U	5	UJ	500	U
1,2-Dibromoethane (EDB)	106-93-4	0.0006	500	U	500	U	5	U	5	U	500	U
1,2-Dichlorobenzene	95-50-1	3	500	U	500	U	5	U	1.1	J	500	U
1,2-Dichloroethane	107-06-2	0.6	500	U	500	U	5	U	5	U	500	U
1,2-Dichloropropane	78-87-5	1	500	U	500	U	5	U	5	U	500	U
1,3,5-Trimethylbenzene	108-67-8	5	500	U	500	U	5	U	5	U	500	U
1,3-Dichlorobenzene	541-73-1	3	500	U	500	U	5	U	5	U	500	U
1,3-Dichloropropane	142-28-9	5	500	U	500	U	5	U	5	U	500	U
1,4-Dichlorobenzene	106-46-7	3	500	U	500	U	5	U	0.92	J	500	U
2,2-Dichloropropane	594-20-7	5	500	UJ	500	UJ	5	UJ	5	UJ	500	UJ
2-Butanone (MEK)	78-93-3		500	R	500	R	5	R	5	R	500	R
2-Chlorotoluene	95-49-8	5	500	U	500	U	5	U	5	U	500	U
2-Hexanone	591-78-6		500	UJ	500	UJ	5	UJ	5	UJ	500	UJ
4-Chlorotoluene	106-43-4	5	500	U	500	U	5	U	5	U	500	U
4-Methyl-2-Pentanone (MIBK)	108-10-1		500	U	500	U	5	U	5	U	500	U
Acetone	67-64-1		500	R	500	R	5	R	5	R	500	R
Benzene	71-43-2	1	500	U	500	U	5	U	5	U	500	U
Bromobenzene	108-86-1	5	500	U	500	U	5	U	5	U	500	U
Bromochloromethane	74-97-5	5	500	U	500	U	5	U	5	U	500	U
Bromodichloromethane	75-27-4		500	U	500	U	5	U	5	U	500	U
Bromoform	75-25-2		500	U	500	U	5	U	5	U	500	U
Bromomethane	74-83-9	5	500	U	500	U	5	U	5	U	500	U
Carbon Disulfide	75-15-0	60	500	U	500	U	5	U	5	U	500	U
Carbon Tetrachloride	56-23-5	5	500	U	500	U	5	U	5	U	500	U

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Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MW12S-030812		80230-MW12S-030812-DUP		80230-MW13D-030712		80230-MW13S-030712		80230-MW14S-030812	
		Sample Location	MW12S		MW12S		MW13D		MW13S		MW14S	
		Sampling Date	03/08/2012		03/08/2012		03/07/2012		03/07/2012		03/08/2012	
Chemical Name	CAS#	New York State Class GA										
Chlorobenzene	108-90-7	5	500	U	500	U	5	U	3.1	J	500	U
Chloroethane	75-00-3	5	500	UJ	500	UJ	5	UJ	5	UJ	500	UJ
Chloroform	67-66-3	7	500	U	500	U	5	U	5	U	500	U
Chloromethane	74-87-3	5	500	UJ	500	UJ	5	UJ	5	UJ	500	UJ
cis-1,2-Dichloroethene	156-59-2	**5**	**350**	**J**	**380**	**J**	5	U	**7000**	**D**	**850**	
cis-1,3-Dichloropropene	10061-01-5		500	U	500	U	5	U	5	U	500	U
Cyclohexane	110-82-7		500	UJ	500	UJ	5	UJ	5	UJ	500	UJ
Dibromochloromethane	124-48-1		500	U	500	U	5	U	5	U	500	U
Dibromomethane	74-95-3	5	500	U	500	U	5	U	5	U	500	U
Dichlorodifluoromethane	75-71-8	5	500	UJ	500	UJ	5	UJ	5	UJ	500	UJ
Ethylbenzene	100-41-4	5	500	U	500	U	5	U	5	U	500	U
Hexachlorobutadiene	87-68-3	0.5	500	U	500	U	5	U	5	U	500	U
Isopropylbenzene	98-82-8	5	500	U	500	U	5	U	5	U	500	U
m,p-Xylene	179601-23-1		500	U	500	U	5	U	5	U	500	U
Methyl Acetate	79-20-9		500	UJ	500	UJ	5	UJ	5	UJ	500	UJ
Methyl Iodide	74-88-4	5	500	U	500	U	5	U	5	UJ	500	U
Methyl Tert-Butyl Ether (MTBE)	1634-04-4		500	U	500	U	5	U	3.1	J	500	U
Methylcyclohexane	108-87-2		500	UJ	500	UJ	5	UJ	5	UJ	500	UJ
Methylene Chloride	75-09-2	5	500	U	500	U	5	U	5	U	500	U
Naphthalene	91-20-3		500	UJ	500	UJ	5	UJ	5	UJ	500	UJ
n-Butylbenzene	104-51-8	5	500	U	500	U	5	U	5	U	500	U
n-Propylbenzene	103-65-1	5	500	U	500	U	5	U	5	U	500	U
o-Xylene	95-47-6	5	500	U	500	U	5	U	5	U	500	U
p-Isopropyltoluene	99-87-6	5	500	U	500	U	5	U	5	U	500	U
sec-Butylbenzene	135-98-8	5	500	U	500	U	5	U	5	U	500	U
Styrene	100-42-5	5	500	U	500	U	5	U	5	U	500	U
tert-Butylbenzene	98-06-6	5	500	U	500	U	5	U	5	U	500	U
Tetrachloroethene	127-18-4	**5**	**71000**	**D**	**72000**	**D**	5	U	**2500**	**D**	**100000**	**D**
Toluene	108-88-3	5	500	U	500	U	5	U	5	U	500	U
Total Xylenes	1330-20-7		500	U	500	U	5	U	5	U	500	U
trans-1,2-Dichloroethene	156-60-5	**5**	500	U	500	U	5	U	**160**		500	U
trans-1,3-Dichloropropene	10061-02-6		500	U	500	U	5	U	5	U	500	U
Trichloroethene	79-01-6	**5**	500	U	500	U	5	U	**950**	**D**	**1300**	
Trichlorofluoromethane	75-69-4	5	500	U	500	U	5	U	5	U	500	U
Vinyl Acetate	108-05-4		500	U	500	U	5	U	5	U	500	U
Vinyl Chloride	75-01-4	**2**	500	UJ	500	UJ	5	UJ	**210**	**JD**	500	UJ
MEE - RSK175												

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MW12S-030812		80230-MW12S-030812-DUP		80230-MW13D-030712		80230-MW13S-030712		80230-MW14S-030812	
		Sample Location	MW12S		MW12S		MW13D		MW13S		MW14S	
		Sampling Date	03/08/2012		03/08/2012		03/07/2012		03/07/2012		03/08/2012	
Chemical Name	CAS#	New York State Class GA										
Ethane	74-84-0		3.7		4.3		1.2	U	9.3		90	
Ethene	74-85-1		1.6	U	1.6	U	1.5	U	41		33	
Methane	74-82-8		31		35		0.6	U	95		39	
Semi-Volatile Organic Compounds - SW8270												
1,1'-Biphenyl	92-52-4	5										
2,4,5-Trichlorophenol	95-95-4											
2,4,6-Trichlorophenol	88-06-2											
2,4-Dichlorophenol	120-83-2	1										
2,4-Dimethylphenol	105-67-9	1										
2,4-Dinitrophenol	51-28-5	1										
2,4-Dinitrotoluene	121-14-2	5										
2,6-Dinitrotoluene	606-20-2	5										
2-Chloronaphthalene	91-58-7											
2-Chlorophenol	95-57-8											
2-Methylnaphthalene	91-57-6											
2-Methylphenol	95-48-7											
2-Nitroaniline	88-74-4	5										
2-Nitrophenol	88-75-5											
3,3'-Dichlorobenzidine	91-94-1	5										
3-Nitroaniline	99-09-2	5										
4,6-Dinitro-2-Methylphenol	534-52-1											
4-Bromophenyl-Phenylether	101-55-3											
4-Chloro-3-Methylphenol	59-50-7											
4-Chloroaniline	106-47-8	5										
4-Chlorophenyl-Phenylether	7005-72-3											
4-Methylphenol	106-44-5											
4-Nitroaniline	100-01-6	5										
4-Nitrophenol	100-02-7											
Acenaphthene	83-32-9											
Acenaphthylene	208-96-8											
Acetophenone	98-86-2											
Anthracene	120-12-7											
Atrazine	1912-24-9	7.5										
Benzaldehyde	100-52-7											
Benzo(a)Anthracene	56-55-3											
Benzo(a)Pyrene	50-32-8	0										
Benzo(b)Fluoranthene	205-99-2											

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MW12S-030812		80230-MW12S-030812-DUP		80230-MW13D-030712		80230-MW13S-030712		80230-MW14S-030812	
		Sample Location	MW12S		MW12S		MW13D		MW13S		MW14S	
		Sampling Date	03/08/2012		03/08/2012		03/07/2012		03/07/2012		03/08/2012	
Chemical Name	CAS#	New York State Class GA										
Benzo(g,h,i)Perylene	191-24-2											
Benzo(k)Fluoranthene	207-08-9											
bis(2-Chloroethoxy)Methane	111-91-1	5										
bis(2-Chloroethyl)Ether	111-44-4	1										
Bis(2-Ethylhexyl)Phthalate	117-81-7	5										
bis-Chloroisopropyl ether	108-60-1	5										
Butylbenzylphthalate	85-68-7											
Caprolactam	105-60-2											
Carbazole	86-74-8											
Chrysene	218-01-9											
Dibenzo(a,h)Anthracene	53-70-3											
Dibenzofuran	132-64-9											
Diethylphthalate	84-66-2											
Dimethylphthalate	131-11-3											
di-n-butylphthalate	84-74-2	50										
di-n-octylphthalate	117-84-0											
Fluoranthene	206-44-0											
Fluorene	86-73-7											
Hexachlorobenzene	118-74-1	0.04										
Hexachlorobutadiene	87-68-3	0.5										
Hexachlorocyclopentadiene	77-47-4	5										
Hexachloroethane	67-72-1	5										
Indeno(1,2,3-cd)Pyrene	193-39-5											
Isophorone	78-59-1											
Naphthalene	91-20-3											
Nitrobenzene	98-95-3	0.4										
n-Nitroso-di-n-Propylamine	621-64-7											
n-Nitrosodiphenylamine	86-30-6											
Pentachlorophenol	87-86-5	1										
Phenanthrene	85-01-8											
Phenol	108-95-2	1										
Pyrene	129-00-0											
Inorganics - SW6010												
Aluminum	7429-90-5											
Antimony	7440-36-0	3										
Arsenic	7440-38-2	25										
Barium	7440-39-3	1000										

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
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		Sample ID	80230-MW12S-030812		80230-MW12S-030812-DUP		80230-MW13D-030712		80230-MW13S-030712		80230-MW14S-030812	
		Sample Location	MW12S		MW12S		MW13D		MW13S		MW14S	
		Sampling Date	03/08/2012		03/08/2012		03/07/2012		03/07/2012		03/08/2012	
Chemical Name	CAS#	New York State Class GA										
Beryllium	7440-41-7											
Cadmium	7440-43-9	5										
Calcium	7440-70-2											
Chromium	7440-47-3	50										
Cobalt	7440-48-4											
Copper	7440-50-8	200										
Iron	7439-89-6	**300**										
Lead	7439-92-1	25										
Magnesium	7439-95-4											
Manganese	7439-96-5	**300**										
Mercury	7439-97-6	0.7										
Nickel	7440-02-0	**100**										
Potassium	7440-09-7											
Selenium	7782-49-2	10										
Silver	7440-22-4	50										
Sodium	7440-23-5											
Thallium	7440-28-0											
Vanadium	7440-62-2											
Zinc	7440-66-6											
Wet Chemistry (mg/L)												
Sulfide - 4500-S F	18496-25-8		0.034		0.033		0.03	U	0.03	U	0.1	
Alkalinity, Total (as CaCO3) - A2320	ALK		200		210		330		270		350	
Chloride - E300.0	16887-00-6	**250**	98		97		91		250		**290**	
Nitrate-NO3 - E300.0	14797-55-8	10	5.4		5.1		4.8		0.13	U	0.13	U
Nitrite-NO2 - E300.0	14797-65-0	1	0.12	J	0.13	J	0.13	U	0.13	U	0.13	U
Sulfate - E300.0	14808-79-8		33		33		46		120		100	
Hardness As CaCO3 - SM2340B	CACOA-H		290		300		340		560		760	
Total Dissolved Solids - SM2540C	TDS		570		590		520		730		1200	
Total Suspended Solids - SM2540D	TSS		120		100		190		24		180	
Ammonia as N - SM4500	7664-41-7	2	0.2	R	0.2	R	0.2	R	0.2	R	0.2	R
Nitrogen, Kjeldahl - SM4500-NORGC	KN		0.2	R	0.2	R	0.2	R	0.2	R	0.2	R
Total Organic Carbon - SM5310B	TOC		2	J	10	U	10	U	6.1	J	3.3	J

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MW15D-030712		80230-MW16S-030612		PM-GWS-1A-110311		PM-GWS-1A-110311-DUP		PM-GWS-1B-1122011	
		Sample Location	MW15D		MW16S		PM-GWS-1A		PM-GWS-1A		PM-GWS-1B	
		Sampling Date	03/07/2012		03/06/2012		11/03/2011		11/03/2011		11/02/2011	
Chemical Name	CAS#	New York State Class GA										
Volatile Organic Compounds - SW8260												
1,1,1,2-Tetrachloroethane	630-20-6	5	5	U	5	U	5	U	5	U	5	U
1,1,1-Trichloroethane	71-55-6	5	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	79-34-5	5	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	5	UJ	5	UJ	5	U	5	U	5	U
1,1,2-Trichloroethane	79-00-5	**1**	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	75-34-3	5	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	75-35-4	**5**	5	U	5	U	5	U	5	U	5	U
1,1-Dichloropropene	563-58-6		5	U	5	U	5	U	5	U	5	U
1,2,3-Trichlorobenzene	87-61-6	5	5	UJ	5	UJ	5	U	5	U	5	UJ
1,2,3-Trichloropropane	96-18-4	0.04	5	U	5	U	5	U	5	U	5	UJ
1,2,4-Trichlorobenzene	120-82-1	5	5	U	5	U	5	U	5	U	5	UJ
1,2,4-Trimethylbenzene	95-63-6	5	5	U	5	U	5	U	5	U	5	U
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	5	UJ	5	UJ	5	U	5	U	5	U
1,2-Dibromoethane (EDB)	106-93-4	0.0006	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	95-50-1	3	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	107-06-2	0.6	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	78-87-5	1	5	U	5	U	5	U	5	U	5	U
1,3,5-Trimethylbenzene	108-67-8	5	5	U	5	U	5	U	5	U	5	U
1,3-Dichlorobenzene	541-73-1	3	5	U	5	U	5	U	5	U	5	U
1,3-Dichloropropane	142-28-9	5	5	U	5	U	5	U	5	U	5	U
1,4-Dichlorobenzene	106-46-7	3	5	U	5	U	5	U	5	U	5	U
2,2-Dichloropropane	594-20-7	5	5	UJ	5	UJ	5	U	5	U	5	U
2-Butanone (MEK)	78-93-3		5	R	5	R	5	U	5	U	5	R
2-Chlorotoluene	95-49-8	5	5	U	5	U	5	U	5	U	5	U
2-Hexanone	591-78-6		5	UJ	5	U	5	U	5	U	5	UJ
4-Chlorotoluene	106-43-4	5	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone (MIBK)	108-10-1		5	U	5	U	5	U	5	U	5	U
Acetone	67-64-1		5	R	5	R	5	U	4.5	J	5	R
Benzene	71-43-2	1	5	U	5	U	5	U	5	U	5	U
Bromobenzene	108-86-1	5	5	U	5	U	5	U	5	U	5	U
Bromochloromethane	74-97-5	5	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane	75-27-4		5	U	5	U	5	U	5	U	5	U
Bromoform	75-25-2		5	U	5	U	5	U	5	U	5	U
Bromomethane	74-83-9	5	5	U	5	U	5	U	5	U	5	UJ
Carbon Disulfide	75-15-0	60	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride	56-23-5	5	5	U	5	U	5	U	5	U	5	U

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Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MW15D-030712		80230-MW16S-030612		PM-GWS-1A-110311		PM-GWS-1A-110311-DUP		PM-GWS-1B-1122011	
		Sample Location	MW15D		MW16S		PM-GWS-1A		PM-GWS-1A		PM-GWS-1B	
		Sampling Date	03/07/2012		03/06/2012		11/03/2011		11/03/2011		11/02/2011	
Chemical Name	CAS#	New York State Class GA										
Chlorobenzene	108-90-7	5	5	U	5	U	5	U	5	U	5	U
Chloroethane	75-00-3	5	5	UJ	5	UJ	5	U	5	U	5	U
Chloroform	67-66-3	7	5	U	5	U	5	U	5	U	5	U
Chloromethane	74-87-3	5	5	UJ	5	UJ	5	U	5	U	5	U
cis-1,2-Dichloroethene	156-59-2	**5**	1.3	J	**34**		**11**		**12**		**12**	**J**
cis-1,3-Dichloropropene	10061-01-5		5	U	5	U	5	U	5	U	5	UJ
Cyclohexane	110-82-7		5	UJ	5	UJ	5	U	5	U	5	U
Dibromochloromethane	124-48-1		5	U	5	U	5	U	5	U	5	U
Dibromomethane	74-95-3	5	5	U	5	U	5	U	5	U	5	U
Dichlorodifluoromethane	75-71-8	5	5	UJ	5	UJ	5	U	5	U	5	UJ
Ethylbenzene	100-41-4	5	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	87-68-3	0.5	5	U	5	U	5	U	5	U	5	UJ
Isopropylbenzene	98-82-8	5	5	U	5	U	5	U	5	U	5	U
m,p-Xylene	179601-23-1		5	U	5	U	5	U	5	U	5	U
Methyl Acetate	79-20-9		5	UJ	5	UJ	5	U	5	U	5	U
Methyl Iodide	74-88-4	5	5	UJ	5	UJ	5	U	5	U	5	U
Methyl Tert-Butyl Ether (MTBE)	1634-04-4		5	U	5	U	5	U	5	U	5	U
Methylcyclohexane	108-87-2		5	UJ	5	UJ	5	U	5	U	5	UJ
Methylene Chloride	75-09-2	5	5	U	5	U	5	U	5	U	5	U
Naphthalene	91-20-3		5	UJ	5	UJ	5	U	5	U	5	UJ
n-Butylbenzene	104-51-8	5	5	U	5	U	5	U	5	U	5	U
n-Propylbenzene	103-65-1	5	5	U	5	U	5	U	5	U	5	U
o-Xylene	95-47-6	5	5	U	5	U	5	U	5	U	5	U
p-Isopropyltoluene	99-87-6	5	5	U	5	U	5	U	5	U	5	U
sec-Butylbenzene	135-98-8	5	5	U	5	U	5	U	5	U	5	U
Styrene	100-42-5	5	5	U	5	U	5	U	5	U	5	U
tert-Butylbenzene	98-06-6	5	5	U	5	U	5	U	5	U	5	UJ
Tetrachloroethene	127-18-4	**5**	5		**2200**	**D**	**53**		**57**		**17**	**J**
Toluene	108-88-3	5	5	U	5	U	2.2	J	2.5	J	5	U
Total Xylenes	1330-20-7		5	U	5	U	5	U	5	U	5	U
trans-1,2-Dichloroethene	156-60-5	**5**	5	U	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene	10061-02-6		5	U	5	U	5	U	5	U	5	U
Trichloroethene	79-01-6	**5**	5	U	**64**		**5.2**		**5.5**		2.8	J
Trichlorofluoromethane	75-69-4	5	5	U	5	U	5	U	5	U	5	U
Vinyl Acetate	108-05-4		5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	75-01-4	**2**	5	UJ	5	UJ	5	U	5	U	5	U
MEE - RSK175												

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Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MW15D-030712		80230-MW16S-030612		PM-GWS-1A-110311		PM-GWS-1A-110311-DUP		PM-GWS-1B-1122011	
		Sample Location	MW15D		MW16S		PM-GWS-1A		PM-GWS-1A		PM-GWS-1B	
		Sampling Date	03/07/2012		03/06/2012		11/03/2011		11/03/2011		11/02/2011	
Chemical Name	CAS#	New York State Class GA										
Ethane	74-84-0		1.2	U	1.2	U						
Ethene	74-85-1		1.5	U	1.5	U						
Methane	74-82-8		2		0.6	U						
Semi-Volatile Organic Compounds - SW8270												
1,1'-Biphenyl	92-52-4	5										
2,4,5-Trichlorophenol	95-95-4											
2,4,6-Trichlorophenol	88-06-2											
2,4-Dichlorophenol	120-83-2	1										
2,4-Dimethylphenol	105-67-9	1										
2,4-Dinitrophenol	51-28-5	1										
2,4-Dinitrotoluene	121-14-2	5										
2,6-Dinitrotoluene	606-20-2	5										
2-Chloronaphthalene	91-58-7											
2-Chlorophenol	95-57-8											
2-Methylnaphthalene	91-57-6											
2-Methylphenol	95-48-7											
2-Nitroaniline	88-74-4	5										
2-Nitrophenol	88-75-5											
3,3'-Dichlorobenzidine	91-94-1	5										
3-Nitroaniline	99-09-2	5										
4,6-Dinitro-2-Methylphenol	534-52-1											
4-Bromophenyl-Phenylether	101-55-3											
4-Chloro-3-Methylphenol	59-50-7											
4-Chloroaniline	106-47-8	5										
4-Chlorophenyl-Phenylether	7005-72-3											
4-Methylphenol	106-44-5											
4-Nitroaniline	100-01-6	5										
4-Nitrophenol	100-02-7											
Acenaphthene	83-32-9											
Acenaphthylene	208-96-8											
Acetophenone	98-86-2											
Anthracene	120-12-7											
Atrazine	1912-24-9	7.5										
Benzaldehyde	100-52-7											
Benzo(a)Anthracene	56-55-3											
Benzo(a)Pyrene	50-32-8	0										
Benzo(b)Fluoranthene	205-99-2											

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MW15D-030712		80230-MW16S-030612		PM-GWS-1A-110311		PM-GWS-1A-110311-DUP		PM-GWS-1B-1122011	
		Sample Location	MW15D		MW16S		PM-GWS-1A		PM-GWS-1A		PM-GWS-1B	
		Sampling Date	03/07/2012		03/06/2012		11/03/2011		11/03/2011		11/02/2011	
Chemical Name	CAS#	New York State Class GA										
Benzo(g,h,i)Perylene	191-24-2											
Benzo(k)Fluoranthene	207-08-9											
bis(2-Chloroethoxy)Methane	111-91-1	5										
bis(2-Chloroethyl)Ether	111-44-4	1										
Bis(2-Ethylhexyl)Phthalate	117-81-7	5										
bis-Chloroisopropyl ether	108-60-1	5										
Butylbenzylphthalate	85-68-7											
Caprolactam	105-60-2											
Carbazole	86-74-8											
Chrysene	218-01-9											
Dibenzo(a,h)Anthracene	53-70-3											
Dibenzofuran	132-64-9											
Diethylphthalate	84-66-2											
Dimethylphthalate	131-11-3											
di-n-butylphthalate	84-74-2	50										
di-n-octylphthalate	117-84-0											
Fluoranthene	206-44-0											
Fluorene	86-73-7											
Hexachlorobenzene	118-74-1	0.04										
Hexachlorobutadiene	87-68-3	0.5										
Hexachlorocyclopentadiene	77-47-4	5										
Hexachloroethane	67-72-1	5										
Indeno(1,2,3-cd)Pyrene	193-39-5											
Isophorone	78-59-1											
Naphthalene	91-20-3											
Nitrobenzene	98-95-3	0.4										
n-Nitroso-di-n-Propylamine	621-64-7											
n-Nitrosodiphenylamine	86-30-6											
Pentachlorophenol	87-86-5	1										
Phenanthrene	85-01-8											
Phenol	108-95-2	1										
Pyrene	129-00-0											
Inorganics - SW6010												
Aluminum	7429-90-5											
Antimony	7440-36-0	3										
Arsenic	7440-38-2	25										
Barium	7440-39-3	1000										

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MW15D-030712		80230-MW16S-030612		PM-GWS-1A-110311		PM-GWS-1A-110311-DUP		PM-GWS-1B-1122011	
		Sample Location	MW15D		MW16S		PM-GWS-1A		PM-GWS-1A		PM-GWS-1B	
		Sampling Date	03/07/2012		03/06/2012		11/03/2011		11/03/2011		11/02/2011	
Chemical Name	CAS#	New York State Class GA										
Beryllium	7440-41-7											
Cadmium	7440-43-9	5										
Calcium	7440-70-2											
Chromium	7440-47-3	50										
Cobalt	7440-48-4											
Copper	7440-50-8	200										
Iron	7439-89-6	**300**										
Lead	7439-92-1	25										
Magnesium	7439-95-4											
Manganese	7439-96-5	**300**										
Mercury	7439-97-6	0.7										
Nickel	7440-02-0	**100**										
Potassium	7440-09-7											
Selenium	7782-49-2	10										
Silver	7440-22-4	50										
Sodium	7440-23-5											
Thallium	7440-28-0											
Vanadium	7440-62-2											
Zinc	7440-66-6											
Wet Chemistry (mg/L)												
Sulfide - 4500-S F	18496-25-8		0.11		0.038							
Alkalinity, Total (as CaCO3) - A2320	ALK		310		400							
Chloride - E300.0	16887-00-6	**250**	99		**480**							
Nitrate-NO3 - E300.0	14797-55-8	10	5		1.9							
Nitrite-NO2 - E300.0	14797-65-0	1	0.13	U	0.13	U						
Sulfate - E300.0	14808-79-8		47		52							
Hardness As CaCO3 - SM2340B	CACOA-H		360		600							
Total Dissolved Solids - SM2540C	TDS		400		1200							
Total Suspended Solids - SM2540D	TSS		260		60							
Ammonia as N - SM4500	7664-41-7	2	0.2	R	0.21	R						
Nitrogen, Kjeldahl - SM4500-NORGC	KN		0.2	R	0.27	R						
Total Organic Carbon - SM5310B	TOC		10	U	10	U						

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-GWS-2-1122011		PM-GWS-5-110311		PM-GWS-6-110311		PM-GWS-7-1122011	
		Sample Location	PM-GWS-2		PM-GWS-5		PM-GWS-6		PM-GWS-7	
		Sampling Date	11/02/2011		11/03/2011		11/03/2011		11/02/2011	
Chemical Name	CAS#	New York State Class GA								
Volatile Organic Compounds - SW8260										
1,1,1,2-Tetrachloroethane	630-20-6	5	5	U	5	U	5	U	5	U
1,1,1-Trichloroethane	71-55-6	5	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	79-34-5	5	5	U	5	U	5	U	5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	79-00-5	**1**	5	U	5	U	5	U	5	U
1,1-Dichloroethane	75-34-3	5	5	U	5	U	5	U	5	U
1,1-Dichloroethene	75-35-4	**5**	5	U	5	U	5	U	5	U
1,1-Dichloropropene	563-58-6		5	U	5	U	5	U	5	U
1,2,3-Trichlorobenzene	87-61-6	5	5	UJ	5	UJ	5	U	5	U
1,2,3-Trichloropropane	96-18-4	0.04	5	U	5	U	5	UJ	5	UJ
1,2,4-Trichlorobenzene	120-82-1	5	5	UJ	5	UJ	5	UJ	5	UJ
1,2,4-Trimethylbenzene	95-63-6	5	5	U	5	U	5	U	5	U
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	5	U	5	U	5	U	5	U
1,2-Dibromoethane (EDB)	106-93-4	0.0006	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	95-50-1	3	5	U	5	U	5	U	5	U
1,2-Dichloroethane	107-06-2	0.6	5	U	5	U	5	U	5	U
1,2-Dichloropropane	78-87-5	1	5	U	5	U	5	U	5	U
1,3,5-Trimethylbenzene	108-67-8	5	5	U	5	U	5	U	5	U
1,3-Dichlorobenzene	541-73-1	3	5	U	5	U	5	U	5	U
1,3-Dichloropropane	142-28-9	5	5	U	5	U	5	U	5	U
1,4-Dichlorobenzene	106-46-7	3	5	U	5	U	5	U	5	U
2,2-Dichloropropane	594-20-7	5	5	U	5	U	5	U	5	U
2-Butanone (MEK)	78-93-3		5	R	5	R	5	R	140	J
2-Chlorotoluene	95-49-8	5	5	U	5	U	5	U	5	U
2-Hexanone	591-78-6		5	UJ	5	U	5	U	5	U
4-Chlorotoluene	106-43-4	5	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone (MIBK)	108-10-1		5	U	5	U	5	U	5	U
Acetone	67-64-1		5	R	5	R	8.3	J	89	J
Benzene	71-43-2	1	5	U	5	U	5	U	5	U
Bromobenzene	108-86-1	5	5	U	5	U	5	U	5	U
Bromochloromethane	74-97-5	5	5	U	5	U	5	U	5	U
Bromodichloromethane	75-27-4		5	U	5	U	5	U	5	U
Bromoform	75-25-2		5	U	5	UJ	5	UJ	5	UJ
Bromomethane	74-83-9	5	5	UJ	5	UJ	5	UJ	5	UJ
Carbon Disulfide	75-15-0	60	5	U	5	U	5	U	2.1	J
Carbon Tetrachloride	56-23-5	5	5	U	5	U	5	U	5	U

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-GWS-2-1122011		PM-GWS-5-110311		PM-GWS-6-110311		PM-GWS-7-1122011	
		Sample Location	PM-GWS-2		PM-GWS-5		PM-GWS-6		PM-GWS-7	
		Sampling Date	11/02/2011		11/03/2011		11/03/2011		11/02/2011	
Chemical Name	CAS#	New York State Class GA								
Chlorobenzene	108-90-7	5	5	U	5	U	5	U	5	U
Chloroethane	75-00-3	5	5	U	5	U	5	U	5	U
Chloroform	67-66-3	7	5	U	5	U	5	U	5	U
Chloromethane	74-87-3	5	5	U	5	U	5	U	5	U
cis-1,2-Dichloroethene	156-59-2	**5**	**90**	**J**	**15**	**J**	**12**	**J**	**27**	**J**
cis-1,3-Dichloropropene	10061-01-5		5	UJ	5	UJ	5	UJ	5	UJ
Cyclohexane	110-82-7		5	U	5	U	5	U	5	U
Dibromochloromethane	124-48-1		5	U	5	U	5	U	5	U
Dibromomethane	74-95-3	5	5	U	5	UJ	5	U	5	U
Dichlorodifluoromethane	75-71-8	5	5	UJ	5	UJ	5	UJ	5	UJ
Ethylbenzene	100-41-4	5	5	U	5	U	5	U	5	U
Hexachlorobutadiene	87-68-3	0.5	5	UJ	5	UJ	5	U	5	U
Isopropylbenzene	98-82-8	5	5	U	5	U	5	U	5	U
m,p-Xylene	179601-23-1		5	U	5	U	5	U	5	U
Methyl Acetate	79-20-9		5	U	5	U	5	U	5	U
Methyl Iodide	74-88-4	5	5	U	5	U	5	U	5	U
Methyl Tert-Butyl Ether (MTBE)	1634-04-4		5	U	5	U	5	U	5	U
Methylcyclohexane	108-87-2		5	UJ	5	UJ	5	UJ	5	UJ
Methylene Chloride	75-09-2	5	5	U	5	U	5	U	5	U
Naphthalene	91-20-3		5	UJ	5	UJ	5	U	5	U
n-Butylbenzene	104-51-8	5	5	U	5	UJ	5	U	5	U
n-Propylbenzene	103-65-1	5	5	U	5	U	5	U	5	U
o-Xylene	95-47-6	5	5	U	5	U	5	U	5	U
p-Isopropyltoluene	99-87-6	5	5	U	5	U	5	U	5	U
sec-Butylbenzene	135-98-8	5	5	U	5	U	5	U	5	U
Styrene	100-42-5	5	5	U	5	U	5	U	5	U
tert-Butylbenzene	98-06-6	5	5	UJ	5	U	5	U	5	U
Tetrachloroethene	127-18-4	**5**	**150**	**J**	**51**		**11**	**J**	**18**	**J**
Toluene	108-88-3	5	5	U	5	U	5	U	5	U
Total Xylenes	1330-20-7		5	U	5	U	5	U	5	U
trans-1,2-Dichloroethene	156-60-5	**5**	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene	10061-02-6		5	U	5	U	5	U	5	U
Trichloroethene	79-01-6	**5**	**16**		**14**		4.3	J	3.1	J
Trichlorofluoromethane	75-69-4	5	5	U	5	U	5	U	5	U
Vinyl Acetate	108-05-4		5	U	5	U	5	U	5	U
Vinyl Chloride	75-01-4	**2**	**2.1**	**J**	5	U	5	U	5	U
MEE - RSK175										

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Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-GWS-2-1122011		PM-GWS-5-110311		PM-GWS-6-110311		PM-GWS-7-1122011	
		Sample Location	PM-GWS-2		PM-GWS-5		PM-GWS-6		PM-GWS-7	
		Sampling Date	11/02/2011		11/03/2011		11/03/2011		11/02/2011	
Chemical Name	CAS#	New York State Class GA								
Ethane	74-84-0									
Ethene	74-85-1									
Methane	74-82-8									
Semi-Volatile Organic Compounds - SW8270										
1,1'-Biphenyl	92-52-4	5								
2,4,5-Trichlorophenol	95-95-4									
2,4,6-Trichlorophenol	88-06-2									
2,4-Dichlorophenol	120-83-2	1								
2,4-Dimethylphenol	105-67-9	1								
2,4-Dinitrophenol	51-28-5	1								
2,4-Dinitrotoluene	121-14-2	5								
2,6-Dinitrotoluene	606-20-2	5								
2-Chloronaphthalene	91-58-7									
2-Chlorophenol	95-57-8									
2-Methylnaphthalene	91-57-6									
2-Methylphenol	95-48-7									
2-Nitroaniline	88-74-4	5								
2-Nitrophenol	88-75-5									
3,3'-Dichlorobenzidine	91-94-1	5								
3-Nitroaniline	99-09-2	5								
4,6-Dinitro-2-Methylphenol	534-52-1									
4-Bromophenyl-Phenylether	101-55-3									
4-Chloro-3-Methylphenol	59-50-7									
4-Chloroaniline	106-47-8	5								
4-Chlorophenyl-Phenylether	7005-72-3									
4-Methylphenol	106-44-5									
4-Nitroaniline	100-01-6	5								
4-Nitrophenol	100-02-7									
Acenaphthene	83-32-9									
Acenaphthylene	208-96-8									
Acetophenone	98-86-2									
Anthracene	120-12-7									
Atrazine	1912-24-9	7.5								
Benzaldehyde	100-52-7									
Benzo(a)Anthracene	56-55-3									
Benzo(a)Pyrene	50-32-8	0								
Benzo(b)Fluoranthene	205-99-2									

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-GWS-2-1122011		PM-GWS-5-110311		PM-GWS-6-110311		PM-GWS-7-1122011	
		Sample Location	PM-GWS-2		PM-GWS-5		PM-GWS-6		PM-GWS-7	
		Sampling Date	11/02/2011		11/03/2011		11/03/2011		11/02/2011	
Chemical Name	CAS#	New York State Class GA								
Benzo(g,h,i)Perylene	191-24-2									
Benzo(k)Fluoranthene	207-08-9									
bis(2-Chloroethoxy)Methane	111-91-1	5								
bis(2-Chloroethyl)Ether	111-44-4	1								
Bis(2-Ethylhexyl)Phthalate	117-81-7	5								
bis-Chloroisopropyl ether	108-60-1	5								
Butylbenzylphthalate	85-68-7									
Caprolactam	105-60-2									
Carbazole	86-74-8									
Chrysene	218-01-9									
Dibenzo(a,h)Anthracene	53-70-3									
Dibenzofuran	132-64-9									
Diethylphthalate	84-66-2									
Dimethylphthalate	131-11-3									
di-n-butylphthalate	84-74-2	50								
di-n-octylphthalate	117-84-0									
Fluoranthene	206-44-0									
Fluorene	86-73-7									
Hexachlorobenzene	118-74-1	0.04								
Hexachlorobutadiene	87-68-3	0.5								
Hexachlorocyclopentadiene	77-47-4	5								
Hexachloroethane	67-72-1	5								
Indeno(1,2,3-cd)Pyrene	193-39-5									
Isophorone	78-59-1									
Naphthalene	91-20-3									
Nitrobenzene	98-95-3	0.4								
n-Nitroso-di-n-Propylamine	621-64-7									
n-Nitrosodiphenylamine	86-30-6									
Pentachlorophenol	87-86-5	1								
Phenanthrene	85-01-8									
Phenol	108-95-2	1								
Pyrene	129-00-0									
Inorganics - SW6010										
Aluminum	7429-90-5									
Antimony	7440-36-0	3								
Arsenic	7440-38-2	25								
Barium	7440-39-3	1000								

Appendix C-1
Groundwater Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-GWS-2-1122011		PM-GWS-5-110311		PM-GWS-6-110311		PM-GWS-7-1122011	
		Sample Location	PM-GWS-2		PM-GWS-5		PM-GWS-6		PM-GWS-7	
		Sampling Date	11/02/2011		11/03/2011		11/03/2011		11/02/2011	
Chemical Name	CAS#	New York State Class GA								
Beryllium	7440-41-7									
Cadmium	7440-43-9	5								
Calcium	7440-70-2									
Chromium	7440-47-3	50								
Cobalt	7440-48-4									
Copper	7440-50-8	200								
Iron	7439-89-6	**300**								
Lead	7439-92-1	25								
Magnesium	7439-95-4									
Manganese	7439-96-5	**300**								
Mercury	7439-97-6	0.7								
Nickel	7440-02-0	**100**								
Potassium	7440-09-7									
Selenium	7782-49-2	10								
Silver	7440-22-4	50								
Sodium	7440-23-5									
Thallium	7440-28-0									
Vanadium	7440-62-2									
Zinc	7440-66-6									
Wet Chemistry (mg/L)										
Sulfide - 4500-S F	18496-25-8									
Alkalinity, Total (as CaCO3) - A2320	ALK									
Chloride - E300.0	16887-00-6	**250**								
Nitrate-NO3 - E300.0	14797-55-8	10								
Nitrite-NO2 - E300.0	14797-65-0	1								
Sulfate - E300.0	14808-79-8									
Hardness As CaCO3 - SM2340B	CACOA-H									
Total Dissolved Solids - SM2540C	TDS									
Total Suspended Solids - SM2540D	TSS									
Ammonia as N - SM4500	7664-41-7	2								
Nitrogen, Kjeldahl - SM4500-NORGC	KN									
Total Organic Carbon - SM5310B	TOC									

Sample ID		80230-FB-030512		80230-FB-030612		80230-FB-030712		80230-FB-030812		80230-FB-110523	
Lab Sample Number		L0441-04		L0441-10		L0441-17		L0441-24		K0909-08	
Sampling Date		03/05/2012		03/06/2012		03/07/2012		03/08/2012		05/23/2011	
Sample Type		FB		FB		FB		FB		EB	
Chemical	CAS#										
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	630-20-6	5	U	5	U	5	U	5	U	5	U
1,1,1-Trichloroethane	71-55-6	5	U	5	U	5	U	5	UJ	5	U
1,1,2,2-Tetrachloroethane	79-34-5	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	79-00-5	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	75-34-3	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	75-35-4	5	U	5	U	5	U	5	U	5	U
1,1-Dichloropropene	563-58-6	5	U	5	U	5	U	5	U	5	U
1,2,3-Trichlorobenzene	87-61-6	5	UJ	5	U	5	U	5	U	5	UJ
1,2,3-Trichloropropane	96-18-4	5	U	5	U	5	U	5	UJ	5	U
1,2,4-Trichlorobenzene	120-82-1	5	U	5	U	5	U	5	U	5	U
1,2,4-Trimethylbenzene	95-63-6	5	U	5	U	5	U	5	U	5	U
1,2-Dibromo-3-Chloropropane	96-12-8	5	UJ	5	U	5	U	5	U	5	UJ
1,2-Dibromoethane (Edb)	106-93-4	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	95-50-1	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	107-06-2	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	78-87-5	5	U	5	U	5	U	5	U	5	U
1,3,5-Trimethylbenzene	108-67-8	5	U	5	U	5	U	5	U	5	U
1,3-Dichlorobenzene	541-73-1	5	U	5	U	5	U	5	U	5	U
1,3-Dichloropropane	142-28-9	5	U	5	U	5	U	5	U	5	U
1,4-Dichlorobenzene	106-46-7	5	U	5	U	5	U	5	U	5	U
2,2-Dichloropropane	594-20-7	5	U	5	U	5	U	5	UJ	5	UJ
2-Butanone (Mek)	78-93-3	5	R	5	R	5	R	5	R	5	U
2-Chlorotoluene	95-49-8	5	U	5	U	5	U	5	U	5	U
2-Hexanone	591-78-6	5	U	5	U	5	U	5	U	5	U
4-Chlorotoluene	106-43-4	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone (Mibk)	108-10-1	5	U	5	U	5	U	5	U	5	U
Acetone	67-64-1	5	R	5	R	5	R	5	U	5	R

	Sample ID	80230-FB-030512		80230-FB-030612		80230-FB-030712		80230-FB-030812		80230-FB-110523	
	Lab Sample Number	L0441-04		L0441-10		L0441-17		L0441-24		K0909-08	
	Sampling Date	03/05/2012		03/06/2012		03/07/2012		03/08/2012		05/23/2011	
	Sample Type	FB		FB		FB		FB		EB	
Benzene	71-43-2	5	U	5	U	5	U	5	U	5	U
Bromobenzene	108-86-1	5	U	5	U	5	U	5	U	5	U
Bromochloromethane	74-97-5	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane	75-27-4	5	U	5	U	5	U	5	U	5	U
Bromoform	75-25-2	5	U	5	U	5	U	5	U	5	U
Bromomethane	74-83-9	5	U	5	U	5	U	5	U	5	U
Carbon Disulfide	75-15-0	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride	56-23-5	5	U	5	U	5	U	5	UJ	5	U
Chlorobenzene	108-90-7	5	U	5	U	5	U	5	U	5	U
Chloroethane	75-00-3	5	U	5	U	5	U	5	U	5	U
Chloroform	67-66-3	5	U	5	U	5	U	5	U	5	U
Chloromethane	74-87-3	5	U	5	U	5	U	5	U	5	U
Cis-1,2-Dichloroethene	156-59-2	5	U	5	U	5	U	5	U	5	U
Cis-1,3-Dichloropropene	10061-01-5	5	U	5	U	5	U	5	U	5	U
Cyclohexane	110-82-7	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	124-48-1	5	U	5	U	5	U	5	U	5	U
Dibromomethane	74-95-3	5	U	5	U	5	U	5	U	5	U
Dichlorodifluoromethane	75-71-8	5	U	5	U	5	U	5	U	5	U
Ethylbenzene	100-41-4	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	87-68-3	5	U	5	U	5	U	5	U	5	U
Isopropylbenzene	98-82-8	5	U	5	U	5	U	5	U	5	U
M,P-Xylene	179601-23-1	5	U	5	U	5	U	5	U	5	U
Methyl Acetate	79-20-9	5	U	5	U	5	U	5	U	5	U
Methyl Iodide	74-88-4	5	UJ	5	U	5	U	5	U	5	U
Methyl Tert-Butyl Ether (Mtbe)	1634-04-4	5	U	5	U	5	U	5	U	5	U
Methylcyclohexane	108-87-2	5	U	5	U	5	U	5	U	5	U
Methylene Chloride	75-09-2	3.9	J	3.3	J	10		5	U	5	U
Naphthalene	91-20-3	5	UJ	5	U	5	U	5	U	5	UJ
N-Butylbenzene	104-51-8	5	U	5	U	5	U	5	U	5	U
N-Propylbenzene	103-65-1	5	U	5	U	5	U	5	U	5	U

	Sample ID	80230-FB-030512		80230-FB-030612		80230-FB-030712		80230-FB-030812		80230-FB-110523	
	Lab Sample Number	L0441-04		L0441-10		L0441-17		L0441-24		K0909-08	
	Sampling Date	03/05/2012		03/06/2012		03/07/2012		03/08/2012		05/23/2011	
	Sample Type	FB		FB		FB		FB		EB	
O-Xylene	95-47-6	5	U	5	U	5	U	5	U	5	U
P-Isopropyltoluene	99-87-6	5	U	5	U	5	U	5	U	5	U
Sec-Butylbenzene	135-98-8	5	U	5	U	5	U	5	U	5	U
Styrene	100-42-5	5	U	5	U	5	U	5	U	5	U
Tert-Butylbenzene	98-06-6	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	127-18-4	5	U	3.1	J	5	U	4.5	J	5	U
Toluene	108-88-3	5	U	5	U	5	U	5	U	5	U
Total Xylenes	1330-20-7	5	U	5	U	5	U	5	U	5	U
Trans-1,2-Dichloroethene	156-60-5	5	U	5	U	5	U	5	U	5	U
Trans-1,3-Dichloropropene	10061-02-6	5	U	5	U	5	U	5	U	5	U
Trichloroethene	79-01-6	5	U	5	U	5	U	5	U	5	U
Trichlorofluoromethane	75-69-4	5	U	5	U	5	U	5	U	5	U
Vinyl Acetate	108-05-4	5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	75-01-4	5	U	5	U	5	U	5	U	5	U
Semi-Volatile Organic Compounds											
1,1'-Biphenyl	92-52-4									10	U
2,4,5-Trichlorophenol	95-95-4									20	U
2,4,6-Trichlorophenol	88-06-2									10	U
2,4-Dichlorophenol	120-83-2									10	U
2,4-Dimethylphenol	105-67-9									10	U
2,4-Dinitrophenol	51-28-5									20	UJ
2,4-Dinitrotoluene	121-14-2									10	U
2,6-Dinitrotoluene	606-20-2									10	U
2-Chloronaphthalene	91-58-7									10	U
2-Chlorophenol	95-57-8									10	U
2-Methylnaphthalene	91-57-6									10	UJ
2-Methylphenol	95-48-7									10	U
2-Nitroaniline	88-74-4									20	U
2-Nitrophenol	88-75-5									10	U
3,3'-Dichlorobenzidine	91-94-1									10	U

	Sample ID	80230-FB-030512		80230-FB-030612		80230-FB-030712		80230-FB-030812		80230-FB-110523	
	Lab Sample Number	L0441-04		L0441-10		L0441-17		L0441-24		K0909-08	
	Sampling Date	03/05/2012		03/06/2012		03/07/2012		03/08/2012		05/23/2011	
	Sample Type	FB		FB		FB		FB		EB	
3-Nitroaniline	99-09-2									20	U
4,6-Dinitro-2-Methylphenol	534-52-1									20	U
4-Bromophenyl-Phenylether	101-55-3									10	U
4-Chloro-3-Methylphenol	59-50-7									10	U
4-Chloroaniline	106-47-8									10	U
4-Chlorophenyl-Phenylether	7005-72-3									10	U
4-Methylphenol	106-44-5									10	U
4-Nitroaniline	100-01-6									20	U
4-Nitrophenol	100-02-7									20	U
Acenaphthene	83-32-9									10	U
Acenaphthylene	208-96-8									10	U
Acetophenone	98-86-2									10	U
Anthracene	120-12-7									10	U
Atrazine	1912-24-9									10	U
Benzaldehyde	100-52-7									10	U
Benzo(A)Anthracene	56-55-3									10	U
Benzo(A)Pyrene	50-32-8									10	U
Benzo(B)Fluoranthene	205-99-2									10	U
Benzo(G,H,I)Perylene	191-24-2									10	U
Benzo(K)Fluoranthene	207-08-9									10	U
Bis(2-Chloroethoxy)Methane	111-91-1									10	U
Bis(2-Chloroethyl) Ether	111-44-4									10	U
Bis(2-Ethylhexyl)Phthalate	117-81-7									10	U
Bis-Chloroisopropyl Ether	108-60-1									10	U
Butylbenzylphthalate	85-68-7									10	U
Caprolactam	105-60-2									10	U
Carbazole	86-74-8									10	U
Chrysene	218-01-9									10	U
Dibenzo(A,H)Anthracene	53-70-3									10	U
Dibenzofuran	132-64-9									10	U

	Sample ID	80230-FB-030512		80230-FB-030612		80230-FB-030712		80230-FB-030812		80230-FB-110523	
	Lab Sample Number	L0441-04		L0441-10		L0441-17		L0441-24		K0909-08	
	Sampling Date	03/05/2012		03/06/2012		03/07/2012		03/08/2012		05/23/2011	
	Sample Type	FB		FB		FB		FB		EB	
Diethylphthalate	84-66-2									10	U
Dimethylphthalate	131-11-3									10	U
Di-N-Butylphthalate	84-74-2									10	U
Di-N-Octylphthalate	117-84-0									10	U
Fluoranthene	206-44-0									10	U
Fluorene	86-73-7									10	U
Hexachlorobenzene	118-74-1									10	U
Hexachlorobutadiene	87-68-3									10	U
Hexachlorocyclopentadiene	77-47-4									10	U
Hexachloroethane	67-72-1									10	U
Indeno(1,2,3-Cd)Pyrene	193-39-5									10	U
Isophorone	78-59-1									10	U
Naphthalene	91-20-3									10	U
Nitrobenzene	98-95-3									10	U
N-Nitroso-Di-N-Propylamine	621-64-7									10	U
N-Nitrosodiphenylamine	86-30-6									10	U
Pentachlorophenol	87-86-5									20	U
Phenanthrene	85-01-8									10	U
Phenol	108-95-2									10	U
Pyrene	129-00-0									10	U
Methane, Ethane, Ethene											
Ethane	74-84-0	1.2	U	120		1.3	U	1.2	U		
Ethene	74-85-1	1.5	U	1.6	U	1.6	U	1.5	U		
Methane	74-82-8	0.56	U	2.8		2.2		1.8			
Pesticides											
4,4'-DDD	72-54-8									0.1	U
4,4'-DDE	72-55-9									0.1	U
4,4'-DDT	50-29-3									0.1	U
Aldrin	309-00-2									0.05	U
Alpha-Bhc	319-84-6									0.05	U

	Sample ID	80230-FB-030512		80230-FB-030612		80230-FB-030712		80230-FB-030812		80230-FB-110523	
	Lab Sample Number	L0441-04		L0441-10		L0441-17		L0441-24		K0909-08	
	Sampling Date	03/05/2012		03/06/2012		03/07/2012		03/08/2012		05/23/2011	
	Sample Type	FB		FB		FB		FB		EB	
Alpha-Chlordane	5103-71-9									0.05	U
Beta-Bhc	319-85-7									0.05	U
Delta-Bhc	319-86-8									0.05	U
Dieldrin	60-57-1									0.1	U
Endosulfan I	959-98-8									0.05	U
Endosulfan Ii	33213-65-9									0.1	U
Endosulfan Sulfate	1031-07-8									0.1	U
Endrin	72-20-8									0.1	U
Endrin Aldehyde	7421-93-4									0.1	U
Endrin Ketone	53494-70-5									0.1	U
Gamma-Bhc (Lindane)	58-89-9									0.05	U
Gamma-Chlordane	5103-74-2									0.05	U
Heptachlor	76-44-8									0.05	U
Heptachlor Epoxide	1024-57-3									0.05	U
Methoxychlor	72-43-5									0.5	U
Toxaphene	8001-35-2									5	U
Polychlorinated Organic Compounds											
Aroclor 1016	12674-11-2									1	U
Aroclor 1221	11104-28-2									1	U
Aroclor 1232	11141-16-5									1	U
Aroclor 1242	53469-21-9									1	U
Aroclor 1248	12672-29-6									1	U
Aroclor 1254	11097-69-1									1	U
Aroclor 1260	11096-82-5									1	U
Inorganics											
Aluminum	7429-90-5									200	U
Antimony	7440-36-0									20	U
Arsenic	7440-38-2									20	U
Barium	7440-39-3									200	UEJ
Beryllium	7440-41-7									5	U

	Sample ID	80230-FB-030512		80230-FB-030612		80230-FB-030712		80230-FB-030812		80230-FB-110523	
	Lab Sample Number	L0441-04		L0441-10		L0441-17		L0441-24		K0909-08	
	Sampling Date	03/05/2012		03/06/2012		03/07/2012		03/08/2012		05/23/2011	
	Sample Type	FB		FB		FB		FB		EB	
Cadmium	7440-43-9									5	U
Calcium	7440-70-2									800	U
Chromium	7440-47-3									20	U
Cobalt	7440-48-4									50	U
Copper	7440-50-8									30	U
Iron	7439-89-6									200	U
Lead	7439-92-1									10	U
Magnesium	7439-95-4									500	U
Manganese	7439-96-5									50	U
Mercury - SW7470	7439-97-6									0.2	U
Nickel	7440-02-0									50	U
Potassium	7440-09-7									1000	U
Selenium	7782-49-2									30	U
Silver	7440-22-4									30	U
Sodium	7440-23-5									159	B
Thallium	7440-28-0									20	U
Vanadium	7440-62-2									50	U
Zinc	7440-66-6									11.4	B

	Sample ID	80230-FB-110524		80230-FB-110525		80230-FB-110526		80230-FB-110616		80230-FB-110617	
	Lab Sample Number	K0918-06		K0940-03		K0941-01		K1072-04		K1072-01	
	Sampling Date	05/24/2011		05/25/2011		05/26/2011		06/16/2011		06/17/2011	
	Sample Type	EB		EB		EB		EB		EB	
Chemical	CAS#										
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	630-20-6	5	U	5	U	5	U	5	U	5	U
1,1,1-Trichloroethane	71-55-6	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	79-34-5	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	79-00-5	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	75-34-3	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	75-35-4	5	U	5	U	5	U	5	U	5	UJ
1,1-Dichloropropene	563-58-6	5	U	5	U	5	U	5	U	5	U
1,2,3-Trichlorobenzene	87-61-6	5	U	5	U	5	U	5	U	5	U
1,2,3-Trichloropropane	96-18-4	5	U	5	U	5	U	5	U	5	U
1,2,4-Trichlorobenzene	120-82-1	5	U	5	U	5	U	5	U	5	U
1,2,4-Trimethylbenzene	95-63-6	5	U	5	U	5	U	5	U	5	U
1,2-Dibromo-3-Chloropropane	96-12-8	5	U	5	U	5	U	5	U	5	U
1,2-Dibromoethane (Edb)	106-93-4	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	95-50-1	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	107-06-2	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	78-87-5	5	U	5	U	5	U	5	U	5	U
1,3,5-Trimethylbenzene	108-67-8	5	U	5	U	5	U	5	U	5	U
1,3-Dichlorobenzene	541-73-1	5	U	5	U	5	U	5	U	5	U
1,3-Dichloropropane	142-28-9	5	U	5	U	5	U	5	U	5	U
1,4-Dichlorobenzene	106-46-7	5	U	5	U	5	U	5	U	5	U
2,2-Dichloropropane	594-20-7	5	U	5	U	5	U	5	U	5	U
2-Butanone (Mek)	78-93-3	5	R	5	R	5	R	5	R	5	R
2-Chlorotoluene	95-49-8	5	U	5	U	5	U	5	U	5	U
2-Hexanone	591-78-6	5	U	5	U	5	U	5	U	5	U
4-Chlorotoluene	106-43-4	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone (Mibk)	108-10-1	5	U	5	U	5	U	5	U	5	U
Acetone	67-64-1	5	R	5	R	5	R	6.8	J	3.4	J

	Sample ID	80230-FB-110524		80230-FB-110525		80230-FB-110526		80230-FB-110616		80230-FB-110617	
	Lab Sample Number	K0918-06		K0940-03		K0941-01		K1072-04		K1072-01	
	Sampling Date	05/24/2011		05/25/2011		05/26/2011		06/16/2011		06/17/2011	
	Sample Type	EB		EB		EB		EB		EB	
Benzene	71-43-2	5	U	5	U	5	U	5	U	5	U
Bromobenzene	108-86-1	5	U	5	U	5	U	5	U	5	U
Bromochloromethane	74-97-5	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane	75-27-4	5	U	5	U	5	U	5	U	5	U
Bromoform	75-25-2	5	U	5	U	5	U	5	U	5	U
Bromomethane	74-83-9	5	U	5	U	5	U	5	U	5	U
Carbon Disulfide	75-15-0	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride	56-23-5	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	108-90-7	5	U	5	U	5	U	5	U	5	U
Chloroethane	75-00-3	5	U	5	U	5	U	5	U	5	U
Chloroform	67-66-3	5	U	5	U	5	U	5	U	5	U
Chloromethane	74-87-3	5	U	5	U	5	U	5	U	5	U
Cis-1,2-Dichloroethene	156-59-2	5	U	5	U	5	U	5	U	5	U
Cis-1,3-Dichloropropene	10061-01-5	5	U	5	U	5	U	5	U	5	U
Cyclohexane	110-82-7	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	124-48-1	5	U	5	U	5	U	5	U	5	U
Dibromomethane	74-95-3	5	U	5	U	5	U	5	U	5	U
Dichlorodifluoromethane	75-71-8	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
Ethylbenzene	100-41-4	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	87-68-3	5	U	5	U	5	U	5	U	5	U
Isopropylbenzene	98-82-8	5	U	5	U	5	U	5	U	5	U
M,P-Xylene	179601-23-1	5	U	5	U	5	U	5	U	5	U
Methyl Acetate	79-20-9	5	U	5	U	5	U	5	U	5	U
Methyl Iodide	74-88-4	5	U	5	U	5	U	5	U	5	U
Methyl Tert-Butyl Ether (Mtbe)	1634-04-4	5	U	5	U	5	U	5	U	5	U
Methylcyclohexane	108-87-2	5	U	5	U	5	U	5	U	5	U
Methylene Chloride	75-09-2	5	U	5	U	5	U	3.1	J	5	U
Naphthalene	91-20-3	5	U	5	U	5	U	5	U	5	U
N-Butylbenzene	104-51-8	5	U	5	U	5	U	5	U	5	U
N-Propylbenzene	103-65-1	5	U	5	U	5	U	5	U	5	U

	Sample ID	80230-FB-110524		80230-FB-110525		80230-FB-110526		80230-FB-110616		80230-FB-110617	
	Lab Sample Number	K0918-06		K0940-03		K0941-01		K1072-04		K1072-01	
	Sampling Date	05/24/2011		05/25/2011		05/26/2011		06/16/2011		06/17/2011	
	Sample Type	EB		EB		EB		EB		EB	
O-Xylene	95-47-6	5	U	5	U	5	U	5	U	5	U
P-Isopropyltoluene	99-87-6	5	U	5	U	5	U	5	U	5	U
Sec-Butylbenzene	135-98-8	5	U	5	U	5	U	5	U	5	U
Styrene	100-42-5	5	U	5	U	5	U	5	U	5	U
Tert-Butylbenzene	98-06-6	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	127-18-4	5	U	5	UJ	5	UJ	5	U	5	UJ
Toluene	108-88-3	5	U	5	U	5	U	5	U	5	U
Total Xylenes	1330-20-7	5	U	5	U	5	U	5	U	5	U
Trans-1,2-Dichloroethene	156-60-5	5	U	5	U	5	U	5	U	5	U
Trans-1,3-Dichloropropene	10061-02-6	5	U	5	U	5	U	5	U	5	U
Trichloroethene	79-01-6	5	U	5	U	5	U	5	U	5	U
Trichlorofluoromethane	75-69-4	5	U	5	U	5	U	5	U	5	U
Vinyl Acetate	108-05-4	5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	75-01-4	5	U	5	U	5	U	5	U	5	U
Semi-Volatile Organic Compounds											
1,1'-Biphenyl	92-52-4	10	U	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	95-95-4	20	U	20	U	20	U	20	U	20	U
2,4,6-Trichlorophenol	88-06-2	10	U	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	120-83-2	10	U	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	105-67-9	10	U	10	U	10	U	10	UJ	10	UJ
2,4-Dinitrophenol	51-28-5	20	UJ	20	UJ	20	UJ	20	UJ	20	UJ
2,4-Dinitrotoluene	121-14-2	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	606-20-2	10	U	10	U	10	U	10	U	10	U
2-Chloronaphthalene	91-58-7	10	U	10	U	10	U	10	U	10	U
2-Chlorophenol	95-57-8	10	U	10	U	10	U	10	U	10	U
2-Methylnaphthalene	91-57-6	10	UJ	10	UJ	10	UJ	10	U	10	U
2-Methylphenol	95-48-7	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	88-74-4	20	U	20	U	20	U	20	U	20	U
2-Nitrophenol	88-75-5	10	U	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	91-94-1	10	U	10	U	10	U	10	U	10	U

	Sample ID	80230-FB-110524		80230-FB-110525		80230-FB-110526		80230-FB-110616		80230-FB-110617	
	Lab Sample Number	K0918-06		K0940-03		K0941-01		K1072-04		K1072-01	
	Sampling Date	05/24/2011		05/25/2011		05/26/2011		06/16/2011		06/17/2011	
	Sample Type	EB		EB		EB		EB		EB	
3-Nitroaniline	99-09-2	20	U	20	U	20	U	20	U	20	U
4,6-Dinitro-2-Methylphenol	534-52-1	20	U	20	U	20	U	20	U	20	U
4-Bromophenyl-Phenylether	101-55-3	10	U	10	U	10	U	10	U	10	U
4-Chloro-3-Methylphenol	59-50-7	10	U	10	U	10	U	10	U	10	U
4-Chloroaniline	106-47-8	10	U	10	U	10	U	10	U	10	U
4-Chlorophenyl-Phenylether	7005-72-3	10	U	10	U	10	U	10	U	10	U
4-Methylphenol	106-44-5	10	U	10	U	10	U	10	U	10	U
4-Nitroaniline	100-01-6	20	U	20	U	20	U	20	U	20	U
4-Nitrophenol	100-02-7	20	U	20	U	20	U	20	U	20	U
Acenaphthene	83-32-9	10	U	10	U	10	U	10	U	10	U
Acenaphthylene	208-96-8	10	U	10	U	10	U	10	U	10	U
Acetophenone	98-86-2	10	U	10	U	10	U	10	U	10	U
Anthracene	120-12-7	10	U	10	U	10	U	10	U	10	U
Atrazine	1912-24-9	10	U	10	U	10	U	10	U	10	U
Benzaldehyde	100-52-7	10	U	10	U	10	U	10	U	10	U
Benzo(A)Anthracene	56-55-3	10	U	10	U	10	U	10	U	10	U
Benzo(A)Pyrene	50-32-8	10	U	10	U	10	U	10	U	10	U
Benzo(B)Fluoranthene	205-99-2	10	U	10	U	10	U	10	U	10	U
Benzo(G,H,I)Perylene	191-24-2	10	U	10	U	10	U	10	U	10	U
Benzo(K)Fluoranthene	207-08-9	10	U	10	U	10	U	10	U	10	U
Bis(2-Chloroethoxy)Methane	111-91-1	10	U	10	U	10	U	10	U	10	U
Bis(2-Chloroethyl) Ether	111-44-4	10	U	10	U	10	U	10	U	10	U
Bis(2-Ethylhexyl)Phthalate	117-81-7	10	U	7.5	BJ	5.9	BJ	10	U	1.6	J
Bis-Chloroisopropyl Ether	108-60-1	10	U	10	U	10	U	10	U	10	U
Butylbenzylphthalate	85-68-7	10	U	10	U	10	U	10	U	10	U
Caprolactam	105-60-2	10	U	10	UJ	10	UJ	10	U	10	UJ
Carbazole	86-74-8	10	U	10	U	10	U	10	U	10	U
Chrysene	218-01-9	10	U	10	U	10	U	10	U	10	U
Dibenzo(A,H)Anthracene	53-70-3	10	U	10	U	10	U	10	U	10	U
Dibenzofuran	132-64-9	10	U	10	U	10	U	10	U	10	U

	Sample ID	80230-FB-110524		80230-FB-110525		80230-FB-110526		80230-FB-110616		80230-FB-110617	
	Lab Sample Number	K0918-06		K0940-03		K0941-01		K1072-04		K1072-01	
	Sampling Date	05/24/2011		05/25/2011		05/26/2011		06/16/2011		06/17/2011	
	Sample Type	EB		EB		EB		EB		EB	
Diethylphthalate	84-66-2	10	U	10	U	10	U	10	U	10	U
Dimethylphthalate	131-11-3	10	U	10	U	10	U	10	U	10	U
Di-N-Butylphthalate	84-74-2	10	U	10	U	10	U	10	U	10	U
Di-N-Octylphthalate	117-84-0	10	U	10	U	10	U	10	U	10	U
Fluoranthene	206-44-0	10	U	10	U	10	U	10	U	10	U
Fluorene	86-73-7	10	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	118-74-1	10	U	10	U	10	U	10	U	10	U
Hexachlorobutadiene	87-68-3	10	U	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	77-47-4	10	U	10	U	10	U	10	U	10	U
Hexachloroethane	67-72-1	10	U	10	U	10	U	10	U	10	U
Indeno(1,2,3-Cd)Pyrene	193-39-5	10	U	10	U	10	U	10	U	10	U
Isophorone	78-59-1	10	U	10	U	10	U	10	U	10	U
Naphthalene	91-20-3	10	U	10	U	10	U	10	U	10	U
Nitrobenzene	98-95-3	10	U	10	UJ	10	UJ	10	U	10	U
N-Nitroso-Di-N-Propylamine	621-64-7	10	U	10	U	10	U	10	U	10	U
N-Nitrosodiphenylamine	86-30-6	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	87-86-5	20	U	20	U	20	U	20	U	20	U
Phenanthrene	85-01-8	10	U	10	U	10	U	10	U	10	U
Phenol	108-95-2	10	U	10	U	10	U	10	U	10	U
Pyrene	129-00-0	10	U	10	U	10	U	10	U	10	U
Methane, Ethane, Ethene											
Ethane	74-84-0										
Ethene	74-85-1										
Methane	74-82-8										
Pesticides											
4,4'-DDD	72-54-8	0.1	U	0.1	U	0.1	U				
4,4'-DDE	72-55-9	0.1	U	0.1	U	0.1	U				
4,4'-DDT	50-29-3	0.1	U	0.1	U	0.1	U				
Aldrin	309-00-2	0.05	U	0.05	U	0.05	U				
Alpha-Bhc	319-84-6	0.05	U	0.05	U	0.05	U				

	Sample ID	80230-FB-110524		80230-FB-110525		80230-FB-110526		80230-FB-110616		80230-FB-110617	
	Lab Sample Number	K0918-06		K0940-03		K0941-01		K1072-04		K1072-01	
	Sampling Date	05/24/2011		05/25/2011		05/26/2011		06/16/2011		06/17/2011	
	Sample Type	EB		EB		EB		EB		EB	
Alpha-Chlordane	5103-71-9	0.05	U	0.05	U	0.05	U				
Beta-Bhc	319-85-7	0.05	U	0.05	U	0.05	U				
Delta-Bhc	319-86-8	0.05	U	0.05	U	0.05	U				
Dieldrin	60-57-1	0.1	U	0.1	U	0.1	U				
Endosulfan I	959-98-8	0.05	U	0.05	U	0.05	U				
Endosulfan Ii	33213-65-9	0.1	U	0.1	U	0.1	U				
Endosulfan Sulfate	1031-07-8	0.1	U	0.1	U	0.1	U				
Endrin	72-20-8	0.1	U	0.1	U	0.1	U				
Endrin Aldehyde	7421-93-4	0.1	U	0.1	U	0.1	U				
Endrin Ketone	53494-70-5	0.1	U	0.1	U	0.1	U				
Gamma-Bhc (Lindane)	58-89-9	0.05	U	0.05	U	0.05	U				
Gamma-Chlordane	5103-74-2	0.05	U	0.05	U	0.05	U				
Heptachlor	76-44-8	0.05	U	0.05	U	0.05	U				
Heptachlor Epoxide	1024-57-3	0.05	U	0.05	U	0.05	U				
Methoxychlor	72-43-5	0.5	U	0.5	U	0.5	U				
Toxaphene	8001-35-2	5	U	5	U	5	U				
Polychlorinated Organic Compounds											
Aroclor 1016	12674-11-2	1	U	1	U	1	U				
Aroclor 1221	11104-28-2	1	U	1	U	1	U				
Aroclor 1232	11141-16-5	1	U	1	U	1	U				
Aroclor 1242	53469-21-9	1	U	1	U	1	U				
Aroclor 1248	12672-29-6	1	U	1	U	1	U				
Aroclor 1254	11097-69-1	1	U	1	U	1	U				
Aroclor 1260	11096-82-5	1	U	1	U	1	U				
Inorganics											
Aluminum	7429-90-5	200	U	200	U	200	U	200	U		
Antimony	7440-36-0	20	U	20	U	20	U	20	U		
Arsenic	7440-38-2	20	U	20	U	20	U	20	U		
Barium	7440-39-3	200	U	200	U	200	U	1.7	B		
Beryllium	7440-41-7	5	U	5	U	5	U	5	U		

	Sample ID	80230-FB-110524		80230-FB-110525		80230-FB-110526		80230-FB-110616		80230-FB-110617	
	Lab Sample Number	K0918-06		K0940-03		K0941-01		K1072-04		K1072-01	
	Sampling Date	05/24/2011		05/25/2011		05/26/2011		06/16/2011		06/17/2011	
	Sample Type	EB		EB		EB		EB		EB	
Cadmium	7440-43-9	5	U	5	U	5	U	5	U		
Calcium	7440-70-2	800	U	172	B	267	B	221	B		
Chromium	7440-47-3	20	U	20	U	20	U	20	U		
Cobalt	7440-48-4	50	U	50	U	50	U	50	U		
Copper	7440-50-8	30	U	30	U	30	U	30	U		
Iron	7439-89-6	200	U	200	U	200	U	200	U		
Lead	7439-92-1	10	U	10	U	10	U	10	U		
Magnesium	7439-95-4	500	U	500	U	500	U	500	U		
Manganese	7439-96-5	50	U	50	U	50	U	50	U		
Mercury - SW7470	7439-97-6	0.2	U	0.2	U	0.2	U	0.2	U		
Nickel	7440-02-0	50	U	50	U	50	U	50	U		
Potassium	7440-09-7	1000	U	1000	U	1000	U	1000	U		
Selenium	7782-49-2	30	U	30	U	30	U	30	U		
Silver	7440-22-4	30	U	30	U	30	U	30	U		
Sodium	7440-23-5	271	B	1000	U	1000	U	227	B		
Thallium	7440-28-0	20	U	20	U	20	U	20	U		
Vanadium	7440-62-2	50	U	50	U	50	U	50	U		
Zinc	7440-66-6	50	U	50	U	25.8	B	13.2	B		

	Sample ID	80230-FB-110624		80230-FB-AQ-110523		80230-FB-AQ-110524A		80230-TB-030512		80230-TB-030612	
	Lab Sample Number	K1157-01		K0909-09		K0909-12		L0441-01		L0441-07	
	Sampling Date	06/24/2011		05/23/2011		05/24/2011		03/05/2012		03/06/2012	
	Sample Type	EB		EB		EB		TB		TB	
Chemical	CAS#										
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	630-20-6	5	U	5	U	5	U	5	U	5	U
1,1,1-Trichloroethane	71-55-6	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	79-34-5	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	79-00-5	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	75-34-3	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	75-35-4	5	U	5	U	5	U	5	U	5	U
1,1-Dichloropropene	563-58-6	5	U	5	U	5	U	5	U	5	U
1,2,3-Trichlorobenzene	87-61-6	5	U	5	U	5	U	5	U	5	U
1,2,3-Trichloropropane	96-18-4	5	U	5	U	5	U	5	U	5	U
1,2,4-Trichlorobenzene	120-82-1	5	U	5	U	5	U	5	U	5	U
1,2,4-Trimethylbenzene	95-63-6	5	U	5	U	5	U	5	U	5	U
1,2-Dibromo-3-Chloropropane	96-12-8	5	U	5	U	5	U	5	U	5	U
1,2-Dibromoethane (Edb)	106-93-4	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	95-50-1	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	107-06-2	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	78-87-5	5	U	5	U	5	U	5	U	5	U
1,3,5-Trimethylbenzene	108-67-8	5	U	5	U	5	U	5	U	5	U
1,3-Dichlorobenzene	541-73-1	5	U	5	U	5	U	5	U	5	U
1,3-Dichloropropane	142-28-9	5	U	5	U	5	U	5	U	5	U
1,4-Dichlorobenzene	106-46-7	5	U	5	U	5	U	5	U	5	U
2,2-Dichloropropane	594-20-7	5	U	5	U	5	U	5	U	5	U
2-Butanone (Mek)	78-93-3	5	R	5	R	5	R	5	R	5	R
2-Chlorotoluene	95-49-8	5	U	5	U	5	U	5	U	5	U
2-Hexanone	591-78-6	5	UJ	5	U	5	U	5	U	5	U
4-Chlorotoluene	106-43-4	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone (Mibk)	108-10-1	5	U	5	U	5	U	5	U	5	U
Acetone	67-64-1	2.6	J	5	U	5	U	5	R	5	R

Sample ID		80230-FB-110624		80230-FB-AQ-110523		80230-FB-AQ-110524A		80230-TB-030512		80230-TB-030612	
Lab Sample Number		K1157-01		K0909-09		K0909-12		L0441-01		L0441-07	
Sampling Date		06/24/2011		05/23/2011		05/24/2011		03/05/2012		03/06/2012	
Sample Type		EB		EB		EB		TB		TB	
Benzene	71-43-2	5	U	5	R	5	R	5	U	5	U
Bromobenzene	108-86-1	5	U	5	U	5	U	5	U	5	U
Bromochloromethane	74-97-5	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane	75-27-4	5	U	5	U	5	U	5	U	5	U
Bromoform	75-25-2	5	U	5	U	5	U	5	U	5	U
Bromomethane	74-83-9	5	U	5	U	5	U	5	U	5	U
Carbon Disulfide	75-15-0	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride	56-23-5	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	108-90-7	5	U	5	U	5	U	5	U	5	U
Chloroethane	75-00-3	5	U	5	U	5	U	5	U	5	U
Chloroform	67-66-3	5	U	5	U	5	U	5	U	5	U
Chloromethane	74-87-3	5	U	5	U	5	U	5	U	5	U
Cis-1,2-Dichloroethene	156-59-2	5	U	5	U	5	U	5	U	5	U
Cis-1,3-Dichloropropene	10061-01-5	5	U	5	U	5	U	5	U	5	U
Cyclohexane	110-82-7	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	124-48-1	5	U	5	U	5	U	5	U	5	U
Dibromomethane	74-95-3	5	U	5	U	5	U	5	U	5	U
Dichlorodifluoromethane	75-71-8	5	U	5	UJ	5	UJ	5	U	5	U
Ethylbenzene	100-41-4	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	87-68-3	5	U	5	U	5	U	5	U	5	U
Isopropylbenzene	98-82-8	5	U	5	U	5	U	5	U	5	U
M,P-Xylene	179601-23-1	5	U	5	U	5	U	5	U	5	U
Methyl Acetate	79-20-9	5	U	5	UJ	5	UJ	5	U	5	U
Methyl Iodide	74-88-4	5	U	5	U	5	U	5	U	5	U
Methyl Tert-Butyl Ether (Mtbe)	1634-04-4	5	U	5	U	5	U	5	U	5	U
Methylcyclohexane	108-87-2	5	U	5	U	5	U	5	U	5	U
Methylene Chloride	75-09-2	1.9	J	5	U	5	U	5	U	5	U
Naphthalene	91-20-3	5	U	5	U	5	U	5	U	5	U
N-Butylbenzene	104-51-8	5	U	5	U	5	U	5	U	5	U
N-Propylbenzene	103-65-1	5	U	5	U	5	U	5	U	5	U

	Sample ID	80230-FB-110624		80230-FB-AQ-110523		80230-FB-AQ-110524A		80230-TB-030512		80230-TB-030612	
	Lab Sample Number	K1157-01		K0909-09		K0909-12		L0441-01		L0441-07	
	Sampling Date	06/24/2011		05/23/2011		05/24/2011		03/05/2012		03/06/2012	
	Sample Type	EB		EB		EB		TB		TB	
O-Xylene	95-47-6	5	U	5	U	5	U	5	U	5	U
P-Isopropyltoluene	99-87-6	5	U	5	U	5	U	5	U	5	U
Sec-Butylbenzene	135-98-8	5	U	5	U	5	U	5	U	5	U
Styrene	100-42-5	5	U	5	U	5	U	5	U	5	U
Tert-Butylbenzene	98-06-6	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	127-18-4	5	U	1.4	J	1.6	J	5	U	5	U
Toluene	108-88-3	5	U	5	U	5	U	5	U	5	U
Total Xylenes	1330-20-7	5	U	5	U	5	U	5	U	5	U
Trans-1,2-Dichloroethene	156-60-5	5	U	5	U	5	U	5	U	5	U
Trans-1,3-Dichloropropene	10061-02-6	5	U	5	U	5	U	5	U	5	U
Trichloroethene	79-01-6	5	U	5	U	5	U	5	U	5	U
Trichlorofluoromethane	75-69-4	5	U	5	U	5	U	5	U	5	U
Vinyl Acetate	108-05-4	5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	75-01-4	5	U	5	U	5	U	5	U	5	U
Semi-Volatile Organic Compounds											
1,1'-Biphenyl	92-52-4	10	U	10	U	10	U				
2,4,5-Trichlorophenol	95-95-4	20	U	20	U	20	U				
2,4,6-Trichlorophenol	88-06-2	10	U	10	U	10	U				
2,4-Dichlorophenol	120-83-2	10	U	10	U	10	U				
2,4-Dimethylphenol	105-67-9	10	U	10	U	10	U				
2,4-Dinitrophenol	51-28-5	20	U	20	UJ	20	UJ				
2,4-Dinitrotoluene	121-14-2	10	U	10	U	10	U				
2,6-Dinitrotoluene	606-20-2	10	U	10	U	10	U				
2-Chloronaphthalene	91-58-7	10	U	10	U	10	U				
2-Chlorophenol	95-57-8	10	U	10	U	10	U				
2-Methylnaphthalene	91-57-6	10	U	10	UJ	10	UJ				
2-Methylphenol	95-48-7	10	U	10	U	10	U				
2-Nitroaniline	88-74-4	20	U	20	U	20	U				
2-Nitrophenol	88-75-5	10	U	10	U	10	U				
3,3'-Dichlorobenzidine	91-94-1	10	U	10	U	10	U				

	Sample ID	80230-FB-110624		80230-FB-AQ-110523		80230-FB-AQ-110524A		80230-TB-030512		80230-TB-030612	
	Lab Sample Number	K1157-01		K0909-09		K0909-12		L0441-01		L0441-07	
	Sampling Date	06/24/2011		05/23/2011		05/24/2011		03/05/2012		03/06/2012	
	Sample Type	EB		EB		EB		TB		TB	
3-Nitroaniline	99-09-2	20	U	20	U	20	U				
4,6-Dinitro-2-Methylphenol	534-52-1	20	U	20	U	20	U				
4-Bromophenyl-Phenylether	101-55-3	10	U	10	U	10	U				
4-Chloro-3-Methylphenol	59-50-7	10	U	10	U	10	U				
4-Chloroaniline	106-47-8	10	U	10	U	10	U				
4-Chlorophenyl-Phenylether	7005-72-3	10	U	10	U	10	U				
4-Methylphenol	106-44-5	10	U	10	U	10	U				
4-Nitroaniline	100-01-6	20	U	20	U	20	U				
4-Nitrophenol	100-02-7	20	U	20	U	20	U				
Acenaphthene	83-32-9	10	U	10	U	10	U				
Acenaphthylene	208-96-8	10	U	10	U	10	U				
Acetophenone	98-86-2	10	U	10	U	10	U				
Anthracene	120-12-7	10	U	10	U	10	U				
Atrazine	1912-24-9	10	U	10	U	10	U				
Benzaldehyde	100-52-7	10	U	10	U	10	U				
Benzo(A)Anthracene	56-55-3	10	U	10	U	10	U				
Benzo(A)Pyrene	50-32-8	10	U	10	U	10	U				
Benzo(B)Fluoranthene	205-99-2	10	U	10	U	10	U				
Benzo(G,H,I)Perylene	191-24-2	10	U	10	U	10	U				
Benzo(K)Fluoranthene	207-08-9	10	U	10	U	10	U				
Bis(2-Chloroethoxy)Methane	111-91-1	10	U	10	U	10	U				
Bis(2-Chloroethyl) Ether	111-44-4	10	U	10	U	10	U				
Bis(2-Ethylhexyl)Phthalate	117-81-7	10	U	10	U	10	U				
Bis-Chloroisopropyl Ether	108-60-1	10	U	10	U	10	U				
Butylbenzylphthalate	85-68-7	10	U	10	U	10	U				
Caprolactam	105-60-2	10	U	10	U	10	U				
Carbazole	86-74-8	10	U	10	U	10	U				
Chrysene	218-01-9	10	U	10	U	10	U				
Dibenzo(A,H)Anthracene	53-70-3	10	U	10	U	10	U				
Dibenzofuran	132-64-9	10	U	10	U	10	U				

	Sample ID	80230-FB-110624		80230-FB-AQ-110523		80230-FB-AQ-110524A		80230-TB-030512		80230-TB-030612	
	Lab Sample Number	K1157-01		K0909-09		K0909-12		L0441-01		L0441-07	
	Sampling Date	06/24/2011		05/23/2011		05/24/2011		03/05/2012		03/06/2012	
	Sample Type	EB		EB		EB		TB		TB	
Diethylphthalate	84-66-2	10	U	10	U	10	U				
Dimethylphthalate	131-11-3	10	U	10	U	10	U				
Di-N-Butylphthalate	84-74-2	10	U	10	U	10	U				
Di-N-Octylphthalate	117-84-0	10	U	10	U	10	U				
Fluoranthene	206-44-0	10	U	10	U	10	U				
Fluorene	86-73-7	10	U	10	U	10	U				
Hexachlorobenzene	118-74-1	10	U	10	U	10	U				
Hexachlorobutadiene	87-68-3	10	U	10	U	10	U				
Hexachlorocyclopentadiene	77-47-4	10	U	10	U	10	U				
Hexachloroethane	67-72-1	10	U	10	U	10	U				
Indeno(1,2,3-Cd)Pyrene	193-39-5	10	U	10	U	10	U				
Isophorone	78-59-1	10	U	10	U	10	U				
Naphthalene	91-20-3	10	U	10	U	10	U				
Nitrobenzene	98-95-3	10	U	10	U	10	U				
N-Nitroso-Di-N-Propylamine	621-64-7	10	U	10	U	10	U				
N-Nitrosodiphenylamine	86-30-6	10	U	10	U	10	U				
Pentachlorophenol	87-86-5	20	U	20	U	20	U				
Phenanthrene	85-01-8	10	U	10	U	10	U				
Phenol	108-95-2	10	U	10	U	10	U				
Pyrene	129-00-0	10	U	10	U	10	U				
Methane, Ethane, Ethene											
Ethane	74-84-0										
Ethene	74-85-1										
Methane	74-82-8										
Pesticides											
4,4'-DDD	72-54-8										
4,4'-DDE	72-55-9										
4,4'-DDT	50-29-3										
Aldrin	309-00-2										
Alpha-Bhc	319-84-6										

	Sample ID	80230-FB-110624		80230-FB-AQ-110523		80230-FB-AQ-110524A		80230-TB-030512		80230-TB-030612	
	Lab Sample Number	K1157-01		K0909-09		K0909-12		L0441-01		L0441-07	
	Sampling Date	06/24/2011		05/23/2011		05/24/2011		03/05/2012		03/06/2012	
	Sample Type	EB		EB		EB		TB		TB	
Alpha-Chlordane	5103-71-9										
Beta-Bhc	319-85-7										
Delta-Bhc	319-86-8										
Dieldrin	60-57-1										
Endosulfan I	959-98-8										
Endosulfan Ii	33213-65-9										
Endosulfan Sulfate	1031-07-8										
Endrin	72-20-8										
Endrin Aldehyde	7421-93-4										
Endrin Ketone	53494-70-5										
Gamma-Bhc (Lindane)	58-89-9										
Gamma-Chlordane	5103-74-2										
Heptachlor	76-44-8										
Heptachlor Epoxide	1024-57-3										
Methoxychlor	72-43-5										
Toxaphene	8001-35-2										
Polychlorinated Organic Compounds											
Aroclor 1016	12674-11-2										
Aroclor 1221	11104-28-2										
Aroclor 1232	11141-16-5										
Aroclor 1242	53469-21-9										
Aroclor 1248	12672-29-6										
Aroclor 1254	11097-69-1										
Aroclor 1260	11096-82-5										
Inorganics											
Aluminum	7429-90-5			200	U	200	U				
Antimony	7440-36-0			20	U	20	U				
Arsenic	7440-38-2			20	U	20	U				
Barium	7440-39-3			200	UEJ	1.1	BEJ				
Beryllium	7440-41-7			5	U	5	U				

	Sample ID	80230-FB-110624		80230-FB-AQ-110523		80230-FB-AQ-110524A		80230-TB-030512		80230-TB-030612	
	Lab Sample Number	K1157-01		K0909-09		K0909-12		L0441-01		L0441-07	
	Sampling Date	06/24/2011		05/23/2011		05/24/2011		03/05/2012		03/06/2012	
	Sample Type	EB		EB		EB		TB		TB	
Cadmium	7440-43-9			5	U	5	U				
Calcium	7440-70-2			800	U	800	U				
Chromium	7440-47-3			20	U	20	U				
Cobalt	7440-48-4			50	U	50	U				
Copper	7440-50-8			30	U	30	U				
Iron	7439-89-6			200	U	200	U				
Lead	7439-92-1			10	U	10	U				
Magnesium	7439-95-4			500	U	500	U				
Manganese	7439-96-5			50	U	50	U				
Mercury - SW7470	7439-97-6			0.2	U	0.2	U				
Nickel	7440-02-0			50	U	50	U				
Potassium	7440-09-7			1000	U	1000	U				
Selenium	7782-49-2			30	U	30	U				
Silver	7440-22-4			30	U	30	U				
Sodium	7440-23-5			165	B	163	B				
Thallium	7440-28-0			20	U	20	U				
Vanadium	7440-62-2			50	U	50	U				
Zinc	7440-66-6			17.4	B	16	B				

Sample ID		80230-TB-030712		80230-TB-030812		PM-FB-AQ-1122011		PM-FB-SO-1112011		PM-FB-SO-1122011	
Lab Sample Number		L0441-13		L0441-20		K2297-05		K2296-02		K2297-04	
Sampling Date		03/07/2012		03/08/2012		11/02/2011		11/01/2011		11/02/2011	
Sample Type		TB		TB		FB		FB		FB	
Chemical	CAS#										
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	630-20-6	5	U	5	U	5	U	5	U	5	U
1,1,1-Trichloroethane	71-55-6	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	79-34-5	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	79-00-5	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	75-34-3	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	75-35-4	5	U	5	U	5	U	5	U	5	U
1,1-Dichloropropene	563-58-6	5	U	5	U	5	U	5	U	5	U
1,2,3-Trichlorobenzene	87-61-6	5	UJ	5	U	5	UJ	5	UJ	5	UJ
1,2,3-Trichloropropane	96-18-4	5	U	5	U	5	U	5	U	5	U
1,2,4-Trichlorobenzene	120-82-1	5	U	5	U	5	U	5	U	5	U
1,2,4-Trimethylbenzene	95-63-6	5	U	5	U	5	U	5	U	5	U
1,2-Dibromo-3-Chloropropane	96-12-8	5	UJ	5	U	5	U	5	U	5	U
1,2-Dibromoethane (Edb)	106-93-4	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	95-50-1	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	107-06-2	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	78-87-5	5	U	5	U	5	U	5	U	5	U
1,3,5-Trimethylbenzene	108-67-8	5	U	5	U	5	U	5	U	5	U
1,3-Dichlorobenzene	541-73-1	5	U	5	U	5	U	5	U	5	U
1,3-Dichloropropane	142-28-9	5	U	5	U	5	U	5	U	5	U
1,4-Dichlorobenzene	106-46-7	5	U	5	U	5	U	5	U	5	U
2,2-Dichloropropane	594-20-7	5	U	5	UJ	5	U	5	U	5	U
2-Butanone (Mek)	78-93-3	5	R	5	R	3	J	5	R	3.2	J
2-Chlorotoluene	95-49-8	5	U	5	U	5	U	5	U	5	U
2-Hexanone	591-78-6	5	U	5	UJ	5	U	5	UJ	5	U
4-Chlorotoluene	106-43-4	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone (Mibk)	108-10-1	5	U	5	U	5	U	5	U	5	U
Acetone	67-64-1	5	R	5	R	6.8	J	5	R	6.9	J

Sample ID		80230-TB-030712		80230-TB-030812		PM-FB-AQ-1122011		PM-FB-SO-1112011		PM-FB-SO-1122011	
Lab Sample Number		L0441-13		L0441-20		K2297-05		K2296-02		K2297-04	
Sampling Date		03/07/2012		03/08/2012		11/02/2011		11/01/2011		11/02/2011	
Sample Type		TB		TB		FB		FB		FB	
Benzene	71-43-2	5	U	5	U	5	U	5	U	5	U
Bromobenzene	108-86-1	5	U	5	U	5	U	5	U	5	U
Bromochloromethane	74-97-5	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane	75-27-4	5	U	5	U	5	U	5	U	5	U
Bromoform	75-25-2	5	U	5	U	5	UJ	5	U	5	UJ
Bromomethane	74-83-9	5	U	5	U	5	U	5	U	5	U
Carbon Disulfide	75-15-0	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride	56-23-5	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	108-90-7	5	U	5	U	5	U	5	U	5	U
Chloroethane	75-00-3	5	U	5	UJ	5	U	5	U	5	U
Chloroform	67-66-3	5	U	5	U	5	U	5	U	5	U
Chloromethane	74-87-3	5	U	5	U	5	U	5	U	5	U
Cis-1,2-Dichloroethene	156-59-2	5	U	5	U	5	U	5	U	5	U
Cis-1,3-Dichloropropene	10061-01-5	5	U	5	U	5	U	5	U	5	U
Cyclohexane	110-82-7	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	124-48-1	5	U	5	U	5	U	5	U	5	U
Dibromomethane	74-95-3	5	U	5	U	5	UJ	5	U	5	UJ
Dichlorodifluoromethane	75-71-8	5	U	5	UJ	5	U	5	U	5	U
Ethylbenzene	100-41-4	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	87-68-3	5	U	5	U	5	UJ	5	UJ	5	UJ
Isopropylbenzene	98-82-8	5	U	5	U	5	U	5	U	5	U
M,P-Xylene	179601-23-1	5	U	5	U	5	U	5	U	5	U
Methyl Acetate	79-20-9	5	U	5	U	5	U	5	U	5	U
Methyl Iodide	74-88-4	5	UJ	5	U	5	U	5	U	5	U
Methyl Tert-Butyl Ether (Mtbe)	1634-04-4	5	U	5	U	5	U	5	U	5	U
Methylcyclohexane	108-87-2	5	U	5	U	5	U	5	U	5	U
Methylene Chloride	75-09-2	5	U	5	U	5	U	5	U	5	U
Naphthalene	91-20-3	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
N-Butylbenzene	104-51-8	5	U	5	U	5	UJ	5	U	5	UJ
N-Propylbenzene	103-65-1	5	U	5	U	5	U	5	U	5	U

Sample ID		80230-TB-030712		80230-TB-030812		PM-FB-AQ-1122011		PM-FB-SO-1112011		PM-FB-SO-1122011	
Lab Sample Number		L0441-13		L0441-20		K2297-05		K2296-02		K2297-04	
Sampling Date		03/07/2012		03/08/2012		11/02/2011		11/01/2011		11/02/2011	
Sample Type		TB		TB		FB		FB		FB	
O-Xylene	95-47-6	5	U	5	U	5	U	5	U	5	U
P-Isopropyltoluene	99-87-6	5	U	5	U	5	U	5	U	5	U
Sec-Butylbenzene	135-98-8	5	U	5	U	5	U	5	U	5	U
Styrene	100-42-5	5	U	5	U	5	U	5	U	5	U
Tert-Butylbenzene	98-06-6	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	127-18-4	5	U	5	U	5	U	5	UJ	5	U
Toluene	108-88-3	5	U	5	U	5	U	5	U	5	U
Total Xylenes	1330-20-7	5	U	5	U	5	U	5	U	5	U
Trans-1,2-Dichloroethene	156-60-5	5	U	5	U	5	U	5	U	5	U
Trans-1,3-Dichloropropene	10061-02-6	5	U	5	U	5	U	5	U	5	U
Trichloroethene	79-01-6	5	U	5	U	5	U	5	U	5	U
Trichlorofluoromethane	75-69-4	5	U	5	U	5	U	5	U	5	U
Vinyl Acetate	108-05-4	5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	75-01-4	5	U	5	UJ	5	U	5	U	5	U
Semi-Volatile Organic Compounds											
1,1'-Biphenyl	92-52-4										
2,4,5-Trichlorophenol	95-95-4										
2,4,6-Trichlorophenol	88-06-2										
2,4-Dichlorophenol	120-83-2										
2,4-Dimethylphenol	105-67-9										
2,4-Dinitrophenol	51-28-5										
2,4-Dinitrotoluene	121-14-2										
2,6-Dinitrotoluene	606-20-2										
2-Chloronaphthalene	91-58-7										
2-Chlorophenol	95-57-8										
2-Methylnaphthalene	91-57-6										
2-Methylphenol	95-48-7										
2-Nitroaniline	88-74-4										
2-Nitrophenol	88-75-5										
3,3'-Dichlorobenzidine	91-94-1										

	Sample ID	80230-TB-030712		80230-TB-030812		PM-FB-AQ-1122011		PM-FB-SO-1112011		PM-FB-SO-1122011	
	Lab Sample Number	L0441-13		L0441-20		K2297-05		K2296-02		K2297-04	
	Sampling Date	03/07/2012		03/08/2012		11/02/2011		11/01/2011		11/02/2011	
	Sample Type	TB		TB		FB		FB		FB	
3-Nitroaniline	99-09-2										
4,6-Dinitro-2-Methylphenol	534-52-1										
4-Bromophenyl-Phenylether	101-55-3										
4-Chloro-3-Methylphenol	59-50-7										
4-Chloroaniline	106-47-8										
4-Chlorophenyl-Phenylether	7005-72-3										
4-Methylphenol	106-44-5										
4-Nitroaniline	100-01-6										
4-Nitrophenol	100-02-7										
Acenaphthene	83-32-9										
Acenaphthylene	208-96-8										
Acetophenone	98-86-2										
Anthracene	120-12-7										
Atrazine	1912-24-9										
Benzaldehyde	100-52-7										
Benzo(A)Anthracene	56-55-3										
Benzo(A)Pyrene	50-32-8										
Benzo(B)Fluoranthene	205-99-2										
Benzo(G,H,I)Perylene	191-24-2										
Benzo(K)Fluoranthene	207-08-9										
Bis(2-Chloroethoxy)Methane	111-91-1										
Bis(2-Chloroethyl) Ether	111-44-4										
Bis(2-Ethylhexyl)Phthalate	117-81-7										
Bis-Chloroisopropyl Ether	108-60-1										
Butylbenzylphthalate	85-68-7										
Caprolactam	105-60-2										
Carbazole	86-74-8										
Chrysene	218-01-9										
Dibenzo(A,H)Anthracene	53-70-3										
Dibenzofuran	132-64-9										

	Sample ID	80230-TB-030712		80230-TB-030812		PM-FB-AQ-1122011		PM-FB-SO-1112011		PM-FB-SO-1122011	
	Lab Sample Number	L0441-13		L0441-20		K2297-05		K2296-02		K2297-04	
	Sampling Date	03/07/2012		03/08/2012		11/02/2011		11/01/2011		11/02/2011	
	Sample Type	TB		TB		FB		FB		FB	
Diethylphthalate	84-66-2										
Dimethylphthalate	131-11-3										
Di-N-Butylphthalate	84-74-2										
Di-N-Octylphthalate	117-84-0										
Fluoranthene	206-44-0										
Fluorene	86-73-7										
Hexachlorobenzene	118-74-1										
Hexachlorobutadiene	87-68-3										
Hexachlorocyclopentadiene	77-47-4										
Hexachloroethane	67-72-1										
Indeno(1,2,3-Cd)Pyrene	193-39-5										
Isophorone	78-59-1										
Naphthalene	91-20-3										
Nitrobenzene	98-95-3										
N-Nitroso-Di-N-Propylamine	621-64-7										
N-Nitrosodiphenylamine	86-30-6										
Pentachlorophenol	87-86-5										
Phenanthrene	85-01-8										
Phenol	108-95-2										
Pyrene	129-00-0										
Methane, Ethane, Ethene											
Ethane	74-84-0										
Ethene	74-85-1										
Methane	74-82-8										
Pesticides											
4,4'-DDD	72-54-8										
4,4'-DDE	72-55-9										
4,4'-DDT	50-29-3										
Aldrin	309-00-2										
Alpha-Bhc	319-84-6										

	Sample ID	80230-TB-030712		80230-TB-030812		PM-FB-AQ-1122011		PM-FB-SO-1112011		PM-FB-SO-1122011	
	Lab Sample Number	L0441-13		L0441-20		K2297-05		K2296-02		K2297-04	
	Sampling Date	03/07/2012		03/08/2012		11/02/2011		11/01/2011		11/02/2011	
	Sample Type	TB		TB		FB		FB		FB	
Alpha-Chlordane	5103-71-9										
Beta-Bhc	319-85-7										
Delta-Bhc	319-86-8										
Dieldrin	60-57-1										
Endosulfan I	959-98-8										
Endosulfan Ii	33213-65-9										
Endosulfan Sulfate	1031-07-8										
Endrin	72-20-8										
Endrin Aldehyde	7421-93-4										
Endrin Ketone	53494-70-5										
Gamma-Bhc (Lindane)	58-89-9										
Gamma-Chlordane	5103-74-2										
Heptachlor	76-44-8										
Heptachlor Epoxide	1024-57-3										
Methoxychlor	72-43-5										
Toxaphene	8001-35-2										
Polychlorinated Organic Compounds											
Aroclor 1016	12674-11-2										
Aroclor 1221	11104-28-2										
Aroclor 1232	11141-16-5										
Aroclor 1242	53469-21-9										
Aroclor 1248	12672-29-6										
Aroclor 1254	11097-69-1										
Aroclor 1260	11096-82-5										
Inorganics											
Aluminum	7429-90-5										
Antimony	7440-36-0										
Arsenic	7440-38-2										
Barium	7440-39-3										
Beryllium	7440-41-7										

	Sample ID	80230-TB-030712		80230-TB-030812		PM-FB-AQ-1122011		PM-FB-SO-1112011		PM-FB-SO-1122011	
	Lab Sample Number	L0441-13		L0441-20		K2297-05		K2296-02		K2297-04	
	Sampling Date	03/07/2012		03/08/2012		11/02/2011		11/01/2011		11/02/2011	
	Sample Type	TB		TB		FB		FB		FB	
Cadmium	7440-43-9										
Calcium	7440-70-2										
Chromium	7440-47-3										
Cobalt	7440-48-4										
Copper	7440-50-8										
Iron	7439-89-6										
Lead	7439-92-1										
Magnesium	7439-95-4										
Manganese	7439-96-5										
Mercury - SW7470	7439-97-6										
Nickel	7440-02-0										
Potassium	7440-09-7										
Selenium	7782-49-2										
Silver	7440-22-4										
Sodium	7440-23-5										
Thallium	7440-28-0										
Vanadium	7440-62-2										
Zinc	7440-66-6										

	Sample ID	PM-TB-110311		PM-TB-1112011		PM-TB-1122011		TB-20110524A		TB-20110524B	
	Lab Sample Number	K2297-13		K2296-01		K2297-06		K0918-02		K0909-11	
	Sampling Date	11/03/2011		11/01/2011		11/02/2011		05/24/2011		05/24/2011	
	Sample Type	TB		TB		TB		TB		TB	
Chemical	CAS#										
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	630-20-6	5	U	5	U	5	U	5	U	5	U
1,1,1-Trichloroethane	71-55-6	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	79-34-5	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	79-00-5	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	75-34-3	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	75-35-4	5	U	5	U	5	U	5	U	5	U
1,1-Dichloropropene	563-58-6	5	U	5	U	5	U	5	U	5	U
1,2,3-Trichlorobenzene	87-61-6	5	U	5	UJ	5	UJ	5	U	5	U
1,2,3-Trichloropropane	96-18-4	5	UJ	5	U	5	U	5	U	5	U
1,2,4-Trichlorobenzene	120-82-1	5	U	5	U	5	U	5	U	5	U
1,2,4-Trimethylbenzene	95-63-6	5	U	5	U	5	U	5	U	5	U
1,2-Dibromo-3-Chloropropane	96-12-8	5	U	5	U	5	U	5	U	5	U
1,2-Dibromoethane (Edb)	106-93-4	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	95-50-1	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	107-06-2	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	78-87-5	5	U	5	U	5	U	5	U	5	U
1,3,5-Trimethylbenzene	108-67-8	5	U	5	U	5	U	5	U	5	U
1,3-Dichlorobenzene	541-73-1	5	U	5	U	5	U	5	U	5	U
1,3-Dichloropropane	142-28-9	5	U	5	U	5	U	5	U	5	U
1,4-Dichlorobenzene	106-46-7	5	U	5	U	5	U	5	U	5	U
2,2-Dichloropropane	594-20-7	5	U	5	U	5	U	5	U	5	U
2-Butanone (Mek)	78-93-3	5	R	5	R	5	R	5	R	5	R
2-Chlorotoluene	95-49-8	5	U	5	U	5	U	5	U	5	U
2-Hexanone	591-78-6	5	U	5	UJ	5	UJ	5	U	5	U
4-Chlorotoluene	106-43-4	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone (Mibk)	108-10-1	5	U	5	U	5	U	5	U	5	U
Acetone	67-64-1	5	R	5	R	5	R	5	R	5	U

Sample ID		PM-TB-110311		PM-TB-1112011		PM-TB-1122011		TB-20110524A		TB-20110524B	
Lab Sample Number		K2297-13		K2296-01		K2297-06		K0918-02		K0909-11	
Sampling Date		11/03/2011		11/01/2011		11/02/2011		05/24/2011		05/24/2011	
Sample Type		TB		TB		TB		TB		TB	
Benzene	71-43-2	5	U	5	U	5	U	5	U	5	R
Bromobenzene	108-86-1	5	U	5	U	5	U	5	U	5	U
Bromochloromethane	74-97-5	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane	75-27-4	5	U	5	U	5	U	5	U	5	U
Bromoform	75-25-2	5	UJ	5	U	5	U	5	U	5	U
Bromomethane	74-83-9	5	U	5	U	5	U	5	U	5	U
Carbon Disulfide	75-15-0	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride	56-23-5	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	108-90-7	5	U	5	U	5	U	5	U	5	U
Chloroethane	75-00-3	5	U	5	U	5	U	5	U	5	U
Chloroform	67-66-3	5	U	5	U	5	U	5	U	5	U
Chloromethane	74-87-3	5	U	5	U	5	U	5	U	5	U
Cis-1,2-Dichloroethene	156-59-2	5	U	5	U	5	U	5	U	5	U
Cis-1,3-Dichloropropene	10061-01-5	5	U	5	U	5	U	5	U	5	U
Cyclohexane	110-82-7	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	124-48-1	5	U	5	U	5	U	5	U	5	U
Dibromomethane	74-95-3	5	U	5	U	5	U	5	U	5	U
Dichlorodifluoromethane	75-71-8	5	U	5	U	5	U	5	UJ	5	UJ
Ethylbenzene	100-41-4	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	87-68-3	5	U	5	UJ	5	UJ	5	U	5	U
Isopropylbenzene	98-82-8	5	U	5	U	5	U	5	U	5	U
M,P-Xylene	179601-23-1	5	U	5	U	5	U	5	U	5	U
Methyl Acetate	79-20-9	5	U	5	U	5	U	5	U	5	UJ
Methyl Iodide	74-88-4	5	U	5	U	5	U	5	U	5	U
Methyl Tert-Butyl Ether (Mtbe)	1634-04-4	5	U	5	U	5	U	5	U	5	U
Methylcyclohexane	108-87-2	5	U	5	U	5	U	5	U	5	U
Methylene Chloride	75-09-2	5	U	5	U	5	U	5	U	5	U
Naphthalene	91-20-3	5	U	5	UJ	5	UJ	5	U	5	U
N-Butylbenzene	104-51-8	5	U	5	U	5	U	5	U	5	U
N-Propylbenzene	103-65-1	5	U	5	U	5	U	5	U	5	U

Sample ID		PM-TB-110311		PM-TB-1112011		PM-TB-1122011		TB-20110524A		TB-20110524B	
Lab Sample Number		K2297-13		K2296-01		K2297-06		K0918-02		K0909-11	
Sampling Date		11/03/2011		11/01/2011		11/02/2011		05/24/2011		05/24/2011	
Sample Type		TB		TB		TB		TB		TB	
O-Xylene	95-47-6	5	U	5	U	5	U	5	U	5	U
P-Isopropyltoluene	99-87-6	5	U	5	U	5	U	5	U	5	U
Sec-Butylbenzene	135-98-8	5	U	5	U	5	U	5	U	5	U
Styrene	100-42-5	5	U	5	U	5	U	5	U	5	U
Tert-Butylbenzene	98-06-6	5	U	5	U	5	UJ	5	U	5	U
Tetrachloroethene	127-18-4	5	UJ	5	UJ	5	UJ	5	U	5	U
Toluene	108-88-3	5	U	5	U	5	U	5	U	5	U
Total Xylenes	1330-20-7	5	U	5	U	5	U	5	U	5	U
Trans-1,2-Dichloroethene	156-60-5	5	U	5	U	5	U	5	U	5	U
Trans-1,3-Dichloropropene	10061-02-6	5	U	5	U	5	U	5	U	5	U
Trichloroethene	79-01-6	5	U	5	U	5	U	5	U	5	U
Trichlorofluoromethane	75-69-4	5	U	5	U	5	U	5	U	5	U
Vinyl Acetate	108-05-4	5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	75-01-4	5	U	5	U	5	U	5	U	5	U
Semi-Volatile Organic Compounds											
1,1'-Biphenyl	92-52-4										
2,4,5-Trichlorophenol	95-95-4										
2,4,6-Trichlorophenol	88-06-2										
2,4-Dichlorophenol	120-83-2										
2,4-Dimethylphenol	105-67-9										
2,4-Dinitrophenol	51-28-5										
2,4-Dinitrotoluene	121-14-2										
2,6-Dinitrotoluene	606-20-2										
2-Chloronaphthalene	91-58-7										
2-Chlorophenol	95-57-8										
2-Methylnaphthalene	91-57-6										
2-Methylphenol	95-48-7										
2-Nitroaniline	88-74-4										
2-Nitrophenol	88-75-5										
3,3'-Dichlorobenzidine	91-94-1										

	Sample ID	PM-TB-110311		PM-TB-1112011		PM-TB-1122011		TB-20110524A		TB-20110524B	
	Lab Sample Number	K2297-13		K2296-01		K2297-06		K0918-02		K0909-11	
	Sampling Date	11/03/2011		11/01/2011		11/02/2011		05/24/2011		05/24/2011	
	Sample Type	TB		TB		TB		TB		TB	
3-Nitroaniline	99-09-2										
4,6-Dinitro-2-Methylphenol	534-52-1										
4-Bromophenyl-Phenylether	101-55-3										
4-Chloro-3-Methylphenol	59-50-7										
4-Chloroaniline	106-47-8										
4-Chlorophenyl-Phenylether	7005-72-3										
4-Methylphenol	106-44-5										
4-Nitroaniline	100-01-6										
4-Nitrophenol	100-02-7										
Acenaphthene	83-32-9										
Acenaphthylene	208-96-8										
Acetophenone	98-86-2										
Anthracene	120-12-7										
Atrazine	1912-24-9										
Benzaldehyde	100-52-7										
Benzo(A)Anthracene	56-55-3										
Benzo(A)Pyrene	50-32-8										
Benzo(B)Fluoranthene	205-99-2										
Benzo(G,H,I)Perylene	191-24-2										
Benzo(K)Fluoranthene	207-08-9										
Bis(2-Chloroethoxy)Methane	111-91-1										
Bis(2-Chloroethyl) Ether	111-44-4										
Bis(2-Ethylhexyl)Phthalate	117-81-7										
Bis-Chloroisopropyl Ether	108-60-1										
Butylbenzylphthalate	85-68-7										
Caprolactam	105-60-2										
Carbazole	86-74-8										
Chrysene	218-01-9										
Dibenzo(A,H)Anthracene	53-70-3										
Dibenzofuran	132-64-9										

	Sample ID	PM-TB-110311		PM-TB-1112011		PM-TB-1122011		TB-20110524A		TB-20110524B	
	Lab Sample Number	K2297-13		K2296-01		K2297-06		K0918-02		K0909-11	
	Sampling Date	11/03/2011		11/01/2011		11/02/2011		05/24/2011		05/24/2011	
	Sample Type	TB		TB		TB		TB		TB	
Diethylphthalate	84-66-2										
Dimethylphthalate	131-11-3										
Di-N-Butylphthalate	84-74-2										
Di-N-Octylphthalate	117-84-0										
Fluoranthene	206-44-0										
Fluorene	86-73-7										
Hexachlorobenzene	118-74-1										
Hexachlorobutadiene	87-68-3										
Hexachlorocyclopentadiene	77-47-4										
Hexachloroethane	67-72-1										
Indeno(1,2,3-Cd)Pyrene	193-39-5										
Isophorone	78-59-1										
Naphthalene	91-20-3										
Nitrobenzene	98-95-3										
N-Nitroso-Di-N-Propylamine	621-64-7										
N-Nitrosodiphenylamine	86-30-6										
Pentachlorophenol	87-86-5										
Phenanthrene	85-01-8										
Phenol	108-95-2										
Pyrene	129-00-0										
Methane, Ethane, Ethene											
Ethane	74-84-0										
Ethene	74-85-1										
Methane	74-82-8										
Pesticides											
4,4'-DDD	72-54-8										
4,4'-DDE	72-55-9										
4,4'-DDT	50-29-3										
Aldrin	309-00-2										
Alpha-Bhc	319-84-6										

	Sample ID	PM-TB-110311		PM-TB-1112011		PM-TB-1122011		TB-20110524A		TB-20110524B	
	Lab Sample Number	K2297-13		K2296-01		K2297-06		K0918-02		K0909-11	
	Sampling Date	11/03/2011		11/01/2011		11/02/2011		05/24/2011		05/24/2011	
	Sample Type	TB		TB		TB		TB		TB	
Alpha-Chlordane	5103-71-9										
Beta-Bhc	319-85-7										
Delta-Bhc	319-86-8										
Dieldrin	60-57-1										
Endosulfan I	959-98-8										
Endosulfan Ii	33213-65-9										
Endosulfan Sulfate	1031-07-8										
Endrin	72-20-8										
Endrin Aldehyde	7421-93-4										
Endrin Ketone	53494-70-5										
Gamma-Bhc (Lindane)	58-89-9										
Gamma-Chlordane	5103-74-2										
Heptachlor	76-44-8										
Heptachlor Epoxide	1024-57-3										
Methoxychlor	72-43-5										
Toxaphene	8001-35-2										
Polychlorinated Organic Compounds											
Aroclor 1016	12674-11-2										
Aroclor 1221	11104-28-2										
Aroclor 1232	11141-16-5										
Aroclor 1242	53469-21-9										
Aroclor 1248	12672-29-6										
Aroclor 1254	11097-69-1										
Aroclor 1260	11096-82-5										
Inorganics											
Aluminum	7429-90-5										
Antimony	7440-36-0										
Arsenic	7440-38-2										
Barium	7440-39-3										
Beryllium	7440-41-7										

	Sample ID	PM-TB-110311		PM-TB-1112011		PM-TB-1122011		TB-20110524A		TB-20110524B	
	Lab Sample Number	K2297-13		K2296-01		K2297-06		K0918-02		K0909-11	
	Sampling Date	11/03/2011		11/01/2011		11/02/2011		05/24/2011		05/24/2011	
	Sample Type	TB		TB		TB		TB		TB	
Cadmium	7440-43-9										
Calcium	7440-70-2										
Chromium	7440-47-3										
Cobalt	7440-48-4										
Copper	7440-50-8										
Iron	7439-89-6										
Lead	7439-92-1										
Magnesium	7439-95-4										
Manganese	7439-96-5										
Mercury - SW7470	7439-97-6										
Nickel	7440-02-0										
Potassium	7440-09-7										
Selenium	7782-49-2										
Silver	7440-22-4										
Sodium	7440-23-5										
Thallium	7440-28-0										
Vanadium	7440-62-2										
Zinc	7440-66-6										

	Sample ID	TRIP BLANK	
	Lab Sample Number	K0909-06	
	Sampling Date	05/23/2011	
	Sample Type	TB	
Chemical	CAS#		
Volatile Organic Compounds			
1,1,1,2-Tetrachloroethane	630-20-6	5	U
1,1,1-Trichloroethane	71-55-6	5	U
1,1,2,2-Tetrachloroethane	79-34-5	5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	U
1,1,2-Trichloroethane	79-00-5	5	U
1,1-Dichloroethane	75-34-3	5	U
1,1-Dichloroethene	75-35-4	5	U
1,1-Dichloropropene	563-58-6	5	U
1,2,3-Trichlorobenzene	87-61-6	5	U
1,2,3-Trichloropropane	96-18-4	5	U
1,2,4-Trichlorobenzene	120-82-1	5	U
1,2,4-Trimethylbenzene	95-63-6	5	U
1,2-Dibromo-3-Chloropropane	96-12-8	5	U
1,2-Dibromoethane (Edb)	106-93-4	5	U
1,2-Dichlorobenzene	95-50-1	5	U
1,2-Dichloroethane	107-06-2	5	U
1,2-Dichloropropane	78-87-5	5	U
1,3,5-Trimethylbenzene	108-67-8	5	U
1,3-Dichlorobenzene	541-73-1	5	U
1,3-Dichloropropane	142-28-9	5	U
1,4-Dichlorobenzene	106-46-7	5	U
2,2-Dichloropropane	594-20-7	5	U
2-Butanone (Mek)	78-93-3	5	R
2-Chlorotoluene	95-49-8	5	U
2-Hexanone	591-78-6	5	U
4-Chlorotoluene	106-43-4	5	U
4-Methyl-2-Pentanone (Mibk)	108-10-1	5	U
Acetone	67-64-1	5	U

	Sample ID	TRIP BLANK	
	Lab Sample Number	K0909-06	
	Sampling Date	05/23/2011	
	Sample Type	TB	
Benzene	71-43-2	5	R
Bromobenzene	108-86-1	5	U
Bromochloromethane	74-97-5	5	U
Bromodichloromethane	75-27-4	5	U
Bromoform	75-25-2	5	U
Bromomethane	74-83-9	5	U
Carbon Disulfide	75-15-0	5	U
Carbon Tetrachloride	56-23-5	5	U
Chlorobenzene	108-90-7	5	U
Chloroethane	75-00-3	5	U
Chloroform	67-66-3	5	U
Chloromethane	74-87-3	5	U
Cis-1,2-Dichloroethene	156-59-2	5	U
Cis-1,3-Dichloropropene	10061-01-5	5	U
Cyclohexane	110-82-7	5	U
Dibromochloromethane	124-48-1	5	U
Dibromomethane	74-95-3	5	U
Dichlorodifluoromethane	75-71-8	5	UJ
Ethylbenzene	100-41-4	5	U
Hexachlorobutadiene	87-68-3	5	U
Isopropylbenzene	98-82-8	5	U
M,P-Xylene	179601-23-1	5	U
Methyl Acetate	79-20-9	5	UJ
Methyl Iodide	74-88-4	5	U
Methyl Tert-Butyl Ether (Mtbe)	1634-04-4	5	U
Methylcyclohexane	108-87-2	5	U
Methylene Chloride	75-09-2	5	U
Naphthalene	91-20-3	5	U
N-Butylbenzene	104-51-8	5	U
N-Propylbenzene	103-65-1	5	U

	Sample ID	TRIP BLANK	
	Lab Sample Number	K0909-06	
	Sampling Date	05/23/2011	
	Sample Type	TB	
O-Xylene	95-47-6	5	U
P-Isopropyltoluene	99-87-6	5	U
Sec-Butylbenzene	135-98-8	5	U
Styrene	100-42-5	5	U
Tert-Butylbenzene	98-06-6	5	U
Tetrachloroethene	127-18-4	5	U
Toluene	108-88-3	5	U
Total Xylenes	1330-20-7	5	U
Trans-1,2-Dichloroethene	156-60-5	5	U
Trans-1,3-Dichloropropene	10061-02-6	5	U
Trichloroethene	79-01-6	5	U
Trichlorofluoromethane	75-69-4	5	U
Vinyl Acetate	108-05-4	5	U
Vinyl Chloride	75-01-4	5	U
Semi-Volatile Organic Compounds			
1,1'-Biphenyl	92-52-4		
2,4,5-Trichlorophenol	95-95-4		
2,4,6-Trichlorophenol	88-06-2		
2,4-Dichlorophenol	120-83-2		
2,4-Dimethylphenol	105-67-9		
2,4-Dinitrophenol	51-28-5		
2,4-Dinitrotoluene	121-14-2		
2,6-Dinitrotoluene	606-20-2		
2-Chloronaphthalene	91-58-7		
2-Chlorophenol	95-57-8		
2-Methylnaphthalene	91-57-6		
2-Methylphenol	95-48-7		
2-Nitroaniline	88-74-4		
2-Nitrophenol	88-75-5		
3,3'-Dichlorobenzidine	91-94-1		

	Sample ID	TRIP BLANK	
	Lab Sample Number	K0909-06	
	Sampling Date	05/23/2011	
	Sample Type	TB	
3-Nitroaniline	99-09-2		
4,6-Dinitro-2-Methylphenol	534-52-1		
4-Bromophenyl-Phenylether	101-55-3		
4-Chloro-3-Methylphenol	59-50-7		
4-Chloroaniline	106-47-8		
4-Chlorophenyl-Phenylether	7005-72-3		
4-Methylphenol	106-44-5		
4-Nitroaniline	100-01-6		
4-Nitrophenol	100-02-7		
Acenaphthene	83-32-9		
Acenaphthylene	208-96-8		
Acetophenone	98-86-2		
Anthracene	120-12-7		
Atrazine	1912-24-9		
Benzaldehyde	100-52-7		
Benzo(A)Anthracene	56-55-3		
Benzo(A)Pyrene	50-32-8		
Benzo(B)Fluoranthene	205-99-2		
Benzo(G,H,I)Perylene	191-24-2		
Benzo(K)Fluoranthene	207-08-9		
Bis(2-Chloroethoxy)Methane	111-91-1		
Bis(2-Chloroethyl) Ether	111-44-4		
Bis(2-Ethylhexyl)Phthalate	117-81-7		
Bis-Chloroisopropyl Ether	108-60-1		
Butylbenzylphthalate	85-68-7		
Caprolactam	105-60-2		
Carbazole	86-74-8		
Chrysene	218-01-9		
Dibenzo(A,H)Anthracene	53-70-3		
Dibenzofuran	132-64-9		

	Sample ID	TRIP BLANK	
	Lab Sample Number	K0909-06	
	Sampling Date	05/23/2011	
	Sample Type	TB	
Diethylphthalate	84-66-2		
Dimethylphthalate	131-11-3		
Di-N-Butylphthalate	84-74-2		
Di-N-Octylphthalate	117-84-0		
Fluoranthene	206-44-0		
Fluorene	86-73-7		
Hexachlorobenzene	118-74-1		
Hexachlorobutadiene	87-68-3		
Hexachlorocyclopentadiene	77-47-4		
Hexachloroethane	67-72-1		
Indeno(1,2,3-Cd)Pyrene	193-39-5		
Isophorone	78-59-1		
Naphthalene	91-20-3		
Nitrobenzene	98-95-3		
N-Nitroso-Di-N-Propylamine	621-64-7		
N-Nitrosodiphenylamine	86-30-6		
Pentachlorophenol	87-86-5		
Phenanthrene	85-01-8		
Phenol	108-95-2		
Pyrene	129-00-0		
Methane, Ethane, Ethene			
Ethane	74-84-0		
Ethene	74-85-1		
Methane	74-82-8		
Pesticides			
4,4'-DDD	72-54-8		
4,4'-DDE	72-55-9		
4,4'-DDT	50-29-3		
Aldrin	309-00-2		
Alpha-Bhc	319-84-6		

	Sample ID	TRIP BLANK	
	Lab Sample Number	K0909-06	
	Sampling Date	05/23/2011	
	Sample Type	TB	
Alpha-Chlordane	5103-71-9		
Beta-Bhc	319-85-7		
Delta-Bhc	319-86-8		
Dieldrin	60-57-1		
Endosulfan I	959-98-8		
Endosulfan Ii	33213-65-9		
Endosulfan Sulfate	1031-07-8		
Endrin	72-20-8		
Endrin Aldehyde	7421-93-4		
Endrin Ketone	53494-70-5		
Gamma-Bhc (Lindane)	58-89-9		
Gamma-Chlordane	5103-74-2		
Heptachlor	76-44-8		
Heptachlor Epoxide	1024-57-3		
Methoxychlor	72-43-5		
Toxaphene	8001-35-2		
Polychlorinated Organic Compounds			
Aroclor 1016	12674-11-2		
Aroclor 1221	11104-28-2		
Aroclor 1232	11141-16-5		
Aroclor 1242	53469-21-9		
Aroclor 1248	12672-29-6		
Aroclor 1254	11097-69-1		
Aroclor 1260	11096-82-5		
Inorganics			
Aluminum	7429-90-5		
Antimony	7440-36-0		
Arsenic	7440-38-2		
Barium	7440-39-3		
Beryllium	7440-41-7		

		Sample ID	TRIP BLANK	
		Lab Sample Number	K0909-06	
		Sampling Date	05/23/2011	
		Sample Type	TB	
Cadmium	7440-43-9			
Calcium	7440-70-2			
Chromium	7440-47-3			
Cobalt	7440-48-4			
Copper	7440-50-8			
Iron	7439-89-6			
Lead	7439-92-1			
Magnesium	7439-95-4			
Manganese	7439-96-5			
Mercury - SW7470	7439-97-6			
Nickel	7440-02-0			
Potassium	7440-09-7			
Selenium	7782-49-2			
Silver	7440-22-4			
Sodium	7440-23-5			
Thallium	7440-28-0			
Vanadium	7440-62-2			
Zinc	7440-66-6			

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MIP1-16.5		80230-MIP1B-14		80230-MIP1C-26		80230-MIP1D-37.5	
		Sample Location	MIP1		MIP1B		MIP1C		MIP1D	
		Sampling Date	05/24/2011		05/25/2011		05/26/2011		05/26/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Volatile Organic Compounds (µg/kg)										
1,1,1,2-Tetrachloroethane	630-20-6		5.2	U	5.4	U	5.3	U	5.3	U
1,1,1-Trichloroethane	71-55-6	680	5.2	U	5.4	U	5.3	U	5.3	U
1,1,2,2-Tetrachloroethane	79-34-5		5.2	U	5.4	U	5.3	U	5.3	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		5.2	U	5.4	U	5.3	U	5.3	U
1,1,2-Trichloroethane	79-00-5		5.2	U	5.4	U	5.3	U	5.3	U
1,1-Dichloroethane	75-34-3	270	5.2	U	5.4	U	5.3	U	5.3	U
1,1-Dichloroethene	75-35-4	330	5.2	U	5.4	U	5.3	U	5.3	U
1,1-Dichloropropene	563-58-6		5.2	U	5.4	U	5.3	U	5.3	U
1,2,3-Trichlorobenzene	87-61-6		5.2	U	5.4	U	5.3	U	5.3	U
1,2,3-Trichloropropane	96-18-4		5.2	U	5.4	U	5.3	U	5.3	U
1,2,4-Trichlorobenzene	120-82-1		5.2	U	5.4	U	5.3	U	5.3	U
1,2,4-Trimethylbenzene	95-63-6	3600	5.2	U	5.4	U	5.3	U	5.3	U
1,2-Dibromo-3-Chloropropane	96-12-8		5.2	UJ	5.4	U	5.3	U	5.3	U
1,2-Dibromoethane (EDB)	106-93-4		5.2	U	5.4	U	5.3	U	5.3	U
1,2-Dichlorobenzene	95-50-1	1100	5.2	U	5.4	U	5.3	U	5.3	U
1,2-Dichloroethane	107-06-2	20	5.2	U	5.4	U	5.3	U	5.3	U
1,2-Dichloropropane	78-87-5		5.2	U	5.4	U	5.3	U	5.3	U
1,3,5-Trimethylbenzene	108-67-8	8400	5.2	U	5.4	U	5.3	U	5.3	U
1,3-Dichlorobenzene	541-73-1	2400	5.2	U	5.4	U	5.3	U	5.3	U
1,3-Dichloropropane	142-28-9		5.2	U	5.4	U	5.3	U	5.3	U
1,4-Dichlorobenzene	106-46-7	1800	5.2	U	5.4	U	5.3	U	5.3	U
2,2-Dichloropropane	594-20-7		5.2	U	5.4	U	5.3	U	5.3	U
2-Butanone (MEK)	78-93-3	120	5.2	R	5.4	R	5.3	R	5.3	R
2-Chlorotoluene	95-49-8		5.2	U	5.4	U	5.3	U	5.3	U
2-Hexanone	591-78-6		5.2	U	5.4	U	5.3	U	5.3	U
4-Chlorotoluene	106-43-4		5.2	U	5.4	U	5.3	U	5.3	U
4-Methyl-2-Pentanone (MIBK)	108-10-1		5.2	U	5.4	U	5.3	U	5.3	U
Acetone	67-64-1	50	5.2	R	16	R	5.3	R	5.3	R
Benzene	71-43-2	60	5.2	U	5.4	U	5.3	U	5.3	U
Bromobenzene	108-86-1		5.2	U	5.4	U	5.3	U	5.3	U

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MIP1-16.5		80230-MIP1B-14		80230-MIP1C-26		80230-MIP1D-37.5	
		Sample Location	MIP1		MIP1B		MIP1C		MIP1D	
		Sampling Date	05/24/2011		05/25/2011		05/26/2011		05/26/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Bromochloromethane	74-97-5		5.2	U	5.4	U	5.3	U	5.3	U
Bromodichloromethane	75-27-4		5.2	U	5.4	U	5.3	U	5.3	U
Bromoform	75-25-2		5.2	U	5.4	U	5.3	U	5.3	U
Bromomethane	74-83-9		5.2	U	5.4	U	5.3	U	5.3	U
Carbon Disulfide	75-15-0		5.2	U	5.4	U	5.3	U	5.3	U
Carbon Tetrachloride	56-23-5	760	5.2	U	5.4	U	5.3	U	5.3	U
Chlorobenzene	108-90-7	1100	5.2	U	5.4	U	5.3	U	5.3	U
Chloroethane	75-00-3		5.2	U	5.4	U	5.3	U	5.3	U
Chloroform	67-66-3	370	5.2	U	5.4	U	5.3	U	5.3	U
Chloromethane	74-87-3		5.2	U	5.4	U	5.3	U	5.3	U
cis-1,2-Dichloroethene	156-59-2	250	5.2	U	1.3	J	5.3	U	5.3	U
cis-1,3-Dichloropropene	10061-01-5		5.2	U	5.4	U	5.3	U	5.3	U
Cyclohexane	110-82-7		5.2	U	5.4	U	5.3	U	5.3	U
Dibromochloromethane	124-48-1		5.2	U	5.4	U	5.3	U	5.3	U
Dibromomethane	74-95-3		5.2	U	5.4	U	5.3	U	5.3	U
Dichlorodifluoromethane	75-71-8		5.2	U	5.4	U	5.3	U	5.3	U
Ethylbenzene	100-41-4	1000	5.2	U	5.4	U	5.3	U	5.3	U
Hexachlorobutadiene	87-68-3		5.2	U	5.4	U	5.3	U	5.3	U
Isopropylbenzene	98-82-8		5.2	U	5.4	U	5.3	U	5.3	U
m,p-Xylene	179601-23-1	260	5.2	U	5.4	U	5.3	U	5.3	U
Methyl Acetate	79-20-9		5.2	U	5.4	U	5.3	U	5.3	U
Methyl Iodide	74-88-4		5.2	U	5.4	U	5.3	U	5.3	U
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	930	5.2	U	5.4	U	5.3	U	5.3	U
Methylcyclohexane	108-87-2		5.2	U	5.4	U	5.3	U	5.3	U
Methylene Chloride	75-09-2	50	2.4	J	5.4	U	5.3	U	5.3	U
Naphthalene	91-20-3	12000	5.2	UJ	5.4	U	5.3	U	5.3	U
n-Butylbenzene	104-51-8	12000	5.2	U	5.4	U	5.3	U	5.3	U
n-Propylbenzene	103-65-1	3900	5.2	U	5.4	U	5.3	U	5.3	U
o-Xylene	95-47-6	260	5.2	U	5.4	U	5.3	U	5.3	U
p-Isopropyltoluene	99-87-6		5.2	U	5.4	U	5.3	U	5.3	U
sec-Butylbenzene	135-98-8	11000	5.2	U	5.4	U	5.3	U	5.3	U

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
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		Sample ID	80230-MIP1-16.5		80230-MIP1B-14		80230-MIP1C-26		80230-MIP1D-37.5	
		Sample Location	MIP1		MIP1B		MIP1C		MIP1D	
		Sampling Date	05/24/2011		05/25/2011		05/26/2011		05/26/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Styrene	100-42-5		5.2	U	5.4	U	5.3	U	5.3	U
tert-Butylbenzene	98-06-6	5900	5.2	U	5.4	U	5.3	U	5.3	U
Tetrachloroethene	127-18-4	**1300**	8.1		5.4	U	5.3	U	5.3	U
Toluene	108-88-3	700	5.2	U	5.4	U	5.3	U	5.3	U
Total Xylenes	1330-20-7	260	5.2	U	5.4	U	5.3	U	5.3	U
trans-1,2-Dichloroethene	156-60-5	190	5.2	U	5.4	U	5.3	U	5.3	U
trans-1,3-Dichloropropene	10061-02-6		5.2	U	5.4	U	5.3	U	5.3	U
Trichloroethene	79-01-6	470	5.2	U	5.4	U	5.3	U	5.3	U
Trichlorofluoromethane	75-69-4		5.2	U	5.4	U	5.3	U	5.3	U
Vinyl Acetate	108-05-4		5.2	U	5.4	U	5.3	U	5.3	U
Vinyl Chloride	75-01-4	20	5.2	U	5.4	U	5.3	U	5.3	U
Semi-Volatile Organic Compounds (µg/kg)										
1,1'-Biphenyl	92-52-4		380	U	360	U	370	U	350	U
2,4,5-Trichlorophenol	95-95-4		780	U	740	U	750	U	720	U
2,4,6-Trichlorophenol	88-06-2		380	U	360	U	370	U	350	U
2,4-Dichlorophenol	120-83-2		380	U	360	U	370	U	350	U
2,4-Dimethylphenol	105-67-9		380	U	360	U	370	U	350	U
2,4-Dinitrophenol	51-28-5		780	UJ	740	UJ	750	UJ	720	UJ
2,4-Dinitrotoluene	121-14-2		380	U	360	U	370	U	350	U
2,6-Dinitrotoluene	606-20-2		380	U	360	U	370	U	350	U
2-Chloronaphthalene	91-58-7		380	U	360	U	370	U	350	U
2-Chlorophenol	95-57-8		380	U	360	U	370	U	350	U
2-Methylnaphthalene	91-57-6		380	UJ	360	UJ	370	UJ	350	UJ
2-Methylphenol	95-48-7	330	380	U	360	U	370	U	350	U
2-Nitroaniline	88-74-4		780	U	740	U	750	U	720	U
2-Nitrophenol	88-75-5		380	U	360	U	370	U	350	U
3,3'-Dichlorobenzidine	91-94-1		380	U	360	U	370	U	350	U
3-Nitroaniline	99-09-2		780	U	740	U	750	U	720	U
4,6-Dinitro-2-Methylphenol	534-52-1		780	U	740	U	750	U	720	U
4-Bromophenyl-Phenylether	101-55-3		380	U	360	U	370	U	350	U
4-Chloro-3-Methylphenol	59-50-7		380	U	360	U	370	U	350	U

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
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		Sample ID	80230-MIP1-16.5		80230-MIP1B-14		80230-MIP1C-26		80230-MIP1D-37.5	
		Sample Location	MIP1		MIP1B		MIP1C		MIP1D	
		Sampling Date	05/24/2011		05/25/2011		05/26/2011		05/26/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
4-Chloroaniline	106-47-8		380	U	360	U	370	U	350	U
4-Chlorophenyl-Phenylether	7005-72-3		380	U	360	U	370	U	350	U
4-Methylphenol	106-44-5	330	380	U	360	U	370	U	350	U
4-Nitroaniline	100-01-6		780	U	740	U	750	U	720	U
4-Nitrophenol	100-02-7		780	U	740	U	750	U	720	U
Acenaphthene	83-32-9	20000	380	U	360	U	370	U	350	U
Acenaphthylene	208-96-8	100000	380	U	360	U	370	U	350	U
Acetophenone	98-86-2		380	U	360	U	370	U	350	U
Anthracene	120-12-7	100000	380	U	360	U	370	U	350	U
Atrazine	1912-24-9		380	U	360	U	370	U	350	U
Benzaldehyde	100-52-7		380	U	360	U	370	U	350	U
Benzo(a)Anthracene	56-55-3	1000	380	U	360	U	370	U	350	U
Benzo(a)Pyrene	50-32-8	1000	380	U	360	U	370	U	350	U
Benzo(b)Fluoranthene	205-99-2	1000	380	U	360	U	370	U	350	U
Benzo(g,h,i)Perylene	191-24-2	100000	380	U	360	U	370	U	350	U
Benzo(k)Fluoranthene	207-08-9	800	380	U	360	U	370	U	350	U
bis(2-Chloroethoxy)Methane	111-91-1		380	U	360	U	370	U	350	U
bis(2-Chloroethyl) Ether	111-44-4		380	U	360	U	370	U	350	U
bis(2-Ethylhexyl)Phthalate	117-81-7		360	J	360	U	370	U	350	U
bis-Chloroisopropyl Ether	108-60-1		380	U	360	U	370	U	350	U
Butylbenzylphthalate	85-68-7		380	U	360	U	370	U	350	U
Caprolactam	105-60-2		380	U	360	U	370	U	350	U
Carbazole	86-74-8		380	U	360	U	370	U	350	U
Chrysene	218-01-9	1000	380	U	360	U	370	U	350	U
Dibenzo(a,h)Anthracene	53-70-3	330	380	U	360	U	370	U	350	U
Dibenzofuran	132-64-9	7000	380	U	360	U	370	U	350	U
Diethylphthalate	84-66-2		380	U	360	U	370	U	350	U
Dimethylphthalate	131-11-3		380	U	360	U	370	U	350	U
di-n-Butylphthalate	84-74-2		380	U	360	U	370	U	350	U
di-n-Octylphthalate	117-84-0		380	U	360	U	370	U	350	U
Fluoranthene	206-44-0	100000	380	U	360	U	50	J	55	J

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
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		Sample ID	80230-MIP1-16.5		80230-MIP1B-14		80230-MIP1C-26		80230-MIP1D-37.5	
		Sample Location	MIP1		MIP1B		MIP1C		MIP1D	
		Sampling Date	05/24/2011		05/25/2011		05/26/2011		05/26/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Fluorene	86-73-7	30000	380	U	360	U	370	U	350	U
Hexachlorobenzene	118-74-1	330	380	U	360	U	370	U	350	U
Hexachlorobutadiene	87-68-3		380	U	360	U	370	U	350	U
Hexachlorocyclopentadiene	77-47-4		380	U	360	U	370	U	350	U
Hexachloroethane	67-72-1		380	U	360	U	370	U	350	U
Indeno(1,2,3-cd)Pyrene	193-39-5	500	380	U	360	U	370	U	350	U
Isophorone	78-59-1		380	U	360	U	370	U	350	U
Naphthalene	91-20-3	12000	380	U	360	U	370	U	350	U
Nitrobenzene	98-95-3		380	U	360	UJ	370	UJ	350	UJ
n-Nitroso-di-n-Propylamine	621-64-7		380	U	360	U	370	U	350	U
n-Nitrosodiphenylamine	86-30-6		380	U	360	U	370	U	350	U
Pentachlorophenol	87-86-5	800	780	U	740	U	750	U	720	U
Phenanthrene	85-01-8	100000	380	U	360	U	370	U	350	U
Phenol	108-95-2	330	380	U	360	U	370	U	350	U
Pyrene	129-00-0	100000	380	U	360	U	37	J	45	J
Pesticides (µg/kg)										
4,4'-DDD	72-54-8	3.3			3.7	U			3.6	U
4,4'-DDE	72-55-9	3.3			3.7	U			3.6	U
4,4'-DDT	50-29-3	3.3			3.7	U			3.6	U
Aldrin	309-00-2	5			1.9	U			1.8	U
Alpha-BHC	319-84-6	20			1.9	U			1.8	U
Alpha-Chlordane	5103-71-9	94			1.9	U			1.8	U
Beta-BHC	319-85-7	36			1.9	U			1.8	U
Delta-BHC	319-86-8	40			1.9	U			1.8	U
Dieldrin	60-57-1	5			3.7	U			3.6	U
Endosulfan I	959-98-8	2400			1.9	U			1.8	U
Endosulfan II	33213-65-9	2400			3.7	U			3.6	U
Endosulfan Sulfate	1031-07-8	2400			3.7	U			3.6	U
Endrin	72-20-8	14			3.7	U			3.6	U
Endrin Aldehyde	7421-93-4				3.7	U			3.6	U
Endrin Ketone	53494-70-5				3.7	U			3.6	U

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MIP1-16.5		80230-MIP1B-14		80230-MIP1C-26		80230-MIP1D-37.5	
		Sample Location	MIP1		MIP1B		MIP1C		MIP1D	
		Sampling Date	05/24/2011		05/25/2011		05/26/2011		05/26/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Gamma-BHC (Lindane)	58-89-9	100			1.9	U			1.8	U
Gamma-Chlordane	5103-74-2				1.9	U			1.8	U
Heptachlor	76-44-8	42			1.9	U			1.8	U
Heptachlor Epoxide	1024-57-3				1.9	U			1.8	U
Methoxychlor	72-43-5				19	U			18	U
Toxaphene	8001-35-2				190	U			180	U
Polychlorinated Biphenyls (µg/kg)										
Aroclor 1016	12674-11-2	100			37	U			36	U
Aroclor 1221	11104-28-2	100			37	U			36	U
Aroclor 1232	11141-16-5	100			37	U			36	U
Aroclor 1242	53469-21-9	100			37	U			36	U
Aroclor 1248	12672-29-6	100			37	U			36	U
Aroclor 1254	11097-69-1	100			37	U			36	U
Aroclor 1260	11096-82-5	100			37	U			36	U
Inorganics (mg/kg)										
Aluminum	7429-90-5				10800				5510	
Antimony	7440-36-0				0.75	UNJ			0.35	BNJ
Arsenic	7440-38-2	13			2.4	*J			2.4	*J
Barium	7440-39-3	350			81.2				69.3	*J
Beryllium	7440-41-7	7.2			0.86				0.59	
Cadmium	7440-43-9	2.5			0.18	B			0.2	B
Calcium	7440-70-2				2900				947	
Chromium	7440-47-3	**30**			26.3	*J			16.3	
Cobalt	7440-48-4				11.2	*J			6.4	*E
Copper	7440-50-8	**50**			30.3	*J			16.4	*J
Iron	7439-89-6				15600	*J			16200	*J
Lead	7439-92-1	63			24.4				6.2	
Magnesium	7439-95-4				5820	*J			3230	
Manganese	7439-96-5	1600			194				336	*J
Mercury	7439-97-6	0.18			0.005	B				
Nickel	7440-02-0	**30**			**31**				14.7	

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Soil Sample Results
Former Paul Miller Dry Cleaners Site
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		Sample ID	80230-MIP1-16.5		80230-MIP1B-14		80230-MIP1C-26		80230-MIP1D-37.5	
		Sample Location	MIP1		MIP1B		MIP1C		MIP1D	
		Sampling Date	05/24/2011		05/25/2011		05/26/2011		05/26/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Potassium	7440-09-7				1950	*J			1170	
Selenium	7782-49-2	3.9			0.51	B			0.57	U
Silver	7440-22-4	2			1.1	U			1.1	U
Sodium	7440-23-5				720	EJ			90.3	
Thallium	7440-28-0				2.8				1.3	
Vanadium	7440-62-2				39.3	J*			23.8	*J
Zinc	7440-66-6	109			61.3	*J			30.2	

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Soil Sample Results
Former Paul Miller Dry Cleaners Site
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		Sample ID	80230-MIP2-30		80230-MIP2B-40		80230-MIP2C-35		80230-MIP2C-35ME	
		Sample Location	MIP2		MIP2B		MIP2C		MIP2C	
		Sampling Date	05/24/2011		05/26/2011		06/16/2011		06/16/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Volatile Organic Compounds (µg/kg)										
1,1,1,2-Tetrachloroethane	630-20-6		5.2	U	5.8	U	6.2	U	370	U
1,1,1-Trichloroethane	71-55-6	680	5.2	U	5.8	U	6.2	U	370	U
1,1,2,2-Tetrachloroethane	79-34-5		5.2	U	5.8	U	6.2	U	370	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		5.2	U	5.8	U	6.2	U	370	U
1,1,2-Trichloroethane	79-00-5		5.2	U	5.8	U	6.2	U	370	U
1,1-Dichloroethane	75-34-3	270	5.2	U	5.8	U	6.2	U	370	U
1,1-Dichloroethene	75-35-4	330	5.2	U	5.8	U	6.2	U	370	U
1,1-Dichloropropene	563-58-6		5.2	U	5.8	U	6.2	U	370	U
1,2,3-Trichlorobenzene	87-61-6		5.2	U	5.8	U	6.2	UJ	370	UJ
1,2,3-Trichloropropane	96-18-4		5.2	U	5.8	U	6.2	U	370	U
1,2,4-Trichlorobenzene	120-82-1		5.2	U	5.8	U	6.2	UJ	370	UJ
1,2,4-Trimethylbenzene	95-63-6	3600	5.2	U	5.8	U	6.2	U	370	U
1,2-Dibromo-3-Chloropropane	96-12-8		5.2	UJ	5.8	U	6.2	U	370	UJ
1,2-Dibromoethane (EDB)	106-93-4		5.2	U	5.8	U	6.2	U	370	U
1,2-Dichlorobenzene	95-50-1	1100	5.2	U	5.8	U	6.2	U	370	U
1,2-Dichloroethane	107-06-2	20	5.2	U	5.8	U	6.2	U	370	U
1,2-Dichloropropane	78-87-5		5.2	U	5.8	U	3.9	J	370	U
1,3,5-Trimethylbenzene	108-67-8	8400	5.2	U	5.8	U	6.2	U	370	U
1,3-Dichlorobenzene	541-73-1	2400	5.2	U	5.8	U	6.2	U	370	U
1,3-Dichloropropane	142-28-9		5.2	U	5.8	U	6.2	U	370	U
1,4-Dichlorobenzene	106-46-7	1800	5.2	U	5.8	U	6.2	U	370	U
2,2-Dichloropropane	594-20-7		5.2	U	5.8	U	6.2	UJ	370	UJ
2-Butanone (MEK)	78-93-3	120	5.2	R	5.8	R	6.2	R	370	R
2-Chlorotoluene	95-49-8		5.2	U	5.8	U	6.2	U	370	U
2-Hexanone	591-78-6		5.2	U	5.8	U	6.2	UJ	370	UJ
4-Chlorotoluene	106-43-4		5.2	U	5.8	U	6.2	U	370	U
4-Methyl-2-Pentanone (MIBK)	108-10-1		5.2	U	5.8	U	6.2	U	370	U
Acetone	67-64-1	50	5.2	R	4.3	J	6.2	R	370	R
Benzene	71-43-2	60	5.2	U	5.8	U	6.2	U	370	U
Bromobenzene	108-86-1		5.2	U	5.8	U	6.2	U	370	U

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			Sample ID		80230-MIP2-30		80230-MIP2B-40		80230-MIP2C-35		80230-MIP2C-35ME	
			Sample Location		MIP2		MIP2B		MIP2C		MIP2C	
			Sampling Date		05/24/2011		05/26/2011		06/16/2011		06/16/2011	
Chemical Name	CAS#	Part 375 Unrestricted										
Bromochloromethane	74-97-5			5.2	U	5.8	U	6.2	UJ	370	UJ	
Bromodichloromethane	75-27-4			5.2	U	5.8	U	6.2	U	370	U	
Bromoform	75-25-2			5.2	U	5.8	U	6.2	UJ	370	UJ	
Bromomethane	74-83-9			5.2	U	5.8	U	6.2	U	370	U	
Carbon Disulfide	75-15-0			5.2	U	5.8	U	6.2	U	370	U	
Carbon Tetrachloride	56-23-5	760		5.2	U	5.8	U	6.2	U	370	U	
Chlorobenzene	108-90-7	1100		5.2	U	5.8	U	6.2	U	370	U	
Chloroethane	75-00-3			5.2	U	5.8	U	6.2	U	370	U	
Chloroform	67-66-3	370		5.2	U	5.8	U	6.2	U	370	U	
Chloromethane	74-87-3			5.2	U	5.8	U	6.2	U	370	U	
cis-1,2-Dichloroethene	156-59-2	250		1.5	J	5.8	U	55		370	U	
cis-1,3-Dichloropropene	10061-01-5			5.2	U	5.8	U	6.2	UJ	370	UJ	
Cyclohexane	110-82-7			5.2	U	5.8	U	6.2	U	370	U	
Dibromochloromethane	124-48-1			5.2	U	5.8	U	6.2	U	370	U	
Dibromomethane	74-95-3			5.2	U	5.8	U	6.2	U	370	U	
Dichlorodifluoromethane	75-71-8			5.2	U	5.8	U	6.2	U	370	UJ	
Ethylbenzene	100-41-4	1000		5.2	U	5.8	U	6.2	U	370	U	
Hexachlorobutadiene	87-68-3			5.2	U	5.8	U	6.2	UJ	370	UJ	
Isopropylbenzene	98-82-8			5.2	U	5.8	U	6.2	U	370	U	
m,p-Xylene	179601-23-1	260		5.2	U	5.8	U	6.2	U	370	U	
Methyl Acetate	79-20-9			5.2	U	5.8	U	6.2	UJ	370	UJ	
Methyl Iodide	74-88-4			5.2	U	5.8	U	6.2	U	370	U	
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	930		5.2	U	5.8	U	6.2	U	370	U	
Methylcyclohexane	108-87-2			5.2	U	5.8	U	6.2	U	370	U	
Methylene Chloride	75-09-2	50		2.6	J	5.8	U	6.2	U	370	U	
Naphthalene	91-20-3	12000		5.2	UJ	5.8	U	6.2	UJ	370	UJ	
n-Butylbenzene	104-51-8	12000		5.2	U	5.8	U	6.2	UJ	370	UJ	
n-Propylbenzene	103-65-1	3900		5.2	U	5.8	U	6.2	U	370	U	
o-Xylene	95-47-6	260		5.2	U	5.8	U	6.2	U	370	U	
p-Isopropyltoluene	99-87-6			5.2	U	5.8	U	6.2	U	370	U	
sec-Butylbenzene	135-98-8	11000		5.2	U	5.8	U	6.2	U	370	U	

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			Sample ID	80230-MIP2-30		80230-MIP2B-40		80230-MIP2C-35		80230-MIP2C-35ME	
			Sample Location	MIP2		MIP2B		MIP2C		MIP2C	
			Sampling Date	05/24/2011		05/26/2011		06/16/2011		06/16/2011	
Chemical Name	CAS#	Part 375 Unrestricted									
Styrene	100-42-5			5.2	U	5.8	U	6.2	U	370	U
tert-Butylbenzene	98-06-6	5900		5.2	U	5.8	U	6.2	U	370	U
Tetrachloroethene	127-18-4	**1300**		53		5.8	U	840	E	**1900**	**J**
Toluene	108-88-3	700		5.2	U	5.8	U	6.2	U	370	U
Total Xylenes	1330-20-7	260		5.2	U	5.8	U	6.2	U	370	U
trans-1,2-Dichloroethene	156-60-5	190		5.2	U	5.8	U	6.2	U	370	U
trans-1,3-Dichloropropene	10061-02-6			5.2	U	5.8	U	6.2	UJ	370	UJ
Trichloroethene	79-01-6	470		5.2	U	5.8	U	7		370	U
Trichlorofluoromethane	75-69-4			5.2	U	5.8	U	6.2	U	370	U
Vinyl Acetate	108-05-4			5.2	U	5.8	U	6.2	UJ	370	UJ
Vinyl Chloride	75-01-4	20		5.2	U	5.8	U	6.2	U	370	U
Semi-Volatile Organic Compounds (µg/kg)											
1,1'-Biphenyl	92-52-4			350	U	390	U	320	U		
2,4,5-Trichlorophenol	95-95-4			710	U	790	U	660	U		
2,4,6-Trichlorophenol	88-06-2			350	U	390	U	320	U		
2,4-Dichlorophenol	120-83-2			350	U	390	U	320	U		
2,4-Dimethylphenol	105-67-9			350	U	390	U	320	UJ		
2,4-Dinitrophenol	51-28-5			710	UJ	790	UJ	660	UJ		
2,4-Dinitrotoluene	121-14-2			350	U	390	U	320	U		
2,6-Dinitrotoluene	606-20-2			350	U	390	U	320	U		
2-Chloronaphthalene	91-58-7			350	U	390	U	320	U		
2-Chlorophenol	95-57-8			350	U	390	U	320	U		
2-Methylnaphthalene	91-57-6			350	UJ	390	UJ	320	U		
2-Methylphenol	95-48-7	330		350	U	390	U	320	U		
2-Nitroaniline	88-74-4			710	U	790	U	660	U		
2-Nitrophenol	88-75-5			350	U	390	U	320	U		
3,3'-Dichlorobenzidine	91-94-1			350	U	390	U	320	U		
3-Nitroaniline	99-09-2			710	U	790	U	660	U		
4,6-Dinitro-2-Methylphenol	534-52-1			710	U	790	U	660	U		
4-Bromophenyl-Phenylether	101-55-3			350	U	390	U	320	U		
4-Chloro-3-Methylphenol	59-50-7			350	U	390	U	320	U		

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			Sample ID		80230-MIP2-30		80230-MIP2B-40		80230-MIP2C-35		80230-MIP2C-35ME	
			Sample Location		MIP2		MIP2B		MIP2C		MIP2C	
			Sampling Date		05/24/2011		05/26/2011		06/16/2011		06/16/2011	
Chemical Name	CAS#	Part 375 Unrestricted										
4-Chloroaniline	106-47-8		350	U	390	U	320	U		
4-Chlorophenyl-Phenylether	7005-72-3		350	U	390	U	320	U		
4-Methylphenol	106-44-5	330	350	U	390	U	320	U		
4-Nitroaniline	100-01-6		710	U	790	U	660	U		
4-Nitrophenol	100-02-7		710	U	790	U	660	U		
Acenaphthene	83-32-9	20000	350	U	390	U	320	U		
Acenaphthylene	208-96-8	100000	350	U	390	U	320	U		
Acetophenone	98-86-2		350	U	390	U	320	U		
Anthracene	120-12-7	100000	350	U	390	U	320	U		
Atrazine	1912-24-9		350	U	390	U	320	U		
Benzaldehyde	100-52-7		350	U	390	U	320	U		
Benzo(a)Anthracene	56-55-3	1000	350	U	390	U	320	U		
Benzo(a)Pyrene	50-32-8	1000	350	U	390	U	320	U		
Benzo(b)Fluoranthene	205-99-2	1000	350	U	390	U	320	U		
Benzo(g,h,i)Perylene	191-24-2	100000	350	U	390	U	320	U		
Benzo(k)Fluoranthene	207-08-9	800	350	U	390	U	320	U		
bis(2-Chloroethoxy)Methane	111-91-1		350	U	390	U	320	U		
bis(2-Chloroethyl) Ether	111-44-4		350	U	390	U	320	U		
bis(2-Ethylhexyl)Phthalate	117-81-7		160	J	390	U	48	J		
bis-Chloroisopropyl Ether	108-60-1		350	U	390	U	320	U		
Butylbenzylphthalate	85-68-7		350	U	390	U	320	U		
Caprolactam	105-60-2		350	U	390	U	320	U		
Carbazole	86-74-8		350	U	390	U	320	U		
Chrysene	218-01-9	1000	350	U	390	U	320	U		
Dibenzo(a,h)Anthracene	53-70-3	330	350	U	390	U	320	U		
Dibenzofuran	132-64-9	7000	350	U	390	U	320	U		
Diethylphthalate	84-66-2		350	U	390	U	320	U		
Dimethylphthalate	131-11-3		350	U	390	U	320	U		
di-n-Butylphthalate	84-74-2		350	U	390	U	320	U		
di-n-Octylphthalate	117-84-0		350	U	390	U	320	U		
Fluoranthene	206-44-0	100000	350	U	390	U	320	U		

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		Sample ID	80230-MIP2-30		80230-MIP2B-40		80230-MIP2C-35		80230-MIP2C-35ME	
		Sample Location	MIP2		MIP2B		MIP2C		MIP2C	
		Sampling Date	05/24/2011		05/26/2011		06/16/2011		06/16/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Fluorene	86-73-7	30000	350	U	390	U	320	U		
Hexachlorobenzene	118-74-1	330	350	U	390	U	320	U		
Hexachlorobutadiene	87-68-3		350	U	390	U	320	U		
Hexachlorocyclopentadiene	77-47-4		350	U	390	U	320	U		
Hexachloroethane	67-72-1		350	U	390	U	320	U		
Indeno(1,2,3-cd)Pyrene	193-39-5	500	350	U	390	U	320	U		
Isophorone	78-59-1		350	U	390	U	320	U		
Naphthalene	91-20-3	12000	350	U	390	U	320	U		
Nitrobenzene	98-95-3		350	U	390	UJ	320	U		
n-Nitroso-di-n-Propylamine	621-64-7		350	U	390	U	320	U		
n-Nitrosodiphenylamine	86-30-6		350	U	390	U	320	U		
Pentachlorophenol	87-86-5	800	710	U	790	U	660	U		
Phenanthrene	85-01-8	100000	350	U	390	U	320	U		
Phenol	108-95-2	330	350	U	390	U	320	U		
Pyrene	129-00-0	100000	350	U	390	U	320	U		
Pesticides (µg/kg)										
4,4'-DDD	72-54-8	3.3			3.9	U	4	U		
4,4'-DDE	72-55-9	3.3			3.9	U	4	U		
4,4'-DDT	50-29-3	3.3			3.9	U	4	U		
Aldrin	309-00-2	5			2	U	2.1	U		
Alpha-BHC	319-84-6	20			2	U	2.1	U		
Alpha-Chlordane	5103-71-9	94			2	U	2.1	U		
Beta-BHC	319-85-7	36			2	U	2.1	U		
Delta-BHC	319-86-8	40			2	U	2.1	U		
Dieldrin	60-57-1	5			3.9	U	4	U		
Endosulfan I	959-98-8	2400			2	U	2.1	U		
Endosulfan II	33213-65-9	2400			3.9	U	4	U		
Endosulfan Sulfate	1031-07-8	2400			3.9	U	4	U		
Endrin	72-20-8	14			3.9	U	4	U		
Endrin Aldehyde	7421-93-4				3.9	U	4	U		
Endrin Ketone	53494-70-5				3.9	U	4	U		

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		Sample ID	80230-MIP2-30		80230-MIP2B-40		80230-MIP2C-35		80230-MIP2C-35ME	
		Sample Location	MIP2		MIP2B		MIP2C		MIP2C	
		Sampling Date	05/24/2011		05/26/2011		06/16/2011		06/16/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Gamma-BHC (Lindane)	58-89-9	100			2	U	2.1	U		
Gamma-Chlordane	5103-74-2				2	U	2.1	U		
Heptachlor	76-44-8	42			2	U	2.1	U		
Heptachlor Epoxide	1024-57-3				2	U	2.1	U		
Methoxychlor	72-43-5				20	U	21	U		
Toxaphene	8001-35-2				200	U	210	U		
Polychlorinated Biphenyls (µg/kg)										
Aroclor 1016	12674-11-2	100			39	U	41	U		
Aroclor 1221	11104-28-2	100			39	U	41	U		
Aroclor 1232	11141-16-5	100			39	U	41	U		
Aroclor 1242	53469-21-9	100			39	U	41	U		
Aroclor 1248	12672-29-6	100			39	U	41	U		
Aroclor 1254	11097-69-1	100			39	U	41	U		
Aroclor 1260	11096-82-5	100			39	U	41	U		
Inorganics (mg/kg)										
Aluminum	7429-90-5				3260		4530			
Antimony	7440-36-0				1	BNJ	0.67	U		
Arsenic	7440-38-2	13			1.7	*J	1.5			
Barium	7440-39-3	350			59.1	*J	34.9			
Beryllium	7440-41-7	7.2			0.25	B	0.44			
Cadmium	7440-43-9	2.5			0.071	B	0.17	U		
Calcium	7440-70-2				905		2000			
Chromium	7440-47-3	**30**			11.3		11.1			
Cobalt	7440-48-4				5.6	*E	5.1			
Copper	7440-50-8	**50**			10.9	*J	**188**			
Iron	7439-89-6				11700	*J	11400			
Lead	7439-92-1	63			2.8		4.8			
Magnesium	7439-95-4				1680		1900			
Manganese	7439-96-5	1600			267	*J	205			
Mercury	7439-97-6	0.18			0.047	U	0.043	U		
Nickel	7440-02-0	**30**			7.6		8.5			

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		Sample ID	80230-MIP2-30		80230-MIP2B-40		80230-MIP2C-35		80230-MIP2C-35ME	
		Sample Location	MIP2		MIP2B		MIP2C		MIP2C	
		Sampling Date	05/24/2011		05/26/2011		06/16/2011		06/16/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Potassium	7440-09-7				399		621			
Selenium	7782-49-2	3.9			1.6	U	1	U		
Silver	7440-22-4	2			1.6	U	1	U		
Sodium	7440-23-5				61.5		72.9			
Thallium	7440-28-0				1.2		0.67	U		
Vanadium	7440-62-2				22.8	*J	18.2			
Zinc	7440-66-6	109			13.8		19.7			

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MIP3-30		80230-MIP3-30-DUP		80230-MIP3B-45		80230-MIP4B-45	
		Sample Location	MIP3		MIP3		MIP3B		MIP4B	
		Sampling Date	05/25/2011		05/25/2011		05/26/2011		06/17/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Volatile Organic Compounds (µg/kg)										
1,1,1,2-Tetrachloroethane	630-20-6		5.3	U	5.4	U	5.4	U	5.7	U
1,1,1-Trichloroethane	71-55-6	680	5.3	U	5.4	U	5.4	U	5.7	U
1,1,2,2-Tetrachloroethane	79-34-5		5.3	U	5.4	U	5.4	U	5.7	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		5.3	U	5.4	U	5.4	U	5.7	U
1,1,2-Trichloroethane	79-00-5		5.3	U	5.4	U	5.4	U	5.7	U
1,1-Dichloroethane	75-34-3	270	5.3	U	5.4	U	5.4	U	5.7	U
1,1-Dichloroethene	75-35-4	330	5.3	U	5.4	U	5.4	U	5.7	U
1,1-Dichloropropene	563-58-6		5.3	U	5.4	U	5.4	U	5.7	UJ
1,2,3-Trichlorobenzene	87-61-6		5.3	U	5.4	U	5.4	U	5.7	UJ
1,2,3-Trichloropropane	96-18-4		5.3	U	5.4	U	5.4	U	5.7	U
1,2,4-Trichlorobenzene	120-82-1		5.3	U	5.4	U	5.4	U	5.7	UJ
1,2,4-Trimethylbenzene	95-63-6	3600	5.3	U	5.4	U	5.4	U	5.7	U
1,2-Dibromo-3-Chloropropane	96-12-8		5.3	U	5.4	U	5.4	U	5.7	U
1,2-Dibromoethane (EDB)	106-93-4		5.3	U	5.4	U	5.4	U	5.7	U
1,2-Dichlorobenzene	95-50-1	1100	5.3	U	5.4	U	5.4	U	5.7	U
1,2-Dichloroethane	107-06-2	20	5.3	U	5.4	U	5.4	U	5.7	U
1,2-Dichloropropane	78-87-5		5.3	U	5.4	U	5.4	U	2.8	J
1,3,5-Trimethylbenzene	108-67-8	8400	5.3	U	5.4	U	5.4	U	5.7	U
1,3-Dichlorobenzene	541-73-1	2400	5.3	U	5.4	U	5.4	U	5.7	U
1,3-Dichloropropane	142-28-9		5.3	U	5.4	U	5.4	U	5.7	U
1,4-Dichlorobenzene	106-46-7	1800	5.3	U	5.4	U	5.4	U	5.7	U
2,2-Dichloropropane	594-20-7		5.3	U	5.4	U	5.4	U	5.7	UJ
2-Butanone (MEK)	78-93-3	120	5.3	R	5.4	R	5.4	R	5.7	R
2-Chlorotoluene	95-49-8		5.3	U	5.4	U	5.4	U	5.7	U
2-Hexanone	591-78-6		5.3	U	5.4	U	5.4	U	5.7	UJ
4-Chlorotoluene	106-43-4		5.3	U	5.4	U	5.4	U	5.7	U
4-Methyl-2-Pentanone (MIBK)	108-10-1		5.3	U	5.4	U	5.4	U	5.7	U
Acetone	67-64-1	50	5.3	R	3.4	R	3.1	R	5.7	R
Benzene	71-43-2	60	5.3	U	5.4	U	5.4	U	5.7	U
Bromobenzene	108-86-1		5.3	U	5.4	U	5.4	U	5.7	U

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
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			Sample ID		80230-MIP3-30		80230-MIP3-30-DUP		80230-MIP3B-45		80230-MIP4B-45	
			Sample Location		MIP3		MIP3		MIP3B		MIP4B	
			Sampling Date		05/25/2011		05/25/2011		05/26/2011		06/17/2011	
Chemical Name	CAS#	Part 375 Unrestricted										
Bromochloromethane	74-97-5			5.3	U	5.4	U	5.4	U	5.7	UJ	
Bromodichloromethane	75-27-4			5.3	U	5.4	U	5.4	U	5.7	U	
Bromoform	75-25-2			5.3	U	5.4	U	5.4	U	5.7	UJ	
Bromomethane	74-83-9			5.3	U	5.4	U	5.4	U	5.7	U	
Carbon Disulfide	75-15-0			5.3	U	5.4	U	5.4	U	5.7	U	
Carbon Tetrachloride	56-23-5	760		5.3	U	5.4	U	5.4	U	5.7	U	
Chlorobenzene	108-90-7	1100		5.3	U	5.4	U	5.4	U	5.7	U	
Chloroethane	75-00-3			5.3	U	5.4	U	5.4	U	5.7	U	
Chloroform	67-66-3	370		5.3	U	5.4	U	5.4	U	5.7	U	
Chloromethane	74-87-3			5.3	U	5.4	U	5.4	U	5.7	U	
cis-1,2-Dichloroethene	156-59-2	250		5.4		2.3	J	5.4	U	5.7	U	
cis-1,3-Dichloropropene	10061-01-5			5.3	U	5.4	U	5.4	U	5.7	UJ	
Cyclohexane	110-82-7			5.3	U	5.4	U	5.4	U	5.7	U	
Dibromochloromethane	124-48-1			5.3	U	5.4	U	5.4	U	5.7	U	
Dibromomethane	74-95-3			5.3	U	5.4	U	5.4	U	5.7	U	
Dichlorodifluoromethane	75-71-8			5.3	U	5.4	U	5.4	U	5.7	U	
Ethylbenzene	100-41-4	1000		5.3	U	5.4	U	5.4	U	5.7	U	
Hexachlorobutadiene	87-68-3			5.3	U	5.4	U	5.4	U	5.7	UJ	
Isopropylbenzene	98-82-8			5.3	U	5.4	U	5.4	U	5.7	U	
m,p-Xylene	179601-23-1	260		5.3	U	5.4	U	5.4	U	5.7	U	
Methyl Acetate	79-20-9			5.3	U	5.4	U	5.4	U	5.7	UJ	
Methyl Iodide	74-88-4			5.3	U	5.4	U	5.4	U	5.7	U	
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	930		5.3	U	5.4	U	5.4	U	5.7	U	
Methylcyclohexane	108-87-2			5.3	U	5.4	U	5.4	U	5.7	U	
Methylene Chloride	75-09-2	50		5.3	U	5.4	U	1.7	J	1.9	J	
Naphthalene	91-20-3	12000		5.3	U	5.4	U	5.4	U	5.7	UJ	
n-Butylbenzene	104-51-8	12000		5.3	U	5.4	U	5.4	U	5.7	UJ	
n-Propylbenzene	103-65-1	3900		5.3	U	5.4	U	5.4	U	5.7	UJ	
o-Xylene	95-47-6	260		5.3	U	5.4	U	5.4	U	5.7	U	
p-Isopropyltoluene	99-87-6			5.3	U	5.4	U	5.4	U	5.7	U	
sec-Butylbenzene	135-98-8	11000		5.3	U	5.4	U	5.4	U	5.7	U	

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			Sample ID	80230-MIP3-30		80230-MIP3-30-DUP		80230-MIP3B-45		80230-MIP4B-45	
			Sample Location	MIP3		MIP3		MIP3B		MIP4B	
			Sampling Date	05/25/2011		05/25/2011		05/26/2011		06/17/2011	
Chemical Name	CAS#	Part 375 Unrestricted									
Styrene	100-42-5			5.3	U	5.4	U	5.4	U	5.7	U
tert-Butylbenzene	98-06-6	5900		5.3	U	5.4	U	5.4	U	5.7	U
Tetrachloroethene	127-18-4	**1300**		6.4		2.2	J	5.4	U	5.7	UJ
Toluene	108-88-3	700		5.3	U	5.4	U	5.4	U	5.7	U
Total Xylenes	1330-20-7	260		5.3	U	5.4	U	5.4	U	5.7	U
trans-1,2-Dichloroethene	156-60-5	190		5.3	U	5.4	U	5.4	U	5.7	U
trans-1,3-Dichloropropene	10061-02-6			5.3	U	5.4	U	5.4	U	5.7	UJ
Trichloroethene	79-01-6	470		1.9	J	5.4	U	5.4	U	5.7	U
Trichlorofluoromethane	75-69-4			5.3	U	5.4	U	5.4	U	5.7	U
Vinyl Acetate	108-05-4			5.3	U	5.4	U	5.4	U	5.7	UJ
Vinyl Chloride	75-01-4	20		5.3	U	5.4	U	5.4	U	5.7	U
Semi-Volatile Organic Compounds (µg/kg)											
1,1'-Biphenyl	92-52-4			360	U	360	U	380	U	330	U
2,4,5-Trichlorophenol	95-95-4			740	U	730	U	770	U	660	U
2,4,6-Trichlorophenol	88-06-2			360	U	360	U	380	U	330	U
2,4-Dichlorophenol	120-83-2			360	U	360	U	380	U	330	U
2,4-Dimethylphenol	105-67-9			360	U	360	U	380	U	330	UJ
2,4-Dinitrophenol	51-28-5			740	UJ	730	UJ	770	UJ	660	UJ
2,4-Dinitrotoluene	121-14-2			360	U	360	U	380	U	330	U
2,6-Dinitrotoluene	606-20-2			360	U	360	U	380	U	330	U
2-Chloronaphthalene	91-58-7			360	U	360	U	380	U	330	U
2-Chlorophenol	95-57-8			360	U	360	U	380	U	330	U
2-Methylnaphthalene	91-57-6			360	UJ	360	UJ	380	UJ	330	U
2-Methylphenol	95-48-7	330		360	U	360	U	380	U	330	U
2-Nitroaniline	88-74-4			740	U	730	U	770	U	660	U
2-Nitrophenol	88-75-5			360	U	360	U	380	U	330	U
3,3'-Dichlorobenzidine	91-94-1			360	U	360	U	380	U	330	U
3-Nitroaniline	99-09-2			740	U	730	U	770	U	660	U
4,6-Dinitro-2-Methylphenol	534-52-1			740	U	730	U	770	U	660	U
4-Bromophenyl-Phenylether	101-55-3			360	U	360	U	380	U	330	U
4-Chloro-3-Methylphenol	59-50-7			360	U	360	U	380	U	330	U

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Soil Sample Results
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			Sample ID		80230-MIP3-30		80230-MIP3-30-DUP		80230-MIP3B-45		80230-MIP4B-45	
			Sample Location		MIP3		MIP3		MIP3B		MIP4B	
			Sampling Date		05/25/2011		05/25/2011		05/26/2011		06/17/2011	
Chemical Name	CAS#	Part 375 Unrestricted										
4-Chloroaniline	106-47-8			360	U	360	U	380	U	330	U	
4-Chlorophenyl-Phenylether	7005-72-3			360	U	360	U	380	U	330	U	
4-Methylphenol	106-44-5	330		360	U	360	U	380	U	330	U	
4-Nitroaniline	100-01-6			740	U	730	U	770	U	660	U	
4-Nitrophenol	100-02-7			740	U	730	U	770	U	660	U	
Acenaphthene	83-32-9	20000		360	U	360	U	380	U	330	U	
Acenaphthylene	208-96-8	100000		360	U	360	U	380	U	330	U	
Acetophenone	98-86-2			360	U	360	U	380	U	330	U	
Anthracene	120-12-7	100000		360	U	360	U	380	U	330	U	
Atrazine	1912-24-9			360	U	360	U	380	U	330	U	
Benzaldehyde	100-52-7			360	U	360	U	380	U	330	U	
Benzo(a)Anthracene	56-55-3	1000		360	U	360	U	380	U	330	U	
Benzo(a)Pyrene	50-32-8	1000		360	U	360	U	380	U	330	U	
Benzo(b)Fluoranthene	205-99-2	1000		360	U	360	U	380	U	330	U	
Benzo(g,h,i)Perylene	191-24-2	100000		360	U	360	U	380	U	330	U	
Benzo(k)Fluoranthene	207-08-9	800		360	U	360	U	380	U	330	U	
bis(2-Chloroethoxy)Methane	111-91-1			360	U	360	U	380	U	330	U	
bis(2-Chloroethyl) Ether	111-44-4			360	U	360	U	380	U	330	U	
bis(2-Ethylhexyl)Phthalate	117-81-7			360	U	360	U	380	U	330	UJ	
bis-Chloroisopropyl Ether	108-60-1			360	U	360	U	380	U	330	U	
Butylbenzylphthalate	85-68-7			360	U	360	U	380	U	330	U	
Caprolactam	105-60-2			360	U	360	U	380	U	330	U	
Carbazole	86-74-8			360	U	360	U	380	U	330	U	
Chrysene	218-01-9	1000		360	U	360	U	380	U	330	U	
Dibenzo(a,h)Anthracene	53-70-3	330		360	U	360	U	380	U	330	U	
Dibenzofuran	132-64-9	7000		360	U	360	U	380	U	330	U	
Diethylphthalate	84-66-2			360	U	360	U	380	U	330	U	
Dimethylphthalate	131-11-3			360	U	360	U	380	U	330	U	
di-n-Butylphthalate	84-74-2			360	U	360	U	380	U	330	U	
di-n-Octylphthalate	117-84-0			360	U	360	U	380	U	330	U	
Fluoranthene	206-44-0	100000		360	U	360	U	380	U	330	U	

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		Sample ID	80230-MIP3-30		80230-MIP3-30-DUP		80230-MIP3B-45		80230-MIP4B-45	
		Sample Location	MIP3		MIP3		MIP3B		MIP4B	
		Sampling Date	05/25/2011		05/25/2011		05/26/2011		06/17/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Fluorene	86-73-7	30000	360	U	360	U	380	U	330	U
Hexachlorobenzene	118-74-1	330	360	U	360	U	380	U	330	U
Hexachlorobutadiene	87-68-3		360	U	360	U	380	U	330	U
Hexachlorocyclopentadiene	77-47-4		360	U	360	U	380	U	330	U
Hexachloroethane	67-72-1		360	U	360	U	380	U	330	U
Indeno(1,2,3-cd)Pyrene	193-39-5	500	360	U	360	U	380	U	330	U
Isophorone	78-59-1		360	U	360	U	380	U	330	U
Naphthalene	91-20-3	12000	360	U	360	U	380	U	330	U
Nitrobenzene	98-95-3		360	UJ	360	UJ	380	UJ	330	U
n-Nitroso-di-n-Propylamine	621-64-7		360	U	360	U	380	U	330	U
n-Nitrosodiphenylamine	86-30-6		360	U	360	U	380	U	330	U
Pentachlorophenol	87-86-5	800	740	U	730	U	770	U	660	U
Phenanthrene	85-01-8	100000	360	U	360	U	380	U	330	U
Phenol	108-95-2	330	360	U	360	U	380	U	330	U
Pyrene	129-00-0	100000	360	U	360	U	380	U	330	U
Pesticides (µg/kg)										
4,4'-DDD	72-54-8	3.3					3.8	U		
4,4'-DDE	72-55-9	3.3					3.8	U		
4,4'-DDT	50-29-3	3.3					3.8	U		
Aldrin	309-00-2	5					2	U		
Alpha-BHC	319-84-6	20					2	UJ		
Alpha-Chlordane	5103-71-9	94					2	U		
Beta-BHC	319-85-7	36					2	UJ		
Delta-BHC	319-86-8	40					2	U		
Dieldrin	60-57-1	5					3.8	U		
Endosulfan I	959-98-8	2400					2	U		
Endosulfan II	33213-65-9	2400					3.8	U		
Endosulfan Sulfate	1031-07-8	2400					3.8	U		
Endrin	72-20-8	14					3.8	U		
Endrin Aldehyde	7421-93-4						3.8	U		
Endrin Ketone	53494-70-5						3.8	U		

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		Sample ID	80230-MIP3-30		80230-MIP3-30-DUP		80230-MIP3B-45		80230-MIP4B-45	
		Sample Location	MIP3		MIP3		MIP3B		MIP4B	
		Sampling Date	05/25/2011		05/25/2011		05/26/2011		06/17/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Gamma-BHC (Lindane)	58-89-9	100					2	U		
Gamma-Chlordane	5103-74-2						2	U		
Heptachlor	76-44-8	42					2	U		
Heptachlor Epoxide	1024-57-3						2	U		
Methoxychlor	72-43-5						20	U		
Toxaphene	8001-35-2						200	U		
Polychlorinated Biphenyls (µg/kg)										
Aroclor 1016	12674-11-2	100					38	U		
Aroclor 1221	11104-28-2	100					38	U		
Aroclor 1232	11141-16-5	100					38	U		
Aroclor 1242	53469-21-9	100					38	U		
Aroclor 1248	12672-29-6	100					38	U		
Aroclor 1254	11097-69-1	100					38	U		
Aroclor 1260	11096-82-5	100					38	U		
Inorganics (mg/kg)										
Aluminum	7429-90-5						3910			
Antimony	7440-36-0						0.52	BNJ		
Arsenic	7440-38-2	13					3.6	*J		
Barium	7440-39-3	350					60.1	*J		
Beryllium	7440-41-7	7.2					0.29			
Cadmium	7440-43-9	2.5					0.11	B		
Calcium	7440-70-2						926			
Chromium	7440-47-3	**30**					11			
Cobalt	7440-48-4						4.9	*E		
Copper	7440-50-8	**50**					10.9	*J		
Iron	7439-89-6						12200	*J		
Lead	7439-92-1	63					2.7			
Magnesium	7439-95-4						1860			
Manganese	7439-96-5	1600					375	*J		
Mercury	7439-97-6	0.18								
Nickel	7440-02-0	**30**					7.7			

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Soil Sample Results
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		Sample ID	80230-MIP3-30		80230-MIP3-30-DUP		80230-MIP3B-45		80230-MIP4B-45	
		Sample Location	MIP3		MIP3		MIP3B		MIP4B	
		Sampling Date	05/25/2011		05/25/2011		05/26/2011		06/17/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Potassium	7440-09-7						450			
Selenium	7782-49-2	3.9					1.4	U		
Silver	7440-22-4	2					1.4	U		
Sodium	7440-23-5						60.2			
Thallium	7440-28-0						1.1			
Vanadium	7440-62-2						19.9	*J		
Zinc	7440-66-6	109					17.5			

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Soil Sample Results
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		Sample ID	80230-MIP4C-41		80230-MIP5-11		80230-MIP5-30		80230-MIP5B-22	
		Sample Location	MIP4C		MIP5		MIP5		MIP5B	
		Sampling Date	06/17/2011		05/24/2011		05/24/2011		05/25/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Volatile Organic Compounds (µg/kg)										
1,1,1,2-Tetrachloroethane	630-20-6		5.6	U	5.5	U	4.6	U	5.8	U
1,1,1-Trichloroethane	71-55-6	680	5.6	U	5.5	U	4.6	U	5.8	U
1,1,2,2-Tetrachloroethane	79-34-5		5.6	U	5.5	U	4.6	U	5.8	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		5.6	U	5.5	U	4.6	U	5.8	U
1,1,2-Trichloroethane	79-00-5		5.6	U	5.5	U	4.6	U	5.8	U
1,1-Dichloroethane	75-34-3	270	5.6	U	5.5	U	4.6	U	5.8	U
1,1-Dichloroethene	75-35-4	330	5.6	U	5.5	U	4.6	U	5.8	U
1,1-Dichloropropene	563-58-6		5.6	UJ	5.5	U	4.6	U	5.8	U
1,2,3-Trichlorobenzene	87-61-6		5.6	UJ	5.5	U	4.6	U	5.8	U
1,2,3-Trichloropropane	96-18-4		5.6	U	5.5	U	4.6	U	5.8	U
1,2,4-Trichlorobenzene	120-82-1		5.6	UJ	5.5	U	4.6	U	5.8	U
1,2,4-Trimethylbenzene	95-63-6	3600	5.6	U	5.5	U	4.6	U	5.8	U
1,2-Dibromo-3-Chloropropane	96-12-8		5.6	U	5.5	UJ	4.6	UJ	5.8	U
1,2-Dibromoethane (EDB)	106-93-4		5.6	U	5.5	U	4.6	U	5.8	U
1,2-Dichlorobenzene	95-50-1	1100	5.6	U	5.5	U	4.6	U	5.8	U
1,2-Dichloroethane	107-06-2	20	5.6	U	5.5	U	4.6	U	5.8	U
1,2-Dichloropropane	78-87-5		2.9	J	5.5	U	4.6	U	5.8	U
1,3,5-Trimethylbenzene	108-67-8	8400	5.6	U	5.5	U	4.6	U	5.8	U
1,3-Dichlorobenzene	541-73-1	2400	5.6	U	5.5	U	4.6	U	5.8	U
1,3-Dichloropropane	142-28-9		5.6	U	5.5	U	4.6	U	5.8	U
1,4-Dichlorobenzene	106-46-7	1800	5.6	U	5.5	U	4.6	U	5.8	U
2,2-Dichloropropane	594-20-7		5.6	UJ	5.5	U	4.6	U	5.8	U
2-Butanone (MEK)	78-93-3	120	5.6	R	5.5	R	4.6	R	5.8	R
2-Chlorotoluene	95-49-8		5.6	U	5.5	U	4.6	U	5.8	U
2-Hexanone	591-78-6		5.6	UJ	5.5	U	4.6	U	5.8	U
4-Chlorotoluene	106-43-4		5.6	U	5.5	U	4.6	U	5.8	U
4-Methyl-2-Pentanone (MIBK)	108-10-1		5.6	U	5.5	U	4.6	U	5.8	U
Acetone	67-64-1	50	5.6	R	5.5	R	4.6	R	3.7	R
Benzene	71-43-2	60	5.6	U	5.5	U	4.6	U	5.8	U
Bromobenzene	108-86-1		5.6	U	5.5	U	4.6	U	5.8	U

Appendix C-2
Soil Sample Results
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		Sample ID	80230-MIP4C-41		80230-MIP5-11		80230-MIP5-30		80230-MIP5B-22	
		Sample Location	MIP4C		MIP5		MIP5		MIP5B	
		Sampling Date	06/17/2011		05/24/2011		05/24/2011		05/25/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Bromochloromethane	74-97-5		5.6	UJ	5.5	U	4.6	U	5.8	U
Bromodichloromethane	75-27-4		5.6	U	5.5	U	4.6	U	5.8	U
Bromoform	75-25-2		5.6	UJ	5.5	U	4.6	U	5.8	U
Bromomethane	74-83-9		5.6	U	5.5	U	4.6	U	5.8	U
Carbon Disulfide	75-15-0		5.6	U	5.5	U	4.6	U	5.8	U
Carbon Tetrachloride	56-23-5	760	5.6	U	5.5	U	4.6	U	5.8	U
Chlorobenzene	108-90-7	1100	5.6	U	5.5	U	4.6	U	5.8	U
Chloroethane	75-00-3		5.6	U	5.5	U	4.6	U	5.8	U
Chloroform	67-66-3	370	5.6	U	5.5	U	4.6	U	5.8	U
Chloromethane	74-87-3		5.6	U	5.5	U	4.6	U	5.8	U
cis-1,2-Dichloroethene	156-59-2	250	5.6	U	5.5	U	4.6	U	5.8	U
cis-1,3-Dichloropropene	10061-01-5		5.6	UJ	5.5	U	4.6	U	5.8	U
Cyclohexane	110-82-7		5.6	U	5.5	U	4.6	U	5.8	U
Dibromochloromethane	124-48-1		5.6	U	5.5	U	4.6	U	5.8	U
Dibromomethane	74-95-3		5.6	U	5.5	U	4.6	U	5.8	U
Dichlorodifluoromethane	75-71-8		5.6	U	5.5	U	4.6	U	5.8	U
Ethylbenzene	100-41-4	1000	5.6	U	5.5	U	4.6	U	5.8	U
Hexachlorobutadiene	87-68-3		5.6	UJ	5.5	U	4.6	U	5.8	U
Isopropylbenzene	98-82-8		5.6	U	5.5	U	4.6	U	5.8	U
m,p-Xylene	179601-23-1	260	5.6	U	5.5	U	4.6	U	5.8	U
Methyl Acetate	79-20-9		5.6	UJ	5.5	U	4.6	U	5.8	U
Methyl Iodide	74-88-4		5.6	U	5.5	U	4.6	U	5.8	U
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	930	5.6	U	5.5	U	4.6	U	5.8	U
Methylcyclohexane	108-87-2		5.6	U	5.5	U	4.6	U	5.8	U
Methylene Chloride	75-09-2	50	5.6	U	2.6	J	1.9	J	5.8	U
Naphthalene	91-20-3	12000	5.6	UJ	5.5	UJ	4.6	UJ	5.8	U
n-Butylbenzene	104-51-8	12000	5.6	UJ	5.5	U	4.6	U	5.8	U
n-Propylbenzene	103-65-1	3900	5.6	UJ	5.5	U	4.6	U	5.8	U
o-Xylene	95-47-6	260	5.6	U	5.5	U	4.6	U	5.8	U
p-Isopropyltoluene	99-87-6		5.6	U	5.5	U	4.6	U	5.8	U
sec-Butylbenzene	135-98-8	11000	5.6	U	5.5	U	4.6	U	5.8	U

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		Sample ID	80230-MIP4C-41		80230-MIP5-11		80230-MIP5-30		80230-MIP5B-22	
		Sample Location	MIP4C		MIP5		MIP5		MIP5B	
		Sampling Date	06/17/2011		05/24/2011		05/24/2011		05/25/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Styrene	100-42-5		5.6	U	5.5	U	4.6	U	5.8	U
tert-Butylbenzene	98-06-6	5900	5.6	U	5.5	U	4.6	U	5.8	U
Tetrachloroethene	127-18-4	**1300**	47	JB	6		18		16	
Toluene	108-88-3	700	5.6	U	5.5	U	4.6	U	5.8	U
Total Xylenes	1330-20-7	260	5.6	U	5.5	U	4.6	U	5.8	U
trans-1,2-Dichloroethene	156-60-5	190	5.6	U	5.5	U	4.6	U	5.8	U
trans-1,3-Dichloropropene	10061-02-6		5.6	UJ	5.5	U	4.6	U	5.8	U
Trichloroethene	79-01-6	470	5.6	U	5.5	U	4.6	U	5.8	U
Trichlorofluoromethane	75-69-4		5.6	U	5.5	U	4.6	U	5.8	U
Vinyl Acetate	108-05-4		5.6	UJ	5.5	U	4.6	U	5.8	U
Vinyl Chloride	75-01-4	20	5.6	U	5.5	U	4.6	U	5.8	U
Semi-Volatile Organic Compounds (µg/kg)										
1,1'-Biphenyl	92-52-4		330	U	380	U	350	U	380	U
2,4,5-Trichlorophenol	95-95-4		660	U	770	U	720	U	770	U
2,4,6-Trichlorophenol	88-06-2		330	U	380	U	350	U	380	U
2,4-Dichlorophenol	120-83-2		330	U	380	U	350	U	380	U
2,4-Dimethylphenol	105-67-9		330	UJ	380	U	350	U	380	U
2,4-Dinitrophenol	51-28-5		660	UJ	770	UJ	720	UJ	770	UJ
2,4-Dinitrotoluene	121-14-2		330	U	380	U	350	U	380	U
2,6-Dinitrotoluene	606-20-2		330	U	380	U	350	U	380	U
2-Chloronaphthalene	91-58-7		330	U	380	U	350	U	380	U
2-Chlorophenol	95-57-8		330	U	380	U	350	U	380	U
2-Methylnaphthalene	91-57-6		330	U	380	UJ	350	UJ	380	UJ
2-Methylphenol	95-48-7	330	330	U	380	U	350	U	380	U
2-Nitroaniline	88-74-4		660	U	770	U	720	U	770	U
2-Nitrophenol	88-75-5		330	U	380	U	350	U	380	U
3,3'-Dichlorobenzidine	91-94-1		330	U	380	U	350	U	380	U
3-Nitroaniline	99-09-2		660	U	770	U	720	U	770	U
4,6-Dinitro-2-Methylphenol	534-52-1		660	U	770	U	720	U	770	U
4-Bromophenyl-Phenylether	101-55-3		330	U	380	U	350	U	380	U
4-Chloro-3-Methylphenol	59-50-7		330	U	380	U	350	U	380	U

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		Sample ID	80230-MIP4C-41		80230-MIP5-11		80230-MIP5-30		80230-MIP5B-22	
		Sample Location	MIP4C		MIP5		MIP5		MIP5B	
		Sampling Date	06/17/2011		05/24/2011		05/24/2011		05/25/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
4-Chloroaniline	106-47-8		330	U	380	U	350	U	380	U
4-Chlorophenyl-Phenylether	7005-72-3		330	U	380	U	350	U	380	U
4-Methylphenol	106-44-5	330	330	U	380	U	350	U	380	U
4-Nitroaniline	100-01-6		660	U	770	U	720	U	770	U
4-Nitrophenol	100-02-7		660	U	770	U	720	U	770	U
Acenaphthene	83-32-9	20000	330	U	380	U	350	U	380	U
Acenaphthylene	208-96-8	100000	330	U	380	U	350	U	380	U
Acetophenone	98-86-2		330	U	380	U	350	U	380	U
Anthracene	120-12-7	100000	330	U	380	U	350	U	380	U
Atrazine	1912-24-9		330	U	380	U	350	U	380	U
Benzaldehyde	100-52-7		330	U	380	U	350	U	380	U
Benzo(a)Anthracene	56-55-3	1000	330	U	380	U	350	U	380	U
Benzo(a)Pyrene	50-32-8	1000	330	U	380	U	350	U	380	U
Benzo(b)Fluoranthene	205-99-2	1000	330	U	380	U	350	U	380	U
Benzo(g,h,i)Perylene	191-24-2	100000	330	U	380	U	350	U	380	U
Benzo(k)Fluoranthene	207-08-9	800	330	U	380	U	350	U	380	U
bis(2-Chloroethoxy)Methane	111-91-1		330	U	380	U	350	U	380	U
bis(2-Chloroethyl) Ether	111-44-4		330	U	380	U	350	U	380	U
bis(2-Ethylhexyl)Phthalate	117-81-7		330	UJ	160	J	350	U	380	U
bis-Chloroisopropyl Ether	108-60-1		330	U	380	U	350	U	380	U
Butylbenzylphthalate	85-68-7		330	U	380	U	350	U	380	U
Caprolactam	105-60-2		330	U	380	U	350	U	380	U
Carbazole	86-74-8		330	U	380	U	350	U	380	U
Chrysene	218-01-9	1000	330	U	380	U	350	U	380	U
Dibenzo(a,h)Anthracene	53-70-3	330	330	U	380	U	350	U	380	U
Dibenzofuran	132-64-9	7000	330	U	380	U	350	U	380	U
Diethylphthalate	84-66-2		330	U	380	U	350	U	380	U
Dimethylphthalate	131-11-3		330	U	380	U	350	U	380	U
di-n-Butylphthalate	84-74-2		330	U	380	U	350	U	380	U
di-n-Octylphthalate	117-84-0		330	U	380	U	350	U	380	U
Fluoranthene	206-44-0	100000	330	U	380	U	350	U	380	U

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		Sample ID	80230-MIP4C-41		80230-MIP5-11		80230-MIP5-30		80230-MIP5B-22	
		Sample Location	MIP4C		MIP5		MIP5		MIP5B	
		Sampling Date	06/17/2011		05/24/2011		05/24/2011		05/25/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Fluorene	86-73-7	30000	330	U	380	U	350	U	380	U
Hexachlorobenzene	118-74-1	330	330	U	380	U	350	U	380	U
Hexachlorobutadiene	87-68-3		330	U	380	U	350	U	380	U
Hexachlorocyclopentadiene	77-47-4		330	U	380	U	350	U	380	U
Hexachloroethane	67-72-1		330	U	380	U	350	U	380	U
Indeno(1,2,3-cd)Pyrene	193-39-5	500	330	U	380	U	350	U	380	U
Isophorone	78-59-1		330	U	380	U	350	U	380	U
Naphthalene	91-20-3	12000	330	U	380	U	350	U	380	U
Nitrobenzene	98-95-3		330	U	380	U	350	U	380	UJ
n-Nitroso-di-n-Propylamine	621-64-7		330	U	380	U	350	U	380	U
n-Nitrosodiphenylamine	86-30-6		330	U	380	U	350	U	380	U
Pentachlorophenol	87-86-5	800	660	U	770	U	720	U	770	U
Phenanthrene	85-01-8	100000	330	U	380	U	350	U	380	U
Phenol	108-95-2	330	330	U	380	U	350	U	380	U
Pyrene	129-00-0	100000	330	U	380	U	350	U	380	U
Pesticides (µg/kg)										
4,4'-DDD	72-54-8	3.3							3.8	U
4,4'-DDE	72-55-9	3.3							3.8	U
4,4'-DDT	50-29-3	3.3							3.8	U
Aldrin	309-00-2	5							2	U
Alpha-BHC	319-84-6	20							2	U
Alpha-Chlordane	5103-71-9	94							2	U
Beta-BHC	319-85-7	36							2	U
Delta-BHC	319-86-8	40							2	U
Dieldrin	60-57-1	5							3.8	U
Endosulfan I	959-98-8	2400							2	U
Endosulfan II	33213-65-9	2400							3.8	U
Endosulfan Sulfate	1031-07-8	2400							3.8	U
Endrin	72-20-8	14							3.8	U
Endrin Aldehyde	7421-93-4								3.8	U
Endrin Ketone	53494-70-5								3.8	U

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		Sample ID	80230-MIP4C-41		80230-MIP5-11		80230-MIP5-30		80230-MIP5B-22	
		Sample Location	MIP4C		MIP5		MIP5		MIP5B	
		Sampling Date	06/17/2011		05/24/2011		05/24/2011		05/25/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Gamma-BHC (Lindane)	58-89-9	100							2	U
Gamma-Chlordane	5103-74-2								2	U
Heptachlor	76-44-8	42							2	U
Heptachlor Epoxide	1024-57-3								2	U
Methoxychlor	72-43-5								20	U
Toxaphene	8001-35-2								200	U
Polychlorinated Biphenyls (µg/kg)										
Aroclor 1016	12674-11-2	100							38	U
Aroclor 1221	11104-28-2	100							38	U
Aroclor 1232	11141-16-5	100							38	U
Aroclor 1242	53469-21-9	100							38	U
Aroclor 1248	12672-29-6	100							38	U
Aroclor 1254	11097-69-1	100							38	U
Aroclor 1260	11096-82-5	100							38	U
Inorganics (mg/kg)										
Aluminum	7429-90-5								5060	
Antimony	7440-36-0								0.34	BNJ
Arsenic	7440-38-2	13							2.8	*J
Barium	7440-39-3	350							45.5	
Beryllium	7440-41-7	7.2							0.47	
Cadmium	7440-43-9	2.5							0.17	
Calcium	7440-70-2								1130	
Chromium	7440-47-3	**30**							**34**	***J**
Cobalt	7440-48-4								11.8	*J
Copper	7440-50-8	**50**							10.8	*J
Iron	7439-89-6								15200	*J
Lead	7439-92-1	63							8	
Magnesium	7439-95-4								2890	*J
Manganese	7439-96-5	1600							348	
Mercury	7439-97-6	0.18							0.042	U
Nickel	7440-02-0	**30**							**77.9**	

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		Sample ID	80230-MIP4C-41		80230-MIP5-11		80230-MIP5-30		80230-MIP5B-22	
		Sample Location	MIP4C		MIP5		MIP5		MIP5B	
		Sampling Date	06/17/2011		05/24/2011		05/24/2011		05/25/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Potassium	7440-09-7								953	*J
Selenium	7782-49-2	3.9							0.89	U
Silver	7440-22-4	2							0.89	U
Sodium	7440-23-5								85.6	EJ
Thallium	7440-28-0								1.1	
Vanadium	7440-62-2								17.8	*J
Zinc	7440-66-6	109							27.2	*J

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		Sample ID	80230-MIP5C-36.5		80230-MIP5E-16		80230-MIP6-10		80230-MIP6-30	
		Sample Location	MIP5C		MIP5E		MIP6		MIP6	
		Sampling Date	06/24/2011		06/16/2011		05/23/2011		05/23/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Volatile Organic Compounds (µg/kg)										
1,1,1,2-Tetrachloroethane	630-20-6		5.5	U	5.5	U	5.3	U	5	U
1,1,1-Trichloroethane	71-55-6	680	5.5	U	5.5	U	5.3	U	5	U
1,1,2,2-Tetrachloroethane	79-34-5		5.5	U	5.5	U	5.3	U	5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		5.5	U	5.5	U	5.3	U	5	U
1,1,2-Trichloroethane	79-00-5		5.5	U	5.5	U	5.3	U	5	U
1,1-Dichloroethane	75-34-3	270	5.5	U	5.5	U	5.3	U	5	U
1,1-Dichloroethene	75-35-4	330	5.5	U	5.5	U	5.3	U	5	U
1,1-Dichloropropene	563-58-6		5.5	U	5.5	U	5.3	U	5	U
1,2,3-Trichlorobenzene	87-61-6		5.5	U	5.5	UJ	5.3	U	5	U
1,2,3-Trichloropropane	96-18-4		5.5	U	5.5	U	5.3	U	5	U
1,2,4-Trichlorobenzene	120-82-1		5.5	U	5.5	UJ	5.3	U	5	U
1,2,4-Trimethylbenzene	95-63-6	3600	5.5	U	5.5	U	5.3	U	5	U
1,2-Dibromo-3-Chloropropane	96-12-8		5.5	U	5.5	U	5.3	UJ	5	U
1,2-Dibromoethane (EDB)	106-93-4		5.5	U	5.5	U	5.3	U	5	U
1,2-Dichlorobenzene	95-50-1	1100	5.5	U	5.5	U	5.3	U	5	U
1,2-Dichloroethane	107-06-2	20	5.5	U	5.5	U	5.3	U	5	U
1,2-Dichloropropane	78-87-5		5.5	U	2.5	J	5.3	U	5	U
1,3,5-Trimethylbenzene	108-67-8	8400	5.5	U	5.5	U	5.3	U	5	U
1,3-Dichlorobenzene	541-73-1	2400	5.5	U	5.5	U	5.3	U	5	U
1,3-Dichloropropane	142-28-9		5.5	U	5.5	U	5.3	U	5	U
1,4-Dichlorobenzene	106-46-7	1800	5.5	U	5.5	U	5.3	U	5	U
2,2-Dichloropropane	594-20-7		5.5	U	5.5	UJ	5.3	U	5	U
2-Butanone (MEK)	78-93-3	120	5.5	R	5.5	R	5.3	R	5	R
2-Chlorotoluene	95-49-8		5.5	U	5.5	U	5.3	U	5	U
2-Hexanone	591-78-6		5.5	U	5.5	UJ	5.3	U	5	U
4-Chlorotoluene	106-43-4		5.5	U	5.5	U	5.3	U	5	U
4-Methyl-2-Pentanone (MIBK)	108-10-1		5.5	U	5.5	U	5.3	U	5	U
Acetone	67-64-1	50	5.5	R	5.5	R	5.3	R	5	R
Benzene	71-43-2	60	5.5	U	5.5	U	5.3	U	5	U
Bromobenzene	108-86-1		5.5	U	5.5	U	5.3	U	5	U

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
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			Sample ID	80230-MIP5C-36.5		80230-MIP5E-16		80230-MIP6-10		80230-MIP6-30	
			Sample Location	MIP5C		MIP5E		MIP6		MIP6	
			Sampling Date	06/24/2011		06/16/2011		05/23/2011		05/23/2011	
Chemical Name	CAS#	Part 375 Unrestricted									
Bromochloromethane	74-97-5			5.5	U	5.5	UJ	5.3	U	5	U
Bromodichloromethane	75-27-4			5.5	U	5.5	U	5.3	U	5	U
Bromoform	75-25-2			5.5	U	5.5	UJ	5.3	U	5	U
Bromomethane	74-83-9			5.5	U	5.5	U	5.3	U	5	U
Carbon Disulfide	75-15-0			5.5	U	5.5	U	5.3	U	5	U
Carbon Tetrachloride	56-23-5	760		5.5	U	5.5	U	5.3	U	5	U
Chlorobenzene	108-90-7	1100		5.5	U	5.5	U	5.3	U	5	U
Chloroethane	75-00-3			5.5	U	5.5	U	5.3	U	5	U
Chloroform	67-66-3	370		5.5	U	5.5	U	5.3	U	5	U
Chloromethane	74-87-3			5.5	U	5.5	U	5.3	U	5	U
cis-1,2-Dichloroethene	156-59-2	250		5.5	U	5.5	U	5.3	U	5	U
cis-1,3-Dichloropropene	10061-01-5			5.5	U	5.5	UJ	5.3	U	5	U
Cyclohexane	110-82-7			5.5	U	5.5	U	5.3	U	5	U
Dibromochloromethane	124-48-1			5.5	U	5.5	U	5.3	U	5	U
Dibromomethane	74-95-3			5.5	U	5.5	U	5.3	U	5	U
Dichlorodifluoromethane	75-71-8			5.5	U	5.5	U	5.3	U	5	U
Ethylbenzene	100-41-4	1000		5.5	U	5.5	U	5.3	U	5	U
Hexachlorobutadiene	87-68-3			5.5	U	5.5	UJ	5.3	U	5	U
Isopropylbenzene	98-82-8			5.5	U	5.5	U	5.3	U	5	U
m,p-Xylene	179601-23-1	260		5.5	U	5.5	U	5.3	U	5	U
Methyl Acetate	79-20-9			5.5	U	5.5	UJ	5.3	U	5	U
Methyl Iodide	74-88-4			5.5	U	5.5	U	5.3	U	5	U
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	930		5.5	U	5.5	U	5.3	U	5	U
Methylcyclohexane	108-87-2			5.5	U	5.5	U	5.3	U	5	U
Methylene Chloride	75-09-2	50		5.5	U	5.5	U	2	J	1.9	J
Naphthalene	91-20-3	12000		5.5	U	5.5	UJ	5.3	UJ	5	UJ
n-Butylbenzene	104-51-8	12000		5.5	U	5.5	UJ	5.3	U	5	U
n-Propylbenzene	103-65-1	3900		5.5	U	5.5	U	5.3	U	5	U
o-Xylene	95-47-6	260		5.5	U	5.5	U	5.3	U	5	U
p-Isopropyltoluene	99-87-6			5.5	U	5.5	U	5.3	U	5	U
sec-Butylbenzene	135-98-8	11000		5.5	U	5.5	U	5.3	U	5	U

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			Sample ID	80230-MIP5C-36.5		80230-MIP5E-16		80230-MIP6-10		80230-MIP6-30	
			Sample Location	MIP5C		MIP5E		MIP6		MIP6	
			Sampling Date	06/24/2011		06/16/2011		05/23/2011		05/23/2011	
Chemical Name	CAS#	Part 375 Unrestricted									
Styrene	100-42-5			5.5	U	5.5	U	5.3	U	5	U
tert-Butylbenzene	98-06-6	5900		5.5	U	5.5	U	5.3	U	5	U
Tetrachloroethene	127-18-4	**1300**		5.5	U	4.7	J	3.1	J	4	J
Toluene	108-88-3	700		5.5	U	5.5	U	5.3	U	5	U
Total Xylenes	1330-20-7	260		5.5	U	5.5	U	5.3	U	5	U
trans-1,2-Dichloroethene	156-60-5	190		5.5	U	5.5	U	5.3	U	5	U
trans-1,3-Dichloropropene	10061-02-6			5.5	U	5.5	UJ	5.3	U	5	U
Trichloroethene	79-01-6	470		5.5	U	5.5	U	5.3	U	5	U
Trichlorofluoromethane	75-69-4			5.5	U	5.5	U	5.3	U	5	U
Vinyl Acetate	108-05-4			5.5	U	5.5	UJ	5.3	U	5	U
Vinyl Chloride	75-01-4	20		5.5	U	5.5	U	5.3	U	5	U
Semi-Volatile Organic Compounds (µg/kg)											
1,1'-Biphenyl	92-52-4			360	U	320	U	370	U	380	U
2,4,5-Trichlorophenol	95-95-4			730	U	660	U	760	U	760	U
2,4,6-Trichlorophenol	88-06-2			360	U	320	U	370	U	380	U
2,4-Dichlorophenol	120-83-2			360	U	320	U	370	U	380	U
2,4-Dimethylphenol	105-67-9			360	U	320	UJ	370	U	380	U
2,4-Dinitrophenol	51-28-5			730	U	660	UJ	760	UJ	760	UJ
2,4-Dinitrotoluene	121-14-2			360	U	320	U	370	U	380	U
2,6-Dinitrotoluene	606-20-2			360	U	320	U	370	U	380	U
2-Chloronaphthalene	91-58-7			360	U	320	U	370	U	380	U
2-Chlorophenol	95-57-8			360	U	320	U	370	U	380	U
2-Methylnaphthalene	91-57-6			360	U	320	U	370	UJ	380	UJ
2-Methylphenol	95-48-7	330		360	U	320	U	370	U	380	U
2-Nitroaniline	88-74-4			730	U	660	U	760	U	760	U
2-Nitrophenol	88-75-5			360	U	320	U	370	U	380	U
3,3'-Dichlorobenzidine	91-94-1			360	U	320	U	370	U	380	U
3-Nitroaniline	99-09-2			730	U	660	U	760	U	760	U
4,6-Dinitro-2-Methylphenol	534-52-1			730	U	660	U	760	U	760	U
4-Bromophenyl-Phenylether	101-55-3			360	U	320	U	370	U	380	U
4-Chloro-3-Methylphenol	59-50-7			360	U	320	U	370	U	380	U

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Soil Sample Results
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			Sample ID		80230-MIP5C-36.5		80230-MIP5E-16		80230-MIP6-10		80230-MIP6-30	
			Sample Location		MIP5C		MIP5E		MIP6		MIP6	
			Sampling Date		06/24/2011		06/16/2011		05/23/2011		05/23/2011	
Chemical Name	CAS#	Part 375 Unrestricted										
4-Chloroaniline	106-47-8		360	U	320	U	370	U	380	U		
4-Chlorophenyl-Phenylether	7005-72-3		360	U	320	U	370	U	380	U		
4-Methylphenol	106-44-5	330	360	U	320	U	370	U	380	U		
4-Nitroaniline	100-01-6		730	UJ	660	U	760	U	760	U		
4-Nitrophenol	100-02-7		730	UJ	660	U	760	U	760	U		
Acenaphthene	83-32-9	20000	360	U	320	U	370	U	380	U		
Acenaphthylene	208-96-8	100000	360	U	320	U	370	U	380	U		
Acetophenone	98-86-2		360	U	320	U	370	U	380	U		
Anthracene	120-12-7	100000	360	U	320	U	370	U	380	U		
Atrazine	1912-24-9		360	UJ	320	U	370	U	380	U		
Benzaldehyde	100-52-7		360	U	320	U	370	U	380	U		
Benzo(a)Anthracene	56-55-3	1000	360	U	320	U	370	U	380	U		
Benzo(a)Pyrene	50-32-8	1000	360	U	320	U	370	U	380	U		
Benzo(b)Fluoranthene	205-99-2	1000	360	U	320	U	370	U	380	U		
Benzo(g,h,i)Perylene	191-24-2	100000	360	U	320	U	370	U	380	U		
Benzo(k)Fluoranthene	207-08-9	800	360	U	320	U	370	U	380	U		
bis(2-Chloroethoxy)Methane	111-91-1		360	U	320	U	370	U	380	U		
bis(2-Chloroethyl) Ether	111-44-4		360	U	320	U	370	U	380	U		
bis(2-Ethylhexyl)Phthalate	117-81-7		360	U	68	J	50	J	54	J		
bis-Chloroisopropyl Ether	108-60-1		360	UJ	320	U	370	U	380	U		
Butylbenzylphthalate	85-68-7		360	U	320	U	370	U	380	U		
Caprolactam	105-60-2		360	U	320	U	370	U	380	U		
Carbazole	86-74-8		360	U	320	U	370	U	380	U		
Chrysene	218-01-9	1000	360	U	320	U	370	U	380	U		
Dibenzo(a,h)Anthracene	53-70-3	330	360	U	320	U	370	U	380	U		
Dibenzofuran	132-64-9	7000	360	U	320	U	370	U	380	U		
Diethylphthalate	84-66-2		360	U	320	U	370	U	380	U		
Dimethylphthalate	131-11-3		360	U	320	U	370	U	380	U		
di-n-Butylphthalate	84-74-2		360	U	320	U	370	U	380	U		
di-n-Octylphthalate	117-84-0		360	U	320	U	370	U	380	U		
Fluoranthene	206-44-0	100000	360	U	320	U	370	U	380	U		

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		Sample ID	80230-MIP5C-36.5		80230-MIP5E-16		80230-MIP6-10		80230-MIP6-30	
		Sample Location	MIP5C		MIP5E		MIP6		MIP6	
		Sampling Date	06/24/2011		06/16/2011		05/23/2011		05/23/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Fluorene	86-73-7	30000	360	U	320	U	370	U	380	U
Hexachlorobenzene	118-74-1	330	360	U	320	U	370	U	380	U
Hexachlorobutadiene	87-68-3		360	U	320	U	370	U	380	U
Hexachlorocyclopentadiene	77-47-4		360	U	320	U	370	U	380	U
Hexachloroethane	67-72-1		360	U	320	U	370	U	380	U
Indeno(1,2,3-cd)Pyrene	193-39-5	500	360	UJ	320	U	370	U	380	U
Isophorone	78-59-1		360	U	320	U	370	U	380	U
Naphthalene	91-20-3	12000	360	U	320	U	370	U	380	U
Nitrobenzene	98-95-3		360	U	320	U	370	UJ	380	UJ
n-Nitroso-di-n-Propylamine	621-64-7		360	UJ	320	U	370	U	380	U
n-Nitrosodiphenylamine	86-30-6		360	U	320	U	370	U	380	U
Pentachlorophenol	87-86-5	800	730	U	660	U	760	U	760	U
Phenanthrene	85-01-8	100000	360	U	320	U	370	U	380	U
Phenol	108-95-2	330	360	U	320	U	370	U	380	U
Pyrene	129-00-0	100000	360	U	320	U	370	U	380	U
Pesticides (µg/kg)										
4,4'-DDD	72-54-8	3.3			3.8	U				
4,4'-DDE	72-55-9	3.3			3.8	U				
4,4'-DDT	50-29-3	3.3			3.8	U				
Aldrin	309-00-2	5			1.9	U				
Alpha-BHC	319-84-6	20			1.9	U				
Alpha-Chlordane	5103-71-9	94			1.9	U				
Beta-BHC	319-85-7	36			1.9	U				
Delta-BHC	319-86-8	40			1.9	U				
Dieldrin	60-57-1	5			3.8	U				
Endosulfan I	959-98-8	2400			1.9	U				
Endosulfan II	33213-65-9	2400			3.8	U				
Endosulfan Sulfate	1031-07-8	2400			3.8	U				
Endrin	72-20-8	14			3.8	U				
Endrin Aldehyde	7421-93-4				3.8	U				
Endrin Ketone	53494-70-5				3.8	U				

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		Sample ID	80230-MIP5C-36.5		80230-MIP5E-16		80230-MIP6-10		80230-MIP6-30	
		Sample Location	MIP5C		MIP5E		MIP6		MIP6	
		Sampling Date	06/24/2011		06/16/2011		05/23/2011		05/23/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Gamma-BHC (Lindane)	58-89-9	100			1.9	U				
Gamma-Chlordane	5103-74-2				1.9	U				
Heptachlor	76-44-8	42			1.9	U				
Heptachlor Epoxide	1024-57-3				1.9	U				
Methoxychlor	72-43-5				19	U				
Toxaphene	8001-35-2				190	U				
Polychlorinated Biphenyls (µg/kg)										
Aroclor 1016	12674-11-2	100			38	U				
Aroclor 1221	11104-28-2	100			38	U				
Aroclor 1232	11141-16-5	100			38	U				
Aroclor 1242	53469-21-9	100			38	U				
Aroclor 1248	12672-29-6	100			38	U				
Aroclor 1254	11097-69-1	100			38	U				
Aroclor 1260	11096-82-5	100			38	U				
Inorganics (mg/kg)										
Aluminum	7429-90-5				7990					
Antimony	7440-36-0				1.1	U				
Arsenic	7440-38-2	13			3.7					
Barium	7440-39-3	350			62.6					
Beryllium	7440-41-7	7.2			0.9					
Cadmium	7440-43-9	2.5			0.27	U				
Calcium	7440-70-2				2970					
Chromium	7440-47-3	**30**			18.3					
Cobalt	7440-48-4				8.4					
Copper	7440-50-8	**50**			10.8					
Iron	7439-89-6				18900					
Lead	7439-92-1	63			12.4					
Magnesium	7439-95-4				4980					
Manganese	7439-96-5	1600			652					
Mercury	7439-97-6	0.18			0.039	U				
Nickel	7440-02-0	**30**			19.4					

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		Sample ID	80230-MIP5C-36.5		80230-MIP5E-16		80230-MIP6-10		80230-MIP6-30	
		Sample Location	MIP5C		MIP5E		MIP6		MIP6	
		Sampling Date	06/24/2011		06/16/2011		05/23/2011		05/23/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Potassium	7440-09-7				1850					
Selenium	7782-49-2	3.9			1.6	U				
Silver	7440-22-4	2			1.6	U				
Sodium	7440-23-5				158					
Thallium	7440-28-0				1.1	U				
Vanadium	7440-62-2				24.7					
Zinc	7440-66-6	109			53					

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			Sample ID	80230-MIP6B-42.5		80230-MIP6B-42.5-DUP		80230-MIP7-38		80230-MIP7-38-DUP		80230-MW12S-
			Sample Location	MIP6B		MIP6B		MIP7		MIP7		MW12S
			Sampling Date	06/24/2011		06/24/2011		05/23/2011		05/23/2011		06/24/2011
Chemical Name	CAS#	Part 375 Unrestricted										
Volatile Organic Compounds (µg/kg)												
1,1,1,2-Tetrachloroethane	630-20-6			5	U	4.8	U	5.5	U	5.4	U	5
1,1,1-Trichloroethane	71-55-6	680		5	U	4.8	U	5.5	U	5.4	U	5
1,1,2,2-Tetrachloroethane	79-34-5			5	U	4.8	U	5.5	U	5.4	U	5
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1			5	U	4.8	U	5.5	U	5.4	U	5
1,1,2-Trichloroethane	79-00-5			5	U	4.8	U	5.5	U	5.4	U	5
1,1-Dichloroethane	75-34-3	270		5	U	4.8	U	5.5	U	5.4	U	5
1,1-Dichloroethene	75-35-4	330		5	U	4.8	U	5.5	U	5.4	U	5
1,1-Dichloropropene	563-58-6			5	U	4.8	U	5.5	U	5.4	U	5
1,2,3-Trichlorobenzene	87-61-6			5	U	4.8	U	5.5	U	5.4	U	5
1,2,3-Trichloropropane	96-18-4			5	U	4.8	U	5.5	U	5.4	U	5
1,2,4-Trichlorobenzene	120-82-1			5	U	4.8	U	5.5	U	5.4	U	5
1,2,4-Trimethylbenzene	95-63-6	3600		5	U	4.8	U	5.5	U	5.4	U	1.3
1,2-Dibromo-3-Chloropropane	96-12-8			5	U	4.8	U	5.5	U	5.4	U	5
1,2-Dibromoethane (EDB)	106-93-4			5	U	4.8	U	5.5	U	5.4	U	5
1,2-Dichlorobenzene	95-50-1	1100		5	U	4.8	U	5.5	U	5.4	U	5
1,2-Dichloroethane	107-06-2	20		5	U	4.8	U	5.5	U	5.4	U	5
1,2-Dichloropropane	78-87-5			5	U	4.8	U	5.5	U	5.4	U	5
1,3,5-Trimethylbenzene	108-67-8	8400		5	U	4.8	U	5.5	U	5.4	U	5
1,3-Dichlorobenzene	541-73-1	2400		5	U	4.8	U	5.5	U	5.4	U	5
1,3-Dichloropropane	142-28-9			5	U	4.8	U	5.5	U	5.4	U	5
1,4-Dichlorobenzene	106-46-7	1800		5	U	4.8	U	5.5	U	5.4	U	5
2,2-Dichloropropane	594-20-7			5	U	4.8	U	5.5	U	5.4	U	5
2-Butanone (MEK)	78-93-3	120		5	R	4.8	R	5.5	R	5.4	R	5
2-Chlorotoluene	95-49-8			5	U	4.8	U	5.5	U	5.4	U	5
2-Hexanone	591-78-6			5	U	4.8	U	5.5	U	5.4	U	5
4-Chlorotoluene	106-43-4			5	U	4.8	U	5.5	U	5.4	U	5
4-Methyl-2-Pentanone (MIBK)	108-10-1			5	U	4.8	U	5.5	U	5.4	U	5
Acetone	67-64-1	50		5	R	4.8	R	5.5	R	5.4	R	5
Benzene	71-43-2	60		5	U	4.8	U	5.5	U	5.4	U	5
Bromobenzene	108-86-1			5	U	4.8	U	5.5	U	5.4	U	5

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			Sample ID	80230-MIP6B-42.5		80230-MIP6B-42.5-DUP		80230-MIP7-38		80230-MIP7-38-DUP		80230-MW12S-
			Sample Location	MIP6B		MIP6B		MIP7		MIP7		MW12S
			Sampling Date	06/24/2011		06/24/2011		05/23/2011		05/23/2011		06/24/2011
Chemical Name	CAS#	Part 375 Unrestricted										
Bromochloromethane	74-97-5			5	U	4.8	U	5.5	U	5.4	U	5
Bromodichloromethane	75-27-4			5	U	4.8	U	5.5	U	5.4	U	5
Bromoform	75-25-2			5	U	4.8	U	5.5	U	5.4	U	5
Bromomethane	74-83-9			5	U	4.8	U	5.5	U	5.4	U	5
Carbon Disulfide	75-15-0			5	U	4.8	U	5.5	U	5.4	U	5
Carbon Tetrachloride	56-23-5	760		5	U	4.8	U	5.5	U	5.4	U	5
Chlorobenzene	108-90-7	1100		5	U	4.8	U	5.5	U	5.4	U	5
Chloroethane	75-00-3			5	U	4.8	U	5.5	U	5.4	U	5
Chloroform	67-66-3	370		5	U	4.8	U	5.5	U	5.4	U	5
Chloromethane	74-87-3			5	U	4.8	U	5.5	U	5.4	U	5
cis-1,2-Dichloroethene	156-59-2	250		5	U	4.8	U	5.5	U	5.4	U	2.3
cis-1,3-Dichloropropene	10061-01-5			5	U	4.8	U	5.5	U	5.4	U	5
Cyclohexane	110-82-7			5	U	4.8	U	5.5	U	5.4	U	5
Dibromochloromethane	124-48-1			5	U	4.8	U	5.5	U	5.4	U	5
Dibromomethane	74-95-3			5	U	4.8	U	5.5	U	5.4	U	5
Dichlorodifluoromethane	75-71-8			5	U	4.8	U	5.5	U	5.4	U	5
Ethylbenzene	100-41-4	1000		5	U	4.8	U	5.5	U	5.4	U	5
Hexachlorobutadiene	87-68-3			5	U	4.8	UJ	5.5	U	5.4	U	5
Isopropylbenzene	98-82-8			5	U	4.8	U	5.5	U	5.4	U	5
m,p-Xylene	179601-23-1	260		5	U	4.8	U	5.5	U	5.4	U	5
Methyl Acetate	79-20-9			5	U	4.8	U	5.5	U	5.4	U	5
Methyl Iodide	74-88-4			5	U	4.8	U	5.5	U	5.4	U	5
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	930		5	U	4.8	U	5.5	U	5.4	U	5
Methylcyclohexane	108-87-2			5	U	4.8	U	5.5	U	5.4	U	5
Methylene Chloride	75-09-2	50		5	U	4.8	U	1.7	J	2.1	J	5
Naphthalene	91-20-3	12000		5	U	1.3	J	5.5	UJ	5.4	UJ	2.1
n-Butylbenzene	104-51-8	12000		5	U	4.8	UJ	5.5	U	5.4	U	5
n-Propylbenzene	103-65-1	3900		5	U	4.8	U	5.5	U	5.4	U	5
o-Xylene	95-47-6	260		5	U	4.8	U	5.5	U	5.4	U	5
p-Isopropyltoluene	99-87-6			5	U	4.8	U	5.5	U	5.4	U	5
sec-Butylbenzene	135-98-8	11000		5	U	4.8	U	5.5	U	5.4	U	5

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MIP6B-42.5		80230-MIP6B-42.5-DUP		80230-MIP7-38		80230-MIP7-38-DUP		80230-MW12S-3
		Sample Location	MIP6B		MIP6B		MIP7		MIP7		MW12S
		Sampling Date	06/24/2011		06/24/2011		05/23/2011		05/23/2011		06/24/2011
Chemical Name	CAS#	Part 375 Unrestricted									
Styrene	100-42-5		5	U	4.8	U	5.5	U	5.4	U	5
tert-Butylbenzene	98-06-6	5900	5	U	4.8	U	5.5	U	5.4	U	5
Tetrachloroethene	127-18-4	**1300**	5	U	1.6	J	5.5	U	5.4	U	880
Toluene	108-88-3	700	5	U	4.8	U	5.5	U	5.4	U	5
Total Xylenes	1330-20-7	260	5	U	4.8	U	5.5	U	5.4	U	5
trans-1,2-Dichloroethene	156-60-5	190	5	U	4.8	U	5.5	U	5.4	U	5
trans-1,3-Dichloropropene	10061-02-6		5	U	4.8	U	5.5	U	5.4	U	5
Trichloroethene	79-01-6	470	5	U	4.8	U	5.5	U	5.4	U	5
Trichlorofluoromethane	75-69-4		5	U	4.8	U	5.5	U	5.4	U	5
Vinyl Acetate	108-05-4		5	U	4.8	U	5.5	U	5.4	U	5
Vinyl Chloride	75-01-4	20	5	U	4.8	U	5.5	U	5.4	U	5
Semi-Volatile Organic Compounds (µg/kg)											
1,1'-Biphenyl	92-52-4						360	U	360	U	
2,4,5-Trichlorophenol	95-95-4						730	U	740	U	
2,4,6-Trichlorophenol	88-06-2						360	U	360	U	
2,4-Dichlorophenol	120-83-2						360	U	360	U	
2,4-Dimethylphenol	105-67-9						360	U	360	U	
2,4-Dinitrophenol	51-28-5						730	UJ	740	UJ	
2,4-Dinitrotoluene	121-14-2						360	U	360	U	
2,6-Dinitrotoluene	606-20-2						360	U	360	U	
2-Chloronaphthalene	91-58-7						360	U	360	U	
2-Chlorophenol	95-57-8						360	U	360	U	
2-Methylnaphthalene	91-57-6						360	UJ	360	UJ	
2-Methylphenol	95-48-7	330					360	U	360	U	
2-Nitroaniline	88-74-4						730	U	740	U	
2-Nitrophenol	88-75-5						360	U	360	U	
3,3'-Dichlorobenzidine	91-94-1						360	U	360	U	
3-Nitroaniline	99-09-2						730	U	740	U	
4,6-Dinitro-2-Methylphenol	534-52-1						730	U	740	U	
4-Bromophenyl-Phenylether	101-55-3						360	U	360	U	
4-Chloro-3-Methylphenol	59-50-7						360	U	360	U	

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Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MIP6B-42.5		80230-MIP6B-42.5-DUP		80230-MIP7-38		80230-MIP7-38-DUP		80230-MW12S-3	
		Sample Location	MIP6B		MIP6B		MIP7		MIP7		MW12S	
		Sampling Date	06/24/2011		06/24/2011		05/23/2011		05/23/2011		06/24/2011	
Chemical Name	CAS#	Part 375 Unrestricted										
4-Chloroaniline	106-47-8						360	U	360	U		
4-Chlorophenyl-Phenylether	7005-72-3						360	U	360	U		
4-Methylphenol	106-44-5	330					360	U	360	U		
4-Nitroaniline	100-01-6						730	U	740	U		
4-Nitrophenol	100-02-7						730	U	740	U		
Acenaphthene	83-32-9	20000					360	U	360	U		
Acenaphthylene	208-96-8	100000					360	U	360	U		
Acetophenone	98-86-2						360	U	360	U		
Anthracene	120-12-7	100000					360	U	360	U		
Atrazine	1912-24-9						360	U	360	U		
Benzaldehyde	100-52-7						360	U	360	U		
Benzo(a)Anthracene	56-55-3	1000					48	J	150	J		
Benzo(a)Pyrene	50-32-8	1000					59	J	180	J		
Benzo(b)Fluoranthene	205-99-2	1000					100	J	280	J		
Benzo(g,h,i)Perylene	191-24-2	100000					61	J	160	J		
Benzo(k)Fluoranthene	207-08-9	800					360	U	120	J		
bis(2-Chloroethoxy)Methane	111-91-1						360	U	360	U		
bis(2-Chloroethyl) Ether	111-44-4						360	U	360	U		
bis(2-Ethylhexyl)Phthalate	117-81-7						74	J	69	J		
bis-Chloroisopropyl Ether	108-60-1						360	U	360	U		
Butylbenzylphthalate	85-68-7						360	U	360	U		
Caprolactam	105-60-2						360	U	360	U		
Carbazole	86-74-8						360	U	360	U		
Chrysene	218-01-9	1000					100	J	260	J		
Dibenzo(a,h)Anthracene	53-70-3	330					360	U	38	J		
Dibenzofuran	132-64-9	7000					360	U	360	U		
Diethylphthalate	84-66-2						360	U	360	U		
Dimethylphthalate	131-11-3						360	U	360	U		
di-n-Butylphthalate	84-74-2						360	U	360	U		
di-n-Octylphthalate	117-84-0						360	U	360	U		
Fluoranthene	206-44-0	100000					130	J	350	J		

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MIP6B-42.5		80230-MIP6B-42.5-DUP		80230-MIP7-38		80230-MIP7-38-DUP		80230-MW12S-3
		Sample Location	MIP6B		MIP6B		MIP7		MIP7		MW12S
		Sampling Date	06/24/2011		06/24/2011		05/23/2011		05/23/2011		06/24/2011
Chemical Name	CAS#	Part 375 Unrestricted									
Fluorene	86-73-7	30000					360	U	360	U	
Hexachlorobenzene	118-74-1	330					360	U	360	U	
Hexachlorobutadiene	87-68-3						360	U	360	U	
Hexachlorocyclopentadiene	77-47-4						360	U	360	U	
Hexachloroethane	67-72-1						360	U	360	U	
Indeno(1,2,3-cd)Pyrene	193-39-5	500					46	J	120	J	
Isophorone	78-59-1						360	U	360	U	
Naphthalene	91-20-3	12000					360	U	360	U	
Nitrobenzene	98-95-3						360	UJ	360	UJ	
n-Nitroso-di-n-Propylamine	621-64-7						360	U	360	U	
n-Nitrosodiphenylamine	86-30-6						360	U	360	U	
Pentachlorophenol	87-86-5	800					730	U	740	U	
Phenanthrene	85-01-8	100000					37	J	83	J	
Phenol	108-95-2	330					360	U	360	U	
Pyrene	129-00-0	100000					95	J	250	J	
Pesticides (µg/kg)											
4,4'-DDD	72-54-8	3.3									
4,4'-DDE	72-55-9	3.3									
4,4'-DDT	50-29-3	3.3									
Aldrin	309-00-2	5									
Alpha-BHC	319-84-6	20									
Alpha-Chlordane	5103-71-9	94									
Beta-BHC	319-85-7	36									
Delta-BHC	319-86-8	40									
Dieldrin	60-57-1	5									
Endosulfan I	959-98-8	2400									
Endosulfan II	33213-65-9	2400									
Endosulfan Sulfate	1031-07-8	2400									
Endrin	72-20-8	14									
Endrin Aldehyde	7421-93-4										
Endrin Ketone	53494-70-5										

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MIP6B-42.5		80230-MIP6B-42.5-DUP		80230-MIP7-38		80230-MIP7-38-DUP		80230-MW12S-3	
		Sample Location	MIP6B		MIP6B		MIP7		MIP7		MW12S	
		Sampling Date	06/24/2011		06/24/2011		05/23/2011		05/23/2011		06/24/2011	
Chemical Name	CAS#	Part 375 Unrestricted										
Gamma-BHC (Lindane)	58-89-9	100										
Gamma-Chlordane	5103-74-2											
Heptachlor	76-44-8	42										
Heptachlor Epoxide	1024-57-3											
Methoxychlor	72-43-5											
Toxaphene	8001-35-2											
Polychlorinated Biphenyls (µg/kg)												
Aroclor 1016	12674-11-2	100										
Aroclor 1221	11104-28-2	100										
Aroclor 1232	11141-16-5	100										
Aroclor 1242	53469-21-9	100										
Aroclor 1248	12672-29-6	100										
Aroclor 1254	11097-69-1	100										
Aroclor 1260	11096-82-5	100										
Inorganics (mg/kg)												
Aluminum	7429-90-5											
Antimony	7440-36-0											
Arsenic	7440-38-2	13										
Barium	7440-39-3	350										
Beryllium	7440-41-7	7.2										
Cadmium	7440-43-9	2.5										
Calcium	7440-70-2											
Chromium	7440-47-3	**30**										
Cobalt	7440-48-4											
Copper	7440-50-8	**50**										
Iron	7439-89-6											
Lead	7439-92-1	63										
Magnesium	7439-95-4											
Manganese	7439-96-5	1600										
Mercury	7439-97-6	0.18										
Nickel	7440-02-0	**30**										

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	80230-MIP6B-42.5		80230-MIP6B-42.5-DUP		80230-MIP7-38		80230-MIP7-38-DUP		80230-MW12S-3	
		Sample Location	MIP6B		MIP6B		MIP7		MIP7		MW12S	
		Sampling Date	06/24/2011		06/24/2011		05/23/2011		05/23/2011		06/24/2011	
Chemical Name	CAS#	Part 375 Unrestricted										
Potassium	7440-09-7											
Selenium	7782-49-2	3.9										
Silver	7440-22-4	2										
Sodium	7440-23-5											
Thallium	7440-28-0											
Vanadium	7440-62-2											
Zinc	7440-66-6	109										

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	35	80230-MW12S-35ME		PM-SB-1A-A-1112011		PM-SB-1A-B-1112011		PM-SB-1B-A-1122011	
		Sample Location		MW12S		PM-SB-1A-A		PM-SB-1A-B		PM-SB-1B-A	
		Sampling Date		06/24/2011		11/01/2011		11/01/2011		11/02/2011	
Chemical Name	CAS#	Part 375 Unrestricted									
Volatile Organic Compounds (µg/kg)											
1,1,1,2-Tetrachloroethane	630-20-6		U	310	U	5.8	U	5.3	U	5.9	U
1,1,1-Trichloroethane	71-55-6	680	U	310	U	5.8	U	5.3	U	5.9	U
1,1,2,2-Tetrachloroethane	79-34-5		U	310	U	5.8	U	5.3	U	5.9	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	310	U	5.8	U	5.3	U	5.9	U
1,1,2-Trichloroethane	79-00-5		U	310	U	5.8	U	5.3	U	5.9	U
1,1-Dichloroethane	75-34-3	270	U	310	U	5.8	U	5.3	U	5.9	U
1,1-Dichloroethene	75-35-4	330	U	310	U	5.8	U	5.3	U	5.9	U
1,1-Dichloropropene	563-58-6		U	310	U	5.8	U	5.3	U	5.9	U
1,2,3-Trichlorobenzene	87-61-6		U	310	U	5.8	U	5.3	U	5.9	U
1,2,3-Trichloropropane	96-18-4		U	310	U	5.8	U	5.3	U	5.9	U
1,2,4-Trichlorobenzene	120-82-1		U	310	U	5.8	UJ	5.3	UJ	5.9	U
1,2,4-Trimethylbenzene	95-63-6	3600	J	310	U	5.8	U	5.3	U	5.9	U
1,2-Dibromo-3-Chloropropane	96-12-8		U	310	U	5.8	UJ	5.3	UJ	5.9	U
1,2-Dibromoethane (EDB)	106-93-4		U	310	U	5.8	U	5.3	U	5.9	U
1,2-Dichlorobenzene	95-50-1	1100	U	310	U	5.8	UJ	5.3	UJ	5.9	U
1,2-Dichloroethane	107-06-2	20	U	310	U	5.8	U	5.3	U	5.9	U
1,2-Dichloropropane	78-87-5		U	310	U	5.8	U	5.3	U	5.9	U
1,3,5-Trimethylbenzene	108-67-8	8400	U	310	U	5.8	U	5.3	U	5.9	U
1,3-Dichlorobenzene	541-73-1	2400	U	310	U	5.8	UJ	5.3	UJ	5.9	U
1,3-Dichloropropane	142-28-9		U	310	U	5.8	U	5.3	U	5.9	U
1,4-Dichlorobenzene	106-46-7	1800	U	310	U	5.8	UJ	5.3	UJ	5.9	U
2,2-Dichloropropane	594-20-7		U	310	U	5.8	U	5.3	U	5.9	U
2-Butanone (MEK)	78-93-3	120	R	310	R	5.8	R	5.3	R	5.9	R
2-Chlorotoluene	95-49-8		U	310	U	5.8	U	5.3	U	5.9	U
2-Hexanone	591-78-6		U	310	UJ	5.8	UJ	5.3	UJ	5.9	U
4-Chlorotoluene	106-43-4		U	310	U	5.8	U	5.3	U	5.9	U
4-Methyl-2-Pentanone (MIBK)	108-10-1		U	310	U	5.8	U	5.3	U	5.9	U
Acetone	67-64-1	50	R	310	UJ	17	J	5.3	J	5.9	R
Benzene	71-43-2	60	U	310	U	5.8	U	5.3	U	5.9	U
Bromobenzene	108-86-1		U	310	U	5.8	U	5.3	U	5.9	U

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

			Sample ID	35	80230-MW12S-35ME		PM-SB-1A-A-1112011		PM-SB-1A-B-1112011		PM-SB-1B-A-1122011	
			Sample Location		MW12S		PM-SB-1A-A		PM-SB-1A-B		PM-SB-1B-A	
			Sampling Date		06/24/2011		11/01/2011		11/01/2011		11/02/2011	
Chemical Name	CAS#	Part 375 Unrestricted										
Bromochloromethane	74-97-5		U	310	U	5.8	U	5.3	U	5.9	U	
Bromodichloromethane	75-27-4		U	310	U	5.8	U	5.3	U	5.9	U	
Bromoform	75-25-2		U	310	U	5.8	U	5.3	U	5.9	U	
Bromomethane	74-83-9		U	310	U	5.8	U	5.3	U	5.9	UJ	
Carbon Disulfide	75-15-0		U	310	U	5.8	U	5.3	U	5.9	U	
Carbon Tetrachloride	56-23-5	760	U	310	U	5.8	U	5.3	UJ	5.9	UJ	
Chlorobenzene	108-90-7	1100	U	310	U	5.8	U	5.3	U	5.9	U	
Chloroethane	75-00-3		U	310	U	5.8	U	5.3	U	5.9	U	
Chloroform	67-66-3	370	U	310	U	5.8	U	5.3	U	5.9	U	
Chloromethane	74-87-3		U	310	U	5.8	U	5.3	U	5.9	UJ	
cis-1,2-Dichloroethene	156-59-2	250	J	310	U	5.8	U	3.2	J	5.9	U	
cis-1,3-Dichloropropene	10061-01-5		U	310	U	5.8	U	5.3	U	5.9	U	
Cyclohexane	110-82-7		U	310	U	5.8	U	5.3	U	5.9	U	
Dibromochloromethane	124-48-1		U	310	U	5.8	U	5.3	U	5.9	U	
Dibromomethane	74-95-3		U	310	U	5.8	U	5.3	U	5.9	U	
Dichlorodifluoromethane	75-71-8		U	310	U	5.8	U	5.3	U	5.9	U	
Ethylbenzene	100-41-4	1000	U	310	U	5.8	U	5.3	U	5.9	U	
Hexachlorobutadiene	87-68-3		UJ	310	U	5.8	U	5.3	U	5.9	U	
Isopropylbenzene	98-82-8		U	310	U	5.8	U	5.3	U	5.9	UJ	
m,p-Xylene	179601-23-1	260	U	310	U	5.8	U	5.3	U	5.9	U	
Methyl Acetate	79-20-9		U	310	U	5.8	U	5.3	U	5.9	U	
Methyl Iodide	74-88-4		U	310	U	5.8	UJ	5.3	UJ	5.9	U	
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	930	U	310	U	5.8	U	5.3	U	5.9	U	
Methylcyclohexane	108-87-2		U	310	U	5.8	U	5.3	U	5.9	U	
Methylene Chloride	75-09-2	50	U	310	U	5.8	U	5.3	U	3	J	
Naphthalene	91-20-3	12000	J	310	U	5.8	U	5.3	UJ	5.9	UJ	
n-Butylbenzene	104-51-8	12000	UJ	310	U	5.8	U	5.3	U	5.9	U	
n-Propylbenzene	103-65-1	3900	U	310	U	5.8	U	5.3	U	5.9	U	
o-Xylene	95-47-6	260	U	310	U	5.8	U	5.3	U	5.9	U	
p-Isopropyltoluene	99-87-6		U	310	U	5.8	U	5.3	U	5.9	U	
sec-Butylbenzene	135-98-8	11000	U	310	U	5.8	U	5.3	U	5.9	U	

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Soil Sample Results
Former Paul Miller Dry Cleaners Site
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		Sample ID	35	80230-MW12S-35ME		PM-SB-1A-A-1112011		PM-SB-1A-B-1112011		PM-SB-1B-A-1122011			
		Sample Location		MW12S		PM-SB-1A-A		PM-SB-1A-B		PM-SB-1B-A			
		Sampling Date		06/24/2011		11/01/2011		11/01/2011		11/02/2011			
Chemical Name	CAS#	Part 375 Unrestricted											
Styrene	100-42-5		U	310	U	5.8	U	5.3	U	5.9	U		
tert-Butylbenzene	98-06-6	5900	U	310	U	5.8	U	5.3	U	5.9	U		
Tetrachloroethene	127-18-4	**1300**	E	1000		5.8	U	55	J	2.7	J		
Toluene	108-88-3	700	U	310	U	7.1	U	5.3	U	5.9	U		
Total Xylenes	1330-20-7	260	U	310	U	5.8	U	5.3	U	5.9	U		
trans-1,2-Dichloroethene	156-60-5	190	U	310	U	5.8	U	5.3	U	5.9	U		
trans-1,3-Dichloropropene	10061-02-6		U	310	U	5.8	U	5.3	U	5.9	U		
Trichloroethene	79-01-6	470	U	310	U	5.8	U	3.2	J	5.9	U		
Trichlorofluoromethane	75-69-4		U	310	U	5.8	U	5.3	U	5.9	U		
Vinyl Acetate	108-05-4		U	310	U	5.8	U	5.3	U	5.9	U		
Vinyl Chloride	75-01-4	20	U	310	U	5.8	U	5.3	U	5.9	U		
Semi-Volatile Organic Compounds (µg/kg)													
1,1'-Biphenyl	92-52-4												
2,4,5-Trichlorophenol	95-95-4												
2,4,6-Trichlorophenol	88-06-2												
2,4-Dichlorophenol	120-83-2												
2,4-Dimethylphenol	105-67-9												
2,4-Dinitrophenol	51-28-5												
2,4-Dinitrotoluene	121-14-2												
2,6-Dinitrotoluene	606-20-2												
2-Chloronaphthalene	91-58-7												
2-Chlorophenol	95-57-8												
2-Methylnaphthalene	91-57-6												
2-Methylphenol	95-48-7	330											
2-Nitroaniline	88-74-4												
2-Nitrophenol	88-75-5												
3,3'-Dichlorobenzidine	91-94-1												
3-Nitroaniline	99-09-2												
4,6-Dinitro-2-Methylphenol	534-52-1												
4-Bromophenyl-Phenylether	101-55-3												
4-Chloro-3-Methylphenol	59-50-7												

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	35	80230-MW12S-35ME		PM-SB-1A-A-1112011		PM-SB-1A-B-1112011		PM-SB-1B-A-1122011	
		Sample Location		MW12S		PM-SB-1A-A		PM-SB-1A-B		PM-SB-1B-A	
		Sampling Date		06/24/2011		11/01/2011		11/01/2011		11/02/2011	
Chemical Name	CAS#	Part 375 Unrestricted									
4-Chloroaniline	106-47-8										
4-Chlorophenyl-Phenylether	7005-72-3										
4-Methylphenol	106-44-5	330									
4-Nitroaniline	100-01-6										
4-Nitrophenol	100-02-7										
Acenaphthene	83-32-9	20000									
Acenaphthylene	208-96-8	100000									
Acetophenone	98-86-2										
Anthracene	120-12-7	100000									
Atrazine	1912-24-9										
Benzaldehyde	100-52-7										
Benzo(a)Anthracene	56-55-3	1000									
Benzo(a)Pyrene	50-32-8	1000									
Benzo(b)Fluoranthene	205-99-2	1000									
Benzo(g,h,i)Perylene	191-24-2	100000									
Benzo(k)Fluoranthene	207-08-9	800									
bis(2-Chloroethoxy)Methane	111-91-1										
bis(2-Chloroethyl) Ether	111-44-4										
bis(2-Ethylhexyl)Phthalate	117-81-7										
bis-Chloroisopropyl Ether	108-60-1										
Butylbenzylphthalate	85-68-7										
Caprolactam	105-60-2										
Carbazole	86-74-8										
Chrysene	218-01-9	1000									
Dibenzo(a,h)Anthracene	53-70-3	330									
Dibenzofuran	132-64-9	7000									
Diethylphthalate	84-66-2										
Dimethylphthalate	131-11-3										
di-n-Butylphthalate	84-74-2										
di-n-Octylphthalate	117-84-0										
Fluoranthene	206-44-0	100000									

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Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	35	80230-MW12S-35ME		PM-SB-1A-A-1112011		PM-SB-1A-B-1112011		PM-SB-1B-A-1122011	
		Sample Location		MW12S		PM-SB-1A-A		PM-SB-1A-B		PM-SB-1B-A	
		Sampling Date		06/24/2011		11/01/2011		11/01/2011		11/02/2011	
Chemical Name	CAS#	Part 375 Unrestricted									
Fluorene	86-73-7	30000									
Hexachlorobenzene	118-74-1	330									
Hexachlorobutadiene	87-68-3										
Hexachlorocyclopentadiene	77-47-4										
Hexachloroethane	67-72-1										
Indeno(1,2,3-cd)Pyrene	193-39-5	500									
Isophorone	78-59-1										
Naphthalene	91-20-3	12000									
Nitrobenzene	98-95-3										
n-Nitroso-di-n-Propylamine	621-64-7										
n-Nitrosodiphenylamine	86-30-6										
Pentachlorophenol	87-86-5	800									
Phenanthrene	85-01-8	100000									
Phenol	108-95-2	330									
Pyrene	129-00-0	100000									
Pesticides (µg/kg)											
4,4'-DDD	72-54-8	3.3									
4,4'-DDE	72-55-9	3.3									
4,4'-DDT	50-29-3	3.3									
Aldrin	309-00-2	5									
Alpha-BHC	319-84-6	20									
Alpha-Chlordane	5103-71-9	94									
Beta-BHC	319-85-7	36									
Delta-BHC	319-86-8	40									
Dieldrin	60-57-1	5									
Endosulfan I	959-98-8	2400									
Endosulfan II	33213-65-9	2400									
Endosulfan Sulfate	1031-07-8	2400									
Endrin	72-20-8	14									
Endrin Aldehyde	7421-93-4										
Endrin Ketone	53494-70-5										

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	35	80230-MW12S-35ME		PM-SB-1A-A-1112011		PM-SB-1A-B-1112011		PM-SB-1B-A-1122011	
		Sample Location		MW12S		PM-SB-1A-A		PM-SB-1A-B		PM-SB-1B-A	
		Sampling Date		06/24/2011		11/01/2011		11/01/2011		11/02/2011	
Chemical Name	CAS#	Part 375 Unrestricted									
Gamma-BHC (Lindane)	58-89-9	100									
Gamma-Chlordane	5103-74-2										
Heptachlor	76-44-8	42									
Heptachlor Epoxide	1024-57-3										
Methoxychlor	72-43-5										
Toxaphene	8001-35-2										
Polychlorinated Biphenyls (µg/kg)											
Aroclor 1016	12674-11-2	100									
Aroclor 1221	11104-28-2	100									
Aroclor 1232	11141-16-5	100									
Aroclor 1242	53469-21-9	100									
Aroclor 1248	12672-29-6	100									
Aroclor 1254	11097-69-1	100									
Aroclor 1260	11096-82-5	100									
Inorganics (mg/kg)											
Aluminum	7429-90-5										
Antimony	7440-36-0										
Arsenic	7440-38-2	13									
Barium	7440-39-3	350									
Beryllium	7440-41-7	7.2									
Cadmium	7440-43-9	2.5									
Calcium	7440-70-2										
Chromium	7440-47-3	**30**									
Cobalt	7440-48-4										
Copper	7440-50-8	**50**									
Iron	7439-89-6										
Lead	7439-92-1	63									
Magnesium	7439-95-4										
Manganese	7439-96-5	1600									
Mercury	7439-97-6	0.18									
Nickel	7440-02-0	**30**									

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	35	80230-MW12S-35ME		PM-SB-1A-A-1112011		PM-SB-1A-B-1112011		PM-SB-1B-A-1122011	
		Sample Location		MW12S		PM-SB-1A-A		PM-SB-1A-B		PM-SB-1B-A	
		Sampling Date		06/24/2011		11/01/2011		11/01/2011		11/02/2011	
Chemical Name	CAS#	Part 375 Unrestricted									
Potassium	7440-09-7										
Selenium	7782-49-2	3.9									
Silver	7440-22-4	2									
Sodium	7440-23-5										
Thallium	7440-28-0										
Vanadium	7440-62-2										
Zinc	7440-66-6	109									

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Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-1B-B-1122011		PM-SB-2-A-1112011		PM-SB-2-B-1112011		PM-SB-3-A-1112011	
		Sample Location	PM-SB-1B-B		PM-SB-2-A		PM-SB-2-B		PM-SB-3-A	
		Sampling Date	11/02/2011		11/01/2011		11/01/2011		11/01/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Volatile Organic Compounds (µg/kg)										
1,1,1,2-Tetrachloroethane	630-20-6		5.5	U	5.9	U	6	U	5.9	U
1,1,1-Trichloroethane	71-55-6	680	5.5	U	5.9	U	6	U	5.9	U
1,1,2,2-Tetrachloroethane	79-34-5		5.5	U	5.9	U	6	U	5.9	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		5.5	U	5.9	U	6	U	5.9	U
1,1,2-Trichloroethane	79-00-5		5.5	U	5.9	U	6	U	5.9	U
1,1-Dichloroethane	75-34-3	270	5.5	U	5.9	U	6	U	5.9	U
1,1-Dichloroethene	75-35-4	330	5.5	U	5.9	U	6	U	5.9	U
1,1-Dichloropropene	563-58-6		5.5	U	5.9	U	6	U	5.9	U
1,2,3-Trichlorobenzene	87-61-6		5.5	U	5.9	U	6	U	5.9	U
1,2,3-Trichloropropane	96-18-4		5.5	U	5.9	U	6	U	5.9	U
1,2,4-Trichlorobenzene	120-82-1		5.5	U	5.9	UJ	6	UJ	5.9	UJ
1,2,4-Trimethylbenzene	95-63-6	3600	5.5	U	5.9	U	6	U	5.9	U
1,2-Dibromo-3-Chloropropane	96-12-8		5.5	U	5.9	UJ	6	UJ	5.9	UJ
1,2-Dibromoethane (EDB)	106-93-4		5.5	U	5.9	U	6	U	5.9	U
1,2-Dichlorobenzene	95-50-1	1100	5.5	U	5.9	UJ	6	UJ	5.9	UJ
1,2-Dichloroethane	107-06-2	20	5.5	U	5.9	U	6	U	5.9	U
1,2-Dichloropropane	78-87-5		5.5	U	5.9	U	6	U	5.9	U
1,3,5-Trimethylbenzene	108-67-8	8400	5.5	U	5.9	U	6	U	5.9	U
1,3-Dichlorobenzene	541-73-1	2400	5.5	U	5.9	UJ	6	UJ	5.9	UJ
1,3-Dichloropropane	142-28-9		5.5	U	5.9	U	6	U	5.9	U
1,4-Dichlorobenzene	106-46-7	1800	5.5	U	5.9	UJ	6	UJ	5.9	UJ
2,2-Dichloropropane	594-20-7		5.5	U	5.9	U	6	U	5.9	U
2-Butanone (MEK)	78-93-3	120	5.5	R	5.9	R	6	R	5.9	R
2-Chlorotoluene	95-49-8		5.5	U	5.9	U	6	U	5.9	U
2-Hexanone	591-78-6		5.5	U	5.9	UJ	6	UJ	5.9	UJ
4-Chlorotoluene	106-43-4		5.5	U	5.9	U	6	U	5.9	U
4-Methyl-2-Pentanone (MIBK)	108-10-1		5.5	U	5.9	U	6	U	5.9	U
Acetone	67-64-1	50	5.5	R	5.9	R	6	R	5.9	R
Benzene	71-43-2	60	5.5	U	5.9	U	6	U	5.9	U
Bromobenzene	108-86-1		5.5	U	5.9	U	6	U	5.9	U

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

			Sample ID	PM-SB-1B-B-1122011		PM-SB-2-A-1112011		PM-SB-2-B-1112011		PM-SB-3-A-1112011	
			Sample Location	PM-SB-1B-B		PM-SB-2-A		PM-SB-2-B		PM-SB-3-A	
			Sampling Date	11/02/2011		11/01/2011		11/01/2011		11/01/2011	
Chemical Name	CAS#	Part 375 Unrestricted									
Bromochloromethane	74-97-5			5.5	U	5.9	U	6	U	5.9	U
Bromodichloromethane	75-27-4			5.5	U	5.9	U	6	U	5.9	U
Bromoform	75-25-2			5.5	U	5.9	U	6	U	5.9	U
Bromomethane	74-83-9			5.5	UJ	5.9	U	6	U	5.9	U
Carbon Disulfide	75-15-0			5.5	U	5.9	U	6	U	5.9	U
Carbon Tetrachloride	56-23-5	760		5.5	UJ	5.9	UJ	6	UJ	5.9	UJ
Chlorobenzene	108-90-7	1100		5.5	U	5.9	U	6	U	5.9	U
Chloroethane	75-00-3			5.5	U	5.9	U	6	U	5.9	U
Chloroform	67-66-3	370		5.5	U	5.9	U	6	U	5.9	U
Chloromethane	74-87-3			5.5	UJ	5.9	U	6	U	5.9	U
cis-1,2-Dichloroethene	156-59-2	250		5.5	U	3.5	J	14		5.9	U
cis-1,3-Dichloropropene	10061-01-5			5.5	U	5.9	U	6	U	5.9	U
Cyclohexane	110-82-7			5.5	U	5.9	U	6	U	5.9	U
Dibromochloromethane	124-48-1			5.5	U	5.9	U	6	U	5.9	U
Dibromomethane	74-95-3			5.5	U	5.9	U	6	U	5.9	U
Dichlorodifluoromethane	75-71-8			5.5	U	5.9	U	6	U	5.9	U
Ethylbenzene	100-41-4	1000		5.5	U	5.9	U	6	U	5.9	U
Hexachlorobutadiene	87-68-3			5.5	U	5.9	U	6	U	5.9	U
Isopropylbenzene	98-82-8			5.5	UJ	5.9	U	6	U	5.9	U
m,p-Xylene	179601-23-1	260		5.5	U	5.9	U	6	U	5.9	U
Methyl Acetate	79-20-9			5.5	U	5.9	U	6	U	5.9	U
Methyl Iodide	74-88-4			5.5	U	5.9	UJ	6	UJ	5.9	UJ
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	930		5.5	U	5.9	U	6	U	5.9	U
Methylcyclohexane	108-87-2			5.5	U	5.9	U	6	U	5.9	U
Methylene Chloride	75-09-2	50		2.9	J	5.9	U	2	J	5.9	U
Naphthalene	91-20-3	12000		5.5	UJ	5.9	UJ	6	UJ	5.9	UJ
n-Butylbenzene	104-51-8	12000		5.5	U	5.9	U	6	U	5.9	U
n-Propylbenzene	103-65-1	3900		5.5	U	5.9	U	6	U	5.9	U
o-Xylene	95-47-6	260		5.5	U	5.9	U	6	U	5.9	U
p-Isopropyltoluene	99-87-6			5.5	U	5.9	U	6	U	5.9	U
sec-Butylbenzene	135-98-8	11000		5.5	U	5.9	U	6	U	5.9	U

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

			Sample ID	PM-SB-1B-B-1122011		PM-SB-2-A-1112011		PM-SB-2-B-1112011		PM-SB-3-A-1112011					
			Sample Location	PM-SB-1B-B		PM-SB-2-A		PM-SB-2-B		PM-SB-3-A					
			Sampling Date	11/02/2011		11/01/2011		11/01/2011		11/01/2011					
Chemical Name	CAS#	Part 375 Unrestricted													
Styrene	100-42-5			5.5	U	5.9	U	6	U	5.9	U				
tert-Butylbenzene	98-06-6	5900		5.5	U	5.9	U	6	U	5.9	U				
Tetrachloroethene	127-18-4	**1300**		5.5	U	5.9	J	9.2	J	22	J				
Toluene	108-88-3	700		5.5	U	5.9	U	6	U	5.9	U				
Total Xylenes	1330-20-7	260		5.5	U	5.9	U	6	U	5.9	U				
trans-1,2-Dichloroethene	156-60-5	190		5.5	U	5.9	U	6	U	5.9	U				
trans-1,3-Dichloropropene	10061-02-6			5.5	U	5.9	U	6	U	5.9	U				
Trichloroethene	79-01-6	470		5.5	U	5.9	U	1.2	J	5.9	U				
Trichlorofluoromethane	75-69-4			5.5	U	5.9	U	6	U	5.9	U				
Vinyl Acetate	108-05-4			5.5	U	5.9	U	6	U	5.9	U				
Vinyl Chloride	75-01-4	20		5.5	U	5.9	U	6	U	5.9	U				
Semi-Volatile Organic Compounds (µg/kg)															
1,1'-Biphenyl	92-52-4														
2,4,5-Trichlorophenol	95-95-4														
2,4,6-Trichlorophenol	88-06-2														
2,4-Dichlorophenol	120-83-2														
2,4-Dimethylphenol	105-67-9														
2,4-Dinitrophenol	51-28-5														
2,4-Dinitrotoluene	121-14-2														
2,6-Dinitrotoluene	606-20-2														
2-Chloronaphthalene	91-58-7														
2-Chlorophenol	95-57-8														
2-Methylnaphthalene	91-57-6														
2-Methylphenol	95-48-7	330													
2-Nitroaniline	88-74-4														
2-Nitrophenol	88-75-5														
3,3'-Dichlorobenzidine	91-94-1														
3-Nitroaniline	99-09-2														
4,6-Dinitro-2-Methylphenol	534-52-1														
4-Bromophenyl-Phenylether	101-55-3														
4-Chloro-3-Methylphenol	59-50-7														

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-1B-B-1122011		PM-SB-2-A-1112011		PM-SB-2-B-1112011		PM-SB-3-A-1112011	
		Sample Location	PM-SB-1B-B		PM-SB-2-A		PM-SB-2-B		PM-SB-3-A	
		Sampling Date	11/02/2011		11/01/2011		11/01/2011		11/01/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
4-Chloroaniline	106-47-8									
4-Chlorophenyl-Phenylether	7005-72-3									
4-Methylphenol	106-44-5	330								
4-Nitroaniline	100-01-6									
4-Nitrophenol	100-02-7									
Acenaphthene	83-32-9	20000								
Acenaphthylene	208-96-8	100000								
Acetophenone	98-86-2									
Anthracene	120-12-7	100000								
Atrazine	1912-24-9									
Benzaldehyde	100-52-7									
Benzo(a)Anthracene	56-55-3	1000								
Benzo(a)Pyrene	50-32-8	1000								
Benzo(b)Fluoranthene	205-99-2	1000								
Benzo(g,h,i)Perylene	191-24-2	100000								
Benzo(k)Fluoranthene	207-08-9	800								
bis(2-Chloroethoxy)Methane	111-91-1									
bis(2-Chloroethyl) Ether	111-44-4									
bis(2-Ethylhexyl)Phthalate	117-81-7									
bis-Chloroisopropyl Ether	108-60-1									
Butylbenzylphthalate	85-68-7									
Caprolactam	105-60-2									
Carbazole	86-74-8									
Chrysene	218-01-9	1000								
Dibenzo(a,h)Anthracene	53-70-3	330								
Dibenzofuran	132-64-9	7000								
Diethylphthalate	84-66-2									
Dimethylphthalate	131-11-3									
di-n-Butylphthalate	84-74-2									
di-n-Octylphthalate	117-84-0									
Fluoranthene	206-44-0	100000								

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-1B-B-1122011		PM-SB-2-A-1112011		PM-SB-2-B-1112011		PM-SB-3-A-1112011	
		Sample Location	PM-SB-1B-B		PM-SB-2-A		PM-SB-2-B		PM-SB-3-A	
		Sampling Date	11/02/2011		11/01/2011		11/01/2011		11/01/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Fluorene	86-73-7	30000								
Hexachlorobenzene	118-74-1	330								
Hexachlorobutadiene	87-68-3									
Hexachlorocyclopentadiene	77-47-4									
Hexachloroethane	67-72-1									
Indeno(1,2,3-cd)Pyrene	193-39-5	500								
Isophorone	78-59-1									
Naphthalene	91-20-3	12000								
Nitrobenzene	98-95-3									
n-Nitroso-di-n-Propylamine	621-64-7									
n-Nitrosodiphenylamine	86-30-6									
Pentachlorophenol	87-86-5	800								
Phenanthrene	85-01-8	100000								
Phenol	108-95-2	330								
Pyrene	129-00-0	100000								
Pesticides (µg/kg)										
4,4'-DDD	72-54-8	3.3								
4,4'-DDE	72-55-9	3.3								
4,4'-DDT	50-29-3	3.3								
Aldrin	309-00-2	5								
Alpha-BHC	319-84-6	20								
Alpha-Chlordane	5103-71-9	94								
Beta-BHC	319-85-7	36								
Delta-BHC	319-86-8	40								
Dieldrin	60-57-1	5								
Endosulfan I	959-98-8	2400								
Endosulfan II	33213-65-9	2400								
Endosulfan Sulfate	1031-07-8	2400								
Endrin	72-20-8	14								
Endrin Aldehyde	7421-93-4									
Endrin Ketone	53494-70-5									

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-1B-B-1122011		PM-SB-2-A-1112011		PM-SB-2-B-1112011		PM-SB-3-A-1112011	
		Sample Location	PM-SB-1B-B		PM-SB-2-A		PM-SB-2-B		PM-SB-3-A	
		Sampling Date	11/02/2011		11/01/2011		11/01/2011		11/01/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Gamma-BHC (Lindane)	58-89-9	100								
Gamma-Chlordane	5103-74-2									
Heptachlor	76-44-8	42								
Heptachlor Epoxide	1024-57-3									
Methoxychlor	72-43-5									
Toxaphene	8001-35-2									
Polychlorinated Biphenyls (µg/kg)										
Aroclor 1016	12674-11-2	100								
Aroclor 1221	11104-28-2	100								
Aroclor 1232	11141-16-5	100								
Aroclor 1242	53469-21-9	100								
Aroclor 1248	12672-29-6	100								
Aroclor 1254	11097-69-1	100								
Aroclor 1260	11096-82-5	100								
Inorganics (mg/kg)										
Aluminum	7429-90-5									
Antimony	7440-36-0									
Arsenic	7440-38-2	13								
Barium	7440-39-3	350								
Beryllium	7440-41-7	7.2								
Cadmium	7440-43-9	2.5								
Calcium	7440-70-2									
Chromium	7440-47-3	**30**								
Cobalt	7440-48-4									
Copper	7440-50-8	**50**								
Iron	7439-89-6									
Lead	7439-92-1	63								
Magnesium	7439-95-4									
Manganese	7439-96-5	1600								
Mercury	7439-97-6	0.18								
Nickel	7440-02-0	**30**								

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-1B-B-1122011		PM-SB-2-A-1112011		PM-SB-2-B-1112011		PM-SB-3-A-1112011			
		Sample Location	PM-SB-1B-B		PM-SB-2-A		PM-SB-2-B		PM-SB-3-A			
		Sampling Date	11/02/2011		11/01/2011		11/01/2011		11/01/2011			
Chemical Name	CAS#	Part 375 Unrestricted										
Potassium	7440-09-7											
Selenium	7782-49-2	3.9										
Silver	7440-22-4	2										
Sodium	7440-23-5											
Thallium	7440-28-0											
Vanadium	7440-62-2											
Zinc	7440-66-6	109										

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-4-A-1112011		PM-SB-5-A-1112011		PM-SB-5-B-1112011		PM-SB-6-A-1112011	
		Sample Location	PM-SB-4-A		PM-SB-5-A		PM-SB-5-B		PM-SB-6-A	
		Sampling Date	11/01/2011		11/01/2011		11/01/2011		11/01/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Volatile Organic Compounds (µg/kg)										
1,1,1,2-Tetrachloroethane	630-20-6		5.9	U	6.8	U	5.4	U	6.7	U
1,1,1-Trichloroethane	71-55-6	680	5.9	U	6.8	U	5.4	U	6.7	U
1,1,2,2-Tetrachloroethane	79-34-5		5.9	U	6.8	U	5.4	U	6.7	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		5.9	U	6.8	U	5.4	U	6.7	U
1,1,2-Trichloroethane	79-00-5		5.9	U	6.8	U	5.4	U	6.7	U
1,1-Dichloroethane	75-34-3	270	5.9	U	6.8	U	5.4	U	6.7	U
1,1-Dichloroethene	75-35-4	330	5.9	U	6.8	U	5.4	U	6.7	U
1,1-Dichloropropene	563-58-6		5.9	U	6.8	U	5.4	U	6.7	U
1,2,3-Trichlorobenzene	87-61-6		5.9	U	6.8	U	5.4	U	6.7	U
1,2,3-Trichloropropane	96-18-4		5.9	U	6.8	U	5.4	U	6.7	U
1,2,4-Trichlorobenzene	120-82-1		5.9	UJ	6.8	UJ	5.4	UJ	6.7	UJ
1,2,4-Trimethylbenzene	95-63-6	3600	1.8	J	6.8	U	5.4	U	6.7	U
1,2-Dibromo-3-Chloropropane	96-12-8		5.9	UJ	6.8	UJ	5.4	UJ	6.7	UJ
1,2-Dibromoethane (EDB)	106-93-4		5.9	U	6.8	U	5.4	U	6.7	U
1,2-Dichlorobenzene	95-50-1	1100	5.9	UJ	6.8	UJ	5.4	UJ	6.7	UJ
1,2-Dichloroethane	107-06-2	20	5.9	U	6.8	U	5.4	U	6.7	U
1,2-Dichloropropane	78-87-5		5.9	U	6.8	U	5.4	U	6.7	U
1,3,5-Trimethylbenzene	108-67-8	8400	5.9	U	6.8	U	5.4	U	6.7	U
1,3-Dichlorobenzene	541-73-1	2400	5.9	UJ	6.8	UJ	5.4	UJ	6.7	UJ
1,3-Dichloropropane	142-28-9		5.9	U	6.8	U	5.4	U	6.7	U
1,4-Dichlorobenzene	106-46-7	1800	5.9	UJ	6.8	UJ	5.4	UJ	6.7	UJ
2,2-Dichloropropane	594-20-7		5.9	U	6.8	U	5.4	U	6.7	U
2-Butanone (MEK)	78-93-3	120	5.9	R	6.8	R	5.4	R	6.7	R
2-Chlorotoluene	95-49-8		5.9	U	6.8	U	5.4	U	6.7	U
2-Hexanone	591-78-6		5.9	UJ	6.8	UJ	5.4	UJ	6.7	UJ
4-Chlorotoluene	106-43-4		5.9	U	6.8	U	5.4	U	6.7	U
4-Methyl-2-Pentanone (MIBK)	108-10-1		5.9	U	6.8	U	5.4	U	6.7	U
Acetone	67-64-1	50	14	J	6.8	R	5.4	R	6.7	R
Benzene	71-43-2	60	5.9	U	6.8	U	5.4	U	6.7	U
Bromobenzene	108-86-1		5.9	U	6.8	U	5.4	U	6.7	U

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-4-A-1112011		PM-SB-5-A-1112011		PM-SB-5-B-1112011		PM-SB-6-A-1112011	
		Sample Location	PM-SB-4-A		PM-SB-5-A		PM-SB-5-B		PM-SB-6-A	
		Sampling Date	11/01/2011		11/01/2011		11/01/2011		11/01/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Bromochloromethane	74-97-5		5.9	U	6.8	U	5.4	U	6.7	U
Bromodichloromethane	75-27-4		5.9	U	6.8	U	5.4	U	6.7	U
Bromoform	75-25-2		5.9	U	6.8	U	5.4	U	6.7	U
Bromomethane	74-83-9		5.9	U	6.8	U	5.4	U	6.7	U
Carbon Disulfide	75-15-0		5.9	U	6.8	U	5.4	U	6.7	U
Carbon Tetrachloride	56-23-5	760	5.9	UJ	6.8	U	5.4	UJ	6.7	UJ
Chlorobenzene	108-90-7	1100	5.9	U	6.8	U	5.4	U	6.7	U
Chloroethane	75-00-3		5.9	U	6.8	U	5.4	U	6.7	U
Chloroform	67-66-3	370	5.9	U	6.8	U	5.4	U	6.7	U
Chloromethane	74-87-3		5.9	U	6.8	U	5.4	U	6.7	U
cis-1,2-Dichloroethene	156-59-2	250	5.9	U	12		5.4	U	12	
cis-1,3-Dichloropropene	10061-01-5		5.9	U	6.8	U	5.4	U	6.7	U
Cyclohexane	110-82-7		5.9	U	6.8	U	5.4	U	6.7	U
Dibromochloromethane	124-48-1		5.9	U	6.8	U	5.4	U	6.7	U
Dibromomethane	74-95-3		5.9	U	6.8	U	5.4	U	6.7	U
Dichlorodifluoromethane	75-71-8		5.9	U	6.8	U	5.4	U	6.7	U
Ethylbenzene	100-41-4	1000	5.9	U	6.8	U	5.4	U	6.7	U
Hexachlorobutadiene	87-68-3		5.9	U	6.8	U	5.4	U	6.7	U
Isopropylbenzene	98-82-8		5.9	U	6.8	U	5.4	U	6.7	U
m,p-Xylene	179601-23-1	260	5.9	U	6.8	U	5.4	U	6.7	U
Methyl Acetate	79-20-9		5.9	U	6.8	U	5.4	U	6.7	U
Methyl Iodide	74-88-4		5.9	UJ	6.8	U	5.4	UJ	6.7	UJ
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	930	5.9	U	6.8	U	5.4	U	6.7	U
Methylcyclohexane	108-87-2		5.9	U	6.8	UJ	5.4	U	6.7	U
Methylene Chloride	75-09-2	50	5	J	6.8	U	3.2	J	3.8	J
Naphthalene	91-20-3	12000	5.8	J	6.8	U	5.4	UJ	6.7	UJ
n-Butylbenzene	104-51-8	12000	5.9	U	6.8	U	5.4	U	6.7	U
n-Propylbenzene	103-65-1	3900	5.9	U	6.8	U	5.4	U	6.7	U
o-Xylene	95-47-6	260	5.9	U	6.8	U	5.4	U	6.7	U
p-Isopropyltoluene	99-87-6		5.9	U	6.8	U	5.4	U	6.7	U
sec-Butylbenzene	135-98-8	11000	5.9	U	6.8	U	5.4	U	6.7	U

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

			Sample ID		PM-SB-4-A-1112011		PM-SB-5-A-1112011		PM-SB-5-B-1112011		PM-SB-6-A-1112011	
			Sample Location		PM-SB-4-A		PM-SB-5-A		PM-SB-5-B		PM-SB-6-A	
			Sampling Date		11/01/2011		11/01/2011		11/01/2011		11/01/2011	
Chemical Name	CAS#	Part 375 Unrestricted										
Styrene	100-42-5			5.9	U	6.8	U	5.4	U	6.7	U	
tert-Butylbenzene	98-06-6	5900		5.9	U	6.8	U	5.4	U	6.7	U	
Tetrachloroethene	127-18-4	**1300**		16	J	110	J	4.5	J	26	J	
Toluene	108-88-3	700		3.8	J	2.3	J	1.9	J	6.7	U	
Total Xylenes	1330-20-7	260		5.9	U	6.8	U	5.4	U	6.7	U	
trans-1,2-Dichloroethene	156-60-5	190		5.9	U	6.8	U	5.4	U	6.7	U	
trans-1,3-Dichloropropene	10061-02-6			5.9	U	6.8	U	5.4	U	6.7	U	
Trichloroethene	79-01-6	470		5.9	U	16	J	5.4	U	6.6	J	
Trichlorofluoromethane	75-69-4			5.9	U	6.8	U	5.4	U	6.7	U	
Vinyl Acetate	108-05-4			5.9	U	6.8	U	5.4	U	6.7	U	
Vinyl Chloride	75-01-4	20		5.9	U	6.8	U	5.4	U	6.7	U	
Semi-Volatile Organic Compounds (µg/kg)												
1,1'-Biphenyl	92-52-4											
2,4,5-Trichlorophenol	95-95-4											
2,4,6-Trichlorophenol	88-06-2											
2,4-Dichlorophenol	120-83-2											
2,4-Dimethylphenol	105-67-9											
2,4-Dinitrophenol	51-28-5											
2,4-Dinitrotoluene	121-14-2											
2,6-Dinitrotoluene	606-20-2											
2-Chloronaphthalene	91-58-7											
2-Chlorophenol	95-57-8											
2-Methylnaphthalene	91-57-6											
2-Methylphenol	95-48-7	330										
2-Nitroaniline	88-74-4											
2-Nitrophenol	88-75-5											
3,3'-Dichlorobenzidine	91-94-1											
3-Nitroaniline	99-09-2											
4,6-Dinitro-2-Methylphenol	534-52-1											
4-Bromophenyl-Phenylether	101-55-3											
4-Chloro-3-Methylphenol	59-50-7											

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Soil Sample Results
Former Paul Miller Dry Cleaners Site
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		Sample ID	PM-SB-4-A-1112011		PM-SB-5-A-1112011		PM-SB-5-B-1112011		PM-SB-6-A-1112011	
		Sample Location	PM-SB-4-A		PM-SB-5-A		PM-SB-5-B		PM-SB-6-A	
		Sampling Date	11/01/2011		11/01/2011		11/01/2011		11/01/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
4-Chloroaniline	106-47-8									
4-Chlorophenyl-Phenylether	7005-72-3									
4-Methylphenol	106-44-5	330								
4-Nitroaniline	100-01-6									
4-Nitrophenol	100-02-7									
Acenaphthene	83-32-9	20000								
Acenaphthylene	208-96-8	100000								
Acetophenone	98-86-2									
Anthracene	120-12-7	100000								
Atrazine	1912-24-9									
Benzaldehyde	100-52-7									
Benzo(a)Anthracene	56-55-3	1000								
Benzo(a)Pyrene	50-32-8	1000								
Benzo(b)Fluoranthene	205-99-2	1000								
Benzo(g,h,i)Perylene	191-24-2	100000								
Benzo(k)Fluoranthene	207-08-9	800								
bis(2-Chloroethoxy)Methane	111-91-1									
bis(2-Chloroethyl) Ether	111-44-4									
bis(2-Ethylhexyl)Phthalate	117-81-7									
bis-Chloroisopropyl Ether	108-60-1									
Butylbenzylphthalate	85-68-7									
Caprolactam	105-60-2									
Carbazole	86-74-8									
Chrysene	218-01-9	1000								
Dibenzo(a,h)Anthracene	53-70-3	330								
Dibenzofuran	132-64-9	7000								
Diethylphthalate	84-66-2									
Dimethylphthalate	131-11-3									
di-n-Butylphthalate	84-74-2									
di-n-Octylphthalate	117-84-0									
Fluoranthene	206-44-0	100000								

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Soil Sample Results
Former Paul Miller Dry Cleaners Site
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		Sample ID	PM-SB-4-A-1112011		PM-SB-5-A-1112011		PM-SB-5-B-1112011		PM-SB-6-A-1112011	
		Sample Location	PM-SB-4-A		PM-SB-5-A		PM-SB-5-B		PM-SB-6-A	
		Sampling Date	11/01/2011		11/01/2011		11/01/2011		11/01/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Fluorene	86-73-7	30000								
Hexachlorobenzene	118-74-1	330								
Hexachlorobutadiene	87-68-3									
Hexachlorocyclopentadiene	77-47-4									
Hexachloroethane	67-72-1									
Indeno(1,2,3-cd)Pyrene	193-39-5	500								
Isophorone	78-59-1									
Naphthalene	91-20-3	12000								
Nitrobenzene	98-95-3									
n-Nitroso-di-n-Propylamine	621-64-7									
n-Nitrosodiphenylamine	86-30-6									
Pentachlorophenol	87-86-5	800								
Phenanthrene	85-01-8	100000								
Phenol	108-95-2	330								
Pyrene	129-00-0	100000								
Pesticides (µg/kg)										
4,4'-DDD	72-54-8	3.3								
4,4'-DDE	72-55-9	3.3								
4,4'-DDT	50-29-3	3.3								
Aldrin	309-00-2	5								
Alpha-BHC	319-84-6	20								
Alpha-Chlordane	5103-71-9	94								
Beta-BHC	319-85-7	36								
Delta-BHC	319-86-8	40								
Dieldrin	60-57-1	5								
Endosulfan I	959-98-8	2400								
Endosulfan II	33213-65-9	2400								
Endosulfan Sulfate	1031-07-8	2400								
Endrin	72-20-8	14								
Endrin Aldehyde	7421-93-4									
Endrin Ketone	53494-70-5									

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Soil Sample Results
Former Paul Miller Dry Cleaners Site
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		Sample ID	PM-SB-4-A-1112011		PM-SB-5-A-1112011		PM-SB-5-B-1112011		PM-SB-6-A-1112011	
		Sample Location	PM-SB-4-A		PM-SB-5-A		PM-SB-5-B		PM-SB-6-A	
		Sampling Date	11/01/2011		11/01/2011		11/01/2011		11/01/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Gamma-BHC (Lindane)	58-89-9	100								
Gamma-Chlordane	5103-74-2									
Heptachlor	76-44-8	42								
Heptachlor Epoxide	1024-57-3									
Methoxychlor	72-43-5									
Toxaphene	8001-35-2									
Polychlorinated Biphenyls (µg/kg)										
Aroclor 1016	12674-11-2	100								
Aroclor 1221	11104-28-2	100								
Aroclor 1232	11141-16-5	100								
Aroclor 1242	53469-21-9	100								
Aroclor 1248	12672-29-6	100								
Aroclor 1254	11097-69-1	100								
Aroclor 1260	11096-82-5	100								
Inorganics (mg/kg)										
Aluminum	7429-90-5									
Antimony	7440-36-0									
Arsenic	7440-38-2	13								
Barium	7440-39-3	350								
Beryllium	7440-41-7	7.2								
Cadmium	7440-43-9	2.5								
Calcium	7440-70-2									
Chromium	7440-47-3	**30**								
Cobalt	7440-48-4									
Copper	7440-50-8	**50**								
Iron	7439-89-6									
Lead	7439-92-1	63								
Magnesium	7439-95-4									
Manganese	7439-96-5	1600								
Mercury	7439-97-6	0.18								
Nickel	7440-02-0	**30**								

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Soil Sample Results
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		Sample ID	PM-SB-4-A-1112011		PM-SB-5-A-1112011		PM-SB-5-B-1112011		PM-SB-6-A-1112011	
		Sample Location	PM-SB-4-A		PM-SB-5-A		PM-SB-5-B		PM-SB-6-A	
		Sampling Date	11/01/2011		11/01/2011		11/01/2011		11/01/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Potassium	7440-09-7									
Selenium	7782-49-2	3.9								
Silver	7440-22-4	2								
Sodium	7440-23-5									
Thallium	7440-28-0									
Vanadium	7440-62-2									
Zinc	7440-66-6	109								

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Soil Sample Results
Former Paul Miller Dry Cleaners Site
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		Sample ID	PM-SB-6-B-1112011		PM-SB-7-B-1122011		PM-SB-99-110211	
		Sample Location	PM-SB-6-B		PM-SB-7-B		PM-SB-99	
		Sampling Date	11/01/2011		11/02/2011		11/02/2011	
Chemical Name	CAS#	Part 375 Unrestricted						
Volatile Organic Compounds (µg/kg)								
1,1,1,2-Tetrachloroethane	630-20-6		5.7	U	5.2	U	6	U
1,1,1-Trichloroethane	71-55-6	680	5.7	U	5.2	U	6	U
1,1,2,2-Tetrachloroethane	79-34-5		5.7	U	5.2	U	6	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		5.7	U	5.2	U	6	U
1,1,2-Trichloroethane	79-00-5		5.7	U	5.2	U	6	U
1,1-Dichloroethane	75-34-3	270	5.7	U	5.2	U	6	U
1,1-Dichloroethene	75-35-4	330	5.7	U	5.2	U	6	U
1,1-Dichloropropene	563-58-6		5.7	U	5.2	U	6	U
1,2,3-Trichlorobenzene	87-61-6		5.7	U	5.2	U	6	U
1,2,3-Trichloropropane	96-18-4		5.7	U	5.2	U	6	U
1,2,4-Trichlorobenzene	120-82-1		5.7	UJ	5.2	UJ	6	U
1,2,4-Trimethylbenzene	95-63-6	3600	5.7	U	5.2	U	6	U
1,2-Dibromo-3-Chloropropane	96-12-8		5.7	UJ	5.2	U	6	U
1,2-Dibromoethane (EDB)	106-93-4		5.7	U	5.2	U	6	U
1,2-Dichlorobenzene	95-50-1	1100	5.7	UJ	5.2	U	6	U
1,2-Dichloroethane	107-06-2	20	5.7	U	5.2	U	6	U
1,2-Dichloropropane	78-87-5		5.7	U	5.2	U	6	U
1,3,5-Trimethylbenzene	108-67-8	8400	5.7	U	5.2	U	6	U
1,3-Dichlorobenzene	541-73-1	2400	5.7	UJ	5.2	U	6	U
1,3-Dichloropropane	142-28-9		5.7	U	5.2	U	6	U
1,4-Dichlorobenzene	106-46-7	1800	5.7	UJ	5.2	U	6	U
2,2-Dichloropropane	594-20-7		5.7	U	5.2	U	6	U
2-Butanone (MEK)	78-93-3	120	5.7	R	5.2	R	6	R
2-Chlorotoluene	95-49-8		5.7	U	5.2	U	6	U
2-Hexanone	591-78-6		5.7	UJ	5.2	U	6	U
4-Chlorotoluene	106-43-4		5.7	U	5.2	U	6	U
4-Methyl-2-Pentanone (MIBK)	108-10-1		5.7	U	5.2	U	6	U
Acetone	67-64-1	50	5.7	R	5.2	R	9	R
Benzene	71-43-2	60	5.7	U	5.2	U	6	U
Bromobenzene	108-86-1		5.7	U	5.2	U	6	U

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

			Sample ID		PM-SB-6-B-1112011		PM-SB-7-B-1122011		PM-SB-99-110211	
			Sample Location		PM-SB-6-B		PM-SB-7-B		PM-SB-99	
			Sampling Date		11/01/2011		11/02/2011		11/02/2011	
Chemical Name	CAS#	Part 375 Unrestricted								
Bromochloromethane	74-97-5			5.7	U	5.2	U	6	U
Bromodichloromethane	75-27-4			5.7	U	5.2	U	6	U
Bromoform	75-25-2			5.7	U	5.2	U	6	U
Bromomethane	74-83-9			5.7	U	5.2	UJ	6	U
Carbon Disulfide	75-15-0			5.7	U	5.2	U	6	U
Carbon Tetrachloride	56-23-5	760		5.7	UJ	5.2	UJ	6	U
Chlorobenzene	108-90-7	1100		5.7	U	5.2	U	6	U
Chloroethane	75-00-3			5.7	U	5.2	U	6	U
Chloroform	67-66-3	370		5.7	U	5.2	U	6	U
Chloromethane	74-87-3			5.7	U	5.2	UJ	6	U
cis-1,2-Dichloroethene	156-59-2	250		5.7	U	5.2	U	6	U
cis-1,3-Dichloropropene	10061-01-5			5.7	U	5.2	UJ	6	U
Cyclohexane	110-82-7			5.7	U	5.2	U	6	U
Dibromochloromethane	124-48-1			5.7	U	5.2	U	6	U
Dibromomethane	74-95-3			5.7	U	5.2	U	6	U
Dichlorodifluoromethane	75-71-8			5.7	U	5.2	UJ	6	U
Ethylbenzene	100-41-4	1000		5.7	U	5.2	U	6	U
Hexachlorobutadiene	87-68-3			5.7	U	5.2	U	6	U
Isopropylbenzene	98-82-8			5.7	U	5.2	UJ	6	U
m,p-Xylene	179601-23-1	260		5.7	U	5.2	U	6	U
Methyl Acetate	79-20-9			5.7	U	5.2	U	6	U
Methyl Iodide	74-88-4			5.7	UJ	5.2	U	6	UJ
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	930		5.7	U	5.2	U	6	U
Methylcyclohexane	108-87-2			5.7	U	5.2	UJ	6	U
Methylene Chloride	75-09-2	50		3	J	2.9	J	6	U
Naphthalene	91-20-3	12000		5.7	UJ	5.2	UJ	6	U
n-Butylbenzene	104-51-8	12000		5.7	U	5.2	U	6	U
n-Propylbenzene	103-65-1	3900		5.7	U	5.2	U	6	U
o-Xylene	95-47-6	260		5.7	U	5.2	U	6	U
p-Isopropyltoluene	99-87-6			5.7	U	5.2	U	6	U
sec-Butylbenzene	135-98-8	11000		5.7	U	5.2	U	6	U

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-6-B-1112011		PM-SB-7-B-1122011		PM-SB-99-110211	
		Sample Location	PM-SB-6-B		PM-SB-7-B		PM-SB-99	
		Sampling Date	11/01/2011		11/02/2011		11/02/2011	
Chemical Name	CAS#	Part 375 Unrestricted						
Styrene	100-42-5		5.7	U	5.2	U	6	U
tert-Butylbenzene	98-06-6	5900	5.7	U	5.2	U	6	U
Tetrachloroethene	127-18-4	**1300**	5.7	U	5.2	U	2.3	J
Toluene	108-88-3	700	5.7	U	5.2	U	5.6	U
Total Xylenes	1330-20-7	260	5.7	U	5.2	U	6	U
trans-1,2-Dichloroethene	156-60-5	190	5.7	U	5.2	U	6	U
trans-1,3-Dichloropropene	10061-02-6		5.7	U	5.2	U	6	U
Trichloroethene	79-01-6	470	5.7	U	5.2	U	6	U
Trichlorofluoromethane	75-69-4		5.7	U	5.2	U	6	U
Vinyl Acetate	108-05-4		5.7	U	5.2	U	6	U
Vinyl Chloride	75-01-4	20	5.7	U	5.2	U	6	U
Semi-Volatile Organic Compounds (µg/kg)								
1,1'-Biphenyl	92-52-4							
2,4,5-Trichlorophenol	95-95-4							
2,4,6-Trichlorophenol	88-06-2							
2,4-Dichlorophenol	120-83-2							
2,4-Dimethylphenol	105-67-9							
2,4-Dinitrophenol	51-28-5							
2,4-Dinitrotoluene	121-14-2							
2,6-Dinitrotoluene	606-20-2							
2-Chloronaphthalene	91-58-7							
2-Chlorophenol	95-57-8							
2-Methylnaphthalene	91-57-6							
2-Methylphenol	95-48-7	330						
2-Nitroaniline	88-74-4							
2-Nitrophenol	88-75-5							
3,3'-Dichlorobenzidine	91-94-1							
3-Nitroaniline	99-09-2							
4,6-Dinitro-2-Methylphenol	534-52-1							
4-Bromophenyl-Phenylether	101-55-3							
4-Chloro-3-Methylphenol	59-50-7							

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-6-B-1112011		PM-SB-7-B-1122011		PM-SB-99-110211	
		Sample Location	PM-SB-6-B		PM-SB-7-B		PM-SB-99	
		Sampling Date	11/01/2011		11/02/2011		11/02/2011	
Chemical Name	CAS#	Part 375 Unrestricted						
4-Chloroaniline	106-47-8							
4-Chlorophenyl-Phenylether	7005-72-3							
4-Methylphenol	106-44-5	330						
4-Nitroaniline	100-01-6							
4-Nitrophenol	100-02-7							
Acenaphthene	83-32-9	20000						
Acenaphthylene	208-96-8	100000						
Acetophenone	98-86-2							
Anthracene	120-12-7	100000						
Atrazine	1912-24-9							
Benzaldehyde	100-52-7							
Benzo(a)Anthracene	56-55-3	1000						
Benzo(a)Pyrene	50-32-8	1000						
Benzo(b)Fluoranthene	205-99-2	1000						
Benzo(g,h,i)Perylene	191-24-2	100000						
Benzo(k)Fluoranthene	207-08-9	800						
bis(2-Chloroethoxy)Methane	111-91-1							
bis(2-Chloroethyl) Ether	111-44-4							
bis(2-Ethylhexyl)Phthalate	117-81-7							
bis-Chloroisopropyl Ether	108-60-1							
Butylbenzylphthalate	85-68-7							
Caprolactam	105-60-2							
Carbazole	86-74-8							
Chrysene	218-01-9	1000						
Dibenzo(a,h)Anthracene	53-70-3	330						
Dibenzofuran	132-64-9	7000						
Diethylphthalate	84-66-2							
Dimethylphthalate	131-11-3							
di-n-Butylphthalate	84-74-2							
di-n-Octylphthalate	117-84-0							
Fluoranthene	206-44-0	100000						

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-6-B-1112011		PM-SB-7-B-1122011		PM-SB-99-110211	
		Sample Location	PM-SB-6-B		PM-SB-7-B		PM-SB-99	
		Sampling Date	11/01/2011		11/02/2011		11/02/2011	
Chemical Name	CAS#	Part 375 Unrestricted						
Fluorene	86-73-7	30000						
Hexachlorobenzene	118-74-1	330						
Hexachlorobutadiene	87-68-3							
Hexachlorocyclopentadiene	77-47-4							
Hexachloroethane	67-72-1							
Indeno(1,2,3-cd)Pyrene	193-39-5	500						
Isophorone	78-59-1							
Naphthalene	91-20-3	12000						
Nitrobenzene	98-95-3							
n-Nitroso-di-n-Propylamine	621-64-7							
n-Nitrosodiphenylamine	86-30-6							
Pentachlorophenol	87-86-5	800						
Phenanthrene	85-01-8	100000						
Phenol	108-95-2	330						
Pyrene	129-00-0	100000						
Pesticides (µg/kg)								
4,4'-DDD	72-54-8	3.3						
4,4'-DDE	72-55-9	3.3						
4,4'-DDT	50-29-3	3.3						
Aldrin	309-00-2	5						
Alpha-BHC	319-84-6	20						
Alpha-Chlordane	5103-71-9	94						
Beta-BHC	319-85-7	36						
Delta-BHC	319-86-8	40						
Dieldrin	60-57-1	5						
Endosulfan I	959-98-8	2400						
Endosulfan II	33213-65-9	2400						
Endosulfan Sulfate	1031-07-8	2400						
Endrin	72-20-8	14						
Endrin Aldehyde	7421-93-4							
Endrin Ketone	53494-70-5							

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-6-B-1112011		PM-SB-7-B-1122011		PM-SB-99-110211	
		Sample Location	PM-SB-6-B		PM-SB-7-B		PM-SB-99	
		Sampling Date	11/01/2011		11/02/2011		11/02/2011	
Chemical Name	CAS#	Part 375 Unrestricted						
Gamma-BHC (Lindane)	58-89-9	100						
Gamma-Chlordane	5103-74-2							
Heptachlor	76-44-8	42						
Heptachlor Epoxide	1024-57-3							
Methoxychlor	72-43-5							
Toxaphene	8001-35-2							
Polychlorinated Biphenyls (µg/kg)								
Aroclor 1016	12674-11-2	100						
Aroclor 1221	11104-28-2	100						
Aroclor 1232	11141-16-5	100						
Aroclor 1242	53469-21-9	100						
Aroclor 1248	12672-29-6	100						
Aroclor 1254	11097-69-1	100						
Aroclor 1260	11096-82-5	100						
Inorganics (mg/kg)								
Aluminum	7429-90-5							
Antimony	7440-36-0							
Arsenic	7440-38-2	13						
Barium	7440-39-3	350						
Beryllium	7440-41-7	7.2						
Cadmium	7440-43-9	2.5						
Calcium	7440-70-2							
Chromium	7440-47-3	**30**						
Cobalt	7440-48-4							
Copper	7440-50-8	**50**						
Iron	7439-89-6							
Lead	7439-92-1	63						
Magnesium	7439-95-4							
Manganese	7439-96-5	1600						
Mercury	7439-97-6	0.18						
Nickel	7440-02-0	**30**						

Appendix C-2
Soil Sample Results
Former Paul Miller Dry Cleaners Site
Port Richmond, Richmond County, New York

		Sample ID	PM-SB-6-B-1112011		PM-SB-7-B-1122011		PM-SB-99-110211	
		Sample Location	PM-SB-6-B		PM-SB-7-B		PM-SB-99	
		Sampling Date	11/01/2011		11/02/2011		11/02/2011	
Chemical Name	CAS#	Part 375 Unrestricted						
Potassium	7440-09-7							
Selenium	7782-49-2	3.9						
Silver	7440-22-4	2						
Sodium	7440-23-5							
Thallium	7440-28-0							
Vanadium	7440-62-2							
Zinc	7440-66-6	109						

Appendix D

Data Usability Reports

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Total Metals Analyses
Samples Collected: May 23rd & 24th, 2011
Samples Received: May 25,' 2011
Laboratory: Spectrum
Sample Delivery Group: K0909
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0909-05	80230-GW-MIP6-33.5	Aqueous	23-May-11
K0909-07	80230-GW-MIP6-15	Aqueous	23-May-11
K0909-08	80230-FB-110523	Aqueous	23-May-11
K0909-09	80230-FB-AQ-110523	Aqueous	23-May-11
K0909-10	80230-GW-MIP5-28	Aqueous	24-May-11
K0909-10 MS	80230-GW-MIP5-28 MS	Aqueous	24-May-11
K0909-10 MSD	80230-GW-MIP5-28 MSD	Aqueous	24-May-11
K0909-12	80230-FB-AQ-110524	Aqueous	24-May-11

Water samples were validated for inorganic analyses by the US EPA Region II data validation SOP (HW-2, Revision 13). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - Holding Times
* - Calibration Verification
- CRDL Standard
* - Laboratory Control Sample
- Serial Dilutions
* - Calibration Blanks
- Field Blank
* - Preparation Blanks
* - Matrix Spike
* - Matrix Duplicate
* - ICP Interference Check Sample
* - Detection Limit Results
* - Linear Range
* - Sample Results

* - Indicates that all criteria were met for this parameter.

Data Validation Summary

A CRDL standard was not analyzed with this sample delivery group.

The minor problem with the serial dilution should be noted.

No other problems were found that would affect the use of the data.

Holding Times

All samples were analyzed within the required holding times.

CRDL Standards

A CRDL standard was not analyzed with this sample delivery group.

Initial and Continuing Calibrations

No problems were detected with any of the calibrations associated with this sample delivery group.

Preparation Blank

No compounds were detected in the one preparation blank associated with the digestions of these samples at concentrations above the CRDL. Several analytes were found in the preparation blank at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table.

Calibration Blanks

Several analytes were found in the continuing calibration blanks at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table and do not affect the end use of the data.

Field Blank

Several analytes were found in the continuing field blanks at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table and do not affect the end use of the data.

ICP Interference Check Sample

No problems were detected with the reported ICP Interference Check Sample recoveries.

Matrix Spike Recovery

Sample K0909-10 / 80230-GW-MIP5-28 was used as the matrix spike. All recoveries were within the 75% - 125% quality control limits.

Duplicate Analysis

Sample K0909-10 / 80230-GW-MIP5-28 was used as the matrix duplicate. All RPDs that could be accurately calculated were less than 20%.

Laboratory Control Sample

No problems were detected with the recoveries of the LCS standards.

Serial Dilutions

Sample K0909-10 / 80230-GW-MIP5-28 was used as the serial dilution. All percent differences that could be accurately calculated were less than 10% with the exception of barium (11%).

The barium data were flagged with the “J’ qualifier and are estimated values.

Instrument Detection Limit

No problems were found with the instrument detection limits.

ICP Linear Ranges

No problems were detected with the linear ranges.

Sample Results

No problems were detected with any of these samples.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Water Pesticide Analyses
Samples Collected: May 23rd & 24th, 2011
Samples Received: May 25,' 2011
Laboratory: Spectrum
Sample Delivery Group: K0909
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0909-08	80230-FB-110523	Aqueous	23-May-11

Soil and water samples were validated for analyses of pesticides by the US EPA Region II data validation SOP (HW-44, Revision 1). Data were reviewed for usability according to the following criteria:

- Data Completeness
* - Holding Times
* - Laboratory Blanks
* - Field Blanks
* - Surrogate Recoveries
* - Surrogate Retention Times
- Matrix Spike / Matrix Spike Duplicate
* - Surrogate Spike Recovery
* - Laboratory Control Sample
* - Calibrations
* - Method Blanks
- Florisil Cartridge Check
- GPC Calibration
* - Compound Identification

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

Form IX for a florisil cleanup was not included in the data package.

No significant problems were detected with any of the data.

Holding Times

All extractions and analyses were performed within the required holding times.

Surrogate Recoveries

All surrogate recoveries were within the required limits.

Matrix Spike

A matrix spike was not analyzed with this sample delivery group.

Laboratory Control Samples

All of the laboratory control sample recoveries were within the required limits.

Initial Calibrations

No problems were detected with the initial calibrations associated with the analyses of the samples. All % RSDs were less than 20%.

Continuing Calibrations

All %Ds in the continuing calibrations directly with the sample were less than 20%.

Florisil Cartridge Check

Form IX for a florisil cleanup was not included in the data package.

GPC Calibration

A GPC cleanup was not performed on these samples.

Method Blanks

No problems were detected with any of the method blanks.

Calibration Blanks

No problems were detected with the calibration blanks associated with this sample delivery group.

Field Blank

No compounds were detected in the field blank.

Sample Results

No problems were detected with the sample data.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Water PCB Analyses
Samples Collected: May 23rd & 24th, 2011
Samples Received: May 25,' 2011
Laboratory: Spectrum
Sample Delivery Group: K0909
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0909-08	80230-FB-110523	Aqueous	23-May-11

One water sample was validated for analyses of PCBs by the US EPA Region II data validation SOP (HW-44, Revision 1). Data were reviewed for usability according to the following criteria:

- Data Completeness
* - Holding Times
* - Laboratory Blanks
* - Field Blanks
* - Surrogate Recoveries
* - Surrogate Retention Times
- Matrix Spike / Matrix Spike Duplicate
* - System Monitoring Spike Recovery
* - Laboratory Control Sample
* - Calibrations
* - Method Blanks
- GPC Calibration
* - Compound Identification

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

Only compounds noted as target compounds by the laboratory's data system were reported in the raw data.

No other significant problems were detected with any of the data.

Holding Times

All extractions and analyses were performed within the required holding times.

Surrogate Recoveries

The recovery of the DCB surrogate on the primary column (40%) was at the 40% quality control limit. The data were not required to be qualified.

Matrix Spike

A matrix spike was not analyzed with this sample delivery gourp.

Laboratory Control Samples

All of the laboratory control sample recoveries were within the required limits.

Initial Calibrations

No problems were detected with the initial calibrations associated with the analyses of the samples. All %RSDs were less than 20%.

Continuing Calibrations

All %Ds were less than 15%.

Florisil Cartridge Check

Form IX for a florisil cleanup was not included in the data package.

GPC Calibration

A GPC cleanup was not performed on these samples.

Method Blanks

No problems were detected with any of the method blanks.

Calibration Blanks

No problems were detected with the calibration blanks associated with this sample delivery group.

Field Blank

No compounds were detected in the field blank.

Sample Results

No problems were detected with the sample data.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Soil and Water Semivolatile Organic Analyses
Samples Collected: May 23rd & 24th, 2011
Samples Received: May 25,' 2011
Laboratory: Spectrum
Sample Delivery Group: K0909
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0909-01	80230-MIP6-30	Soil	23-May-11
K0909-02	80230-MIP7-38	Soil	23-May-11
K0909-03	80230-DUP1-50	Soil	23-May-11
K0909-04	80230-MIP6-10	Soil	23-May-11
K0909-05	80230-GW-MIP6-33.5	Aqueous	23-May-11
K0909-07	80230-GW-MIP6-15	Aqueous	23-May-11
K0909-08	80230-FB-110523	Aqueous	23-May-11
K0909-09	80230-FB-AQ-110523	Aqueous	23-May-11
K0909-10	80230-GW-MIP5-28	Aqueous	24-May-11
K0909-10 MS	80230-GW-MIP5-28 MS	Aqueous	24-May-11
K0909-10 MSD	80230-GW-MIP5-28 MSD	Aqueous	24-May-11
K0909-12	80230-FB-AQ-110524	Aqueous	24-May-11

Soil and water samples were validated for analyses of semivolatile organics by the US EPA Region II data validation SOP (HW-22, Revision 3). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - GC/MS Tuning
* - Holding Times
- Calibrations
* - Laboratory Blanks
* - Field Blank
- Laboratory Control Sample
- Surrogate Compound Recoveries
* - Internal Standard Recoveries
- Matrix Spike / Matrix Spike Duplicate
* - Compound Identification
* - Compound Quantitation

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The minor problems with the laboratory control samples, matrix spike and calibrations should be noted. These are discussed in detail below.

Holding Times

All samples were extracted and analyzed within the contractual and technical times required by the US EPA Region II protocols.

Continuous extraction of water samples for semivolatile analysis was started within 7 days of the date of collection and soil samples 14 days.

Extracts were analyzed within 40 days of the date of extraction.

Tunes

No problems were detected with any of the tunes associated with the samples of this delivery group.

Surrogate Recoveries

All surrogate recoveries were within the required limits with the following exceptions:

		A S1	A S2	B S3	B S4	A S5	B S6
MB-59737							127%
LCS-59737							135%
K0909-05	80230-GW-MIP6-33.5						127%
K0909-07	80230-GW-MIP6-15						129%
K0909-08	80230-FB-110523						131%
K0909-09	80230-FB-AQ-110523						126%
K0909-10 MS	80230-GW-MIP5-28 MS						128%
K0909-12	80230-FB-AQ-110524						

There should not be a problem with surrogate recoveries in a blank and laboratory control sample.

The data were not required to be qualified since the NYS DEC ASP requirements allow one surrogate in each fraction to be outside of the limits (as long as it is greater than 10%).

Laboratory Control Samples

All of the recoveries of the LCS related to the water samples were within the required limits.

All of the recoveries of the LCS related to the soil samples were within the required limits with the exception of 2-methylnaphthalene (121%) which was above the 125% quality control limit.

This compound was not detected in any of the samples and the data were not affected by the high recovery.

Matrix Spike / Matrix Spike Duplicate

Sample K0909-10 /80230-GW-MIP5-28 from this sample delivery group was used as the matrix spike and matrix spike duplicate. All recoveries and RPDs which could be

accurately calculated were within the required limits with the exceptions of the caprolactam matrix spike recoveries (18% & 16%) and the RPD of 2,4-dinitrophenol (63%).

The data for these two compounds were flagged with the “J” qualifier. It is possible that low concentrations of these compounds may have been overlooked.

Calibrations

The %RSDs of all compounds in the initial calibration associated with the analysis of all of the samples were less than 15% with the exceptions of 2,4-dinitrophenol (26%) and benzaldehyde (18%).

None of these compounds were detected in any of the samples and the data were not required to be qualified for the high %RSD.

The %Ds of all compounds in the continuing calibration associated with the analyses of samples -05, -07, -08, -09, -10 & -12 were less than 20% with the exceptions of 2-methylnaphthalene (34%) and 2,4-dinitrophenol (30%).

The %Ds of all compounds in the continuing calibration associated with the analysis of samples -01, -02, -03 & -04 were less than 20% with the exceptions of nitrobenzene (22%), 2-methylnaphthalene (32%) and 2,4-dinitrophenol (30%).

The data for these compounds were flagged with the “J’ qualifier and are estimated values.

Method Blanks

No target compounds were detected in the method blanks.

Field Blank

No target compounds were detected in the field blank.

Internal Standard Areas and Retention Times

All internal standard recoveries and retention times were within the required limits.

Sample Results

No problems were found with the results of any of the samples of this delivery group.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Total Metals Analyses
Samples Collected: May 24, 2011
Samples Received: May 26, 2011
Laboratory: Spectrum
Sample Delivery Group: K0918
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0918-01	80230-GW-MIP5-15	Aqueous	24-May-11
K0918-03	80230-DUP1-GW	Aqueous	24-May-11
K0918-06	80230-FB-110524	Aqueous	24-May-11

Water samples were validated for inorganic analyses by the US EPA Region II data validation SOP (HW-2, Revision 13). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - Holding Times
* - Calibration Verification
- CRDL Standard
* - Laboratory Control Sample
- Serial Dilutions
* - Calibration Blanks
- Field Blank
* - Preparation Blanks
- Matrix Spike
- Matrix Duplicate
* - ICP Interference Check Sample
* - Detection Limit Results
* - Linear Range
* - Sample Results

* - Indicates that all criteria were met for this parameter.

Data Validation Summary

A CRDL standard was not analyzed with this sample delivery group.

No other problems were found that would affect the use of the data.

Holding Times

All samples were analyzed within the required holding times.

CRDL Standards

A CRDL standard was not analyzed with this sample delivery group.

Initial and Continuing Calibrations

No problems were detected with any of the calibrations associated with this sample delivery group.

Preparation Blank

No compounds were detected in the one preparation blank associated with the digestions of these samples at concentrations above the CRDL. Several analytes were found in the preparation blank at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table.

Calibration Blanks

Several analytes were found in the continuing calibration blanks at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table and do not affect the end use of the data.

Field Blank

Low concentrations of sodium (271 mg/l) were detected in the field blank. The sodium concentrations in the samples were too high to be affected by the field blank.

ICP Interference Check Sample

No problems were detected with the reported ICP Interference Check Sample recoveries.

Matrix Spike Recovery

A matrix spike was not analyzed with this sample delivery group.

Duplicate Analysis

A matrix duplicate was not analyzed with this sample delivery group.

Laboratory Control Sample

No problems were detected with the recoveries of the LCS standards.

Serial Dilutions

A serial dilution was not analyzed with this sample delivery group.

Instrument Detection Limit

No problems were found with the instrument detection limits.

ICP Linear Ranges

No problems were detected with the linear ranges.

Sample Results

No problems were detected with any of these samples.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Water Pesticide Analyses
Samples Collected: May 24, 2011
Samples Received: May 26, 2011
Laboratory: Spectrum
Sample Delivery Group: K0918
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0918-06	80230-FB-110524	Aqueous	24-May-11

One water sample was validated for analyses of pesticides by the US EPA Region II data validation SOP (HW-44, Revision 1). Data were reviewed for usability according to the following criteria:

- Data Completeness
* - Holding Times
* - Laboratory Blanks
* - Field Blanks
- Surrogate Recoveries
* - Surrogate Retention Times
- Matrix Spike / Matrix Spike Duplicate
* - Surrogate Spike Recovery
* - Laboratory Control Sample
* - Calibrations
* - Method Blanks
- Florisil Cartridge Check
- GPC Calibration
* - Compound Identification

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

Form IX for a florisil cleanup was not included in the data package.

No significant problems were detected with any of the data.

Holding Times

All extractions and analyses were performed within the required holding times.

Surrogate Recoveries

The laboratory's case narrative states:

80230-FB-110524 (K0918-06C), recovery is below criteria for Decachlorobiphenyl on rear column at 25% with criteria of (30-135) and Decachlorobiphenyl on front column at 28% with criteria of (30-135).

The data were not qualified since only a field blank sample was submitted.

Matrix Spike

A matrix spike was not analyzed with this sample delivery group.

Laboratory Control Samples

All of the laboratory control sample recoveries were within the required limits.

Initial Calibrations

No problems were detected with the initial calibrations associated with the analyses of the samples. All % RSDs were less than 20%.

Continuing Calibrations

All %Ds in the continuing calibrations directly with the sample were less than 20%.

Florisil Cartridge Check

Form IX for a florisil cleanup was not included in the data package.

GPC Calibration

A GPC cleanup was not performed on these samples.

Method Blanks

No problems were detected with any of the method blanks.

Calibration Blanks

No problems were detected with the calibration blanks associated with this sample delivery group.

Field Blank

No compounds were detected in the field blank.

Sample Results

No problems were detected with the sample data.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Water PCB Analyses
Samples Collected: May 24, 2011
Samples Received: May 26, 2011
Laboratory: Spectrum
Sample Delivery Group: K0918
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0918-06	80230-FB-110524	Aqueous	24-May-11

One water sample was validated for analyses of PCBs by the US EPA Region II data validation SOP (HW-44, Revision 1). Data were reviewed for usability according to the following criteria:

- Data Completeness
* - Holding Times
* - Laboratory Blanks
* - Field Blanks
* - Surrogate Recoveries
* - Surrogate Retention Times
- Matrix Spike / Matrix Spike Duplicate
* - System Monitoring Spike Recovery
* - Laboratory Control Sample
* - Calibrations
* - Method Blanks
- GPC Calibration
* - Compound Identification

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

Only compounds noted as target compounds by the laboratory's data system were reported in the raw data.

No other significant problems were detected with any of the data.

Holding Times

All extractions and analyses were performed within the required holding times.

Surrogate Recoveries

The laboratory's case narrative states:

80230-FB-110524 (K0918-06C), recovery is below criteria for Decachlorobiphenyl on rear column at 28% with criteria of (40-135) and Decachlorobiphenyl on front column at 28% with criteria of (40-135).

The data were not qualified since only a field blank sample was submitted.

Matrix Spike

A matrix spike was not analyzed with this sample delivery group.

Laboratory Control Samples

All of the laboratory control sample recoveries were within the required limits.

Initial Calibrations

No problems were detected with the initial calibrations associated with the analyses of the samples. All %RSDs were less than 20%.

Continuing Calibrations

All %Ds were less than 15%.

Florisil Cartridge Check

Form IX for a florisil cleanup was not included in the data package.

GPC Calibration

A GPC cleanup was not performed on these samples.

Method Blanks

No problems were detected with any of the method blanks.

Calibration Blanks

No problems were detected with the calibration blanks associated with this sample delivery group.

Field Blank

No compounds were detected in the field blank.

Sample Results

No problems were detected with the sample data.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Soil and Water Semivolatile Organic Analyses
Samples Collected: May 24, 2011
Samples Received: May 26, 2011
Laboratory: Spectrum
Sample Delivery Group: K0918
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0918-01	80230-GW-MIP5-15	Aqueous	24-May-11
K0918-03	80230-DUP1-GW	Aqueous	24-May-11
K0918-04	80230-MIP5-11	Soil	24-May-11
K0918-05	80230-MIP5-30	Soil	24May-11
K0918-06	80230-FB-110524	Aqueous	24-May-11
K0918-07	80230-MIP1-16.5	Soil	24-May-11
K0918-08	80230-MIP2-30	Soil	24-May-11

Soil and water samples were validated for analyses of semivolatile organics by the US EPA Region II data validation SOP (HW-22, Revision 3). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - GC/MS Tuning
* - Holding Times
- Calibrations
* - Laboratory Blanks
* - Field Blank
- Laboratory Control Sample
- Surrogate Compound Recoveries
* - Internal Standard Recoveries
- Matrix Spike / Matrix Spike Duplicate
* - Compound Identification
* - Compound Quantitation

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The minor problems with the laboratory control samples and calibrations should be noted. These are discussed in detail below.

Holding Times

All samples were extracted and analyzed within the contractual and technical times required by the US EPA Region II protocols.

Continuous extraction of water samples for semivolatile analysis was started within 7 days of the date of collection and soil samples 14 days.

Extracts were analyzed within 40 days of the date of extraction.

Tunes

No problems were detected with any of the tunes associated with the samples of this delivery group.

Surrogate Recoveries

All surrogate recoveries were within the required limits with the following exceptions:

	A S1	A S2	B S3	B S4	A S5	B S6
MB-59437						127%
LCS-59437						135%
MB-59433						132%
LCS-59433						126%
LCSD-59433						132%

There should not be a problem with surrogate recoveries in method blanks and laboratory control samples.

Laboratory Control Samples

All of the recoveries of the LCS related to the water samples were within the required limits with the exception of caprolactam (18%).

The data for this compound were flagged with the “J” qualifier and are estimated values.

All of the recoveries of the LCS related to the soil samples were within the required limits with the exception of 2-methylnaphthalene (125%) and caprolactam (18%).

The data for caprolactam were flagged with the “J” qualifier and are estimated values.

2-Methylnaphthalene was not detected in any of the samples and the data were not affected by the high recovery.

Matrix Spike / Matrix Spike Duplicate

A matrix spike and matrix spike duplicate were not analyzed with this sample delivery group.

Calibrations

The %RSDs of all compounds in the initial calibration associated with the analysis of all of the samples were less than 15% with the exceptions of 2,4-dinitrophenol (26%) and benzaldehyde (18%).

None of these compounds were detected in any of the samples and the data were not required to be qualified for the high %RSD.

The %Ds of all compounds in the continuing calibration associated with the analysis of all the samples were less than 20% with the exceptions of 2-methylnaphthalene (34%) and 2,4-dinitrophenol (30%)

The data for these compounds were flagged with the “J’ qualifier and are estimated values.

Method Blanks

No target compounds were detected in the method blanks.

Field Blank

No target compounds were detected in the field blank.

Internal Standard Areas and Retention Times

All internal standard recoveries and retention times were within the required limits.

Sample Results

No problems were found with the results of any of the samples of this delivery group.

SUMMARY OF THE ANALYTICAL DATA USABILITY
DEC-Former Paul Miller Site
D004437-23

Soil and Water Volatile Organic Analyses – Method 8260C
Samples Collected: May 24, 2011
Samples Received: May 26, 2011
Laboratory: Spectrum
Sample Delivery Group: K0918
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0918-01	80230-GW-MIP5-15	Aqueous	24-May-11
K0918-02	TRIP BLANK	Aqueous	24-May-11
K0918-03	80230-DUP1-GW	Aqueous	24-May-11
K0918-04	80230-MIP5-11	Soil	24-May-11
K0918-05	80230-MIP5-30	Soil	24May-11
K0918-06	80230-FB-110524	Aqueous	24-May-11
K0918-07	80230-MIP1-16.5	Soil	24-May-11
K0918-08	80230-MIP2-30	Soil	24-May-11

Soil and water samples were validated for analyses of volatile organics by the US EPA Region II data validation SOP (HW-24, Revision 2). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - GC/MS Tuning
* - Holding Times
- Calibrations
- Laboratory Blanks
* - Trip Blanks
* - Field Blanks
* - System Monitoring Compound Recoveries
* - Internal Standard Recoveries
- Matrix Spike / Matrix Spike Duplicate
- Laboratory Control Samples
* - Compound Identification
* - Compound Quantitation

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The problems with the calibrations and laboratory control samples should be noted. These are described in detail below.

No other significant problems were found with this sample delivery group which would affect the usability of the data.

Holding Times

The samples of this delivery group were validated against the Region II technical holding time requirements:

All of the samples were analyzed within 14 days of collection.

Tunes

No problems were detected with the tunes associated with the samples of this delivery group.

System Monitoring Compound Recoveries

All of the sample surrogate recoveries were within the required limits.

Calibrations

Initial Calibrations

All relative percent differences in the 5/05 initial calibration associated with the analyses of samples -02, -06, -01, -01DL and -03 were less than 20% with the exception of naphthalene (23%). .

The RRF of 2-butanone (0.038) was less than the 0.050 quality control limit in the above calibration.

All relative percent differences in the 5/31 initial calibration associated with the analyses of samples -04, -05, -07 and 08 were less than 20% with the exceptions of methylene chloride (21%), sec-butylbenzene (22%), 4-isopropyltoluene (21%), naphthalene (28%) and methylcyclohexane (24%). The data for these compounds were flagged with the “J” qualifier and are estimated values.

The RRFs of acetone (0.024) and 2-butanone (0.039) were less than the 0.050 quality control limit in the above calibration. This compound was not detected in any of the samples and the data were flagged with the “R” qualifier and technically rejected.

Detected data for these compounds were flagged with the “J” qualifier and are estimated values.

Continuing Calibrations

All of the percent differences in the continuing calibration associated with the analysis of samples -02, -06 and -01 were less than 20% with the exceptions of dichlorodifluoromethane (31%) and acetone (34%).

The relative response factors of acetone (0.036) and 2-butanone (0.037) in this continuing calibration were less than 0.050.

All of the percent differences in the continuing calibration associated with the analysis of samples -03 and -01DL were less than 20% with the exceptions of

dichlorodifluoromethane (28%), 1,2,4-trichlorobenzene (21%), hexachlorobutadiene (23%), 1,2,3-trichlorobenzene (21%), and methyl acetate (23%).

The relative response factors of 2-butanone (0.044) in this continuing calibration were less than 0.050.

All of the percent differences in the continuing calibration associated with the analysis of sample -04, -05, -07, and -08 were less than 20% with the exceptions of 1,2-dibromo-3-chloropropane (21%) and naphthalene (24%). The data for these compounds were flagged with the "J" qualifier and are estimated values.

The relative response factors of acetone (0.020) and 2-butanone (0.037) in this continuing calibration were less than 0.050.

The compounds with percent differences greater than 20% were flagged with the "J" qualifier and are estimated values.

Acetone and 2-butanone were not detected in any of the samples. The data for these compounds were flagged with the "R" qualifier in the associated samples and are technically rejected.

Matrix Spike and Matrix Spike Duplicate

A matrix spike and matrix spike duplicate were not analyzed.

Laboratory Control Sample

Some of the laboratory's in-house quality control limits were as low as 30% and as high as 163%. Quality control limits of 70% - 130% were used for the validation.

All of the laboratory control sample recoveries associated with soil samples -01, -02 and -06 were within the required limits with the exception of dichlorodifluoromethane (63%) and acetone (69%).

The data for these compounds were flagged with the "J" qualifier and are estimated values.

All of the other LCS recoveries were within the required limits.

Method Blanks

Low concentrations of 1,2,4-trichlorobenznene (1.3J ug/kg), 1,2,3-trichlorobenzene (1.4J ug/kg) and naphthalene (2.8J ug/kg) were detected in the method blank associated with samples -04, -05, -07 and -08.

None of these compounds were detected in any of these samples and the blank contamination does not affect the usability of the data.

No target compounds were detected in the other method blanks.

Trip Blank

No target compounds were detected in the trip blank.

Field Blank

No target compounds were detected in the field blank.

Internal Standard Areas and Retention Times

The recoveries and retention times of all internal standards were within the required 50% - 100% quality control limits.

Sample Results

No problems were detected with the samples.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Total Metals Analyses
Samples Collected: May 25, 2011
Samples Received: May 31, 2011
Laboratory: Spectrum
Sample Delivery Group: K0940
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0940-02	80230-MIP1B-14	Soil	25-May-11
K0940-03	80230-FB-110525	Aqueous	25-May-11
K0940-04	80230-MIP5B-22	Soil	25-May-11
K0940-04 MS	80230-MIP5B-22 MS	Soil	25-May-11
K0940-04 MSD	80230-MIP5B-22 MSD	Soil	25-May-11

Soil and water samples were validated for inorganic analyses by the US EPA Region II data validation SOP (HW-2, Revision 13). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - Holding Times
* - Calibration Verification
- CRDL Standard
* - Laboratory Control Sample
- Serial Dilutions
* - Calibration Blanks
- Field Blank
* - Preparation Blanks
- Matrix Spike
- Matrix Duplicate
* - ICP Interference Check Sample
* - Detection Limit Results
* - Linear Range
* - Sample Results

* - Indicates that all criteria were met for this parameter.

Data Validation Summary

A CRDL standard was not analyzed with this sample delivery group.

The problems with the matrix spike, matrix duplicate and serial dilution should be noted. These are described in detail below.

Holding Times

All samples were analyzed within the required holding times.

CRDL Standards

A CRDL standard was not analyzed with this sample delivery group.

Initial and Continuing Calibrations

No problems were detected with any of the calibrations associated with this sample delivery group.

Preparation Blank

No compounds were detected in the one preparation blank associated with the digestions of these samples at concentrations above the CRDL. Several analytes were found in the preparation blank at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table.

Calibration Blanks

Several analytes were found in the continuing calibration blanks at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table and do not affect the end use of the data.

Field Blank

A low concentration of calcium (172 ug/l) was detected in the field blank. The concentrations of calcium in the samples were too high to be affected by the blank contamination.

ICP Interference Check Sample

No problems were detected with the reported ICP Interference Check Sample recoveries.

Matrix Spike Recovery

Sample K0940-04 / 80230-MIP5B-22 was used as the matrix spike. All recoveries were within the 75% - 125% quality control limits with the exception of antimony (59%).

The antimony data in the soil samples were flagged with the “J” qualifier and are estimated values.

Duplicate Analysis

Sample K0940-04 / 80230-MIP5B-22 was used as the matrix duplicate. All RPDs that could be accurately calculated were less than 20% with the following exceptions:

Analyte	RPD
Arsenic.	23%
Chromium	32%
Cobalt	27%
Copper	27%
Iron	21%
Magnesium	25%
Potassium	24%
Vanadium	22%
Zinc	29%

The data for these analytes were flagged with the “J’ qualifier and are estimated values.

Laboratory Control Sample

No problems were detected with the recoveries of the LCS standards.

Serial Dilutions

Sample K0940-04 / 80230-MIP5B-22 was used as the serial dilution. All percent differences that could be accurately calculated were less than 10% with the exception of sodium (16%).

The sodium data were flagged with the “J’ qualifier and are estimated values.

Instrument Detection Limit

No problems were found with the instrument detection limits.

ICP Linear Ranges

No problems were detected with the linear ranges.

Sample Results

No problems were detected with any of these samples.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Soil and Water Pesticide Analyses
Samples Collected: May 25, 2011
Samples Received: May 31, 2011
Laboratory: Spectrum
Sample Delivery Group: K0940
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0940-02	80230-MIP1B-14	Soil	25-May-11
K0940-03	80230-FB-110525	Aqueous	25-May-11
K0940-04	80230-MIP5B-22	Soil	25-May-11
K0940-04 MS	80230-MIP5B-22 MS	Soil	25-May-11
K0940-04 MSD	80230-MIP5B-22 MSD	Soil	25-May-11

Soil and water samples were validated for analyses of pesticides by the US EPA Region II data validation SOP (HW-44, Revision 1). Data were reviewed for usability according to the following criteria:

- Data Completeness
* - Holding Times
* - Laboratory Blanks
* - Field Blanks
- Surrogate Recoveries
* - Surrogate Retention Times
* - Matrix Spike / Matrix Spike Duplicate
* - Surrogate Spike Recovery
* - Laboratory Control Sample
* - Calibrations
* - Method Blanks
- Florisil Cartridge Check
- GPC Calibration
* - Compound Identification

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

Form IX for a florisil cleanup was not included in the data package.

No significant problems were detected with any of the data.

Holding Times

All extractions and analyses were performed within the required holding times.

Surrogate Recoveries

All surrogate recoveries were within the required limits.

Matrix Spike

Sample K0940-04 / 80230-MIP5B-22 was used as the matrix spike and matrix spike duplicate. All recoveries and RPDs were within the required limits.

Laboratory Control Samples

The laboratory's case narrative states:

LCS-59481 in batch 59481, recovery is above criteria for gamma-Chlordane on rear column at 278% with criteria of (60-125).

LCS-59497 in batch 59497, recovery is above criteria for alpha-Chlordane on front column at 120% with criteria of (65-120).

These two compounds were not detected in any of the samples and the high recoveries do not affect the use of the data.

All of the other laboratory control sample recoveries were within the required limits.

Initial Calibrations

No problems were detected with the initial calibrations associated with the analyses of the samples. All % RSDs were less than 20%.

Continuing Calibrations

All %Ds in the continuing calibrations directly with the sample were less than 20%.

Florisil Cartridge Check

Form IX for a florisil cleanup was not included in the data package.

GPC Calibration

A GPC cleanup was not performed on these samples.

Method Blanks

No problems were detected with any of the method blanks.

Calibration Blanks

No problems were detected with the calibration blanks associated with this sample delivery group.

Field Blank

No compounds were detected in the field blank.

Sample Results

No problems were detected with the sample data.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Soil and Water PCB Analyses
Samples Collected: May 25, 2011
Samples Received: May 31, 2011
Laboratory: Spectrum
Sample Delivery Group: K0940
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0940-02	80230-MIP1B-14	Soil	25-May-11
K0940-03	80230-FB-110525	Aqueous	25-May-11
K0940-04	80230-MIP5B-22	Soil	25-May-11
K0940-04 MS	80230-MIP5B-22 MS	Soil	25-May-11
K0940-04 MSD	80230-MIP5B-22 MSD	Soil	25-May-11

Soil and water sample were validated for analyses of PCBs by the US EPA Region II data validation SOP (HW-44, Revision 1). Data were reviewed for usability according to the following criteria:

- Data Completeness
* - Holding Times
* - Laboratory Blanks
* - Field Blanks
* - Surrogate Recoveries
* - Surrogate Retention Times
* - Matrix Spike / Matrix Spike Duplicate
* - System Monitoring Spike Recovery
* - Laboratory Control Sample
* - Calibrations
* - Method Blanks
- GPC Calibration
* - Compound Identification

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

Only compounds noted as target compounds by the laboratory's data system were reported in the raw data.

No other significant problems were detected with any of the data.

Holding Times

All extractions and analyses were performed within the required holding times.

Surrogate Recoveries

The laboratory's case narrative states:

> *80230-FB-110525 (K0940-03C), recovery is below criteria for Decachlorobiphenyl on front column at 37% with criteria of (40-135).*

The data were not qualified since the NYS DEC ASP protocol allow for one surrogate to be outside the quality control limits.

Matrix Spike

Sample K0940-04 / 80230-MIP5B-22 was used as the matrix spike and matrix spike duplicate. All recoveries and RPDs were within the required limits.

Laboratory Control Samples

All of the laboratory control sample recoveries were within the required limits.

Initial Calibrations

No problems were detected with the initial calibrations associated with the analyses of the samples. All %RSDs were less than 20%.

Continuing Calibrations

Several of the percent differences were greater than 15% (21%).

The data were not qualified since no compounds were detected in any of the samples and the areas of the standards were increasing.

Florisil Cartridge Check

Form IX for a florisil cleanup was not included in the data package.

GPC Calibration

A GPC cleanup was not performed on these samples.

Method Blanks

No problems were detected with any of the method blanks.

Calibration Blanks

No problems were detected with the calibration blanks associated with this sample delivery group.

Field Blank

No compounds were detected in the field blank.

Sample Results

No problems were detected with the sample data.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Soil and Water Semivolatile Organic Analyses
Samples Collected: May 25, 2011
Samples Received: May 31, 2011
Laboratory: Spectrum
Sample Delivery Group: K0940
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0940-01	80230-MIP3-30	Soil	25-May-11
K0940-02	80230-MIP1B-14	Soil	25-May-11
K0940-03	80230-FB-110525	Aqueous	25-May-11
K0940-04	80230-MIP5B-22	Soil	25-May-11
K0940-04 MS	80230-MIP5B-22 MS	Soil	25-May-11
K0940-04 MSD	80230-MIP5B-22 MSD	Soil	25-May-11
K0940-05	80230-DUP1-SO	Soil	25-May-11

Soil and water samples were validated for analyses of semivolatile organics by the US EPA Region II data validation SOP (HW-22, Revision 3). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - GC/MS Tuning
* - Holding Times
- Calibrations
* - Laboratory Blanks
- Field Blank
- Laboratory Control Sample
- Surrogate Compound Recoveries
* - Internal Standard Recoveries
* - Matrix Spike / Matrix Spike Duplicate
* - Compound Identification
* - Compound Quantitation

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The minor problems with the laboratory control samples and calibrations should be noted. These are discussed in detail below.

Holding Times

All samples were extracted and analyzed within the contractual and technical times required by the US EPA Region II protocols.

Continuous extraction of water samples for semivolatile analysis was started within 7 days of the date of collection and soil samples 14 days.

Extracts were analyzed within 40 days of the date of extraction.

Tunes

No problems were detected with any of the tunes associated with the samples of this delivery group.

Surrogate Recoveries

All surrogate recoveries were within the required limits with the following exceptions:

		A S1	A S2	B S3	B S4	A S5	B S6
MB-59483							136%
LCS-59483							139%
LCSD-59483							138%
K0940-03	80230-FB-110525						128%
MB-59499							127%

There should not be a problem with surrogate recoveries in method blanks, field blanks and laboratory control samples.

The data were not required to be qualified since the NYS DEC ASP requirements allow one surrogate in each fraction to be outside of the limits (as long as it is greater than 10%).

Laboratory Control Samples

All of the recoveries of the LCS related to the field blank were within the required limits with the exceptions of 2-methylnaphthalene (117%) and caprolactam (18%).

2-Methylnaphthalene was not detected in the sample and the data were not affected by the high recovery.

The data for caprolactam were flagged with the “J” qualifier and are estimated values.

All of the recoveries of the LCS related to the soil samples were within the required limits with the exception of 2-methylnaphthalene (108%).

2-Methylnaphthalene was not detected in any of the samples and the data were not affected by the high recovery.

Matrix Spike / Matrix Spike Duplicate

Sample K0940-04 / 80230-MIP5B-22 was used as the matrix spike and matrix spike duplicate.

All recoveries and RPDs were within the required limits.

Calibrations

The %RSDs of all compounds in the initial calibration associated with the analysis of all of the samples were less than 15% with the exceptions of 2,4-dinitrophenol (26%) and benzaldehyde (18%).

None of these compounds were detected in any of the samples and the data were not required to be qualified for the high %RSD.

The %Ds of all compounds in the continuing calibration associated with the analysis of the field blank were less than 20% with the exceptions of nitrobenzene (21%), 2-methylnaphthalene (32%) and 2,4-dinitrophenol (35%).

The %Ds of all compounds in the continuing calibration associated with the analysis of the soil samples were less than 20% with the exceptions of nitrobenzene (27%), 2-methylnaphthalene (33%) and 2,4-dinitrophenol (43%)

The data for these compounds were flagged with the “J’ qualifier and are estimated values.

Method Blanks

A low concentration of bis(2-ethylhexyl)phthalate (13 ug/l) was detected in the field blank associated with the analysis of the field blank.

No target compounds were detected in the soil method blank.

Field Blank

A low concentration of bis(2-ethylhexyl)phthalate (7.5 ug/l) was detected in the field blank.

Only low concentrations of this compound, less than the CRDL were detected in these samples. All of the data for this compound were flagged with the “U” qualifier during the data validation.

Internal Standard Areas and Retention Times

All internal standard recoveries and retention times were within the required limits.

Sample Results

No problems were found with the results of any of the samples of this delivery group.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Total Metals Analyses
Samples Collected: May 26, 2011
Samples Received: May 31, 2011
Laboratory: Spectrum
Sample Delivery Group: K0941
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0941-01	80230-FB-110526	Aqueous	26-May-11
K0941-02	80230-MIP3B-45	Soil	26-May-11
K0941-02 MS	80230-MIP3B-45 MS	Soil	26-May-11
K0941-02 MSD	80230-MIP3B-45 MSD	Soil	26-May-11
K0941-03	80230-MIP2B-40	Soil	26-May-11
K0941-04	80230-MIP1D-37.5	Soil	26-May-11

Soil and water samples were validated for inorganic analyses by the US EPA Region II data validation SOP (HW-2, Revision 13). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - Holding Times
* - Calibration Verification
- CRDL Standard
* - Laboratory Control Sample
- Serial Dilutions
* - Calibration Blanks
- Field Blank
* - Preparation Blanks
- Matrix Spike
- Matrix Duplicate
* - ICP Interference Check Sample
* - Detection Limit Results
* - Linear Range
* - Sample Results

* - Indicates that all criteria were met for this parameter.

Data Validation Summary

A CRDL standard was not analyzed with this sample delivery group.

The problems with the matrix spike, matrix duplicate and serial dilution should be noted. These are described in detail below.

Holding Times

All samples were analyzed within the required holding times.

CRDL Standards

A CRDL standard was not analyzed with this sample delivery group.

Initial and Continuing Calibrations

No problems were detected with any of the calibrations associated with this sample delivery group.

Preparation Blank

No compounds were detected in the one preparation blank associated with the digestions of these samples at concentrations above the CRDL. Several analytes were found in the preparation blank at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table.

Calibration Blanks

Several analytes were found in the continuing calibration blanks at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table and do not affect the end use of the data.

Field Blank

Low concentrations of calcium (267 ug/l) and zinc (25.8 ug/l) were detected in the field blank.

The concentrations of calcium and zinc in the samples were too high to be affected by the blank contamination.

ICP Interference Check Sample

No problems were detected with the reported ICP Interference Check Sample recoveries.

Matrix Spike Recovery

Sample K0941-02 / 80230-MIP3B-45 was used as the matrix spike. All recoveries were within the 75% - 125% quality control limits with the exception of antimony (70%).

The antimony data in the soil samples were flagged with the “J” qualifier and are estimated values.

Duplicate Analysis

Sample K0941-02 / 80230-MIP3B-45 was used as the matrix duplicate. All RPDs that could be accurately calculated were less than 20% with the following exceptions:

Analyte	RPD
Arsenic.	58%
Barium	22%
Copper	32%
Iron	20%
Manganese	22%
Vanadium	25%

The data for these analytes were flagged with the "J' qualifier and are estimated values.

Laboratory Control Sample

No problems were detected with the recoveries of the LCS standards.

Serial Dilutions

Sample K0941-02 / 80230-MIP3B-45 was used as the serial dilution. All percent differences that could be accurately calculated were less than 10% with the exception of cobalt (12%).

The cobalt data were flagged with the "J' qualifier and are estimated values.

Instrument Detection Limit

No problems were found with the instrument detection limits.

ICP Linear Ranges

No problems were detected with the linear ranges.

Sample Results

No problems were detected with any of these samples.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Soil and Water Pesticide Analyses
Samples Collected: May 26, 2011
Samples Received: May 31, 2011
Laboratory: Spectrum
Sample Delivery Group: K0941
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0941-01	80230-FB-110526	Aqueous	26-May-11
K0941-02	80230-MIP3B-45	Soil	26-May-11
K0941-02 MS	80230-MIP3B-45 MS	Soil	26-May-11
K0941-02 MSD	80230-MIP3B-45 MSD	Soil	26-May-11
K0941-03	80230-MIP2B-40	Soil	26-May-11
K0941-04	80230-MIP1D-37.5	Soil	26-May-11

Soil and water samples were validated for analyses of pesticides by the US EPA Region II data validation SOP (HW-44, Revision 1). Data were reviewed for usability according to the following criteria:

- Data Completeness
* - Holding Times
* - Laboratory Blanks
* - Field Blanks
- Surrogate Recoveries
* - Surrogate Retention Times
- Matrix Spike / Matrix Spike Duplicate
- Laboratory Control Sample
- Calibrations
* - Method Blanks
- Florisil Cartridge Check
- GPC Calibration
* - Compound Identification

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The minor problems with the continuing calibrations should be noted.

Form IX for a florisil cleanup was not included in the data package.

No other significant problems were detected with any of the data.

Holding Times

All extractions and analyses were performed within the required holding times.

Surrogate Recoveries

The laboratory's case narrative states:

> *80230-FB-110526 (K0941-01C), recovery is below criteria for Decachlorobiphenyl on rear column at 29% with criteria of (30-135).*

The data were not qualified since the NYS DEC ASP protocol allow for one surrogate to be outside the quality control limits.

Matrix Spike

Sample K0941-02 / 80230-MIP3B-45 was used as the matrix spike and matrix spike duplicate.

The laboratory's case narrative states:

> *80230-MIP3B-45 (K0941-02AMSD), recovery is above criteria for alpha-BHC on rear column at 127% with criteria of (60-125), beta-BHC on rear column at 130% with criteria of (60-125) and beta-BHC on front column at 131% with criteria of (60-125).*
>
> *Replicate RPDs were within the QC limits.*

The data were not affected since no compounds were detected in any of the samples.

Laboratory Control Samples

The laboratory's case narrative states:

> *LCS-59481 in batch 59481, recovery is above criteria for gamma- Chlordane on rear column at 278% with criteria of (60-125).*
>
> *LCS-59497 in batch 59497, is above criteria for alpha-Chlordane on front column at 120% with criteria of (65-120).*

These two compounds were not detected in any of the samples and the high recoveries do not affect the use of the data.

All of the other laboratory control sample recoveries were within the required limits.

Initial Calibrations

No problems were detected with the initial calibrations associated with the analyses of the samples. All % RSDs were less than 20%.

Continuing Calibrations

The percent differences of alpha-BHC (30%) and delta-BHC (30%) the PEMVQ continuing calibration standard associated with the analyses of sample K0941-02 / 80230-MIP3B-45 were above the 20% quality control limit.

The data for these compounds were flagged with the “J” qualifier and are estimated values.

Florisil Cartridge Check

Form IX for a florisil cleanup was not included in the data package.

GPC Calibration

A GPC cleanup was not performed on these samples.

Method Blanks

No problems were detected with any of the method blanks.

Calibration Blanks

No problems were detected with the calibration blanks associated with this sample delivery group.

Field Blank

No compounds were detected in the field blank.

Sample Results

No problems were detected with the sample data.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Soil and Water PCB Analyses
Samples Collected: May 26, 2011
Samples Received: May 31, 2011
Laboratory: Spectrum
Sample Delivery Group: K0941
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0941-01	80230-FB-110526	Aqueous	26-May-11
K0941-02	80230-MIP3B-45	Soil	26-May-11
K0941-02 MS	80230-MIP3B-45 MS	Soil	26-May-11
K0941-02 MSD	80230-MIP3B-45 MSD	Soil	26-May-11
K0941-03	80230-MIP2B-40	Soil	26-May-11
K0941-04	80230-MIP1D-37.5	Soil	26-May-11

Soil and water samples were validated for analyses of PCBs by the US EPA Region II data validation SOP (HW-44, Revision 1). Data were reviewed for usability according to the following criteria:

- Data Completeness
* - Holding Times
* - Laboratory Blanks
* - Field Blanks
- Surrogate Recoveries
* - Surrogate Retention Times
* - Matrix Spike / Matrix Spike Duplicate
* - System Monitoring Spike Recovery
* - Laboratory Control Sample
* - Calibrations
* - Method Blanks
- GPC Calibration
* - Compound Identification

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

Only compounds noted as target compounds by the laboratory's data system were reported in the raw data.

No other significant problems were detected with any of the data.

Holding Times

All extractions and analyses were performed within the required holding times.

Surrogate Recoveries

The laboratory's case narrative states:

> *80230-FB-110526 (K0941-01C), recovery is below criteria for Decachlorobiphenyl on rear column at 35% with criteria of (40-135) and Decachlorobiphenyl on front column at 32% with criteria of (40-135).*

The data were not qualified since only the field blank was affected.

There should not be a problem with surrogate recoveries in a field blank.

Matrix Spike

Sample K0941-02 / 80230-MIP3B-45 was used as the matrix spike and matrix spike duplicate. All recoveries and RPDs were within the required limits.

Laboratory Control Samples

All recoveries were within the required limits.

Initial Calibrations

No problems were detected with the initial calibrations associated with the analyses of the samples. All %RSDs were less than 20%.

Continuing Calibrations

Several of the percent differences were greater than 15% (21%).

The data were not qualified since no compounds were detected in any of the samples and the areas of the standards were increasing.

Florisil Cartridge Check

Form IX for a florisil cleanup was not included in the data package.

GPC Calibration

A GPC cleanup was not performed on these samples.

Method Blanks

No problems were detected with any of the method blanks.

Calibration Blanks

No problems were detected with the calibration blanks associated with this sample delivery group.

Field Blank

No compounds were detected in the field blank.

Sample Results

No problems were detected with the sample data.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Soil and Water Semivolatile Organic Analyses
Samples Collected: May 26, 2011
Samples Received: May 31, 2011
Laboratory: Spectrum
Sample Delivery Group: K0941
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0941-01	80230-FB-110526	Aqueous	26-May-11
K0941-02	80230-MIP3B-45	Soil	26-May-11
K0941-02 MS	80230-MIP3B-45 MS	Soil	26-May-11
K0941-02 MSD	80230-MIP3B-45 MSD	Soil	26-May-11
K0941-03	80230-MIP2B-40	Soil	26-May-11
K0941-04	80230-MIP1D-37.5	Soil	26-May-11
K0941-05	80230-MIP1C-26	Soil	26-May-11

Soil and water samples were validated for analyses of semivolatile organics by the US EPA Region II data validation SOP (HW-22, Revision 3). Data were reviewed for usability according to the following criteria:

* * - Data Completeness
* * - GC/MS Tuning
* * - Holding Times
* - Calibrations
* * - Laboratory Blanks
* - Field Blank
* - Laboratory Control Sample
* - Surrogate Compound Recoveries
* * - Internal Standard Recoveries
* * - Matrix Spike / Matrix Spike Duplicate
* * - Compound Identification
* * - Compound Quantitation

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The minor problems with the laboratory control samples and calibrations should be noted. These are discussed in detail below.

Holding Times

All samples were extracted and analyzed within the contractual and technical times required by the US EPA Region II protocols.

Continuous extraction of water samples for semivolatile analysis was started within 7 days of the date of collection and soil samples 14 days.

Extracts were analyzed within 40 days of the date of extraction.

Tunes

No problems were detected with any of the tunes associated with the samples of this delivery group.

Surrogate Recoveries

All surrogate recoveries were within the required limits with the following exceptions:

		A S1	A S2	B S3	B S4	A S5	B S6
MB-59483							136%
LCS-59483							139%
LCSD-59483							138%
K0941-01	80230-FB-110526						131%
MB-59499							127%

There should not be a problem with surrogate recoveries in method blanks, field blanks and laboratory control samples.

The data were not required to be qualified since the NYS DEC ASP requirements allow one surrogate in each fraction to be outside of the limits (as long as it is greater than 10%).

Laboratory Control Samples

All of the recoveries of the LCS related to the field blank were within the required limits with the exceptions of 2-methylnaphthalene (117%) and caprolactam (18%).

2-Methylnaphthalene was not detected in the sample and the data were not affected by the high recovery.

The data for caprolactam were flagged with the “J” qualifier and are estimated values.

All of the recoveries of the LCS related to the soil samples were within the required limits with the exception of 2-methylnaphthalene (108%).

2-Methylnaphthalene was not detected in any of the samples and the data were not affected by the high recovery.

Matrix Spike / Matrix Spike Duplicate

Sample K0941-02 / 80230-MIP3B-45 was used as the matrix spike and matrix spike duplicate.

All recoveries and RPDs were within the required limits.

Calibrations

The %RSDs of all compounds in the initial calibration associated with the analysis of all of the samples were less than 15% with the exceptions of 2,4-dinitrophenol (26%) and benzaldehyde (18%).

None of these compounds were detected in any of the samples and the data were not required to be qualified for the high %RSD.

The %Ds of all compounds in the continuing calibration associated with the analysis of the field blank were less than 20% with the exceptions of nitrobenzene (21%), 2-methylnaphthalene (32%) and 2,4-dinitrophenol (35%).

The %Ds of all compounds in the continuing calibration associated with the analysis of the soil samples were less than 20% with the exceptions of nitrobenzene (27%), 2-methylnaphthalene (33%) and 2,4-dinitrophenol (43%)

The data for these compounds were flagged with the “J’ qualifier and are estimated values.

Method Blanks

A low concentration of bis(2-ethylhexyl)phthalate (13 ug/l) was detected in the method blank associated with the analysis of the field blank.

No target compounds were detected in the soil method blank.

Field Blank

A low concentration of bis(2-ethylhexyl)phthalate (5.9 ug/l) was detected in the field blank.

Only low concentrations of this compound, less than the CRDL were detected in these samples. All of the data for this compound were flagged with the “U” qualifier during the data validation.

Internal Standard Areas and Retention Times

All internal standard recoveries and retention times were within the required limits.

Sample Results

No problems were found with the results of any of the samples of this delivery group.

SUMMARY OF THE ANALYTICAL DATA USABILITY
DEC-Former Paul Miller Site
D004437-23

Soil and Water Volatile Organic Analyses – Method 8260C
Samples Collected: May 26, 2011
Samples Received: May 31,' 2011
Laboratory: Spectrum
Sample Delivery Group: K0941
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K0941-01	80230-FB-110526	Aqueous	26-May-11
K0941-02	80230-MIP3B-45	Soil	26-May-11
K0941-02 MS	80230-MIP3B-45 MS	Soil	26-May-11
K0941-02 MSD	80230-MIP3B-45 MSD	Soil	26-May-11
K0941-03	80230-MIP2B-40	Soil	26-May-11
K0941-04	80230-MIP1D-37.5	Soil	26-May-11
K0941-05	80230-MIP1C-26	Soil	26-May-11

Soil and water samples were validated for analyses of volatile organics by the US EPA Region II data validation SOP (HW-24, Revision 2). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - GC/MS Tuning
* - Holding Times
- Calibrations
- Laboratory Blanks
- Trip Blanks
* - Field Blanks
* - System Monitoring Compound Recoveries
* - Internal Standard Recoveries
- Matrix Spike / Matrix Spike Duplicate
- Laboratory Control Samples
* - Compound Identification
* - Compound Quantitation

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The problems with the calibrations should be noted. These are described in detail below.

No other significant problems were found with this sample delivery group which would affect the usability of the data.

Holding Times

The samples of this delivery group were validated against the Region II technical holding time requirements:

Soil and preserved aqueous samples were analyzed within 14 days of collection.

Tunes

No problems were detected with the tunes associated with the samples of this delivery group.

System Monitoring Compound Recoveries

All of the sample surrogate recoveries were within the required limits.

Calibrations

Initial Calibrations

All relative percent differences in the 6/03 initial calibration associated with the analyses of samples, -02, -04, and -05 were less than 20% with the exceptions of acetone (43%), trichloroethene (24%) and hexachlorobutadiene (22%).

The RRFs of acetone (0.043) and 2-butanone (0.027) were less than the 0.050 quality control limit in the above calibration.

All relative percent differences in the 6/2 initial calibration associated with the analyses of sample -01 were less than 20% with the exceptions of chloroethane (31%) and bromoform (29%).

The RRFs of acetone (0.023) and 2-butanone (0.026) were less than the 0.050 quality control limit in the above calibration.

Detected data for these compounds were flagged with the “J” qualifier and are estimated values.

Continuing Calibrations

All of the percent differences in the continuing calibration associated with the analysis of samples -02, -04, and -05 were less than 20% with the exception of 2-butanone (23%).

The relative response factors of acetone (0.044) and 2-butanone (0.033) in this continuing calibration were less than 0.050.

All of the percent differences in the continuing calibration associated with the analysis of sample -03 were less than 20%.

The relative response factors of acetone (0.038) and 2-butanone (0.031) in this continuing calibration were less than 0.050.

All of the percent differences in the continuing calibration associated with the analysis of sample -01 were less than 20% with the exceptions of acetone (21%), tetrachloroethene (21%).

The relative response factors of acetone (0.029) and 2-butanone (0.028) in this continuing calibration were less than 0.050.

The compounds with percent differences greater than 20% were flagged with the "J" qualifier and are estimated values.

Acetone and 2-butanone were not detected in any of the samples. The data for these compounds were flagged with the "R" qualifier and are technically rejected.

Matrix Spike and Matrix Spike Duplicate

Some of the laboratory's in-house quality control limits were as low as 30% and as high as 163%. Quality control limits of 70% - 130% were used for the validation.

Soil sample K0941-02 / 80230-MIP3B-45 was used as the matrix spike and matrix spike duplicate. All recoveries and RPDs were within the required limits with the exceptions of the acetone recoveries in the matrix spike (54%) and matrix spike duplicate (57%):

The data for acetone were technically rejected due to a low relative response factor.

Laboratory Control Sample

Some of the laboratory's in-house quality control limits were as low as 30% and as high as 163%. Quality control limits of 70% - 130% were used for the validation.

All of the laboratory control sample recoveries associated with the field blank were within the required limits with the exception of dichlorodifluoromethane (66%)

The data for this compound was flagged with the "J" qualifier and are estimated values.

All of the other LCS recoveries were within the required limits.

Method Blanks

A low concentration of acetone (2.6J ug/kg) was detected in the method blank associated with soil samples -02, -04 and -05.

Only low concentrations of acetone, less than 10X the concentration in the method blank were detected in the samples. The data for acetone were previously technically rejected due to the low relative response factor.

A low concentration of hexachlorocyclopentadiene (1.2J ug/l) was detected in the method blank associated with the field blank.

This was not detected in the field blank and the blank contamination did not affect the use of the data.

No compounds were detected in the method blank associated with sample -03.

Trip Blank

A trip blank was not analyzed with this sample delivery group.

Field Blank

No target compounds were detected in the field blank.

Internal Standard Areas and Retention Times

The recoveries and retention times of all internal standards were within the required 50% - 100% quality control limits.

Sample Results

No problems were detected with the samples.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Total Metals & Cyanide Analyses
Samples Collected: June 16th & 17th, 2011
Samples Received: June 22,' 2011
Laboratory: Spectrum
Sample Delivery Group: K1072
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K1072-01	80230-FB-110617	Aqueous	17-Jun-11
K1072-05	80230-MIP2C-35	Soil	16-Jun-11
K1072-06	80230-MIP5E-16	Soil	16-Jun-11

Soil and water samples were validated for inorganic analyses by the US EPA Region II data validation SOP (HW-2, Revision 13). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - Holding Times
* - Calibration Verification
- CRDL Standard
* - Laboratory Control Sample
- Serial Dilutions
* - Calibration Blanks
- Field Blanks
* - Preparation Blanks
- Matrix Spike
- Matrix Duplicate
* - ICP Interference Check Sample
* - Detection Limit Results
* - Linear Range
* - Sample Results

* - Indicates that all criteria were met for this parameter.

Data Validation Summary

No problems were found that would affect the use of the data.

Holding Times

All samples were analyzed within the required holding times.

CRDL Standards

A CRDL standard was not analyzed with this sample delivery guorp.

Initial and Continuing Calibrations

No problems were detected with any of the calibrations associated with this sample delivery group.

Preparation Blank

No compounds were detected in the one preparation blank associated with the digestions of these samples at concentrations above the CRDL. Several analytes were found in the preparation blank at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table.

Calibration Blanks

Several analytes were found in the continuing calibration blanks at concentrations between the CRDL and instrument detection limit. These very low concentrations are not required to be noted in the data validation summary table and do not affect the end use of the data.

Field Blank

Low concentrations of several analytes were detected in the field blank. The concentrations of these in the sample were more than 10X the concentration in the field blank.

ICP Interference Check Sample

No problems were detected with the reported ICP Interference Check Sample recoveries.

Matrix Spike Recovery

A matrix spike was not analyzed for this sample delivery group.

Duplicate Analysis

A matrix duplicate was not analyzed for this sample delivery group.

Laboratory Control Sample

No problems were detected with the recoveries of the LCS standards.

Serial Dilutions

A serial dilution was not analyzed for this sample delivery group.

Instrument Detection Limit

No problems were found with the instrument detection limits.

ICP Linear Ranges

No problems were detected with the linear ranges.

Sample Results

No problems were detected with any of these samples.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Soil Pesticide Analyses
Samples Collected: June 16th & 17th, 2011
Samples Received: June 22,' 2011
Laboratory: Spectrum
Sample Delivery Group: K1072
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K1072-05	80230-MIP2C-35	Soil	16-Jun-11
K1072-06	80230-MIP5E-16	Soil	16-Jun-11

Soil samples were validated for analyses of pesticides by the US EPA Region II data validation SOP (HW-44, Revision 1). Data were reviewed for usability according to the following criteria:

- Data Completeness
* - Holding Times
* - Laboratory Blanks
* - Field Blanks
* - Surrogate Recoveries
* - Surrogate Retention Times
- Matrix Spike / Matrix Spike Duplicate
* - Surrogate Spike Recovery
* - Laboratory Control Sample
- Calibrations
* - Method Blanks
- Florisil Cartridge Check
- GPC Calibration
* - Compound Identification

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

Form IX for a florisil cleanup was not included in the data package.

No significant problems were detected with any of the data.

Holding Times

All extractions and analyses were performed within the required holding times.

Surrogate Recoveries

All surrogate recoveries were within the required limits.

Matrix Spike

A matrix spike was not analyzed with this sample delivery group.

Laboratory Control Samples

All of the laboratory control sample recoveries were within the required limits.

Initial Calibrations

No problems were detected with the initial calibrations associated with the analyses of the samples. All % RSDs were less than 20%.

Continuing Calibrations

Several percent differences in the continuing calibrations were greater than 20%. (as high as 28%) In all cases, the calibration factors in the continuing calibration had increased over the mean in the initial calibration. None of the affected compounds were detected in the samples and the high percent differences did not affect the use of the data.

All other %Ds in the continuing calibrations directly with the sample were less than 20%.

Florisil Cartridge Check

Form IX for a florisil cleanup was not included in the data package.

GPC Calibration

A GPC cleanup was not performed on these samples.

Method Blanks

No problems were detected with any of the method blanks.

Calibration Blanks

No problems were detected with the calibration blanks associated with this sample delivery group.

Field Blank

No compounds were detected in the field blank.

Sample Results

No problems were detected with the sample data.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Soil PCB Analyses
Samples Collected: June 16th & 17th, 2011
Samples Received: June 22,' 2011
Laboratory: Spectrum
Sample Delivery Group: K1072
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K1072-05	80230-MIP2C-35	Soil	16-Jun-11
K1072-06	80230-MIP5E-16	Soil	16-Jun-11

Soil samples were validated for analyses of PCBs by the US EPA Region II data validation SOP (HW-44, Revision 1). Data were reviewed for usability according to the following criteria:

- Data Completeness
* - Holding Times
* - Laboratory Blanks
* - Field Blanks
* - Surrogate Recoveries
* - Surrogate Retention Times
- Matrix Spike / Matrix Spike Duplicate
* - System Monitoring Spike Recovery
* - Laboratory Control Sample
* - Calibrations
* - Method Blanks
- GPC Calibration
* - Compound Identification

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

Only compounds noted as target compounds by the laboratory's data system were reported in the raw data.

No other significant problems were detected with any of the data.

Holding Times

All extractions and analyses were performed within the required holding times.

Surrogate Recoveries

All surrogate recoveries were within the required limits.

Matrix Spike

A matrix spike was not analyzed with this sample delivery group.

Laboratory Control Samples

All of the laboratory control sample recoveries were within the required limits.

Initial Calibrations

No problems were detected with the initial calibrations associated with the analyses of the samples. All %RSDs were less than 20%.

Continuing Calibrations

All %Ds were less than 15%.

Florisil Cartridge Check

Form IX for a florisil cleanup was not included in the data package.

GPC Calibration

A GPC cleanup was not performed on these samples.

Method Blanks

No problems were detected with any of the method blanks.

Calibration Blanks

No problems were detected with the calibration blanks associated with this sample delivery group.

Field Blank

No compounds were detected in the field blank.

Sample Results

No problems were detected with the sample data.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Soil and Water Semivolatile Organic Analyses
Samples Collected: June 16th & 17th, 2011
Samples Received: June 22, 2011
Laboratory: Spectrum
Sample Delivery Group: K1072
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K1072-01	80230-FB-110617	Aqueous	17-Jun-11
K1072-02	80230-MIP4C-41	Soil	17-Jun-11
K1072-03	80230-MIP4B-45	Soil	17-Jun-11
K1072-03 MS	80230-MIP4B-45 MS	Soil	17-Jun-11
K1072-03 MSD	80230-MIP4B-45 MSD	Soil	17-Jun-11
K1072-04	80230-FB-110616	Aqueous	16-Jun-11
K1072-05	80230-MIP2C-35	Soil	16-Jun-11
K1072-06	80230-MIP5E-16	Soil	16-Jun-11

Soil and water samples were validated for analyses of semivolatile organics by the US EPA Region II data validation SOP (HW-22, Revision 3). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - GC/MS Tuning
* - Holding Times
- Calibrations
* - Laboratory Blanks
- Field Blank
- Laboratory Control Sample
- Surrogate Compound Recoveries
* - Internal Standard Recoveries
* - Matrix Spike / Matrix Spike Duplicate
* - Compound Identification
- Compound Quantitation

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

Percent moisture data for the soil samples were not included on the FORM I's. These were calculated from the percent moisture report (Page 567) during the data validation.

The minor problems with the matrix spike, laboratory control samples and calibrations should be noted. These are discussed in detail below.

Holding Times

All samples were extracted and analyzed within the contractual and technical times required by the US EPA Region II protocols.

Continuous extraction of water samples for semivolatile analysis was started within 7 days of the date of collection and soil samples 14 days.

Extracts were analyzed within 40 days of the date of extraction.

Tunes

No problems were detected with any of the tunes associated with the samples of this delivery group.

Surrogate Recoveries

All surrogate recoveries were within the required limits with the following exceptions:

80230-FB-110617 (K1072-01B), recovery is above criteria for 2,4,6-Tribromophenol at 126% with criteria of (40-125).

80230-FB-110616 (K1072-04B), recovery is above criteria for 2,4,6-Tribromophenol at 126% with criteria of (40-125).

LCS-59922, recovery is above criteria for 2,4,6-Tribromophenol at 134% with criteria of (40-125).

LCSD-59922, recovery is above criteria for 2,4,6-Tribromophenol at 136% with criteria of (40-125).

MB-59922, recovery is above criteria for 2,4,6-Tribromophenol at 127% with criteria of (40-125).

There should not be a problem with surrogate recoveries in method blanks, field blanks and laboratory control samples.

The data were not required to be qualified since the NYS DEC ASP requirements allow one surrogate in each fraction to be outside of the limits (as long as it is greater than 10%).

Laboratory Control Samples

All of the recoveries of the LCS related to the field blanks were within the required limits with the exceptions of 3,3'-dichlorobenzidine (115%) and caprolactam (14%).

3,3'-Dichlorobenzidine was not detected in either field blank and the data were not affected by the high recovery.

The data for caprolactam were flagged with the "J" qualifier and are estimated values.

All of the recoveries of the LCS related to the soil samples were within the required limits.

Matrix Spike / Matrix Spike Duplicate

Sample K1072-03 / 80230-MIP4B-45 was used as the matrix spike and matrix spike duplicate.

All recoveries and RPDs were within the required limits with the exceptions of the RPDs for 4-chloroanaline (42%), pentachlorophenol (43%), 3,3'-Dichlorobenzidine (41%) and benzaldehyde (128%).

None of these compounds were detected in the s oil samples and the high RPDs did not affect the use of the data.

Calibrations

The %RSDs of all compounds in the initial calibration associated with the analysis of all of the samples were less than 15% with the exceptions of 2,4-dinitrophenol (26%) and benzaldehyde (18%).

None of these compounds were detected in any of the samples and the data were not required to be qualified for the high %RSD.

The %Ds of all compounds in the continuing calibration associated with the analysis of the field blanks were less than 20% with the exceptions of 2,4-dimethylphenol (24%) and 2,4-dinitrophenol (29%).

The %Ds of all compounds in the continuing calibration associated with the analysis of the soil samples were less than 20% with the exceptions of 2,4-dimethylphenol (23%), 2,4-dinitrophenol (28%) and bis (2-ethylhexyl)phthalate (21%)..

The data for these compounds were flagged with the "J' qualifier and are estimated values.

Method Blanks

No target compounds were detected in the method blanks.

Field Blank

A low concentration of bis(2-ethylhexyl)phthalate (1.6 ug/l) was detected in the 6/17 field blank.

Only low concentrations of this compound, less than the CRDL were detected in these samples. All of the data for this compound were flagged with the "U" qualifier during the data validation.

No target compounds were detected in the 6/16 field blank.

Internal Standard Areas and Retention Times

All internal standard recoveries and retention times were within the required limits.

Sample Results

Percent moisture data for the soil samples were not included on the FORM I's. These were calculated from the percent moisture report (Page 567) during the data validation.

No other problems were found with the results of any of the samples of this delivery group.

SUMMARY OF THE ANALYTICAL DATA USABILITY
DEC-Former Paul Miller Site
D004437-23

Soil and Water Volatile Organic Analyses – Method 8260C
Samples Collected: June 16th & 17th, 2011
Samples Received: June 22,' 2011
Laboratory: Spectrum
Sample Delivery Group: K1072
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K1072-01	80230-FB-110617	Aqueous	17-Jun-11
K1072-02	80230-MIP4C-41	Soil	17-Jun-11
K1072-03	80230-MIP4B-45	Soil	17-Jun-11
K1072-03 MS	80230-MIP4B-45 MS	Soil	17-Jun-11
K1072-03 MSD	80230-MIP4B-45 MSD	Soil	17-Jun-11
K1072-04	80230-FB-110616	Aqueous	16-Jun-11
K1072-05	80230-MIP2C-35	Soil	16-Jun-11
K1072-05 DL	80230-MIP2C-35 DL	Soil	16-Jun-11
K1072-06	80230-MIP5E-16	Soil	16-Jun-11

Soil and water samples were validated for analyses of volatile organics by the US EPA Region II data validation SOP (HW-24, Revision 2). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - GC/MS Tuning
* - Holding Times
- Calibrations
- Laboratory Blanks
- Trip Blanks
- Field Blanks
* - System Monitoring Compound Recoveries
* - Internal Standard Recoveries
- Matrix Spike / Matrix Spike Duplicate
- Laboratory Control Samples
* - Compound Identification
* - Compound Quantitation

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The problems with the calibrations, laboratory control samples and blanks should be noted. These are described in detail below.

No other significant problems were found with this sample delivery group which would affect the usability of the data.

Holding Times

The samples of this delivery group were validated against the Region II technical holding time requirements:

Soil and preserved aqueous samples were analyzed within 14 days of collection.

Tunes

No problems were detected with the tunes associated with the samples of this delivery group.

System Monitoring Compound Recoveries

All of the sample surrogate recoveries were within the required limits.

Calibrations

Initial Calibrations

All relative percent differences in the 6/10 initial calibration associated with the medium level analysis of sample K1072-05 / 80230-MIP2C-35 were less than 20% with the exceptions of acetone (23%), hexachlorobutadiene (28%) and 1,2,3-trichlorobenzene (25%).

The RRFs of acetone (0.022) and 2-butanone (0.022) were less than the 0.050 quality control limit in the above calibration.

All relative percent differences in the 6/22 initial calibration associated with the analyses of samples K1072-05 / 80230-MIP2C-35, K1072-06 / 80230-MIP5E-16, K1072-02 / 80230-MIP4C-41 and K1072-03 / 80230-MIP4B-45 were less than 20% with the exceptions of acetone (23%) and 1,2-dibromo-3-chloropropane (23%).

The RRFs of acetone (0.036) and 2-butanone (0.027) were less than the 0.050 quality control limit in the above calibration.

All relative percent differences in the 6/21 initial calibration associated with the analyses of the two field blanks were less than 20% with the exceptions of iodomethane (49%) and styrene (23%).

The RRFs of acetone (0.030) and 2-butanone (0.044) were less than the 0.050 quality control limit in the above calibration.

Detected data for these compounds were flagged with the “J” qualifier and are estimated values.

Continuing Calibrations

All of the percent differences in the 6/24 continuing calibration associated with the analysis of K1072-05 / 80230-MIP2C-35 and K1072-06 / 80230-MIP5E-16 were less than 20% with the exception of n-butylbenzene (22%).

The relative response factors of acetone (0.034) and 2-butanone (0.024) in this continuing calibration were less than 0.050.

All of the percent differences in the continuing calibration associated with the medium level analysis of sample K1072-05 / 80230-MIP2C-35 were less than 20% with the exceptions of dichlorodifluoromethane (27%), 1,2-dibromo-3-choloronethane (29%), 1,2,4-trichlorobenzene (26%), hexachlorobutadiene (31%), 1,2,3-trichlorobenzene (34%) and naphthalene (34%).

The relative response factors of acetone (0.019) and 2-butanone (0.019) in this continuing calibration were less than 0.050.

All of the percent differences in the 6/29 continuing calibration associated with the analysis of samples K1072-02 / 80230-MIP4C-41 and K1072-03 / 80230-MIP4B-45 were less than 20% with the exceptions of acetone (22%), 1,1-dichloropropane (26%), tetrachloroethene (35%), n-propylbenzene (25%) and hexachlorobutadiene (28%).

The relative response factors of acetone (0.032) and 2-butanone (0.028) in this continuing calibration were less than 0.050.

All of the percent differences in the 6/23 continuing calibration associated with the analyses of the two field blanks were less than 20% with the exceptions of dichlorodifluoromethane (22%), 1,1-dichloroethane (21%), acetone (22%) and tetrachloroethene (21%).

The relative response factors of acetone (0.036) and 2-butanone (0.044) in this continuing calibration were less than 0.050.

The compounds with percent differences greater than 20% were flagged with the “J” qualifier and are estimated values.

When acetone and 2-butanone were not detected in a sample, the data for these compounds were flagged with the “R” qualifier and are technically rejected.

When acetone and / or 2-butanone were detected in a sample, the data were flagged with the “J” qualifier and are estimated values.

Matrix Spike and Matrix Spike Duplicate

Some of the laboratory’s in-house quality control limits were as low as 30% and as high as 163%. Quality control limits of 70% - 130% were used for the validation.

Soil sample K1072-03 / 80230-MIP4B-45 was used as the matrix spike and matrix spike duplicate. All recoveries and RPDs were within the required limits with the following exceptions

Compound	MS	MSD
1,2,3-Trichlorobenzene	54%	50%
1,2,4-Trichlorobenzene	53%	52%
2,2-Dichloropropane	55%	57%
2-Butanone	65%	
2-Hexanone	63%	59%
Acetone	67%	54%
Bromoform	55%	60%
cis-1,3-Dichloropropene	66%	
Dibromochloromethane	66%	67%
Hexachlorobutadiene	68%	
Methyl acetate		62%
n-Butylbenzene		69%
Naphthalene	64%	63%
Tetrachloroethene	173%	177%
trans-1,3-Dichloropropene	64%	65%
Vinyl acetate	40%	41%

The soil data for compounds with low recoveries were flagged with the “J” qualifier and are estimated values.

Tetrachloroethene was detected in all of the soil samples and the data were flagged with the “J” qualifier. The soil tetrachloroethene concentrations are estimated values.

Laboratory Control Sample

Some of the laboratory’s in-house quality control limits were as low as 30% and as high as 163%. Quality control limits of 70% - 130% were used for the validation.

All of the laboratory control sample recoveries associated with the field blanks were within the required limits with the exception of dichlorodifluoromethane (63%)

The data for this compound were flagged with the “J” qualifier and are estimated values.

All of the laboratory control sample recoveries associated with samples K1072-05 / 80230-MIP2C-35 and K1072-06 /80230-MIP5E-16 were within the required limits with the exception of hexachlorobutadiene (136%)

The compound was not detected in either of the two samples and the high recovery did not affect the use of the data.

All of the laboratory control sample recoveries associated with the medium level analysis of sample K1072-05 / 80230-MIP2C-3 were within the required limits with the exception of dichlorodifluoromethane (67%)

The data for this compound was flagged with the “J” qualifier and are estimated values.

All of the other LCS recoveries were within the required limits.

Method Blanks

A low concentration of tetrachloroethene (3.3J ug/kg) was detected in the method blank associated with soil samples K1072-02 / 80230-MIP4C-41 and K1072-03 / 80230-MIP4B-45.

The concentration of tetrachloroethene in sample K1072-02 / 80230-MIP4C-41 (40 ug/l) was too high to be affected by the low level method blank contamination.

Only a low concentration of the tetrachloroethene (4 ug/l) was detected in sample K1072-03 / 80230-MIP4B-45.

The data for tetrachloroethene in this sample was flagged with the “U” qualifier and reported at the CRDL.

Trip Blank

A trip blank was not analyzed with this sample delivery group.

Field Blank

Acetone (6.8 ug/l) and methylene chloride (3.1 ug/) were detected in the 6/17 field blank K1072-04 / 80230-FB-110616.

Acetone (3.4 ug/l) was detected in the 6/16 field blank K1072-01 / 80230-FB-110617.

Low concentrations of these compounds, less than the CRDL were found in several samples. These were flagged with the “U” qualifier and reported at the CRDL/

Internal Standard Areas and Retention Times

The recoveries and retention times of all internal standards were within the required 50% - 100% quality control limits.

Sample Results

No problems were detected with the samples.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Soil and Water Semivolatile Organic Analyses
Samples Collected: June 24, 2011
Samples Received: June 30, 2011
Laboratory: Spectrum
Sample Delivery Group: K1157
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix
K1157-01	80230-FB-110624	Aqueous
K1157-02	80230-MIP5C-36.5	Soil

Soil and water samples were validated for analyses of semivolatile organics by the US EPA Region II data validation SOP (HW-22, Revision 3). Data were reviewed for usability according to the following criteria:

* * - Data Completeness
* * - GC/MS Tuning
* * - Holding Times
* - Calibrations
* * - Laboratory Blanks
* * - Field Blank
* - Laboratory Control Sample
* * - Surrogate Compound Recoveries
* * - Internal Standard Recoveries
* - Matrix Spike / Matrix Spike Duplicate
* * - Compound Identification
* * - Compound Quantitation

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The minor problems with the laboratory control samples and calibrations should be noted. These are discussed in detail below.

Holding Times

All samples were extracted and analyzed within the contractual and technical times required by the US EPA Region II protocols.

Continuous extraction of water samples for semivolatile analysis was started within 7 days of the date of collection and soil samples 14 days.

Extracts were analyzed within 40 days of the date of extraction.

Tunes

No problems were detected with any of the tunes associated with the samples of this delivery group.

Surrogate Recoveries

All surrogate recoveries were within the required limits.

Laboratory Control Samples

All of the recoveries of the LCS related to the field blank were within the required limits with the following exceptions:

Compound	MS % Rec.	MS % Rec.
2,4-Dinitrophenol	168%	182%
2,4-Dinitrotoluene	135%	138%
2,6-Dinitrotoluene	123%	125%
2-Nitroaniline		117%
2-Nitrophenol	123%	126%
4,6-Dinitro-2-methylphenol	149%	155%

None of these compounds were detected in the sample and the data were not affected by the high recoveries.

All of the recoveries of the LCS related to the soil sample were within the required limits.

Matrix Spike / Matrix Spike Duplicate

A matrix spike and matrix spike duplicate were not analyzed with this sample delivery group.

Calibrations

The %RSDs of all compounds in the initial calibration associated with the analysis of sample K1157-02 / 80230-MIP5C-36.5 were less than 15% with the exceptions of 2,4-dinitrophenol (26%) and benzaldehyde (18%).

None of these compounds were detected in the sample and the data were not required to be qualified for the high %RSD.

Several compounds had %RSDs greater than 15% in the initial calibration associated with the analysis of the field blank.

No compounds were detected in the field blank and the high %RSDs do not affect the use of the data.

The %Ds of all compounds in the continuing calibration associated with the analysis of the soil sample were less than 20% with the following exceptions:

Compound	**%D**
2,2´-oxybis(1-Chloropropane)	22%
4-Nitroaniline	22%
4-Nitrophenol	28%
Atrazine	21%
Indeno(1,2,3-cd)pyrene	29%
N-Nitroso-di-n-propylamine	21%

The data for these compounds were flagged with the “J’ qualifier and are estimated values.

Method Blanks

No target compounds were detected in the method blanks.

Field Blank

No compounds were detected in the field blank.

Internal Standard Areas and Retention Times

All internal standard recoveries and retention times were within the required limits.

Sample Results

No problems were found with the results of any of the samples of this delivery group.

SUMMARY OF THE ANALYTICAL DATA USABILITY
DEC-Former Paul Miller Site
D004437-23

Soil and Water Volatile Organic Analyses – Method 8260C
Samples Collected: June 24, 2011
Samples Received: June 30, 2011
Laboratory: Spectrum
Sample Delivery Group: K1157
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix
K1157-01	80230-FB-110624	Aqueous
K1157-02	80230-MIP5C-36.5	Soil
K1157-03	80230-MIP6B-42.5	Soil
K1157-04	80230-MW12S-35	Soil
K1157-04 DL	80230-MW12S-35 DL	Soil
K1157-05	80230-DUP3-50	Soil

Soil and water samples were validated for analyses of volatile organics by the US EPA Region II data validation SOP (HW-24, Revision 2). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - GC/MS Tuning
* - Holding Times
- Calibrations
- Laboratory Blanks
- Trip Blanks
- Field Blanks
* - System Monitoring Compound Recoveries
* - Internal Standard Recoveries
- Matrix Spike / Matrix Spike Duplicate
- Laboratory Control Samples
* - Compound Identification
* - Compound Quantitation

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The problems with the calibrations, laboratory control samples and blanks should be noted. These are described in detail below.

No other significant problems were found with this sample delivery group which would affect the usability of the data.

Holding Times

The samples of this delivery group were validated against the Region II technical holding time requirements:

Soil and preserved aqueous samples were analyzed within 14 days of collection.

Tunes

No problems were detected with the tunes associated with the samples of this delivery group.

System Monitoring Compound Recoveries

All of the sample surrogate recoveries were within the required limits.

Calibrations

Initial Calibrations

All relative percent differences in the 6/22 initial calibration were less than 20% with the exception of 1,2-dibromo-3-chloropropane (23%). This initial calibration was associated with the analyses of the following samples:

K1157-02	80230-MIP5C-36.5
K1157-03	80230-MIP6B-42.5
K1157-04	80230-MW12S-35
K1157-05	80230-DUP3-50

The RRFs of acetone (0.036) and 2-butanone (0.027) were less than the 0.050 quality control limit in the above calibration.

All relative percent differences in the 7/06 initial calibration associated with the analyses of samples K1157-01 / 80230-FB-110624 and K1157-04 DL / 80230-MW12S-35 DL were less than 20%.

The RRFs of acetone (0.035) and 2-butanone (0.038) were less than the 0.050 quality control limit in the above calibration.

Detected data for these compounds were flagged with the “J” qualifier and are estimated values.

Continuing Calibrations

All of the percent differences in the 6/30 continuing calibration associated with the analysis samples K1157-04 / 80230-MW12S-35 and K1157-05 / 80230-DUP3-50 were less than 20% with the exceptions of n-butylbenzene (22%) and hexachlorobutadiene (34%).

The relative response factors of acetone (0.034) and 2-butanone (0.026) in this continuing calibration were less than 0.050.

All of the percent differences in the 6/30 continuing calibration associated with the analysis samples K1157-02 / 80230-MIP5C-36.5 and K1157-03 / 80230-MIP6B-42.5 were less than 20%.

The relative response factors of acetone (0.035) and 2-butanone (0.026) in this continuing calibration were less than 0.050.

All of the percent differences in the continuing calibration associated with the level analysis of samples K1157-01 / 80230-FB-110624 and K1157-04 DL / 80230-MW12S-35 DL were less than 20% with the exceptions of acetone (44%), 2-butanone (29%) and 2-hexanone (31%)

The relative response factor of 2-butanone (0.049) in this continuing calibration was less than 0.050.

The compounds with percent differences greater than 20% were flagged with the “J” qualifier and are estimated values.

When acetone and or 2-butanone, with RRFs less than 0.050, were not detected in a sample, the data for these compounds were flagged with the “R” qualifier and are technically rejected.

When acetone and / or 2-butanone, with RRFs less than 0.050, were detected in a sample, the data were flagged with the “J” qualifier and are estimated values.

Matrix Spike and Matrix Spike Duplicate

A matrix spike was not analyzed with this sample delivery group.

Laboratory Control Sample

Some of the laboratory’s in-house quality control limits were as low as 30% and as high as 163%. Quality control limits of 70% - 130% were used for the validation.

All of the laboratory control sample recoveries associated with the medium level analysis of sample K1157-04 / 80230-MW12S-35 were within the required limits with the exception of acetone (137%).

The data for this compound were flagged with the “J” qualifier and are estimated values.

All of the other LCS recoveries were within the required limits.

Method Blanks

Low concentrations of carbon disulfide (0.67J ug/kg) and naphthalene (0.60 ug/kg) was detected in the method blank associated with the analyses of the field blank.

Neither of these compounds were detected in the sample and the blank contamination did not affect the use of the data.

A low concentration of naphthalene (56J ug/kg) was detected in the method blank associated with the medium level analysis of sample K1157-04 / 80230-MW12S-35.

This compound was not detected in the sample and the blank contamination did not affect the use of the data.

Trip Blank

A trip blank was not analyzed with this sample delivery group.

Field Blank

Acetone (2.68 ug/l) and methylene chloride (1.9 ug/) were detected in the field blank.

Neither of these compounds were detected in the samples and the data were not affected by the blank contamination.

Internal Standard Areas and Retention Times

The recoveries and retention times of all internal standards were within the required 50% - 100% quality control limits.

Sample Results

No problems were detected with the samples.

SUMMARY OF THE ANALYTICAL DATA USABILITY
DEC-Former Paul Miller Site
D004437-23

Methane, Ethane and Ethylene Analyses
Samples Collected: March 5th through 8th, 2012
Samples Received: March 9th through 9th, 2012
Laboratory: Spectrum
Sample Delivery Group: L0441
Laboratory Reference Numbers:

Lab ID	Client ID	Date Sampled
L0441-02	80230-MW09D-030512	3/5/2012
L0441-02MS	80230-MW09D-030512MS	3/5/2012
L0441-02MSD	80230-MW09D-030512MSD	3/5/2012
L0441-03	80230-MW09S-030512	3/5/2012
L0441-04	80230-FB-030512	3/5/2012
L0441-05	80230-MW10D-030512	3/5/2012
L0441-06	80230-MW10S-030512	3/5/2012
L0441-08	80230-MW16S-030612	3/6/2012
L0441-09	80230-MW01-030612	3/6/2012
L0441-10	80230-FB-030612	3/6/2012
L0441-11	80230-MW04-030612	3/6/2012
L0441-12	80230-MW02-030612	3/6/2012
L0441-14	80230-MW15D-030712	3/7/2012
L0441-15	80230-MW13S-030712	3/7/2012
L0441-16	80230-MW13D-030712	3/7/2012
L0441-17	80230-FB-030712	3/7/2012
L0441-18	80230-MW08S-030712	3/7/2012
L0441-19	80230-MW03S-030712	3/7/2012
L0441-21	80230-MW11D-030812	3/8/2012
L0441-22	80230-MW14S-030812	3/8/2012
L0441-23	80230-MW11S-030812	3/8/2012
L0441-24	80230-FB-030812	3/8/2012
L0441-25	80230-MW12S-030812	3/8/2012
L0441-26	80230-MW112S-030812	3/8/2012

Water samples were received for analyses of ethane, ethene and methane by US EPA Region II protocols. A complete analytical validation was performed based upon the following parameters:

* - Data Completeness
* - Holding Times
- Field Blanks
* - Matrix Spike / Matrix Spike Duplicate
* - Laboratory Control Sample Recovery
* - Method Blank
* - Calibrations
* - Compound Identification

* - Indicates that all criteria were met for this parameter.

DATA USABILITY SUMMARY

The methane and ethane contamination in some of the field blanks should be noted. These are described in detail below.

No other problems were found that would affect that would affect the use of the data.

Holding Times

All samples were analyzed within14 days of sample collection..

System Monitoring Compound Recoveries

Surrogates were not used for this analysis.

Calibrations

All of the %RSDs in the initial calibration were less than 20%.

The laboratory noted in a supplemental email that the initial calibration standards were 5 ug/l, 2,000 ug/l, 4,000 ug/l and 10,000 ug/l. The concentrations were not included in the raw data.

All of the percent differences in the continuing calibrations were less than 20%.

Matrix Spike / Matrix Spike Duplicate

Sample L0441-02 / 80230-MW09D-030512 was used as the matrix spike and matrix spike duplicate. All recoveries and RPDs were within the required limits.

Laboratory Control Sample

The recoveries of the LCS standard were within the 75% - 125% quality assurance limits.

Field Blanks

Methane (2.8 ug/l) and ethane (120 ug/l) were detected in the L0441-10 / 80230-FB-030612 field blank.

Methane (2.2 ug/l) was detected in the L0441-17 / 80230-FB-030712 field blank.

Methane (1.8 ug/l) was detected in the L0441-24 / 80230-FB-030812field blank.

Concentrations of these compounds in the associated samples less than five times the concentration in the corresponding blanks were flagged with the “U” qualifier.

Method Blanks

No compounds were detected in any of the method blanks.

Sample Results

No problems were found with the reported results of any of the samples of this delivery group.

SUMMARY OF THE ANALYTICAL DATA USABILITY
DEC-Former Paul Miller Site
D004437-23

Water Volatile Organic Analyses – Method 8260C
Samples Collected: March 5th through 8th, 2012
Samples Received: March 9th through 9th, 2012
Laboratory: Spectrum
Sample Delivery Group: L0441
Laboratory Reference Numbers:

Lab ID	Client ID	Date Sampled
L0441-01	80230-TB-030512	3/5/2012
L0441-02	80230-MW09D-030512	3/5/2012
L0441-02MS	80230-MW09D-030512MS	3/5/2012
L0441-02MSD	80230-MW09D-030512MSD	3/5/2012
L0441-03	80230-MW09S-030512	3/5/2012
L0441-04	80230-FB-030512	3/5/2012
L0441-05	80230-MW10D-030512	3/5/2012
L0441-06	80230-MW10S-030512	3/5/2012
L0441-07	80230-TB-030612	3/6/2012
L0441-08	80230-MW16S-030612	3/6/2012
L0441-08DL	80230-MW16S-030612DL	3/6/2012
L0441-09	80230-MW01-030612	3/6/2012
L0441-09DL	80230-MW01-030612DL	3/6/2012
L0441-10	80230-FB-030612	3/6/2012
L0441-11	80230-MW04-030612	3/6/2012
L0441-12	80230-MW02-030612	3/6/2012
L0441-13	80230-TB-030712	3/7/2012
L0441-14	80230-MW15D-030712	3/7/2012
L0441-15	80230-MW13S-030712	3/7/2012
L0441-15DL	80230-MW13S-030712DL	3/7/2012
L0441-16	80230-MW13D-030712	3/7/2012
L0441-17	80230-FB-030712	3/7/2012
L0441-18	80230-MW08S-030712	3/7/2012
L0441-18DL	80230-MW08S-030712DL	3/7/2012
L0441-19	80230-MW03S-030712	3/7/2012
L0441-20	80230-TB-030812	3/8/2012
L0441-21	80230-MW11D-030812	3/8/2012
L0441-22	80230-MW14S-030812	3/8/2012
L0441-22DL	80230-MW14S-030812DL	3/8/2012
L0441-23	80230-MW11S-030812	3/8/2012
L0441-23DL	80230-MW11S-030812DL	3/8/2012
L0441-24	80230-FB-030812	3/8/2012
L0441-25	80230-MW12S-030812	3/8/2012
L0441-25DL	80230-MW12S-030812DL	3/8/2012
L0441-26	80230-MW112S-030812	3/8/2012
L0441-26DL	80230-MW112S-030812DL	3/8/2012

Water samples were validated for analyses of volatile organics by the US EPA Region II data validation SOP (HW-24, Revision 2). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - GC/MS Tuning
* - Holding Times
  - Calibrations
* - Laboratory Blanks
* - Trip Blank
  - Field Blank
* - System Monitoring Compound Recoveries
* - Internal Standard Recoveries
  - Matrix Spike / Matrix Spike Duplicate
  - Laboratory Control Samples
* - Compound Identification
* - Compound Quantitation

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The problems with the calibrations, matrix spikes, laboratory control samples and blanks should be noted. These are described in detail below.

No other significant problems were found with this sample delivery group which would affect the usability of the data.

Holding Times

The samples of this delivery group were validated against the Region II technical holding time requirements:

Soil and preserved aqueous samples were analyzed within 14 days of collection.

Tunes

No problems were detected with the tunes associated with the samples of this delivery group.

System Monitoring Compound Recoveries

All of the sample surrogate recoveries were within the required limits.

Calibrations

Initial Calibrations

All relative percent differences in the 3/12 initial calibration (Instrument V1) were less than 20.

The RRFs of acetone (0.042) and 2-butanone (0.040) were less than the 0.050 quality control limit in the above calibration.

This calibration was associated with the analyses of the following samples:

L0441-08DL	80230-MW16S-030612DL
L0441-09DL	80230-MW01-030612DL
L0441-10	80230-FB-030612
L0441-11	80230-MW04-030612
L0441-15DL	80230-MW13S-030712DL
L0441-16	80230-MW13D-030712
L0441-17	80230-FB-030712
L0441-18DL	80230-MW08S-030712DL
L0441-19	80230-MW03S-030712
L0441-20	80230-TB-030812
L0441-21	80230-MW11D-030812
L0441-22	80230-MW14S-030812
L0441-23	80230-MW11S-030812
L0441-25	80230-MW12S-030812
L0441-26	80230-MW112S-030812

All relative percent differences in the 3/16 initial calibration (Instrument V1) were less than 20% with the exceptions of acetone (24%), methylene chloride (21%) and naphthalene (30%).

The RRF of 2-butanone (0.038) was less than the 0.050 quality control limit in the above calibration.

This initial calibration was associated with the analyses of the following samples:

L0441-22DL	80230-MW14S-030812DL
L0441-23DL	80230-MW11S-030812DL
L0441-24	80230-FB-030812
L0441-25DL	80230-MW12S-030812DL
L0441-26DL	80230-MW112S-030812DL

All relative percent differences in the 3/7 initial calibration (Instrument V6) were less than 20% with the exceptions of bromomethane (36%), iodomethane (21%), 1,2-dichlorobenzene (21%), hexachlorobutadiene (23%), 1,2,3-trichlorobenzene (23%) and naphthalene (28%)

The RRFs of acetone (0.032) and 2-butanone (0.030) were less than the 0.050 quality control limit in the above calibration.

This initial calibration was associated with the analyses of the following samples:

L0441-01	80230-TB-030512
L0441-07	80230-TB-030612

All relative percent differences in the 3/7 initial calibration (Instrument V10) were less than 20% with the exceptions of bromomethane (36%) and iodomethane (54%).

The RRFs of acetone (0.048) and 2-butanone (0.043) were less than the 0.050 quality control limit in the above calibration.

This initial calibration was associated with the analyses of the following samples:

L0441-02	80230-MW09D-030512
L0441-03	80230-MW09S-030512
L0441-04	80230-FB-030512
L0441-05	80230-MW10D-030512
L0441-06	80230-MW10S-030512
L0441-08	80230-MW16S-030612
L0441-09	80230-MW01-030612
L0441-12	80230-MW02-030612
L0441-13	80230-TB-030712
L0441-14	80230-MW15D-030712
L0441-15	80230-MW13S-030712
L0441-18	80230-MW08S-030712

Detected data for these compounds were flagged with the “J” qualifier and are estimated values.

Continuing Calibrations

All relative percent differences in the 3/13 continuing calibration were less than 20%.

The RRFs of acetone (0.036) and 2-butanone (0.036) were less than the 0.050 quality control limit in the above calibration.

This continuing calibration was associated with the analyses of the following samples:

L0441-08DL	80230-MW16S-030612DL
L0441-09DL	80230-MW01-030612DL
L0441-10	80230-FB-030612
L0441-11	80230-MW04-030612
L0441-15DL	80230-MW13S-030712DL
L0441-16	80230-MW13D-030712
L0441-17	80230-FB-030712
L0441-18DL	80230-MW08S-030712DL
L0441-19	80230-MW03S-030712

All percent differences in the 3/14 continuing calibration were less than 20% with the exceptions of dichlorodifluoromethane (24%), vinyl chloride (21%), chloroethane (22%), acetone (43%), 2-butanone (32%), 2,2-dichloropropane (25%), 2-hexanone (29%) and naphthalene (22%)

The RRFs of acetone (0.024) and 2-butanone (0.027) were less than the 0.050 quality control limit in the above calibration.

This continuing calibration was associated with the analyses of the following samples:

L0441-20	80230-TB-030812
L0441-21	80230-MW11D-030812
L0441-22	80230-MW14S-030812
L0441-23	80230-MW11S-030812
L0441-25	80230-MW12S-030812
L0441-26	80230-MW112S-030812

All percent differences in the 3/16 continuing calibration were less than 20% with the exceptions of 2,2-dichloropropane (26%), 1,1,1-trichloroethane (26%), carbon tetrachloride (28%) and 1,2,3-trichloropropane (24%).

The RRF of 2-butanone (0.043) were less than the 0.050 quality control limit in the above calibration.

This continuing calibration was associated with the analyses of the following samples:

L0441-22DL	80230-MW14S-030812DL
L0441-23DL	80230-MW11S-030812DL
L0441-24	80230-FB-030812
L0441-25DL	80230-MW12S-030812DL
L0441-26DL	80230-MW112S-030812DL

All percent differences in the 3/7 continuing calibration were less than 20%.

The RRFs of acetone (0.039) and 2-butanone (0.034) were less than the 0.050 quality control limit in the above calibration.

This continuing calibration was associated with the analyses of the following samples:

L0441-01	80230-TB-030512
L0441-07	80230-TB-030612

All percent differences in the 3/9 continuing calibration were less than 20% with the exceptions of iodomethane (70%), 1,2-dibromo-3-chloropropane (21%), 1,2,3-trichlorobenzene (24%) and naphthalene (24%).

The RRFs of acetone (0.045) and 2-butanone (0.041) were less than the 0.050 quality control limit in the above calibration.

This continuing calibration was associated with the analyses of the following samples:

L0441-02	80230-MW09D-030512
L0441-03	80230-MW09S-030512
L0441-04	80230-FB-030512
L0441-05	80230-MW10D-030512
L0441-06	80230-MW10S-030512

L0441-08	80230-MW16S-030612
L0441-09	80230-MW01-030612
L0441-12	80230-MW02-030612
L0441-13	80230-TB-030712
L0441-14	80230-MW15D-030712
L0441-15	80230-MW13S-030712
L0441-18	80230-MW08S-030712

When acetone and / or 2-butanone with a low relative response factor were detected in a sample, they were flagged with the "J" qualifier.

When these compounds were not detected in a sample they were flagged with the "R" qualifier and are technically rejected.

The compounds with percent differences greater than 20% were flagged with the "J" qualifier and are estimated values.

Matrix Spike and Matrix Spike Duplicate

Some of the laboratory's in-house quality control limits were as low as 30% and as high as 163%. Quality control limits of 70% - 130% were used for the validation.

Soil sample L0441-02 / 80230-MW09D-030512 was used as the matrix spike and matrix spike duplicate. All recoveries and RPDs were within the required limits with the following exceptions:

Compound	MS % Rec	MSD % Rec	RPD
1,1,2-Trichloro-1,2,2-trifluoroethane	69%	65%	
2,2-Dichloropropane	66%	62%	
2-Butanone	65%		
2-Hexanone	61%	66%	
Acetone	44%	46%	
Chloroethane	62%	60%	
Chloromethane	60%	63%	
Cyclohexane	66%	65%	
Dichlorodifluoromethane	63%	65%	
Methyl acetate	67%	64%	
Methylcyclohexane	68%	63%	
Naphthalene	59%		
Vinyl chloride	64%	64%	

The data for compounds with low recoveries were flagged with the "J" qualifier and are estimated values.

An RPD of 30% was used for the purposes of the validation.

Laboratory Control Sample

Some of the laboratory's in-house quality control limits were as low as 30% and as high as 163%. Quality control limits of 70% - 130% were used for the validation.

All of the laboratory control sample recoveries in LCS-65104 / LCSD-65104, were within the required limits with the exception of acetone (57%). Thes laboratory control samples were associated with the following samples:

Lab ID	Client ID
L0441-20	80230-TB-030812
L0441-21	80230-MW11D-030812
L0441-22	80230-MW14S-030812
L0441-23	80230-MW11S-030812
L0441-25	80230-MW12S-030812
L0441-26	80230-MW112S-030812

The data for these compounds were flagged with the “J” qualifier and are estimated values.

All of the laboratory control sample recoveries in LCS-65160 were within the required limits with the exceptions of iodomethane (131%), 2,2-dichloropropane (152%), 1,1,1-trichloroethane (144%) and carbon tetrachloride (155%). This laboratory control sample was associated with the following samples:

Lab ID	Client ID
L0441-22DL	80230-MW14S-030812DL
L0441-23DL	80230-MW11S-030812DL
L0441-24	80230-FB-030812
L0441-25DL	80230-MW12S-030812DL
L0441-26DL	80230-MW112S-030812DL

None of these compounds were detected in any of these samples and the data were not affected by the high recoveries. The data were not required to be qualified.

All of the other LCS recoveries were within the required limits.

Method Blanks

No compounds were detected in any of the method blanks.

Trip Blank

No compounds were detected in the trip blanks.

Field Blank

Low concentrations of methylene chloride were detected in most of the field blanks.

This compound was not detected in any of the samples and the field blank contamination does not affect the use of the data.

A low concentration of trichloroethene was detected in field blank 80230-FB-030612.

Trichloroethene was detected in samples 80230-MW04-030612 (L0441-11) and 80230-MW02-030612(L0441-12) at concentrations of 2.5 ug/l. The

trichloroethene data in these samples were flagged with the “U” qualifier and reported at the CRDL.

The trichloroethene concentrations in the other associated samples were too high to be affected by the field blank contamination.

A low concentration of tetrachloroethene (4.5 J ug/l) was detected in field blank 80230-FB-030812.

The trichloroethene concentrations in the associated samples were too high to be affected by the field blank contamination.

Internal Standard Areas and Retention Times

The recoveries and retention times of all internal standards were within the required 50% - 100% quality control limits.

Sample Results

No problems were detected with the samples.

SUMMARY OF THE ANALYTICAL DATA VALIDATION
DEC-Former Paul Miller Site
D004437-23

Wet Chemistry Analyses
Samples Collected: March 5th through 8th, 2012
Samples Received: March 9th through 9th, 2012
Laboratory: Spectrum
Sample Delivery Group: L0441
Laboratory Reference Numbers:

Lab ID	Client ID	Date Sampled
L0441-02	80230-MW09D-030512	3/5/2012
L0441-02MS	80230-MW09D-030512MS	3/5/2012
L0441-02MSD	80230-MW09D-030512MD	3/5/2012
L0441-03	80230-MW09S-030512	3/5/2012
L0441-04	80230-FB-030512	3/5/2012
L0441-05	80230-MW10D-030512	3/5/2012
L0441-06	80230-MW10S-030512	3/5/2012
L0441-08	80230-MW16S-030612	3/6/2012
L0441-09	80230-MW01-030612	3/6/2012
L0441-10	80230-FB-030612	3/6/2012
L0441-11	80230-MW04-030612	3/6/2012
L0441-12	80230-MW02-030612	3/6/2012
L0441-14	80230-MW15D-030712	3/7/2012
L0441-15	80230-MW13S-030712	3/7/2012
L0441-16	80230-MW13D-030712	3/7/2012
L0441-17	80230-FB-030712	3/7/2012
L0441-18	80230-MW08S-030712	3/7/2012
L0441-19	80230-MW03S-030712	3/7/2012
L0441-21	80230-MW11D-030812	3/8/2012
L0441-22	80230-MW14S-030812	3/8/2012
L0441-23	80230-MW11S-030812	3/8/2012
L0441-24	80230-FB-030812	3/8/2012
L0441-25	80230-MW12S-030812	3/8/2012
L0441-26	80230-MW112S-030812	3/8/2012

Water samples were received for analyses of the wet chemistry analyte list by NYS DEC ASP protocols. A complete analytical validation was performed based upon the following parameters:

* - Chloride
* - Ammonia
* - Nitrate / Nitrite
* - Sulfide
* - Sulfate
* - Total Alkalinity
* - Total Dissolved Solids
* - Total Suspended Solids
* - Total Kjeldahl Nitrogen
* - Total Organic Carbon
* - Total Hardness

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The problems with the field blanks and matrix spikes should be noted. These are described in detail below.

Holding Times

All samples were analyzed within the required holding times.

Initial and Continuing Calibrations

No problems were detected with any of the calibrations associated with this sample delivery group.

Preparation Blank

No analytes were detected in any of the preparation blanks.

Calibration Blanks

No analytes were detected in any of the calibration blanks.

Field Blank

A low concentration of nitrate 0.032J mg/l was detected in field blank L0441-04 / 80230-FB-030512.

Concentrations of nitrate less than 10X the concentration in the field blank in associated samples were flagged with the “U” qualifier and reported at the CRDL.

A low concentration of nitrate 0.019J mg/l was detected in field blank L0441-17 / 80230-FB-030712

Concentrations of nitrate less than 10X the concentration in the field blank were flagged with the “U” qualifier and reported at the CRDL.

A low concentration of chloride (0.50J mg/l) was detected in field blank L0441-10 / 80230-FB-030612.

All of the chloride concentrations in the samples were too high to be affected by the field blank contamination.

Matrix Spike and Matrix Spike Duplicate Recovery

Sample L0441-02 / 80230-MW09D-030512 was used for the designated matrix spike for the sample delivery group.

All recoveries were within the 75% - 125% quality control limits used for the validation with the exceptions of ammonia and TKN which were not recovered in either the matrix spike or matrix spike duplicate (0%).

The data for ammonia and TKN were flagged with the “R” qualifier and technically rejected.

Duplicate Analysis

All matrix duplicate RPDs were less than 20%.

Laboratory Control Sample

No problems were detected with the recoveries of the LCS standards.

Linear Ranges

No problems were detected with the linear ranges. The reported concentrations of all samples in this delivery group were within their linear range for each analyte.

Sample Results

No other problems were detected with any of the samples.

SUMMARY OF THE ANALYTICAL DATA USABILITY
DEC-Former Paul Miller Site
D004437-23

Soil and Water Volatile Organic Analyses – Method 8260C
Samples Collected: November 1, 2011
Samples Received: November 4, 2011
Laboratory: Spectrum
Sample Delivery Group: K2296
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix
K2296-01	PM-TB-1112011	Aqueous
K2296-02 PM-	FB-SO-1112011	Aqueous
K2296-03 PM-	SB-1a-A-1112011	Soil
K2296-04 PM-	SB-1a-B-1112011	Soil
K2296-05 PM-	SB-2-A-1112011	Soil
K2296-06 PM-	SB-2-B-1112011	Soil
K2296-07 PM-	SB-3-A-1112011	Soil
K2296-08 PM-	SB-4-A-1112011	Soil
K2296-09 PM-	SB-5-A-1112011	Soil
K2296-10 PM-	SB-5-B-1112011	Soil
K2296-11 PM-	SB-6-A-1112011	Soil
K2296-12 PM-	SB-6-B-1112011	Soil

Soil and water samples were validated for analyses of volatile organics by the US EPA Region II data validation SOP (HW-24, Revision 2). Data were reviewed for usability according to the following criteria:

* * - Data Completeness
* * - GC/MS Tuning
* * - Holding Times
* - Calibrations
* - Laboratory Blanks
* * - Trip Blank
* * - Field Blank
* * - System Monitoring Compound Recoveries
* * - Internal Standard Recoveries
* - Matrix Spike / Matrix Spike Duplicate
* - Laboratory Control Samples
* * - Compound Identification
* * - Compound Quantitation

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The problems with the calibrations, matrix spikes, laboratory control samples and method blanks should be noted. These are described in detail below.

No other significant problems were found with this sample delivery group that would affect the usability of the data.

Holding Times

The samples of this delivery group were validated against the Region II technical holding time requirements:

Soil and preserved aqueous samples were analyzed within 14 days of collection.

Tunes

No problems were detected with the tunes associated with the samples of this delivery group.

System Monitoring Compound Recoveries

All of the sample surrogate recoveries were within the required limits.

Calibrations

Initial Calibrations

All relative percent differences in the 11/10 initial calibration associated with the analyses of the field and trip blanks were less than 20% with the exceptions of hexachlorobutadiene (21%) and 1,2,3-trichlorobenzene (23%).

The RRFs of acetone (0.036) and 2-butanone (0.028) were less than the 0.050 quality control limit in the above calibration.

All relative percent differences in the 11/10 initial calibration were less than 20% with the exceptions of acetone (35%), iodomethane (33%) and hexachlorobutadiene (22%). This initial calibration was associated with the analyses of the following samples:

K2296-04	PM-SB-1a-B-1112011
K2296-05	PM-SB-2-A-1112011
K2296-06	PM-SB-2-B-1112011
K2296-07	PM-SB-3-A-1112011
K2296-08	PM-SB-4-A-1112011
K2296-10	PM-SB-5-B-1112011
K2296-11	PM-SB-6-A-1112011
K2296-12	PM-SB-6-B-1112011

The RRFs of acetone (0.032) and 2-butanone (0.034) were less than the 0.050 quality control limit in the above calibration.

All relative percent differences in the 11/14 initial calibration were less than 20% with the exceptions of acetone (31%), toluene (39%) and naphthalene (23%). This initial calibration was associated with the analyses of samples K2296-09 / PM-SB-5-A-1112011 and K2296-03 / PM-SB-1a-A-1112011.

The RRFs of acetone (0.032) and 2-butanone (0.032) were less than the 0.050 quality control limit in the above calibration.

Detected data for these compounds were flagged with the "J" qualifier and are estimated values.

Continuing Calibrations

All relative percent differences in the 11/11 continuing calibration associated with the analyses of the field and trip blanks were less than 20% with the exceptions of acetone (47%), tetrachloroethene (35%), 2-hexanone (22%), hexachlorobutadiene (27%), 1,2,3-trichlorobenzene (22%), and naphthalene (21%).

The RRFs of acetone (0.036) and 2-butanone (0.023) were less than the 0.050 quality control limit in the above calibration.

All percent differences in the 11/12 continuing calibration were less than 20% with the exceptions of iodomethane (33%), carbon tetrachloride (24%) and naphthalene (22%). This continuing calibration was associated with the analyses of the following samples:

K2296-04	PM-SB-1a-B-1112011
K2296-05	PM-SB-2-A-1112011
K2296-06	PM-SB-2-B-1112011
K2296-07	PM-SB-3-A-1112011
K2296-08	PM-SB-4-A-1112011
K2296-10	PM-SB-5-B-1112011
K2296-11	PM-SB-6-A-1112011
K2296-12	PM-SB-6-B-1112011

The RRFs of acetone (0.032) and 2-butanone (0.033) were less than the 0.050 quality control limit in the above calibration.

All percent differences in the 11/14 continuing calibration were less than 20% with the exception of methylcyclohexane (21%). This continuing calibration was associated with the analyses of sample K2296-09 / PM-SB-5-A-1112011.

The RRFs of acetone (0.034) and 2-butanone (0.035) were less than the 0.050 quality control limit in the above calibration.

All percent differences in the 11/15 continuing calibration were less than 20% with the exception of iodomethane (48%). This continuing calibration was associated with the analyses of sample K2296-03 / PM-SB-1a-A-1112011.

The RRFs of acetone (0.027) and 2-butanone (0.035) were less than the 0.050 quality control limit in the above calibration.

When acetone and/ or 2-butanone were detected in a sample, they were flagged with the "J" qualifier.

When these compounds were not detected in a sample they were flagged with the "R" qualifier and are technically rejected.

The compounds with percent differences greater than 20% were flagged with the "J" qualifier and are estimated values.

Matrix Spike and Matrix Spike Duplicate

Some of the laboratory's in-house quality control limits were as low as 30% and as high as 163%. Quality control limits of 70% - 130% were used for the validation.

Soil sample K2296-09 / PM-SB-5-A-1112011 was used as the matrix spike and matrix spike duplicate. All recoveries and RPDs were within the required limits with the following exceptions:

Compound	MS	MSD	%RSD
1,2,4-Trichlorobenzene	44%	61%	31%
1,2-Dibromo-3-chloropropane	67%		
1,2-Dichlorobenzene	67%		
1,3-Dichlorobenzene	68%		
1,4-Dichlorobenzene	62%		
2-Hexanone	63%		
Tetrachloroethene	141%	368%	89%
Trichloroethene		131%	

The data for compounds with low recoveries were flagged with the "J" qualifier and are estimated values.

Data for compounds with high recoveries were only qualified (J) when they were detected in a sample. High recoveries for undetected compounds do not affect the usability of the data.

Laboratory Control Sample

Some of the laboratory's in-house quality control limits were as low as 30% and as high as 163%. Quality control limits of 70% - 130% were used for the validation.

All of the laboratory control sample recoveries in LCS-62940, associated with the field and trip blanks were within the required limits with the exceptions of acetone (42%), tetrachloroethene (67%) and 2-hexanone (69%).

The data for this compound was flagged with the "J" qualifier and are estimated values.

All of the laboratory control sample recoveries in LCS-62994/ LCDD-62994, were within the required limits with the exception of bromomethane (140%). These LCSs were associated with the analyses of the following samples:

K2296-04	PM-SB-1a-B-1112011
K2296-05	PM-SB-2-A-1112011
K2296-06	PM-SB-2-B-1112011
K2296-07	PM-SB-3-A-1112011

K2296-08	PM-SB-4-A-1112011
K2296-10	PM-SB-5-B-1112011
K2296-11	PM-SB-6-A-1112011
K2296-12	PM-SB-6-B-1112011

Bromomethane was not detected in any of these samples and the data were not affected by the high recoveries.

All of the laboratory control sample recoveries in LCS-63069 / LCDD-63069, were within the required limits with the exceptions of chloromethane in the LCS (132%) and iodomethane in the LCS and LCSD (45% & 48%). These LCSs were associated with the analyses of sample K2296-03 / PM-SB-1a-A-1112011:

Chloromethane was not detected in the sample and the data were not affected by the high recoveries.

The data for iodomethane were flagged with the “J” qualifier and are estimated values.

All of the other LCS recoveries were within the required limits.

Method Blanks

Low concentrations of toluene (4.5J ug/l) and naphthalene (1.0J ug/kg) were detected in the method blank associated with soil sample K2296-03 / PM-SB-1a-A-1112011

Only a low concentrations of toluene, less than 2X the concentration in the method blank were detected in the sample. The data for toluene were reported at the CRDL with the “U” qualifier.

Trip Blank

No compounds were detected in the trip blank.

Field Blank

No target compounds were detected in the field blank.

Internal Standard Areas and Retention Times

The recoveries and retention times of all internal standards were within the required 50% - 100% quality control limits.

Sample Results

No problems were detected with the samples.

SUMMARY OF THE ANALYTICAL DATA USABILITY
DEC-Former Paul Miller Site
D004437-23

Soil and Water Volatile Organic Analyses – Method 8260C
Samples Collected: November 2nd & 3rd, 2011
Samples Received: November 4, 2011
Laboratory: Spectrum
Sample Delivery Group: K2297
Laboratory Reference Numbers:

Lab ID	Client ID	Matrix	Date Sampled
K2297-01	PM-GWS-7-1122011	Aqueous	11/02/2011
K2297-01 MS	PM-GWS-7-1122011 MS	Aqueous	11/02/2011
K2297-01 MSD	PM-GWS-7-1122011 MSD	Aqueous	11/02/2011
K2297-02	PM-GWS-1b-1122011	Aqueous	11/02/2011
K2297-03	PM-GWS-2-1122011	Aqueous	11/02/2011
K2297-04	PM-FB-SO-1122011	Aqueous	11/02/2011
K2297-05	PM-FB-dAQ-1122011	Aqueous	11/02/2011
K2297-06	PM-TB-1122011	Aqueous	11/02/2011
K2297-07	PM-SB-7-B-1122011	Soil	11/02/2011
K2297-08	PM-SB-1b-B-1122011	Soil	11/02/2011
K2297-09	PM-SB-1b-A-1122011	Soil	11/02/2011
K2297-10	PM-SB-99-110211	Soil	11/02/2011
K2297-11	PM-GWS-5-110311	Aqueous	11/03/2011
K2297-12	PM-GWS-6-110311	Aqueous	11/03/2011
K2297-13	PM-TB-110311	Aqueous	11/03/2011
K2297-14	PM-GWS-la-110311	Aqueous	11/03/2011
K2297-15	PM-GWS-99-110311	Aqueous	11/03/2011

Soil and water samples were validated for analyses of volatile organics by the US EPA Region II data validation SOP (HW-24, Revision 2). Data were reviewed for usability according to the following criteria:

* - Data Completeness
* - GC/MS Tuning
* - Holding Times
- Calibrations
- Laboratory Blanks
* - Trip Blank
- Field Blank
* - System Monitoring Compound Recoveries
* - Internal Standard Recoveries
- Matrix Spike / Matrix Spike Duplicate
- Laboratory Control Samples
* - Compound Identification
* - Compound Quantitation

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The problems with the calibrations, matrix spikes, laboratory control samples and blanks should be noted. These are described in detail below.

No other significant problems were found with this sample delivery group which would affect the usability of the data.

Holding Times

The samples of this delivery group were validated against the Region II technical holding time requirements:

Soil and preserved aqueous samples were analyzed within 14 days of collection.

Tunes

No problems were detected with the tunes associated with the samples of this delivery group.

System Monitoring Compound Recoveries

The recovery of the Dibromofluoromethane system monitoring compound in sample K2297-01 MS / PM-GWS-7-1122011 MS (116%) was just above the 115% quality control limit.

The recovery of all of the system monitoring samples were within the required limits in the analysis of the original sample. The slightly high recovery in the matrix spike did not affect the use of the data.

All of the other sample surrogate recoveries were within the required limits.

Calibrations

Initial Calibrations

All relative percent differences in the 11/10 initial calibration (Instrument V1) were less than 20% with the exceptions of hexachlorobutadiene (21%) and 1,2,3-trichlorobenzene (23%). This calibration was associated with the analyses of the following samples:

K2297-01	PM-GWS-7-1122011
K2297-02	PM-GWS-1b-1122011
K2297-03	PM-GWS-2-1122011
K2297-04	PM-FB-SO-1122011
K2297-05	PM-FB-dAQ-1122011
K2297-06	PM-TB-1122011
K2297-11	PM-GWS-5-110311
K2297-12	PM-GWS-6-110311
K2297-13	PM-TB-110311
K2297-14	PM-GWS-la-110311
K2297-15	PM-GWS-99-110311

The RRFs of acetone (0.036) and 2-butanone (0.028) were less than the 0.050 quality control limit in the above calibration.

All relative percent differences in the 11/10 initial calibration (Instrument V10) were less than 20% with the exceptions of acetone (35%), iodomethane (33%) and hexachlorobutadiene (22%). Th0is initial calibration was associated with the analyses of the following samples:

K2297-07	PM-SB-7-B-1122011
K2297-08	PM-SB-1b-B-1122011
K2297-09	PM-SB-1b-A-1122011

The RRFs of acetone (0.032) and 2-butanone (0.034) were less than the 0.050 quality control limit in the above calibration.

All relative percent differences in the 11/14 initial calibration (Instrument V10) were less than 20% with the exceptions of acetone (31%), toluene (39%) and naphthalene (23%). This initial calibration was associated with the analysis of sample K2297-10 / PM-SB-99-110211.

The RRFs of acetone (0.032) and 2-butanone (0.032) were less than the 0.050 quality control limit in the above calibration.

Detected data for these compounds were flagged with the “J” qualifier and are estimated values.

Continuing Calibrations

All relative percent differences in the 11/11 continuing calibration were less than 20% with the exceptions of acetone (47%), tetrachloroethene (35%), 2-hexanone (22%), hexachlorobutadiene (27%), 1,2,3-trichlorobenzene (22%), and naphthalene (21%). This continuing calibration was associated with the analyses of the following samples:

K2297-02	PM-GWS-1b-1122011
K2297-03	PM-GWS-2-1122011
K2297-06	PM-TB-1122011

The RRFs of acetone (0.036) and 2-butanone (0.023) were less than the 0.050 quality control limit in the above calibration.

All percent differences in the 11/12 continuing calibration were less than 20% with the exceptions of chloromethane (22%), bromomethane (42%), iodomethane (24%), carbon tetrachloride (24%) and naphthalene (22%). This continuing calibration was associated with the analyses of the following samples:

K2297-07	PM-SB-7-B-1122011
K2297-08	PM-SB-1b-B-1122011
K2297-09	PM-SB-1b-A-1122011

The RRFs of acetone (0.028) and 2-butanone (0.033) were less than the 0.050 quality control limit in the above calibration.

All percent differences in the 11/14 continuing calibration were less than 20% with the exceptions of acetone (22%), 2-butanone (32%) tetrachloroethene (26%), bromoform (30%) and 1,2,3-trichloropropane (22%). This continuing calibration was associated with the analyses of the following samples:

K2297-01	PM-GWS-7-1122011
K2297-12	PM-GWS-6-110311
K2297-13	PM-TB-110311

The RRFs of acetone (0.044) and 2-butanone (0.037) were less than the 0.050 quality control limit in the above calibration.

All percent differences in the 11/15 continuing calibration were less than 20% with the exceptions of acetone (31%), dibromochloromethane (21%), bromoform (33%), n-butylbenzene, (22%), hexachlorobutadiene (34%), 1,2,3-trichlorobenzene (28%) and naphthalene (27%). This continuing calibration was associated with the analyses of the following samples:

K2297-04	PM-FB-SO-1122011
K2297-05	PM-FB-dAQ-1122011
K2297-11	PM-GWS-5-110311
K2297-14	PM-GWS-la-110311
K2297-15	PM-GWS-99-110311

The RRFs of acetone (0.023) and 2-butanone (0.029) were less than the 0.050 quality control limit in the above calibration.

All percent differences in the 11/14 continuing calibration were less than 20% with the exceptions of acetone (31%), dibromochloromethane (21%), bromoform (33%), n-butylbenzene, (22%), hexachlorobutadiene (34%), 1,2,3-trichlorobenzene (28%) and naphthalene (27%). This continuing calibration was associated with the analyses of the following samples:

K2297-04	PM-FB-SO-1122011
K2297-05	PM-FB-dAQ-1122011
K2297-11	PM-GWS-5-110311
K2297-14	PM-GWS-la-110311
K2297-15	PM-GWS-99-110311

The RRFs of acetone (0.023) and 2-butanone (0.029) were less than the 0.050 quality control limit in the above calibration.

All percent differences in the 11/15 continuing calibration (Instrument V10) were less than 20% with the exception of iodomethane (48%). This continuing calibration was associated with the analysis of sample K2297-10 / PM-SB-99-110211.

The RRFs of acetone (0.027) and 2-butanone (0.035) were less than the 0.050 quality control limit in the above calibration.

When acetone and/ or 2-butanone were detected in a sample, they were flagged with the “J” qualifier.

When these compounds were not detected in a sample they were flagged with the “R” qualifier and are technically rejected.

The compounds with percent differences greater than 20% were flagged with the “J” qualifier and are estimated values.

Matrix Spike and Matrix Spike Duplicate

Some of the laboratory’s in-house quality control limits were as low as 30% and as high as 163%. Quality control limits of 70% - 130% were used for the validation.

Soil sample K2297-01 / PM-GWS-7-1122011 was used as the matrix spike and matrix spike duplicate. All recoveries and RPDs were within the required limits with the following exceptions:

Compound	MS	MSD	RPD
1,1,1-Trichloroethane			40%
1,1-Dichloroethane			35%
1,1-Dichloroethene			42%
1,2,4-Trichlorobenzene	54%		43%
1,2,4-Trimethylbenzene			43%
1,2-Dichloroethane			42%
2-Butanone		11%	146%
Acetone	145%	15%	162%
Bromomethane		62%	47%
Carbon disulfide			41%
Chloroethane			56%
Chloromethane			32%
cis-1,2-Dichloroethene			35%
cis-1,3-Dichloropropene	51%		43%
Dichlorodifluoromethane		62%	57%
Methyl acetate	508%		127%
Methylcyclohexane	59%		47%
Methylene chloride			35%
Trichlorofluoromethane			47%
Vinyl chloride			55%

The data for compounds with low recoveries were flagged with the “J” qualifier and are estimated values.

Data for compounds with high recoveries were only qualified (J) when they were detected in a sample. High recoveries for undetected compounds do not affect the usability of the data.

An RPD of 30% was used for the purposes of the validation. Compounds with RPDs greater than 30% were only qualified when they were detected in a sample.

Laboratory Control Sample

Some of the laboratory's in-house quality control limits were as low as 30% and as high as 163%. Quality control limits of 70% - 130% were used for the validation.

All of the laboratory control sample recoveries in LCS-62940, were within the required limits with the exceptions of acetone (42%), tetrachloroethene (67%) and 2-hexanone (69%). This laboratory control samples is associated with the following samples:

K2297-02	PM-GWS-1b-1122011
K2297-03	PM-GWS-2-1122011
K2297-06	PM-TB-1122011

The data for these compounds were flagged with the "J" qualifier and are estimated values.

All of the laboratory control sample recoveries in LCS-63069/ LCSD-63069, were within the required limits with the exceptions of chloromethane (132%) and iodomethane (45% & 48%). These LCSs were associated with the analyses of the sample :PM-SB-99-110211 (K2297-10)

The data for compounds with low recoveries were flagged with the "J" qualifier and are estimated values.

Data for compounds with high recoveries were only qualified (J) when they were detected in a sample. High recoveries for undetected compounds do not affect the usability of the data.

All of the other LCS recoveries were within the required limits.

Method Blanks

Low concentrations of toluene (4.5J ug/l) and naphthalene (1.0J ug/kg) were detected in the method blank associated with soil sample K2297-10 / PM-SB-99-110211

Only a low concentration of toluene (4 ug/l), less than 2X the concentration in the method blank were detected in the sample. The data for toluene were reported at the CRDL with the "U" qualifier.

No compounds were detected in any of the other method blanks.

Trip Blank

No compounds were detected in the trip blanks.

Field Blank

Low concentrations of 2-butanone (3.2ug/l) and acetone (6.9 ug/l) were detected in the soil field blank collected on 11/02/2011.

Only a low concentration of acetone (7 ug/l) was detected in sample PM-SB-99-110211 (K2297-10).

This was reported as 9U ug/kg and flagged with the "R" qualifier due to the low relative response factor.

Low concentrations of 2-butanone (3 ug/l) and acetone (6.8 ug/l) were detected in the water field blank, K2297-05 / PM-FB-dAQ-1122011 collected on 11/02/2011.

When detected in sample PM-GWS-7-1122011 (K2297-01) the concentrations of these two compounds were too high to be affected by the low level field blank contamination.

Internal Standard Areas and Retention Times

The recoveries and retention times of all internal standards were within the required 50% - 100% quality control limits.

Sample Results

No problems were detected with the samples.

Appendix E

Field Logbooks

Paul Miller Site

Pg 1 of 2

[redacted]

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/6/12 **WELL #:** MW-1

SAMPLERS: EK Ferrous Iron = ~~350~~ 102 Dilution = 0.54 x 10 = 5.4 mg/L **DEPTH OF PUMP INTAKE:** 15 (ft TIC) or ft BGS (circle one)

WEATHER CONDITIONS: SUNNY 30°F (SCREENED)/OPEN BOREHOLE INTERVAL: 6-16 (ft TIC) or ft BGS (circle one)

SAMPLE ID: 80230-MW01-030612 **SAMPLE TIME:** 0910 **SAMPLE FLOW RATE:** 150 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right — YSI Model # 650 / Horiba U-22 (circle one) Other (specify)_____ — **Instrument:** LaMOTTE

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN	pH	SPECIFIC CONDUCTIVITY	DISSOLVED OXYGEN	TEMP.	REDOX POTENTIAL	TURBIDITY
		(± 0.3 FT)			(± 0.1 SU)	(± 3%)	(± 10%)	(± 10%)	(± 10 mV)	(± 10%)
24-Hour	gallons / liters (circle one)	(ft TIC) / ft BGS (circle one)	Units: mL/min	ft TIC / ft BGS (circle one)	SU	S/cm / (mS/cm) or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
0813		9.15	200		6.51	4.230	0.99	11.74	-131.6	>999
0821		~~10.9~~ EK 10.30	200		6.48	4.187	0.89	11.95	-126	>999
0826		10.75	200		6.48	4.226	1.25	12.91	-117.3	80.1
0831		11.30	200		6.48	4.306	1.56	14.83	-99.8	68
0834		11.55	200		6.48	4.330	1.63	15.57	-97.3	68
0837		11.59	200		6.49	4.777	1.77	15.71	-109.6	69
0840		11.75	~~1~~00		6.49	4.783	1.64	16.10	-110.3	68
0843		11.65	100		6.51	4.778	1.43	15.61	-110.7	65
0846		11.65	100		6.50	4.570	1.60	15.09	-107.6	61
0849		11.65	100		6.50	4.562	1.60	15.36	-106.8	60

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

67099124EP

Paul Miller Site

[redacted]

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/6/12

WELL #: MW-1

SAMPLERS: EK

DEPTH OF PUMP INTAKE: 15 (ft TIC) or ft BGS (circle one)

WEATHER CONDITIONS: Sunny 30°f

SCREENED/OPEN BOREHOLE INTERVAL: 6-16 ft TIC or ft BGS (circle one)

SAMPLE ID: 80230-MW01-030612 SAMPLE TIME: 0910

SAMPLE FLOW RATE: 150 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 650 / Horiba U-22 (circle one)

Other (specify)_____

Instrument: Lamotte

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN	pH	SPECIFIC CONDUCTIVITY	DISSOLVED OXYGEN	TEMP.	REDOX POTENTIAL	TURBIDITY
		(± 0.3 FT)			(± 0.1 SU)	(± 3%)	(± 10%)	(± 10%)	(± 10 mV)	(± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: mL/MIN	ft TIC / ft BGS (circle one)	SU	S/cm / mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
0852		11.65	100		6.52	4.505	1.56	15.60	-105.2	54.7
0855		11.65	100		6.52	4.501	1.68	15.85	-102.7	55
0858		11.65	100		6.52	4.498	1.70	15.87	-98.3	54
0901	2	11.65	100		6.52	4.496	1.73	15.90	-96.8	54
0910	Sample	Time								

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

[redacted]

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/6/12 Ferrous Iron = 10 Dilution = 0.92 ml/l = 9.2 mg/l **WELL #:** MW-02

SAMPLERS: EK

DEPTH OF PUMP INTAKE: 10 (ft TIC) or ft BGS (circle one)

WEATHER CONDITIONS: SUNNY 42°F

SCREENED/OPEN BOREHOLE INTERVAL: 6-12 (ft TIC) or ft BGS (circle one)

SAMPLE ID: 80230-MW02-030612 **SAMPLE TIME:** 1200 **SAMPLE FLOW RATE:** 250 ml/minute

CLP ID: N/A

Instrument Type/Model: Complete and/or Circle at right

(YSI Model) # 650 / Horiba U-22 (circle one) Other (specify) _____ **Instrument:** LaMotte

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1100		3.45	250		6.92	1,895	0.87	10.54	4.7	7998
1130		4.02	250		6.92	1,725	0.79	13.07	-56.4	20
1135		4.00	250		6.88	1,677	0.77	13.55	-53.2	13
1140		4.00	250		6.87	1,679	0.79	13.47	-61.8	12
1145		4.00	250		6.86	1,672	0.78	13.30	-62.2	10
1150		4.00	250		6.86	1,669	0.80	13.37	-62.9	11
1155	3.5	4.00	250		6.86	1,667	0.79	13.40	-63.5	11
1200	Sample Time									

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

[redacted]

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/7/12 Ferrous Iron 10% 0.6ml = 2.56 x 10 = 25.6 mg/l WELL #: MW-03

SAMPLERS: EK DEPTH OF PUMP INTAKE: 11 (ft TIC) or ft BGS (circle one)

WEATHER CONDITIONS: SUNNY 45°f 80230. SCREENED/OPEN BOREHOLE INTERVAL: 3-13 (ft TIC or ft BGS (circle one))

SAMPLE ID: MW-03S-030712 SAMPLE TIME: 1150 SAMPLE FLOW RATE: 225 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right — YSI Model # 650 / Horiba U-22 (circle one) Other (specify)_____ — Instrument: LaMotte

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN	pH	SPECIFIC CONDUCTIVITY	DISSOLVED OXYGEN	TEMP.	REDOX POTENTIAL	TURBIDITY
		(± 0.3 FT)			(± 0.1 SU)	(± 3%)	(± 10%)	(± 10%)	(± 10 mV)	(± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm mS/cm µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1055		3,80	225		6,95	1,346	0,73	11,60	-137,2	>999
1120		3,90	225		7,05	1,390	0,54	13,18	-128,6	22
1125		3,90	225		7,05	1,397	0,57	13,22	-126,4	16
1130		3,90	225		7,06	1,399	0,55	13,29	-125,4	12
1135		3,90	225		7,06	1,406	0,53	13,31	-125,4	9
1140	3	3,90	225		7,06	1,408	0,55	13,46	-125,2	7
1150	Sample TIME									

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

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LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/6/12 Ferrous Iron = 10% Dilution = 0.51 mg/L (5.1 mg/L)

WELL #: MW-04

SAMPLERS: F. Robin

DEPTH OF PUMP INTAKE: 9 (ft TIC) or ft BGS (circle one)

WEATHER CONDITIONS: Clear 35°

SCREENED/OPEN BOREHOLE INTERVAL: 2 - 12 (ft TIC) or ft BGS (circle one)

SAMPLE ID: 80230-MW04-030612 SAMPLE TIME: 1210

SAMPLE FLOW RATE: 150 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 600 / Horiba U-22 (circle one)

Other (specify)

Instrument: Lamotte 2020

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units:	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1100		3.85	150		7.79	1.410	1.61	11.60	-28.6	53.2
1105		4.52	150		7.48	1.434	1.10	13.03	-42.2	77.7
1110		4.70	150		7.34	1.486	1.04	13.55	-37.5	74.6
1115		4.87	150		7.22	1.610	1.03	13.74	-52.6	54.8
1130		5.02	150		7.15	1.681	1.04	14.31	-55.2	48.1
1135		5.13	150		7.11	1.729	1.08	14.51	-58.3	44.4
1140		5.18	150		7.05	1.829	1.02	13.90	-63.3	38.0
1145		5.25	150		7.06	1.890	1.13	14.63	-61.9	38.5
1150		5.32	150		7.02	1.896	1.18	14.75	-59.9	34.4
1155	4.5	5.45	150		7.00	1.902	1.17	14.89	-60.7	30.5

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

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LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/7/12 Ferrous Iron = 0.05 mg/l WELL #: MW-85

SAMPLERS: F. Robinson

DEPTH OF PUMP INTAKE: 30 (ft TIC or ft BGS (circle one))

WEATHER CONDITIONS: Clear 50°

SCREENED/OPEN BOREHOLE INTERVAL: 25-35 (ft TIC or ft BGS (circle one))

SAMPLE ID: 80230-MW85-030712 SAMPLE TIME: 1140 SAMPLE FLOW RATE: 250 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 600XL / Horiba U-22 (circle one)

Other (specify)

Instrument: Lamotte 2020

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1050		6.97	250		8.06	0.546	6.30	15.69	185.4	>1000
1105		8.19	250 300		7.09	0.541	4.53	17.40	148.0	>1000
1110		8.17	300		7.07	0.558	4.72	17.57	154.2	308
1115		8.17	300		7.04	0.570	4.80	17.57	161.4	208
1120		8.17	300		7.03	0.569	4.81	17.72	154.8	153
1125		8.21	300		7.03	0.568	4.81	17.76	155.2	103
1130		8.18	300		7.01	0.565	4.80	17.91	162.1	76.0
1135	4	8.21	300		7.01	0.564	4.77	17.99	157.3	54.1

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

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LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/5/12 Ferrous Iron = 0.00 mg/l WELL #: MW-9S

SAMPLERS: EK DEPTH OF PUMP INTAKE: ~~FS~~ 30 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Sunny, Windy 40°F SCREENED/OPEN BOREHOLE INTERVAL: ~~10-30~~ 25-35 ft TIC or ft BGS (circle one)

SAMPLE ID: 80230-MW09S-030512 SAMPLE TIME: 1055 SAMPLE FLOW RATE: 250 ml/minute

CLP ID: N/A

Instrument Type/Model: Complete and/or Circle at right — YSI Model # 650 / Horiba U-22 (circle one) Other (specify) _____ Instrument: LaMotte

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN	pH	SPECIFIC CONDUCTIVITY	DISSOLVED OXYGEN	TEMP.	REDOX POTENTIAL	TURBIDITY
		(± 0.3 FT)			(± 0.1 SU)	(± 3%)	(± 10%)	(± 10%)	(± 10 mV)	(± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
0958		4.36'	250		6.30	1.063	2.98	14.44	157.7	255
1020		5.15	250		6.78	0.845	0.47	16.04	-27	281
1025		5.16	250		6.77	0.867	0.56	15.93	-21.1	1257
1030		5.16	250		6.80	0.838	0.46	16.20	-20.8	286
1035		5.16	250		6.80	0.826	0.44	16.13	-25.2	280
1040	4	5.16	250		6.81	0.820	0.42	16.40	-28.1	216
1043		5.16	250		6.82	0.807	0.42	16.67	-28.6	209
1046		5.16	250		6.82	0.805	0.42	16.67	-29.1	147
1049	5.5	5.16	250		6.82	0.804	0.42	16.61	-29.4	139
1055	Sample Time									

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

[redacted]

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: ~~NRO~~ - 3/5/12 Ferrous Iron = 0.00 mg/l WELL #: MW-9D

SAMPLERS: F. Robinson DEPTH OF PUMP INTAKE: 65 (ft TIC) or ft BGS (circle one)

WEATHER CONDITIONS: SCREENED/OPEN BOREHOLE INTERVAL: 60-70 (ft TIC) or ft BGS (circle one)

SAMPLE ID: 80230 - MW09D - 030512 SAMPLE TIME: 1050 SAMPLE FLOW RATE: 250 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right — (YSI Model # 600 / Horiba U-22 (circle one)) Other (specify) _____ — Instrument: Lamotte 2020

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, ~~mS/cm~~ or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
0958		4.35	250		6.75	0.780	2.13	14.48	186.8	-95.9
1020		4.34	250		7.03	0.801	2.35	15.30	137.9	132
1025		4.34	250		7.04	0.803	2.36	15.40	131.9	97.7
1030		4.34	250		7.04	0.806	2.38	15.32	131.3	83.7
1035		4.35	250		7.06	0.808	2.39	15.37	128.4	59.8
1040	6 gallons	4.35	250		7.04	0.809	2.39	15.42	126.7	51.0

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

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LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/5/12 **WELL #:** MW-10S

SAMPLERS: E. Robinson Ferrous Iron = 1.63 mg/l **DEPTH OF PUMP INTAKE:** ~~28~~ 28' (ft TIC) or ft BGS (circle one)

WEATHER CONDITIONS: **SCREENED/OPEN BOREHOLE INTERVAL:** ~~22-32~~ 22-32' (ft TIC) or ft BGS (circle one)

SAMPLE ID: ~~20~~ 80230-MW10S-030512 **SAMPLE TIME:** 1400 **SAMPLE FLOW RATE:** ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right — (YSI Model #) 600XL / Horiba U-22 (circle one); Other (specify)_____ — **Instrument:** Lamp# 2020

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1250		4.74	250		6.52	1.397	1.36	14.58	3.3	>1000
1305		~~5.60~~ 7.80	200		6.67	1.462	1.36	15.51	-4.8	232
1310		~~7.90~~ 8.75	200		6.66	1.403	1.30	15.65	-4.9	239
1315		9.55	200		6.65	1.409	1.27	16.06	-8.4	185
1320		10.20	200		6.66	1.407	1.32	16.05	-11.3	210
1325		10.92	200		6.66	1.408	1.28	15.92	-14.7	177
1330		11.93	200		6.65	1.405	1.46	16.49	-18.3	166
1335		12.90	200		6.65	1.408	1.49	17.27	-22.2	217
1340		14.03	200		6.66	1.409	1.50	17.69	-27.5	179
1345		15.65	200		6.65	1.411	1.47	17.71	-29.9	161
1350	4.0	16.15	200		6.64	1.409	1.50	17.89	-31.8	187

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

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LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/5/12 Ferrous Iron 0.00 mg/l **WELL #:** MW-10D

SAMPLERS: EK **DEPTH OF PUMP INTAKE:** 65 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Sunny, Windy 41°F **SCREENED/OPEN BOREHOLE INTERVAL:** 60 - 70 ft TIC or ft BGS (circle one)

SAMPLE ID: 30230-MW10D-030512 **SAMPLE TIME:** 1345 **SAMPLE FLOW RATE:** 250 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right — **YSI Model #** 650 / Horiba U-22 (circle one) — **Other (specify)** _____ — **Instrument:** LaMOTTE

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ML/MIN	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1255		5.44	325		7.25	0.739	1.66	14.77	54.8	191
1310		5.44	325		7.26	0.748	0.82	15.27	43.5	75
1315		5.44	325		7.26	0.755	0.81	15.07	43.3	66
1320		5.44	325		7.26	0.754	0.74	15.12	44.1	56
1325		5.44	325		7.26	0.767	0.68	15.09	40.9	45
1330		5.44	325		7.27	0.768	0.70	15.22	43.1	27.5
1333		5.44	325		7.27	0.770	0.68	15.25	44.3	23.7
1336		5.44	325		7.26	0.771	0.67	15.27	45.2	16.2
1339	7	5.44	325		7.26	0.773	0.67	15.33	46.0	14.3
1345	Sample TIME									

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

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LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/8/12 Ferrous Iron = 0.06 mg/l WELL #: MW-11S

SAMPLERS: EK DEPTH OF PUMP INTAKE: 27 (ft TIC) or ft BGS (circle one)

WEATHER CONDITIONS: PARTLY SUNNY 45° SCREENED/OPEN BOREHOLE INTERVAL: 22-32 ft TIC or ft BGS (circle one)

SAMPLE ID: 80230-MW11S-030812 SAMPLE TIME: 0925 SAMPLE FLOW RATE: 250 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right — YSI Model # 650 / Horiba U-22 (circle one) Other (specify)_____ — Instrument: LaMotte 2020

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm, or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
0754		6.05	200		6.27	1,363	3.73	14.44	83.8	>999
0833		6.90	200		6.20	1,462	0.90	16.70	58.7	999
0836	5	6.90	200		6.20	1.459	0.88	16.78	63.3	999
0839		6.90	200		6.20	1,453	0.95	16.90	67.8	>999
0842		6.90	200		6.20	1,448	0.99	16.76	74.1	>999
0845	GOING TO WAIT FOR TURBIDITY TO COME DOWN (cleared out FLO-THRU cell)									
0905		6.90	200		6.19	1,456	0.94	16.91	80.3	103
0910		6.90	200		6.19	1.455	0.91	17.10	80.5	74
0915		6.90	200		6.19	1.455	0.93	17.18	82.2	60
0920	4 Gallons	6.90	200		6.19	1.456	0.94	17.13	83.5	51

0925 Sample Time

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

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LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/8/12 Ferrous Iron = 0.67 mg/l WELL #: MW-11D

SAMPLERS: EK DEPTH OF PUMP INTAKE: 65 (ft TIC) or ft BGS (circle one)

WEATHER CONDITIONS: Partly Sunny 45° SCREENED/OPEN BOREHOLE INTERVAL: 60-70 (ft TIC) or ft BGS (circle one)

SAMPLE ID: MW11D-030612 (802302) SAMPLE TIME: 0900 SAMPLE FLOW RATE: 250 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right — YSI Model # 650 / Horiba U-22 (circle one) Other (specify)_____ — Instrument: YAMOTTO 2020

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
0752		6.00	350		7.13	0.750	5.26	14.85	132	>999
0830		6.18	350		7.30	0.796	1.53	15.62	122.1	253
0835	5	6.18	350		7.30	0.796	1.53	15.69	120.3	223
0840		6.18	350		7.30	0.796	1.55	15.72	118	208
0845		6.18	350		7.30	0.796	1.53	15.73	116.6	191
0850	6	6.18	350		7.30	0.796	1.53	15.75	114.8	188
0900	Sample	Time								

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

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LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/8/12 Ferrous Iron = 0.22 mg/l WELL #: MW-125

SAMPLERS: FR/EK DEPTH OF PUMP INTAKE: 30' (ft TIC) or ft BGS (circle one)

WEATHER CONDITIONS: P+Cloudy 60° Windy SCREENED/OPEN BOREHOLE INTERVAL: ~~30~~ 25-35 (ft TIC) or ft BGS (circle one)

SAMPLE ID: 80230-MW125-030812 SAMPLE TIME: 1115

CLP ID: 80230-MW125-030812 (Duplicate) SAMPLE FLOW RATE: 250 ml/minute

Instrument Type/Model: Complete and/or Circle at right

YSI Model# 600XL / Horiba U-22 (circle one)

Other (specify)_____

Instrument: Lamotte 2020

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	(gallons) / liters (circle one)	(ft TIC) / ft BGS (circle one)	Units: ml/min	(ft TIC) / ft BGS (circle one)	SU	S/cm, (mS/cm) or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1025		6.12	375		6.81	0.650	1.81	16.65	159.2	>1000
1045		6.30	400		6.87	0.674	1.83	17.45	83.8	147
1050		6.30	400		6.84	0.676	1.80	17.50	80.7	75.2
1055		6.30	400		6.82	0.680	1.81	17.46	81.6	53.6
1100		6.30	400		6.81	0.686	1.75	17.39	82.7	29.8
1105		6.30	400		6.79	0.688	1.82	17.41	83.1	26.6
1110	4.5	6.30	400		6.78	0.692	1.81	17.39	85.4	21.9

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

[redacted]

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/2/12 Ferrous Iron = 0.53 mg/l WELL #: MW-135

SAMPLERS: EK DEPTH OF PUMP INTAKE: 30 (ft TIC) or ft BGS (circle one)

WEATHER CONDITIONS: Sunny 35°f SCREENED/OPEN BOREHOLE INTERVAL: 25 - 35 (ft TIC) or ft BGS (circle one)

80230 -

SAMPLE ID: MW135-030712 SAMPLE TIME: 0920 SAMPLE FLOW RATE: 250 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 650 / Horiba U-22 (circle one) Other (specify)_____ Instrument: Eureka

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN	pH	SPECIFIC CONDUCTIVITY	DISSOLVED OXYGEN	TEMP.	REDOX POTENTIAL	TURBIDITY
		(± 0.3 FT)			(± 0.1 SU)	(± 3%)	(± 10%)	(± 10%)	(± 10 mV)	(± 10%)
24-Hour	gallons / liters (circle one)	(ft TIC) / ft BGS (circle one)	Units: mL/min	(ft TIC) / ft BGS (circle one)	SU	S/cm, (mS/cm) or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
0815		8.53	400		6.58	1,343	4.98	16.09	-34.8	17
0840		8.65	400		6.47	1,397	3.58	16.39	-54.9	7
0845		8.65	400		6.45	1,413	3.33	16.42	-49.2	5
0850		8.65	400		6.44	1,416	3.37	16.51	-44.3	5
0855		8.65	400		6.43	1,426	2.54	16.44	-42.5	6
0900		8.65	400		6.43	1,430	2.10	16.67	-41.0	4
0905		8.65	400		6.43	1,433	2.15	16.68	-39.5	5
0910	6.5	8.65	400		6.42	1,430	2.17	16.72	-37.5	5
0920 Sample Time										

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

[redacted]

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/7/12 Ferrous Iron = 0.01 mg/l **WELL #:** MW-13D

SAMPLERS: CK **DEPTH OF PUMP INTAKE:** 65 (ft TIC) or ft BGS (circle one)

WEATHER CONDITIONS: SUNNY 35°F 80230 **SCREENED/OPEN BOREHOLE INTERVAL:** 60 - 70 (ft TIC) or ft BGS (circle one)

SAMPLE ID: MW-13D-030712 **SAMPLE TIME:** 0910 **SAMPLE FLOW RATE:** 250 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right (YSI Model # 650 / Horiba U-22 (circle one)) Other (specify)_____ **Instrument:** Lamotte

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: mL/min	ft TIC / ft BGS (circle one)	SU	S/cm mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
0818		8.40	300		7.12	0.733	1.76	14.84	86.9	7999
0843		8.40	300		7.19	0.778	1.84	15.41	94	129
0848		8.40	300		7.21	0.771	1.86	15.57	90.1	105
0853		8.40	300		7.23	0.782	1.86	15.53	86.6	98
0858		8.40	300		7.24	0.788	1.86	15.67	82.9	48
0903	4	8.40	300		7.25	0.790	1.81	15.94	80.4	30
0910	Sample Time									

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

[redacted]

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/8/12 Ferrous Iron = 0.65 mg/l WELL #: MW-145

SAMPLERS: F. Robins

DEPTH OF PUMP INTAKE: 29' (ft TIC) or ft BGS (circle one)

WEATHER CONDITIONS: Pt Cloudy 60°

(SCREENED) OPEN BOREHOLE INTERVAL: 24-34 (ft TIC) or ft BGS (circle one)

SAMPLE ID: 80230-MW145-030812 SAMPLE TIME: 0900 SAMPLE FLOW RATE: 100 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right (YSI Model # 600XL / Horiba U-22 (circle one) Other (specify)_____ Instrument: Lamotte 2020

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
0750		6.78	275		6.31	1.708	1.00	14.94	-67.7	>1000
0815		11.38	200		6.62	1.691	2.91	15.58	0.6	>1000
0820		12.00	200		6.62	1.690	2.96	15.78	7.5	317
0825		12.40	200		6.62	1.690	2.98	15.88	12.1	355
0830		12.84	200 SR		6.62	1.690	2.89	16.15	9.7	337
0835		13.02	100		6.63	1.693	2.81	16.38	7.4	287
0840		13.00	100		6.62	1.692	2.78	16.53	8.8	249
0845		13.00	100		6.62	1.692	2.76	16.48	11.4	241
0850		13.00	100		6.62	1.688	2.72	16.41	16.5	156
0855	3.5	13.00	100		6.62	1.687	2.71	16.30	19.8	124

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

[redacted]

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/7/12 Ferrous Iron - 0.13 mg/L **WELL #:** MW-15D

SAMPLERS: F. Robinson **DEPTH OF PUMP INTAKE:** 65 (ft TIC or ft BGS (circle one))

WEATHER CONDITIONS: Clear 40° **SCREENED/OPEN BOREHOLE INTERVAL:** 60-70' (ft TIC or ft BGS (circle one))

SAMPLE ID: 80230-MW150-030712 **SAMPLE TIME:** 0855 **SAMPLE FLOW RATE:** 250 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right — YSI Model # 600XL / Horiba U-22 (circle one) Other (specify)_____ — **Instrument:** Lamotte 2020

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER (± 0.3 FT)	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
0805		6.76	300		6.84	0.693	2.73	14.30	114.9	>1000
0825		6.77	300		7.09	0.717	2.16	14.34	125.8	>1000
0830		6.77	300		7.11	0.717	2.17	14.19	126.7	>1000
0835		6.77	300		7.12	0.719	2.19	15.28	144.6	279
0840		6.78	300		7.13	0.721	2.13	15.43	147.3	187
0845		6.78	300		7.14	0.724	2.09	15.23	140.9	122
0850	5 Gal	6.78	300		7.14	0.722	2.06	15.32	155.2	90.3

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Paul Miller Site

[redacted]

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 3/6/12 Ferrous Iron = 0.07 mg/L WELL #: MW-16S

SAMPLERS: Frank Robbins DEPTH OF PUMP INTAKE: 30' (ft TIC or ft BGS (circle one))

WEATHER CONDITIONS: Clear ~30° SCREENED/OPEN BOREHOLE INTERVAL: 25-35 (ft TIC or ft BGS (circle one))

SAMPLE ID: 80230-MW16S-030612 SAMPLE TIME: 0915 SAMPLE FLOW RATE: 200 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right — (YSI Model # 600 / Horiba U-22 (circle one)) Other (specify)_____ — Instrument: Lamotte 2020

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN	pH	SPECIFIC CONDUCTIVITY	DISSOLVED OXYGEN	TEMP.	REDOX POTENTIAL	TURBIDITY
		(± 0.3 FT)			(± 0.1 SU)	(± 3%)	(± 10%)	(± 10%)	(± 10 mV)	(± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units:	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
0810		9.51	200		6.30	2.060	2.12	12.95	216.2	>1000
0825		10.61	200		6.98	1.961	1.47	13.68	150.9	295
0830		10.61	200		6.98	1.945	1.48	13.92	149.2	271
0835		10.73	200		6.96	1.930	1.61	14.86	147.7	215
0840		10.74	200		6.92	1.913	1.53	15.10	142.7	138
0845		10.75	200		6.88	1.886	1.63	14.82	139.8	103.6
0850		10.75	200		6.88	1.877	1.62	15.14	135.8	69.1
0855		10.77	200		6.87	1.872	1.68	15.22	132.8	43.4
0900		10.77	200		6.86	1.866	1.67	15.33	129.9	37.2
0905	4.5	10.77	200		6.85	1.859	1.63	15.37	129.9	28.6

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

"Rite in the Rain"®
ALL-WEATHER WRITING PAPER

ALL-WEATHER
ENVIRONMENTAL FIELD BOOK

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PAGE	REFERENCE	DATE

Location Staten Island NY Date 3/5/12 mon

Project / Client Paul Mike / NYSDEC

Symoptic water levels

0630- F. Robinson onsite
Clear 33°
0640- Scott Kellys on site
0650- Ed Kulkusky on site
0755- Pine on site dropping off equipment
0810- Finished symoptic round of water levels

MW#	OTW (ft TIC)	PID (PPm)	Depth to Bottom (ft TIC)
1	8.94	49	16
2	3.41	0.3	12
3	3.60	0.5	13
4	3.56	Ø	12
8S	7.00	18	35
9S	4.30	Ø	35
9D	4.32	Ø	70
10S	4.55	2	32
10D	5.40	0.1	70
11S	6.00	603	35
11D	5.95	2.3	70
12S	6.13	2.78	35
13S	8.10	112	35
13D	8.28	2.5	70
14S	6.70	9999	34
15D	6.68	17.5	70
16S	9.34	57	35

Jack Ma 3/5/12

Location SI, NY Date MON 3/5/12

Project / Client Paul Miller

MW-95 / 90

0920- Ed K. calibrated all 3 YSI water quality instruments and the 2 Lamotte 2020 turbidity meters. See cal sheets for details

0940- Setting up at MW-95 + MW-90

1050- Sampled MW-090 w/ MS/MSD

Last GW Parameters:

pH= 7.09 Sp. Cond= 0.809 DO_2= 2.38

T°C= 15.82 Redox= 12.67 Turb= 540

Sample designation: 80230-MW090-030512

1055- Sampled MW-095

pH= 6.82 Sp. Cond= 0.804 DO_2= 0.42

T°C= 16.61 Redox= -28.4 Turb= 139

1145- Ferrous Iron via Hach AccuVac's:

MW-095 = 0.00 mg/l MW-090= 0.06 mg/l

Sample Suite for all MW's:

VOC, Dissolved gases, TOC, Nitrogen (ammonia and organic) hardness, total sulfides and TSS, TDS, Alkalinity and ion chromo. (low) MS/MSD only for VOC + dissolved gases (MEE)

1200- Deconning Grunfos pumps: ran 5 min. w/ Alconox + water, then 5 min tap water rinse then 5 min w/ dionic water.

1215- Collected Field Blank of Grunfos Pump after Decon

3/5/12

Location SI, NY Date MON 3/5/12

Project / Client Paul Miller

MW-105 / 100

1215- Field Blank

80230-FB-030512

1235- Setting up at MW-105 + 100

1256- Starting to pump MW-25

1345- Sampled MW-100

" 80230-MW100-030512"

Final GW Parameters:

pH= 7.26 Cond= 0.773 DO_2= 0.62

T°C= 15.33 ORP= 46.0 Turb= 14.3

Ferrous Iron= 0.00 mg/l

1400- Sampled MW-105

" 80230-MW105-030512"

Final GW Parameters:

pH= 6.64 Cond= 1.409 DO_2= 1.50

T°C= 17.85 ORP= -31.8 Turb= 187 NTU

Ferrous Iron= 1.63 mg/l

1430- Deconning Pumps as described earlier.

1500- Leaving the site, Ed taking the cooler to Fedex: 4184 8764 5236 7140

3/5/12

Location SI, NY Date Tues 3/6/12

Project / Client Paul Miller / NYSDEC

MW-1 / MW-16S

0630- F. Robinson on site
Clear 28° light wind
0645- Ed Kulbusky on site
0740- Calibrated 2 YSI water quality meters and 2 Lamotte 2020 Turbidity meters. See Cal sheets for details
- Setting up at MW-1 and MW-16S
0910- Sampled MW-01
" 80230-MW01-030612" same sample suite as yesterday for all samples
Final GW Parameters:
pH= ~~6.81~~ 6.82 Cond= 4.496 DO_2= 1.73
T°C= 15.90 ORP= -96.8 Turb= 54 NTU
Ferrous Iron (10% dilution) = 5.4 mg/l
0915- Sampled MW-16S
" 80230-MW16S-030612"
Final GW Parameters:
pH= 6.85 Cond= 1.859 DO_2= 1.63
T°C= 15.37 ORP= 129.9 Turb= 28.6 NTU
Ferrous Iron= 0.07 mg/l
1005- Setting up on MW-02 + MW-04
1015- Decomm pumps as per yesterday's procedure
1030- ~~DUP~~ Collected Field Blank of Decon Pump "80230-FB-030612"

FR 3/6/12

Location SI, NY Date Tues 3/6/12

Project / Client Paul Miller / NYSDEC

MW-02 / MW-04

1200- Sampled MW-02
" 80230-MW02-030612"
Final GW Parameters:
pH= 6.86 Cond= 1.667 DO_2= 0.79
T°C= 13.40 ORP= +63.5 Turb= 11 NTU
Ferrous Iron (10% dilution) = 0.92 x 10 = 9.2 mg/l
1210- Sampled MW-04
" 80230-MW04-030612"
Final GW Parameters:
pH= 7.00 Cond= 1.902 DO_2= 1.17
T°C= 14.89 ORP= +60.7 turb= 30.5 NTU
Ferrous Iron (10% Dilution) = 0.51 x 10 = 5.1 mg/l
NOTE: GW Parameters Units:
Specific Conductivity = mS/cm
DO_2 = mg/l
T= °C
Redox Potential (ORP) = mV
Turbidity = NTU
1240- Decomming pumps as before
All purge + decon water going into 55 gal drums.
1255- Ed will be taking coolers w/ samples to Fedex (Edison)
AB# 8764 5236 7139

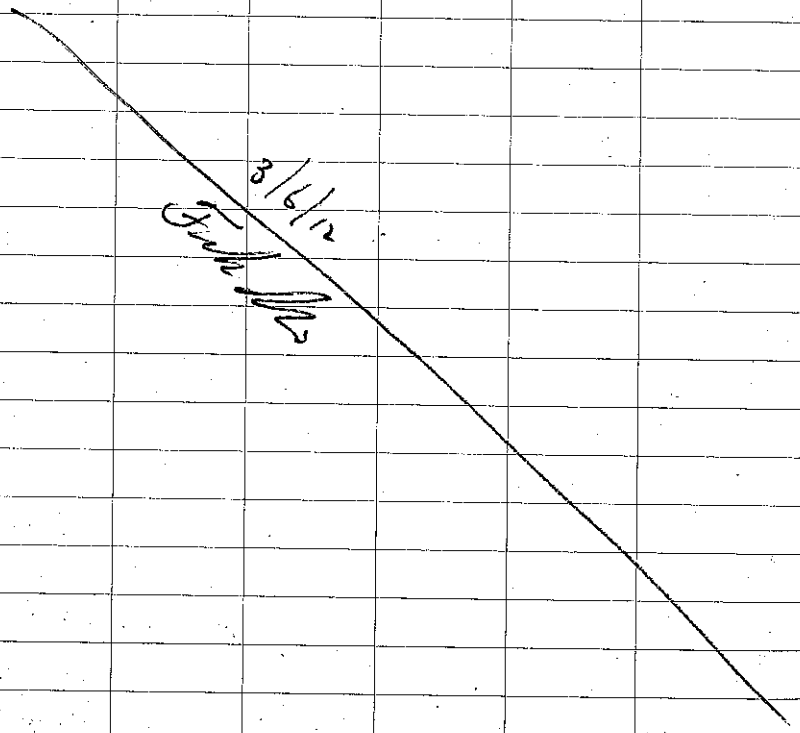
FR 3/6/12

Location SI, NY Date Tues 3/6/12

Project / Client Paul Miller / NYSDEC

1330 - Leaving the site : Ed's bringing the Sample cooler to Fedex in Edison and getting supplies in the Warehouse.

1830. Finished making up labels and making up bottle set. Took longer than should have due to problem with labels paper backing hard to seperate off the adhesive.



Location SI, NY Date Wed 3/7/12

Project / Client Paul Miller / NYSDEC

MW-15D / MW-13S/D

0630 - F. Robinson on site
Clear 37°
0645 - E. Kulkusky on site
0740. Finished calibrating successfully 3 YSI water quality instruments and 2 Lamotte 2020 turbidity meters. See cal sheets for details
0745 - Setting up at MW-15D and MW-13 S/D.
0855 - Sampled MW-15D
" 80230. MW15D-030712"
Final GW Parameters:
pH= 7.14 Cond= 0.722 DO_2 = 2.06
T°C= 15.32 ORP= 155.2 turb= 90.3 NTU
Ferrous Iron= 0.13 mg/l
0910 - Sampled MW-13D
" 80230-MW13D-030712"
Final GW Parameters:
pH= 7.25 Cond= 0.790 DO_2 = 1.81
T°C= 15.94 ORP= 80.4 turb= 30 NTU
Ferrous Iron = 0.01 mg/l
0920 - Sampled MW-13S
" 80230-MW13S-030712"

3/7/12

10

Location SI, NY Date 3/2/12 (Wed)

Project / Client Paul Miller / NYSDEC

MW-3 / MW-85

0920 (Cont'd) Final GW Parameters for MW-135:
pH: 6.42 Cond: 1.430 DO_2: 2.17
T°C: 16.72 ORP: -37.5 Turb: 5 NTU
Ferrous Iron: 0.53 mg/l
0945 - Decon'g all 3 pumps as indicated on the 1st day.
1010 - Collected Field Blank of decon'd pump using lab supplied water & full suite of bottles "80230-FB-030712"
1030 - Setting up at MW-3 and MW-85
1140 - Sampled MW-85
" 80230-MW085-030712"
Final GW Parameters:
pH: 7.01 Cond: 0.564 DO_2: 4.77
T°C: 17.99 ORP: 157.3 Turb: 54.1 NTU
Ferrous Iron: 0.05 mg/l
1150 Sampled MW-3
" 80230-MW03-030712"
Final GW Parameters:
pH: 7.06 Cond: 1.408 DO_2: 0.55
T°C: 13.46 ORP: -125.2 Turb: 7 NTU
Ferrous Iron: 10% dilution = 2.56 × 10 / 25.6 mg/l

JM 3/3/12

11

Location SI, NY Date 3/7/12 (Wed)

Project / Client Paul Miller / NYSDEC

1230 - Finished Decon'g both Geotech pumps as described earlier.
1240 - Picking up cooler: Ed will take to Edison Fedex office
A/B # ~~876453~~ 5236 7128
AGW 8764 5236 7128
1245 - E.K. leaving the site for Edison Fedex and getting supplies @ the warehouse
1300 - Leaving the site
1445 - Received cooler from Fedex with IDW sample bottles
1620 - Labeled bottles and made up COC form.

3/2/12 Trip Blk

Location SI, NY Date Thurs 3/8/12

Project / Client Paul Miller / NYSDEC

MW-14S / MW-11S/D

0620. F. Robinson on site
Partly Cloudy 54° winds fm SW
0630. Ed K. on site
0730. Calibrated 3 YSI + 2 Lamotte turbidity instruments successfully. See Cal Sheets for details
0735 - Setting up at MW-14S and MW-11S + 11D.
0900 Sampled MW-14S
"80230-MW14S-030812"
Final GW Parameters:
pH = 6.62 Cond = 1.687 DO_2 = 2.71
T°C = 16.30 ORP = 19.8 Turb = 124 NTU
Ferrous Iron = 0.65 mg/l
0900 - Sampled MW-11D
"80230-MW11D-030812"
Final GW Parameters:
pH = 7.30 Cond = 0.796 DO_2 = 1.53
T°C = 15.75 ORP = 114.8 Turb = 188 NTU
Ferrous Iron = 0.67 mg/l
0925 - Sampled MW-11S
"80230-MW11S-030812"

[signature] 3/8/12

Location SI, NY Date Thurs 3/8/12

Project / Client Paul Miller / NYSDEC

MW-12S / IDW Sampling

0925 - MW-11S Final GW Parameters
pH = 6.19 Cond = 1.456 DO_2 = 0.84
T°C = 17.13 ORP = 83.5 Turb = 51 NTU
Ferrous Iron = 0.06 mg/l
1000 - Collected Field Blank of decon'd Grundfos sub. pump using lab supplied water. "80230-FB-030812"
1015 - Setting up at MW-12S
1110 - Sampled MW-12S + MW-112S (Duplicate Sample)
"80230-MW12S-030812"
"80230-MW112S-030812" (Dup)
Final GW Parameters:
pH = 6.78 Cond = 0.692 DO_2 = 1.81
T°C = 17.39 ORP = 85.4 Turb = 21.9 NTU
Ferrous Iron = 0.22
1100 - Sampled IDW-Soil
"80230-IDW-Soil"
For PCB's, RCI VOC and Full TCLP
1150 - Sampled Final IDW-Purge water
"80230-IDW-AQ"
SVOC, Pest. Herb. PCB's, RCI, metals and VOC's and for TR.

JR 9/4/12

14

Location SI, NY Date Thurs 3/8/12

Project / Client Paul Miller / NYSDEC

Surveyor.

1130 - Terry McKivin (Bryant Assoc.) Surveyor.
1215 - Ed K. leaving the site to drop off both coolers @ Fedex in Edison and also bring equipment back to Pine.
1240 - Seth Kellogg (Con) leaving the site
1330 - Surveyor cannot get his instrument to work, wanted to use GPS but Seth said No.
1335 - Seth told me to help him out shooting each well
1430 - Finished getting elevation of MW's 1, 2, 3 + 4 and other site control point. Also did elevation of MW-16S to check with elevations (16S done previously) Kevin w/ GPS locating of MW's.
1445 - Leaving the site

3/8/12

15

Location SI, NY Date Thurs 3/8/12

Project / Client Paul Miller / NYSDEC

NOTES

- Purging and Sampling of the MW's were done with a 2" Grundfos Sub. pump using 3/8" ID tubing lined w/ Teflon.
- Pumps were decanned by running them through an alconox / potable water for 5 min, then a potable water rinse for 5 min and finally reagent grade water for 5 minutes.
- The sampling suite for all MW's were: VOC's, Dissolved Gases, TOC, Nitrogen (ammonia + organic) Hardness, total sulfides and TSS, TDS, Alkanarity, and ion Chrom. (low).
- Ferrous Iron was determined by a Hach colorimeter DR/890 using Ferrous Iron AccuVAC Ampuls.
- Water Quality Instrument were a YSI 600 XL with a flow cell and La motte 2020e turbidity meters.
- IDW Sampling:
  Soil sample was collected using a disposable trowel and placing soil into a disposable aluminum pan to make a composite sample

Tech 3/8/12

Location SI, NY Date Thurs 3/8/12

Project / Client Rod Miller / NYSDEC

NOTES

IDW Sampling

Water Sampling (Aqueous) was done by using a disposable bailer to sample each drum and combining them to make a composite sample in an empty 1 liter lab grade reagent water container.

* GW Parameters Units:

pH = SU Specific Conductivity = mS/cm

Dissolved Oxygen = mg/l T = °C

Redox Potential (ORP) = mV

Turbidity = NTU

3/8/12

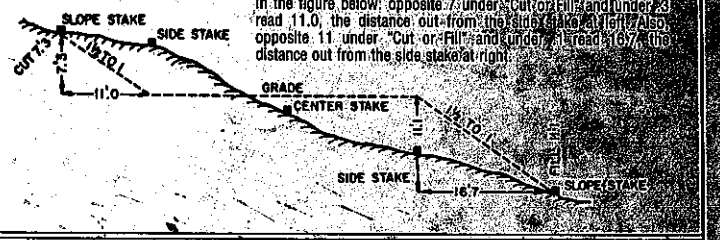
Location Date

Project / Client

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1½ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .7 read 16.7, the distance out from the side stake at right.



Cut or Fill	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

NYSDEC STANDBY

Paul Muller Drycleaners
1465 Forest Ave Port Richmond
Site# 2-43-018 Staten Island NY

CDM Project Mgr: Dave Kuel
516-496-8400

ChemTech Ari 908 789 8900 x 108

Boston Market (Maria, Tom, Sherry)
718 815 1198

Pine Environmental
800 301 9663 (Donna)
PO# 0897-63417

Delta Well
631 981 2255

CONTENTS

PAGE NO.	REFERENCE	DATE

R & Chemf 9/4/15

0600 R&C arrives on site. 72° Hazy
0610 Delta arriving- Bill, Bill, Brian
Deltas plan today is to install
flush-mount manholes at 18
wells and patch abandoned borehole
No development planned for today
0700 Sawcutting patch and manhole area
in front of Boston Market with
One man lift. Bill Br
Bill & Brian removing for patching
manholes
Cutting Cut patch/manhole on side
of Boston Market - move to
Michael's parking lot locations.
0855 Finished cuts at Michael's KFC
Bailers head to hydrant to fill water tank.
0925 D Gore arrives / AC leaves
1015 DRILLERS POUR CEMENT
AROUND WELLS
1025 DRILLER BEGIN PROPPING
WELLS for MANHOLE
PLACEMENT AND CONCRETE WORK.
WELLS ARE LOCATED ON SIDE
OF BOSTON MARKET NEXT TO
KFC DRIVEWAY. 3 WELLS

D Gore

2" P. MILLER WELL INSTALL
9/14/08 D. GROVE

1115 FINISH WORK ON 5 WELLS IN BETWEEN BOSTON MARKET AND KFC. 2 HOLES PATCHED W/ HOT PATCH. ONE WELL W/ CEMENT.

1120 DRILLERS BEGIN BREAK DOWN OF EQUIPMENT THAT HAS TO GO BACK TO SHOP. DRUM DELIVERY HAS BEEN SCHEDULED FOR LATER TODAY FOR 15 DRUMS.

1230 DRUM SHIPMENT ARRIVES ATSITE. TOTAL 15 DRUMS

1250 WELLS SECURED. SITE CLEANED AND DEMOBED LEAVE SITE W/ DRILLERS

DJ Avery

4/15/08 RA Check

0800 Arrive at site, Clear 74°
Dr. Hs drilling crew present. Fill, Return Manholes completed yesterday include wells in KFC lot and well on Boston Market lot next to KFC, plus the holes abandoned at this location. Core material still in bucket.
0820 Crew at PB7 location (11B location)
0830 Work on one well and abandoned hole in front of KFC (16S location)
0940 Finished w/ 16S - asphalt same as asphalt to 11B location
0950 Move to McDonald's parking lot
1100 Finished 4 manholes on Mc. Donald's property. Dump of grout / asphalt aggregate at wells in McDonald's lot to allow concrete to set.
Orange plastic Road Pillow set on well in front of Boston Market. Reason will call this Mon. RC to have it to look for pipe to wrap around dump at McDonald's.
1145 Wrapped orange tape around drums at McDonald's + Leave site

RA C 4/15/08

0600 SBritch arrive on site. Delta already on site.
Weather: ~70°F, Slight breeze.
PPE: Level D.
0618 Begin developing MW9D
Depth to bottom from inner case: 69'. DTW: 32.5'. Using a Grumfus pump + plastic tubing
0630 Starting to pump into a 55 gal drum.
0635 Stop pumping b/c NO material
0637 tested pump in a 5 gal bucket of water. No flow, pump appears to be jammed. Switching pumps
0641 testing pump #2 Grumfus in 5gal bucket of water
0642 pump #2 no flow, switch to #3.
0645 testing pump #3 in 5 gal bucket of water + works
0653 Start pumping MW9D w/ Grumfus pump #3, plastic tubing powered by bobcat battery.

SJB 09/08/2008

0657 Depth to water = 32.5' is incorrect. DTW = 8'. Water has Slight Sheen
0820 DTW pumped 9.1'. Cristina called + said we have NO access for wells MW9D, 9S, 10D, 10S so can't develop until State gets access agreement.
~ 85 gals / 90 min = ~ 1 gal / min
0838 Begin developing MW13D. DTW = 12', DTBottom = 69.6'
0900 Starting to pump MW13D w/ Grumfus pump
1055 DTW = 12.1' Finished pump. ~110 gal / ~120 min = ~1 gal / min
1059 Begin developing MW13S DTW = 12.0'
1105 Starting to pump MW13S w/ Grumfus pump + plastic tube
1116 Lunch break while MW13S recovers b/c it isn't yielding water (may be due to material screen is in)
1146 lunch over. DTW = 20'. let recover a little more.

SJB 09/08/2008

1200 DTW = 18'. Still recovering
1216 DTW = 16.5 start pumping again
1221 Lost yield (pumped ~2gal) let recover 19
1301 DTW = ~~20~~ 18. Begin pumping for true true today. Let recover overnight & Continue tomorrow)
1305 finished pumping MW13S lost yield after ~2gal. Will let recover overnight. Cleaning & Securing site
1330 SB + Delta off site

SJB
09/08/2008

0559 SB on site. Weather: ~70°F, breezy. Level PPE: D
0615 Delta on site
0619 Begin developing MW15D DTW = 10.5', DTB = 69.5'
0625 Starting to pump MW15D w/ Grumfus pump + plastic tubing into drum
0628 Surging MW13S to clean out well so can pump
0640 finished surging MW13S for now
0725 Surging MW16S
0737 finished surging MW16S
0758 finished pumping MW15D ~110gal / ~90min = ~1.2gal/min DTW = 10.7'
0810 Begin developing MW16S DTW = 13.7'
0813 Starting pumping MW16S with Grumfus pump + plastic tubing
0825 No more yield from MW16S let recover for a while. yielded about 6gal

SJB 09/09/2008

09/09/2008

0857 taking waste sample D004437 23-WC-W-080909-01 from drums 34-36 (wells 13D + 13S) (3 1L Amber jars - BNA, Pest, Herb TCLP, 1 1L plastic - corrosivity, 1 500mL plastic metals, 3 40mL vials - VOC)

0900 taking waste sample D004437 23-WC-W-080909-02 from drums 37-39 (wells 15D + 16S) (3 1L Amber jars BNA, Pest, Herb TCLP, 1 1L plastic - corrosivity, 1 500mL plastic metals, 2 40mL vials VOC)

0937 Starting pumping MW16S

0946 no more yield, let recover

1028 Starting pumping MW16S DTW = 18'

1046 Start pumping MW13S

1050 Chemtech on site to pick up samples (1 cooler) ~~WC-080909-01 + 02 SB~~ D004437 23-WC-W-080909-01 + 02

1052 Chemtech (Lawrence) off site

1120 pumping done, cleaning + securing site

SJB 09/09/2008

1110 talked w/ Maria from Boston Market + told her that we are done + we will get drums off property w/in the next few wks

1130 lunch break

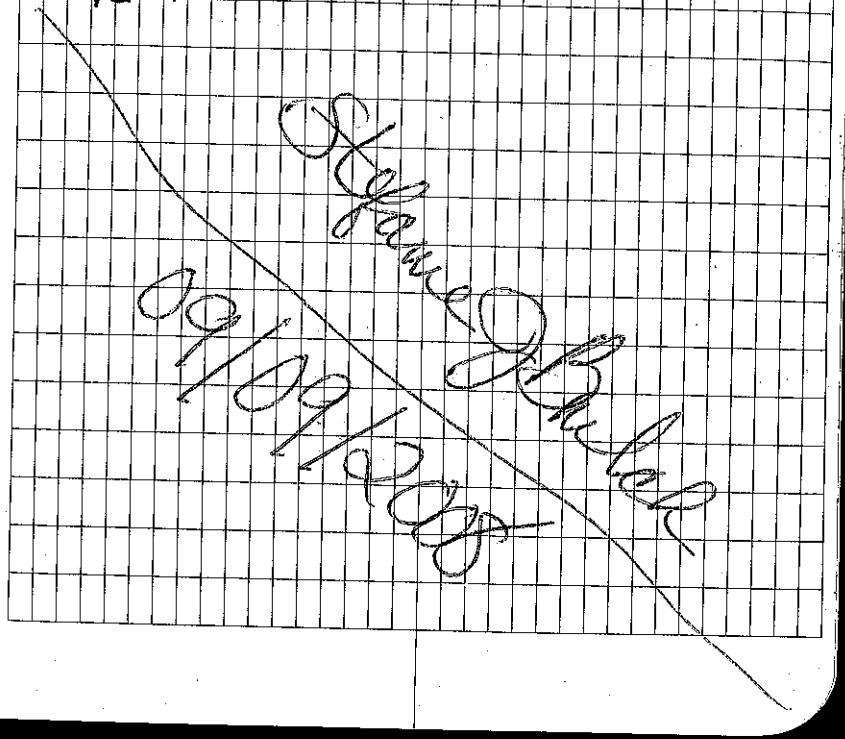
1200 lunch over, packing up

1230 site cleared + secured. Delta + SB offsite

40 Drums used

6 Drums left on site empty

46 total



09/29/2008

0745 Stef Britch arrived on Site Pat Connelly already here. Weather ~65°F, slight breeze, clear Sunny. Level PPE: D Modified: nitrile gloves, boots,

0805 DTW TOC = 5.32' MW9S

0818 Begun developing MW9S w/ whale pump

0822 Pat left site, stopped developing

0827 calibrated Hach 2100P Turbidimeter w/ 0.1, 20, 100, 800.

0.1 Reading = 20.0
20 " = 100.0
100 " = 800.0
800 " = 000.0
800 test = 806 Ntu
20 test = 19.6 Ntu

0845 Pat back on site

0850 Begin pumping MW9S

0900 Turbidity reading = E 3 (too high) initially put pump to bottom + pulled up 5 feet now w/ at top of pump before water source (intake)

SJB 09/29/2008

0913 turbidity = E 3. Lost flow so lower pump 2'

0921 DTW 24.30' Turbidity = 1000 ntu

0930 Turb = 672 ntu dtw = 27.60'

0940 Turb = 536 dtw 29.11

0950 Turb = 662 dtw = 29.96

1000 Turb = 974 dtw 29.61

1010 Turb = 540 ~~dtw = bottom top of pump. Top of pump~~ dtw = 30.23'

1020 = Turb = 640 dtw = top of pump

1030 turb = 998

1040 turb = 1000 dtw top of pump

1050 Flow stopped, purged developing. Volume purged = 37gal ~~241.5 ft (34.5) = 28053 gal~~

11:23 ~~1058~~ MW10S dtw = 8.50' dtb = 29.98

1135 dtw 7.77' begun developing MW10S

1140 loss of flow dtw = 24' top of pump = 26'. pump + tube became disconnected. Resumed pumping at 1145. water extremely turbid.

SJB 09/29/2008

1148 loss flow. dtw = 27.75
1151 pump is having difficulty maintaining flow. Pulling pump to clear out
1155 w/l = 25.8 after pump cleared out. Begin pumping again
1158 loss of flow. top of pump. 25.95'
** All meas. is top of casing **
1202 pump removed in order to surge MW10S
1215 attempted to surge MW10S for about 15 min's but no water coming out. Water is in the well though
1220 cleared out surge block b/c clogged w/ mud. attempted to surge again.
1223 clogged w/ mud cleared out dtw = 26.09'. dtb = 30.60'
total volume purged = 3.4 gal
1303 MW10D dtw = 6.36'
Dtb = 69.48'
1345 began developing MW10D

SJB 09/29/2008

1355 Turbid = 164 dtw = 9.40
1405 Turbid = 29.3 dtw 9.40
1415 Turbid = 12.9 dtw = 9.40
1425 Turbid = 6.86 dtw = 9.40
1435 Turbid = 5.31 dtw = 9.40
1445 Turbid = 4.62 dtw = 9.40.
finished developing MW10D.
Total Volume purged = 25.2
1506 Developing MW10S again.
dtw = 16.5'
1510 Began developing/pumping
1515 loss of flow water at top of pump at 26.8 ft. finished developing MW10S
1615 took waste sample, D0044372B-WC-W-080929 (3-1L amber TCLP Pest, herb, BNA, 1-1L plastic RCRA Char, 1-500mL Metals, 2 40mL Vials TCLP VOC)
48 drums total, 3 empty on site.
1700 Pat + Stef leave site

SJB
09/29/2008

G.W. SAMPLING 14

10/13/8 D.GROVE

0700 ARRIVE AT SITE W V. EUGENE of COM.

WEATHER: P. CLOUDY 50-60°

WIND: WEST/S.WEST 0-10 MPH

CREW: D. GROVE COM ENG.

V. EUGENE " "

PPE: 3. T. BOOTS, 3. VESTS, 3. GLASSES GLOVES

EQUIPMENT

PID	02601	COM
G.W. PROBE	11271	PINE
W.L. METER	31133	COM
W.L. METER	02496	COM
HORIBA U22	05224	PINE
HORIBA U22	10129	PINE

0710 BEGIN ROUND AT MW'S

WELL	PID	D.T.P.	D.T.W	COMMENTS
9S	6.0	—	11.81	
9M	0.0	—	10.21	
10S	0.0	—	8.84	
10D	0.0	—	9.60	
8S	1.2	—	11.60	
16S	9.5	—	13.17	
MW-1	0.0	—	11.98	
MW-14S	303	—	12.94	
MW-4	0.0	—	8.03	

D. Grove

G.W. SAMPLING 15

10/13/8 D.GROVE

	PID	D.T.P	D.T.W
16D	1.3		10.95
12S	0.0		10.38
11D	0.0		9.52
11S	4.3		9.90
13D	0.0		12.51
13S	3.2		12.58

CANNOT FIND MW3 or MW2

10-3S CANNOT OPEN

10-3D CANNOT OPEN

10-5 OPENED BUT BLOCKED 3' DOWN 0.0 PPM

10-2 CANNOT OPEN

10-4D CANNOT FIND

10-4S CANNOT FIND

10-1 CANNOT OPEN

0800 BEGIN PURGE AT MW-9S

* SEE FIELD PARAMETER SHEET FOR ALL FIELD READS.

D.T.W = 11.81 D.T.B = 33.75

DIA = 2" LOW FLOW PURGE 2" SUB. PUMP.

1013 END PURGE AT MW-9S

TOTAL PURGE = 1½ GAL D.T.W. = 11.84

1015 COLLECT SAMPLE OFF PUMP HOSE FOR VOC'S AND SVOCS (VOC 8260B +10, SVOC 8270C +20)

D. Grove

G.W. SAMP. 16

10/12/8 D. Grove

D.T.W. = 11.84

ALL VOC AND SVOC SAMPLES WILL USE MENTIONED LAB METHODS.

0845 BEGIN PURGE AT MW-9D

D.T.W. = 10.21 D.T.B. = 69.0

DIA = 2" LOW FLOW PURGE

PUMP = 2" SUB.

0958 END PURGE AT MW-9D

TOTAL PURGE = 15.4 GAL D.T.W. = 10.21

1000 COLLECT SAMPLE FROM MW-9D THROUGH PUMP HOSE FOR VOC'S AND SVOC'S. DTW = 10.21

1100 BEGIN PURGE AT MW-10D

D.T.W. = 9.63 D.T.B. = 69.0

DIA = 2" LOW FLOW PURGE

PUMP = 2" SUB

1143 END PURGE AT MW-10D

TOTAL PURGE = 9.0 GAL DTW = 9.63

1145 COLLECT SAMPLE FROM MW-10D THROUGH PUMP HOSE FOR VOC'S AND SVOC'S. COLLECT DUP SAMPLE CALLED MW-10X FOR VOC'S AND SVOC'S AT 1150

1110 BEGIN PURGE AT MW-10S

D.T.W. = 8.84 D.T.B. = 35.25

D. Grove

G.W. SAMP 17

10/12/8 D. Grove

DIA. = 2" LOW FLOW PURGE

PUMP = 2" SUB.

1237 END PURGE AT MW-10S

TOTAL PURGE = 13.5 GAL. D.T.W. = 28.12

1240 COLLECT SAMPLE FROM MW-10S THROUGH PUMP HOSE FOR VOC'S AND SVOC'S. D.T.W. = 28.12

1345 BEGIN PURGE AT MW-4

D.T.W. = 8.03 D.T.B = 12.50

DIA. = 2" LOW FLOW PURGE

PUMP = PERISTALTIC

1405 WELL IS DRY. WILL CHECK ON RECHARGE IN 1 HOUR.

1525 AS PER C. RAMACCIOTTI WITH RARITAN ONSITE, COLLECT ANOTHER 1 LITER AMBER FOR SVOC'S FROM MW-9D (MW-9DB) AND MW-9D (MW-9DB) AT 1325 AND 1330. CHANGE TOTAL NUMBER OF SAMPLE BOTTLES COLLECTED FROM 2 VOA'S AND 1 1000 ML AMBER (AS PER LAB) TO 2 VOA'S AND 2 1000 ML AMBERS.

1437 BEGIN PURGE AT MW-8S

D.T.W. = 11.60 D.T.B. = 35.25

D. Grove

G.W. SAMP 18

10/13/8 D. GROVE

DIA. = 2" LOW FLOW PURGE

PUMP = 2" SUB.

1544 END PURGE AT MW-8S

TOTAL PURGE = 15.5 GAL D.T.W. = 17.21

1545 COLLECT TEL/TAL+30

SAMPLE FROM PUMP HOSE

VOC's, SVOC's, PCB'S, PESTICIDES, METALS AND CYANIDE.

COLLECT MS/MSD SAMPLE FOR VOC's (6 NOMINAL VIALS)

AND SVOC (4 1000 ML AMBERS)

CHECK MW-4 AGAIN. NO WATER IN WELL. WILL SAMPLE TOMORROW 1ST THING IN MORNING.

PACK SAMPLES, DEMOB, DECON EQUIPMENT.

1610 COLLECT F.B. - FB081013 FOR VOC's AND SVOC's.

1645 LEAVE SITE FOR EDISON W.H.

D. Lupo

G. W. SAMP. 19

10/14/08 D. GROVE

0715 ARRIVE AT SITE.

BEGIN SET UP AT MW-16S

WEATHER: SUNNY 60-75°

EQUIPMENT, FIELD CREW, PPE

SAME AS 10/13

0730 V. EUGENE ARRIVES AT SITE.

CHECK AND W.H. METERS AND O/W PROBE ON 16S

O/W PROBE 13.13

W.H. 31133 13.13

W.H. 02496 13.13

CAL SOLUTIONS FOR CAL CHECKS DONE ON 10/13, 14/08

100 PPM ISOBY

LOT # EXP DATE

H&A IBA 804

LOT # 6445 7/24/9

BEGIN PURGE AT MW-16S

D.T.W. = D.T.B. =

DIA = 2" LOW FLOW PURGE

PUMP = 2" SUB

END PURGE AT MW-16S

TOTAL PURGE = D.T.W.

0900 COLLECT SAMPLE FROM

D. Lupo

G.W. SAMP. 20

10/14/8 D. Grove

MW-135 through pump tubing for VOC's AND SVOC's D.T.W. =

BEGIN PURGE AT MW-1

NO FIELD READS TAKEN, WATER HAS SHEEN, VERY TURBID

WELL DRY, WILL CHECK ON W.L. AND SAMPLE WHEN WELL RECHARGES. USED PERISTALTIC PUMP. TOTAL PURGE =

0945 BEGIN PURGE ON MW-135

D.T.W. = 12.71 D.T.B. = 35.0

DIA. = 2" LOW FLOW PURGE PUMP = 2" SUB.

1039 END PURGE AT MW-135

TOTAL PURGE = 11.3 GAL D.T.W. = 1284

1040 COLLECT SAMPLE FROM MW-135 THROUGH PUMP TUBING FOR VOC's AND SVOC's. D.T.W. = 12.84

* MW135 COLLECT FULL TCLP SAMP. W/ PESTICIDES, PCB's, METALS CYANIDE

0955 BEGIN PURGE AT MW-130

D.T.W. = 12.6 D.T.B. = 68.5

DIA. = 2" LOW FLOW PURGE PUMP = 2" SUB.

1050 END PURGE AT MW-130

D. Grove

G.W. SAMP 21

10/14/8 D. Grove

TOTAL PURGE = 9.5 GAL D.T.W. = 12.90

1100 COLLECT SAMPLE FROM MW-130 THROUGH PUMP TUBING FOR VOC's AND SVOC's. D.T.W. = 12.90

1135 BEGIN PURGE AT MW-113

D.T.W. = 10.34 D.T.D = 35.27

DIA. = 2" LOW FLOW PURGE PUMP = 2" SUB

1303 END PURGE AT MW-113

TOTAL PURGE = 18.5 GAL D.T.W. = 11.96

1305 COLLECT SAMPLE FROM MW-113 THROUGH PUMP TUBE FOR VOC's AND SVOC's.

D.T.W. = 11.96

1145 BEGIN PURGE AT MW-110

D.T.W. = 10.23 D.T.B. = 64.37

DIA. = 2" LOW FLOW PURGE PUMP = 2" SUB.

1308 END PURGE AT MW-110

TOTAL PURGE = 10.5 GAL. D.T.W. = 10.40

1310 COLLECT SAMPLE FROM MW-110 THROUGH PUMP TUBE FOR FULL TCLP SAMPLE (VOC, SVOC, PESTICIDES, PCB's, METALS, CYANIDE) D.T.W. = 10.40

D. Grove

G. W. SAMP
10/14/8 D. Grove

SECURE SITE, DEMOB, DECON EQUIPMENT.

1415 LEAVE SITE AND RETURN TO EDISON W.H. TO PACK, PACK SAMPLES FROM 10/13 AND 10/14 FOR PICK-UP BY LAB.

COC # 075759
075760

1600 FIELD BLANK COLLECTED FOR VOC'S AND SVOC'S

D. Grove

G.W. SAMP.
10/15/8 D. Grove

0730 ARRIVE ON SITE W/ V. EUGENE OF COM.
BEGIN SET-UP ON MW-12S
0818 BEGIN PURGE AT MW-12S
D.T.W. = 10.51 D.T.B. = 35.3
PRODUCT DETECTED AT 16.21'
DIA. = 2" LOW FLOW PURGE PUMP = 2" SUB
0915 END PURGE AT MW-12S
TOTAL PURGE = 8.5 GAL D.T.W. = 10.83
0920 COLLECT SAMPLE FROM MW-12S THROUGH PUMP TUBING FOR VOC'S AND SVOC'S, DTW. = 10.83
1010 BEGIN PURGE AT MW-15D
D.T.W. = 11.0 D.T.B. = 70.0
DIA. = 2" LOW FLOW PURGE PUMP = 2" SUB.
1055 END PURGE AT MW-15D
TOTAL PURGE = 7.0 GAL. D.T.W. = 11.03
1100 COLLECT SAMPLE FROM MW-15D THROUGH PUMP TUBING FOR VOC'S AND SVOC'S. COLLECT DUP SAMPLE (MW-15X (1105) FOR VOC'S AND SVOC. D.T.W. = 11.03
1115 COLLECT FIELD BLANK

D. Grove

G.W. SAMP.
10/28/8 N. Grove
CFB081015) for VOC's AND
SVOC's.
0905 BEGIN PURGE ON MW-145
D.T.W. = 12.94 D.T.B. = 32.5
DIA. = 2" LOW FLOW PUMP
PUMP = 2" SUB
1030 WELL DRY, PUMP NOT
RUNNING RIGHT DUE TO
VERY TURBID WATER (SLUDGE)
WILL ATTEMPT SAMPLE AT
11:30
11:30 MW-145 VERY MUDDY
& CONTAINED WATER VERY TURBID.
COULD NOT SAMPLE W/ PUMP.
PREP SAMPLE FOR PICK-UP
FROM W.H. COC# 073759.
SECURE SITE, SECURE DRUMS,
DEMOB/DECON EQUIPMENT.
1315 LEAVE SITE

D. Knop

12/11/2008

0900 CDM(SB) arrived on site. Weather: ~37°F, raining
0930 entered Northfield Bank & met w/ Jennifer. Went to basement to set up for the DOH Survey. They have hot air duct work & central air. The boiler is in the basement. The bathroom & kitchen are located there too. Will most likely do basement SubSlab in closet. Jennifer said we are allowed to set up ambient air sample on main level behind tellers.
1000 left bank.
1030 Surveyed where to put outdoor air sample at bank. Could possibly attach it to light posts, drive through fence that separates Boston Market & Bank.
1101 entering KFC for environ. walk through. Manager not available. Will return later.

SJB 12/11/2008

12/11/2008 26

1230 entered Boston Market & met w/ Sherry. Walk through & did survey. Have exhausts that vent to roof. All systems are on roof. Use cleaning supplies regularly. Basement was locked & couldn't find key so will have to finish survey on tuesday. Also not sure about drilling at dining room will call on monday to find out. Will put outdoor sample in garbage ~~dup~~ SB 12/10/08 shed.

1300 left Boston market

1305 entered KFC. Walked through dining room & kitchen. wasn't able to speak w/ anyone so will return tomorrow morning.

1315 left KFC.

1330 leave site

Stefanie J Britel

12/11/2008

12/12/2008 27

0930 arrive on site - CDM (SB)

Weather: ~40°F, breezy, cloudy.

On site to finish DOH survey w/ KFC & to straighten things out w/ Boston Market.

1000 entered KFC & met w/ Nadine. Walked around again. All systems on roof. Use cleaning products regularly. Have exhausts in kitchen & bathroom. Wants us to put port in kitchen, can't because of cleaning supplies. Will do it in service area most likely.

1050 left KFC.

1100 leave site.

Stefanie J Britel

12/12/2008

0830 MK + SB (COM) arrive on site. Weather: ~39°F, Slight breeze, Rain. level ppe: Steel toe boots.

0930 arrive at Northfield Bank + Met w/ Jen.

0945 MK calibrate pid at 105 while SB duct tapes meter using Cable locator. Found spot in closet. pid = 0.0 ppm

1009 Setting up tracer test. Seal OK - pid = 1.9 ppm.

1018 MK puts tubing down hole + connects canister. while SB records sample id, start time + initial pressure (243018-SB01, 243018-IA01) + canister # + regulator #. + initial pid reading + location

Loc.	Sample Id	pid	St time	Init. P.
Bank Base.	243018-SB01	1.9 ppm	1026	-28
"	243018-IA01	"	1026	-28

Samp Id	can #	reg #
SB01	10299	10517
IA01	10268	10481

SJB 12/16/2008

all also recorded on table 2- Sample Location Information Summary.

~~Tim's~~ SB 12/16/08

1025 furnished in basement. MK sets up indoor air canister on first floor by tellers. SB records info which is also recorded on Table 2

Loc.	Sample Id	PID	St time	Init. P.
Bank manifold	243018-FF01	—	1029	-27

Sample Id	Can #	Reg #
FF01	10003	10240

1035 MK + SB clean up + Set up ambient air Sample (outside) at the back entrance of the bank.

Location	Sample Id	St time	Init P
Bank outside	243018-AA01	1042	-29

Samp Id	Can #	Reg #
AA01	10206	10246

(also recorded on Table 2)

1045 SB + MK leave bank

1055 SB + MK arrive at KFC

SJB 12/16/2008

1100 MK begins drilling hole for Subslab air sample by the garbage bin inside at the Forest Ave entrance.
1110 MK is unable to drill through slab so call Cristina Ramacciotti + She suggests to send someone from office to help. Waiting for Joe Yenchak to arrive.
1237 Joe Yenchak on site. Also Andrew from PW Grosser who is representing the property owner also arrives on site to oversee work.
1240 Drilling by JY begins.
1302 Setting up for tracer test. Seal passed.
1310 take pid reading. Reading= 0.2ppm ~~1311 (SB121608)~~ (SB121608)
1312 Setting up ~~air (SB+MK).~~ Canisters for air sampling (SB+MK). Recording info. Info also on Table 2. Indoor air + Subslab.

SJB 12/16/2008

Location	Sample Id	pid	St time	Init P
KFC	243018-SB02	0.2	1325	-30
"	243018-IA02		1325	-30

Sample Id	Can #	Reg #
SB02	10323	10486
IA02	10605	10700

1327 clean up + leave KFC
1330 arrive at Boston Market. Talk w/ Sherry + Tom (managers) + get access to basement.
1350 begin drilling (JY) for Sub Slab sample.
1405 Set up for tracer test (MK) Seal passed.
1420 Setting up canisters for Subslab + indoor air Plus duplicates for both. Recording w.to. Info also recorded on Table 2.

Location	Sample Id	PID	St time	Init P.
Boston Market Basement	243018-IA03	—	1430	-30
"	243018-IA03D	—	1430	-30
"	243018-SB03	—	1430	-30
"	243018-SB03D	—	1430	-28

SJB 12/16/2008

Sample Id	Can #	Reg #
1A03	10269	10575
1A03D	10025	10181
SB03	10489	10254
SB03D	10258	10509

1437 Setting up outside ambient air sample Canister in garbage Shed by grease dumpster. Record info. Info also on table 2.

Location	Sample Id	St time	Int t	P
Boston Market Garbage Shed	243018-AA02	1440	30	

Sample Id	Can #	Reg #
AA02	10445	10214

1447 clean up equipment.
1453 enter Boston Market main floor.
1458 JY begins drilling for subslab sample by service area next to refrig/freezer.
1505 MK sets up for tracer test. Seal passed. PID reading taken. Reading = 166 ppm.
1512 Setting up ~~for~~ SB121608 Canisters for subslab + indoor air

SJB 12/16/2008

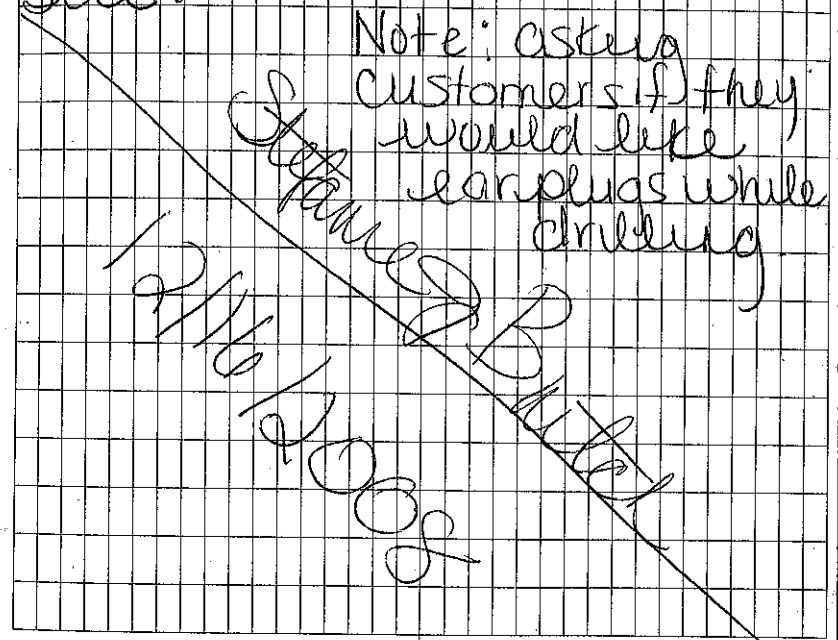
Sampling. Recording info. Info also recorded on Table 2

Location	Sample Id	PID	St time	Int t	P
Boston Market main floor	243018-SB04	166	1517	30	
"	243018-1A04	—	1516	30	

Sample ID	Can #	Reg #
SB04	10492	10476
1A04	10313	10551

1526 cleaning up site, taking pictures of AA01 + AA02
1615 SB, MK, JY + Andrew leave site.

Note: asked customers if they would like ear plugs while drilling



0930 Stefanie Britch (COM) on Site. Weather: ~38°F, light rain, Overcast. Level ppe: Steel toed boots.
0950 Mel Koberle on site. (COM)
1000 Enter bank.
1005 SB takes ~~Picks~~ SB121708 pictures of the air canisters for documentation. Also SB fusses DOH survey + takes pictures of products that could effect Sample.
1015 MK checking to see if canisters' pressure low enough.
1020 MK preparing to collect Samples. Recording info. Also recorded on Table 2.

Sample Id	Time Collect	Final Press.
243018-1A01	1026	-5
243018-FF01	1029	-5

Waiting until SB01 pressure go down a bit more.
1040 preparing to collect SB01

Sample Id	time Collect	Final P.	PID
243018-SB01	1045	-7.5	6.0

SJB 12/17/2008

1050 MK filling hole in slab w/ concrete to make like original before drilling.
1100 cleaning up inside bank. Also preparing to collect AA01.

Sample Id	Time Collect	Final P
243018-AA01	1108	0

Note: pid reading taken for sub slab in bank = 6.0 ppm.
1110 leave bank. Break in work b/c need to let canisters sit for 24 hrs. Waiting until that time.
1330 enter KFC. Prepare to collect canisters. Recording info. Recordings also on Table 2.

Sample Id	Time Collect	Final P	PID
243018-SB02	1338	-6	0.2
243018-1A02	1338	-6	

1343 MK patching up sub slab hole. Cleaning up equipment.
1355 leave KFC.
1420 enter Boston Market.

SJB 12/17/2008

12/17/2008

Preparing to collect samples from basement Recording info. Info also recorded on Table 2

Sample Id	Time Collect	Final P.
243018-SB03	1430	-6
243018-SB03D	1430	-2

pid reading = 4.4 ppm
waiting for pressure in IA03+ IA03D to go down. MK patching Sub Slab.
1445 Preparing to collect samples Recording info. Info recorded On Table 2 also.

Sample Id	Time Collect	Final P
243018-IA03	1448	-5
243018-IA03D	1448	-7
243018-AA02	1448	-6

1455 Cleaning up location, finishing DOH survey, taking pictures of canisters + products. move to Boston Market main floor.
1510 preparing to collect Samples Recording info. Info also recorded on Table 2

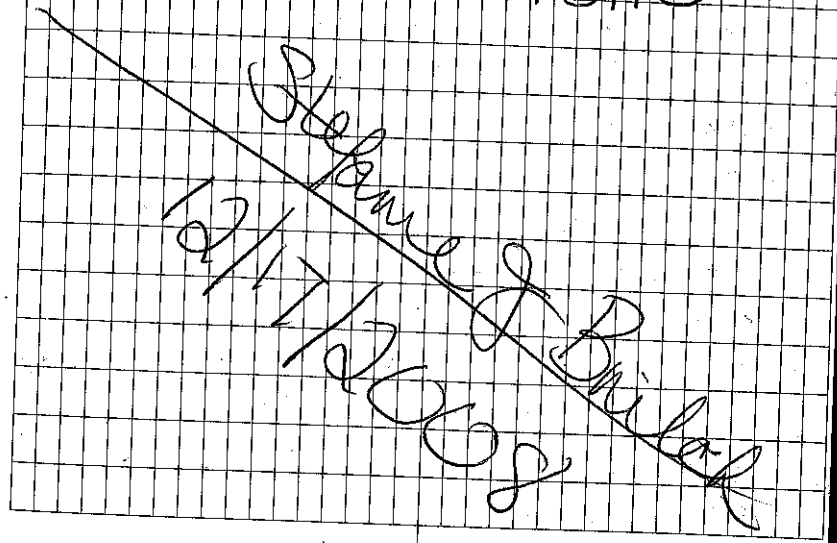
SJB 12/17/2008

Sample Id	Time Collect	Final P
243018-SB04	1517	-4

pid reading = 1276 ppm
waiting for IA04 pressure to go down. MK patching Sub Slab + SB finishing DOH survey.
1530 preparing to collect Sample Recording info. Recording also on Table 2

Sample Id	Time Collect	Final P
243018-IA04	1535	-8

1540 Cleaning up location.
IA02 SB + MK off site



3/9/16 D. Grove (38)

BLDG. AIR SAMPLING.

0830 ARRIVE AT SITE.

BEGIN EXTERIOR DATA SURVEY OF NORTHFIELD BANK BLDG.

WEATHER: P CLOUDY / WINDY

TEMP 40-45°

WIND: NORTH 5-15 MPH

GET 3406 DIMENSIONS, PICTURES (See PHOTO C.D.)

NOTE STORM DRAIN IN BACK (WEST SIDE OF BLDG.) AND LARGE OPEN FENCED IN STORM DRAIN ON SOUTH SIDE OF BLDG.

0910 BANK MANAGER LETS ME IN TO PERFORM INSIDE DATA SURVEY. TAKE PICS AND DIMENSIONS OF 1ST FLOOR. NOTE BATHROOM AND EXISTING SAMPLES. See NYDEC DATA SHEET.

0950 GO TO BASEMENT AND BEGIN DATA SURVEY. BASEMENT CONSISTS OF KITCHEN/EATING AREA, MULTIPLE STORAGE

3/9/16 D. Grove (39)

CLOSETS AND UTILITY ROOMS AND BATHROOM. TAKE DIMENSIONS AND PICS.

ONE LOCKED ROOM CONTAINS A OPEN PVC FLOOR PIPE (FROM DRAINAGE?) A MANWAY LADDER TO PARKING LOT ABOVE. ROOM CONTAINS WATER METER. NOTE AND SECURE SMALL AMOUNT OF CLEAN LAND SURFACE. NO OBVIOUS CRACKS OR OPENINGS IN FLOOR.

MAKE ARRANGEMENT WITH BANK BRANCH MGR. TO RETURN TOMORROW TO PLACE SAMPLE CANISTERS.

POST CONTACT SHEET WITH MGR AT DEC TO SEE IF I CAN GAIN ACCESS FOR DATA SURVEY. HE WAS NOT SURE BUT SAID HE WOULD HAVE HIS NAME ON FILE FOR ACCESS BUT DOES SOMETIMES NEEDS ANOTHER FOR REG. MGR. (ROY). CONTACT AND LEAVE MESSAGE W/ ROY

D. Grove

(40)

3/9/11 D. Group

CONTACT C. RAMACIOTTI of COM. SRC INSTRUCTS ME TO WAIT UNTIL 12:30 for RCRLY AND TITAN CRANE SVC. I CRANE SITE. I REACH ROY of KFC AND HE ACKNOWLEDGES ACCESS.

D. Group

(41)

P. MILLER TITAN RAMP.

3/10/11 D. Group

0900 ARRIVE AT SITE TO PLACE RAMAC CANNISTERS WEATHER: CLOUDY/WINDY 40-45° WIND SOUTH EAST 10-20 MPH. *HEAVY RAIN EXPECTED DURING SAMPLING.

CONTACT BRIAN MGR AND GAIN ACCESS TO BASEMENT TO PLACE RAMAC CANNISTERS

TYPE = 3M 3520 VOM

LOT # 0228-11 FOR

PCE

BASEMENT TEMP = 72° HUMID. = 65%

RAMP I.D = PMBANK1

24 HR GRAB NIOSH METHOD 311-9

ORIFICE 1025 S/N 439F

RAMP I.D = PMBANK DUP

24 HR GRAB NIOSH METHOD 311-9

ORIFICE 1025 S/N 41415

SEE PHOTO FOR PLACEMENT LOCATION PLACED OUTSIDE BIN RAMAC UNDER DRIVE THROUGH AREA of BANK APPROX 4' ABOVE GROUND.

D. Group

3/10/11 D. Grove

EXPAND I-75 PM AMBIAR

24 HR GRAB TO VISDOM MONROE 311-9

OPENED 1035 S/N 4411

INFORM BANK MGR. I WILL

RETURN ON 3/11 IN THE

MORNING TO PICK UP SAMPLES

1110 LEAVE SITE

3/11/11 D. Grove

0945 ARRIVE AT SITE TO

PICK UP AIR SAMPLE

WEATHER CLOUDY / WINDY 45-50°

WIND NORTHEAST 10-20 MPH

HEAVY RAIN (2-3") FELL DURING

THE NIGHT AND EARLY MORNING

HOURS

1005 START AND PACK UP Z

BASEMENT SAMPLES.

1035 SCAN AND PACK UP OUTDOOR

AIR SAMPLE. UNIT IS INCT.

1050 LEAVE SITE AND RETURN

TO EDISON W.H. WITH 1

PACK AND TWO SAMPLES

BACK TO LAB.

FEDEX # 8415 7614 72 5748

5/4/2011 (44)

8:00 Allen Eisberg Meets AGS Chriss Cull on site for Geophysical Survey. Chriss Said the Rain is too heavy for him to start work and the spray paint will wash off if he goes to mark out in these conditions.

8:10 Allen and Chriss go for a site walk to locate some of the locations that will need to be surveyed.

8:35 Dennis Grove Arrives, Rain Continues.

8:45 Call Cristina R. and Discuss the weather conditions. We have decided to do the work tomorrow when dry weather is forcasted.

8:50 Walk the site With Dennis, Meet with Store/Bank managers and let them know that we will be working in the Area.

9:30 Finish meeting store owners/managers All personell off site

5/4/2011

5/5/2011 (45)

Personell: A Eisberg CDM
C Cull AGS

Weather: 55 Sunny 5-15mph winds

Scope: Conduct Geophysical Survey of MIP Proposed and Proposed Contingency. Points 20 points total.

8:00 Arrive on site meet with Chriss Cull and go over the scope of the project for the day

8:15 Move to location behind KFC and start to survey area. Near MW33 (1453 Forest Ave)

Materials: Fisher TW6 Pipe + Cable locator
RF RD4000
GPR + 400 Mhz Antenna
Mscope metal Detector

8:50 Finish Location Behind KFC move to location Behind Boston Market off the corner of the concrete pad (Dumpster Area) 1465 Forest Ave

9:15 Discovered Burried concrete pad under Asphalt moved MIP location closer to the fence. Finished location Moved to MIP-7 Concrete pad approximately 6 inches thick and burried 6" to 1' under Asphalt.

5/6/2011

5/5/2011

9:35 Finish MIP-7 move to MIP6 and MIP5

9:40 Alan Goes around to the local Businesses and hands out cards Explains what will be going on over the next 2 weeks and invites people to contact him should they have any questions or concerns

10:00 Finish MIP5 move to MIP6. MIP-6 Relocated Due to Buried Gas line and other Buried utilities

10:15 Finish MIP6 move to North Field Bank Near the ATM (for Drive through use) And Further Back from this location (North) Near a dumpster there is a location in the Road we are simultaneously investigating

10:30 Upon Discussing the location of the Storm drain ~~Alan~~ we ~~Proceed~~ to Forest Ave ~~Perpendicular~~ parallel

Chris told me we will need to contact someone to find its location underground It may run under MIP 5,6,7 It may be 8ft deep and 12 ft wide

11:05 Finish location Behind North Field Bank west of the one done Previously Near a dumpster. Mark out the rest of the locations in Chalk

5/5/2011

11:47 Finish MIP2 and locations By Clothes and shoe drop bins (Behind KFC) move to MIP3

1:55 Finish MIP3 move to MIP4 and the location further out than MIP-1

2:05 Speak to a gentleman from The DEP about the culvert in front of the Northfield Bank. I was advised to go to there office to View plans for this area and left with an phone # and address. Called Cristina R. to inquire as to whether this has been done already or if I should look into it further. There was No answer I left a detailed message.

1:35 Finished all locations on Boston market side of the Road and all locations in the parking lots Behind Boston Market move across the Street to restaurant parking lot to Clear the location in the grass there.

1:48 Location in grass By abandoned Parking lot is cleared move across the street to SI Bank and Trust

2:00 Finish location outside SI Bank + Trust

2:10 Call Cristina about Culvert was asked to Relocate MIP5,6+7 further in from the street

2:40 Done For the day all personnel off Site

5/5/2011

5/9/11 (48)

Personell: A Eichberg, C Ramescioth, Rob Smith
Steve Vesilla

Weather: Sunny 60°

materials: Concrete saw, 55 gal drum for tailings
Hand Auger, Generator, Jackhammer

Scope: Clear MIP locations. (MIP)-7

9:00 Arrive onsite Zebra + Clothing are already here

9:15 Health and safety talk

9:25 Start work at MIP-6. and Calibrate the PID 98 ppm → 100 ppm

0-5" Asphalt Concrete

5"-12" Light Red-Brown fine Sand some Silt trace Gravel moist

24"-30" Light Red-Brown ~~fine Sand some Silt~~ fine-med-coarse Sand some Silt Little fine-med Gravel moist NE

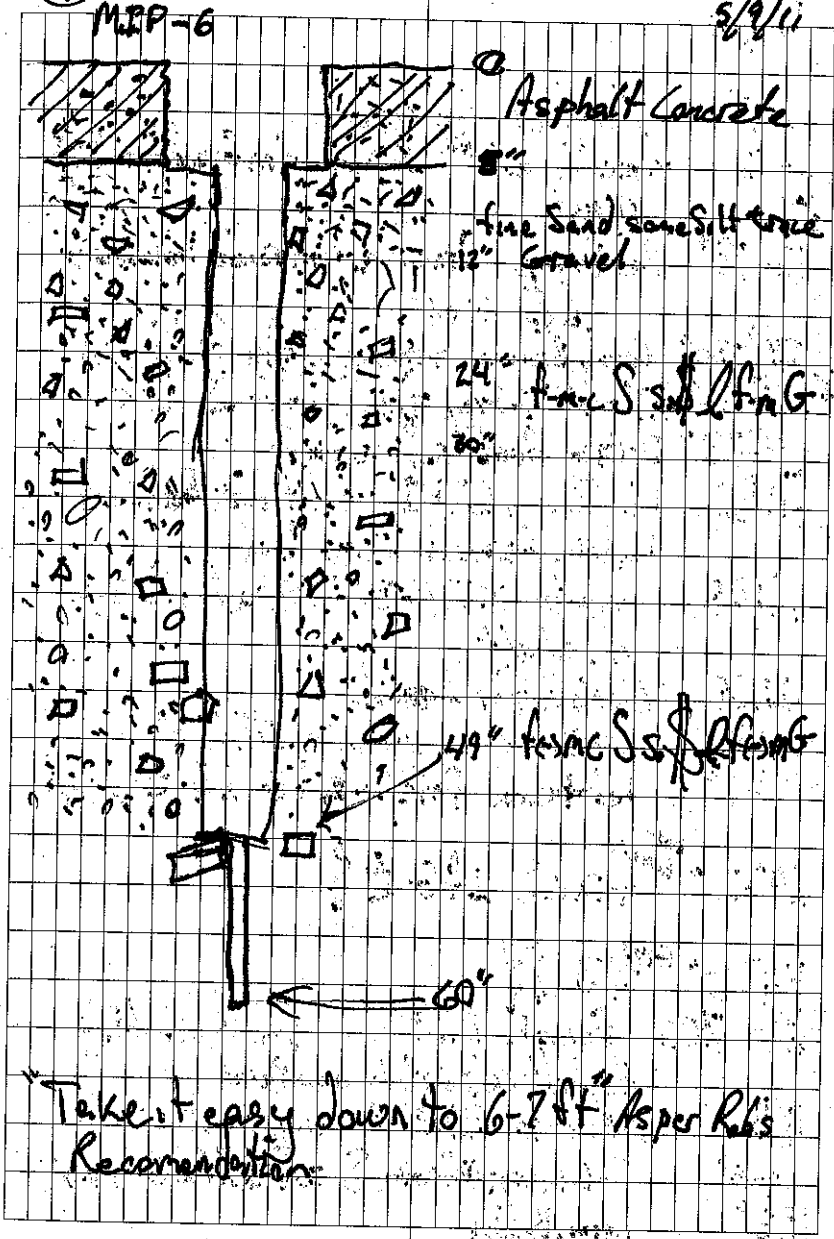
49" Light Red Brown fine-med-coarse Sand some Silt / little fine to med gravel

10:20 finish MIP-6 to 5 feet. Backfill with tailings fill top with cold patch and tamp down

10:30 move to MIP-1 start to clear location

(49) 5/9/11

MIP-6



Take it easy down to 6-7 ft" As per R&S Recomendation

5/9/11

(50)

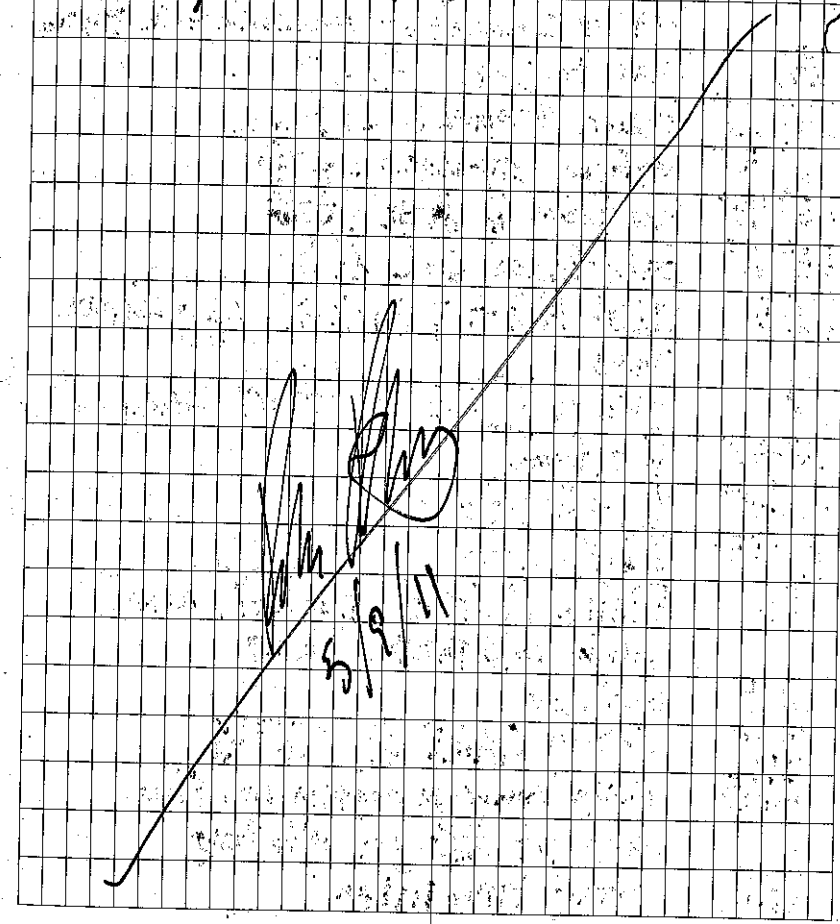
0-6" Asphalt Concrete
6-12 ~~fmc S and~~ ME Brown fmG and fmc St$
~~E~~ moist
12-18" Red Brown fmc Sa. fm rounded/subrounded G
l$ wet
24"-30" Grey Brown fmc S l fm G l$ wet
~~ME 24"-30"~~ 42"-45" pGrey fmc S l fG l$ wet
54"-58" D-Grey fmc S s.$ t fm G wet
11:52 Finish MIP-1 5 ft bgs Backfill hole
Patch Asphalt temp down
11:55 move to MIP-2 Break through
Asphalt
12:25 Break for Lunch
12:50 Continue work on MIP 2
0"-6" ~~Asphalt~~ 6" 12" Red-Brown fmc S s. fG l$ t C wet
24"-30" Red Brown fmc S l fG t $
54"-60" Grey fS l$
~~120~~ 1320 finish MIP-2 Backfill, Apply
Asphalt cold patch and tamp
1330 move to MIP-3 and start work
0-6' D-Brown (f) fmc S s.$ l fm G moist
15½" large Boulder
Discontinue location move 5' and start New location

(51)

Asphalt 6"-12"

5/9/11

0"-6" (f) fm S s.$ t f G
30-35 (f) fm Sand l $ t fG
~~#~~60" fine Sand and Silt ~~wet~~ wet
3:30 finish MIP-3, Clean up, fill holes
Put down Asphalt and tamp
3:45 All personell off site



5/10/11

Personnel: A. Fisberg, C Ramascialli, ~~B~~ John Pierce, Gracincy Brandt,

Weather: Sunny 65°

Materials: hand Auger, Geoprobe 7720 DT #GP34, John Deere Gator

8:30 Meet John + Cristina at jobsite, Set up community air monitoring + col. equipment

9:40 Start to clear MIP4

24"-26" Brown - (+) fines S lfG l $

36"-40" Red-Brown - (+) fines S s. $ tfG

40"-44" Red-Brown $ lfines S tfG

55"-60" Grey-Brown $y C lfS

10:25 Finish MIP-4, Backfill, Apply cold patch Tamp

10:50 Move to MIP-5 and start Clearing 0-5' bgs

25"-30" $ s. fines

40"-45" $ lfS tfG

50-55 $ lfS lfG

11:23 Finish MIP-5 backfill hole, Apply cold patch, Tamp

11:45 Go to lunch

12:15 Set up CAMP AT MIP-1

12:45 Move Geoprobe and rig into place and let MIP get up to temp

13:11 Start time 1:11 pm

5/10/11

5/10/11

Start log @ Rubber Ring 6" below ground surface has log will report this as 0 ft of ground surface

	FID	PID	Flow	Pressure	Start/Finish
10ft	1600				1:11/1600
11	2400				

Depth may have gotten a little off around 18-19 ft The Rods needed tightening and were twisted thus tricking the MIP into thinking it was moving through soil, when this was not the case Not the case we counted the Rods and looked at the depth and they appear correct There is a line on the side of the drill rig that is hooked up to the computer that lets it know the depth.

	ECD	FID	PID	Flow	Pressure	Start/Finish
Compress	585	V	V	64.7	13.66	1:11/1400
	10 ft	1600				
	11.5	2400		(57.5)	(0.97)	

(PID 12.5 zeroed to 10000)

14.55 ECD up to 2500 76-77 800 ECD

18.48 FID (18000)

↓ ECD Down to 2000

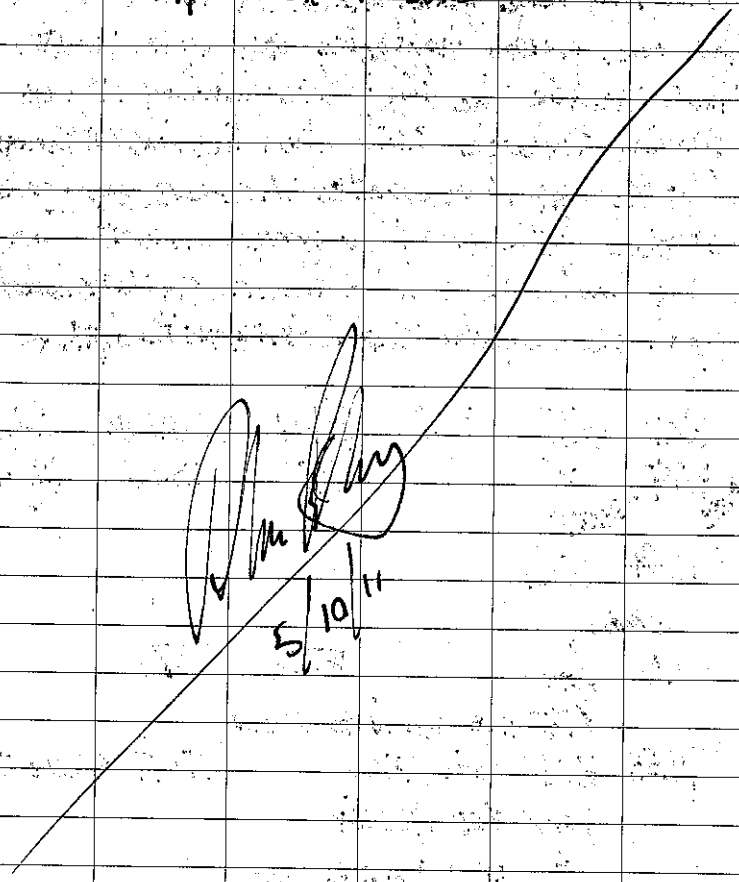
5/10/11

5/10/11 (54)

4:30 Pull Rods, Email Logs from MIP (CDMMIP1), Decontaminate equipment, Put equipment away.

5:15 Fill hole with bentonite chips ± ½ bag went in, then patch with Asphalt patch

5:50 All personell off site



5/11/11 (55)

Weather: 65° Mostly Sunny wind 10 mph

Personell: A Esberg, C. Ramasciatti, John Diamond, Quincy Brandt

Scope: Continue MIP work.

7:30 Onsite Start to set up Community Air Monitoring and calibrate All equipment

10:45 finish set up on MIP-2 and start work On with MIP after equipment cal + warm up

Equipment: Geoprobe 7720DT GP34, John Deere Gator with MIP Setup, 2xPID, 2xDataRAM4.

10:50 finish troubleshooting a gas pressure issue with the MIP and start to advance MIP

11:10 Note: MIP-2 started ± 6" Below ground Surface
- Around 18-19 ft bgs first encounter of contamination in MIP-2
  - @ 28 ft very High Readings
  - @ 38 ft things calm down

CR note- K. Sarnowicz onsite at noon. We Reconnoiter site and progress.

1305 - Zebra and CR discuss restart today. MIP unit needs to be mobilized to a storage unit today. With late start, MIP-2 will not be finished

5-11-11 (56)

Until around 13:30-14:00 today we will finish MIP-2 and do MIP 3 and 4 tomorrow. Zebra will also string up 125ft of trunk line since we are achieving such great depths with the MIP. Decon of trunk line may need to be modified due to presence of high concentrations from roughly 16 to 39 ft bgs.

1430 End MIP-2 @ 97.60ft bgs
Start to pull Rods and Decontaminate equipment

1520 Fill hole with Bentonite Chips And continue to clean up around the site

1545 Patch Asphalt with concrete patch and Black Dye

1600 Leave 2 cones by the west cement so that No one drives into it. End day all personell off site

5/11/11

(57)

5/12/11

Personell, A.Eisberg, J-bn Diamond, Quincy Brandt
Weather: Sunny 70
Materials; Geoprobe, John Deere MIP, Community air monitoring equipment.

7:30 on site Calibrate equipment test Alarm system
8:15 Zebra on Site and start to set up on MIP-3 and warm up equipment
915 calibrate MIP
936 start MIP-3
MIP start point 6" bgs
950 Refusal @ 14.15 ft bgs
1005 move to New location and Start MIP-3 these 5' East of original
1025 Move to another location to avoid boulder
1106 New location cleared ~~Start~~ AEI set up for MIP work. Soil is 9" bgs.
1115 Start MIP-3 At its new location
1128 Hit obstruction in New location we are going to Attempt to pull out the MIP and put in regular Rod to attempt to Break through it.
1140 After 10-12 min of hammering we have made no progress, End at 12 ft bgs
12:00 Alarm went off while moving the Geoprobe close to the PID

5/12/2011 (58)

1205 Clear a new and final Attempt at MIP-3
1230 Location Cleared quick break for Lunch
1255 Zebra Returns from Lunch
1302 Start MIP-3 @ 3 inches bgs
1310 We have made it to 9ft and a part on The MIP broke probably a fuse. Remove MIP
1406 Complete MIP Repairs push down to 9ft bgs and continue from there.
Went up 18-19ft bgs
Maxed out meter 37ft bgs to 39ft bgs
1611 Stop @ 91.9 ft bgs problems with The membrane. 43-44 end hits until 51-52 some smaller hits

Summary of today: we hand dug to 2ft, 5ft, and 9ft and pushed the MIP to 12ft, 14ft, and 91.9ft.

1736 Finishing packing up Apply Asphaltite hole, After filling with Bentonite, And tamp
1755 All personell off site
Note: One of the Datalams did not Record Data today.

5/12/2011

(59) 5/13/2011

Personell: A. Eisberg, J. Diamond, Q Brandt
Weather: Cloudy : 60°
Scope: Complete MIP-4, if time allowes either Do MIP-5 or Clear Some of the 4 locations Cristina L has pointed out to me yesterday
Materials: John Deere MIP, Community air Monitoring Equiptment

7:35 A. Eisberg on site Calibrate and Setup Community air monitoring Equiptment
8:05 J. Diamond Arrives and Starts to set up The MIP equipment and preform maintenence
830 Q. Brandt Arrives and starts to set up The Geoprobe
920 Finish maintenance on MIP, and continue to set up.
Note: I have been having trouble with the Alarms on the Dust monitors going off this morning I have contacted pine and made some adjustments they said there is more that we can try if I need to call back. As of now I have moved the monitors a little further away from the machinery which has recently been setting them off.
947 Start MIP-4 @ 2 inches bgs
Slight Rise from 19-20ft bgs 16-17ft bgs

24 ft had a quick spike

28-29 ft bgs had a high spike

maxed out meter 3[illegible] ft bgs to ≈48-52 ?

11:32 we had a small problem with the computer for the MIP. It stoped displaying new data. The last data I saw stoped at 79.1 ft then the MIP was advanced approximately 2 ft after that John made a new file and Named it CDMMIP4A 1 CDMMIP4A and started ~~sa~~ confirmed work from there he said even though we couldn't see the data It was being recorded.

The meter was maxed out from 36 ft Bgs to approximately 48-52 ft bgs after that it went into a pattern of spiking high and falling to a level and sustaining there.

12:16 ≈ 103.5 ft bgs membrain may be closed or the soil is too tight gas flow has reduced to low to continue we will not get accurate readings if we do continue up until we stoped at 103.5 we sustained that rise and fall pattern described earlyer.

Start to pull rod out of the hole

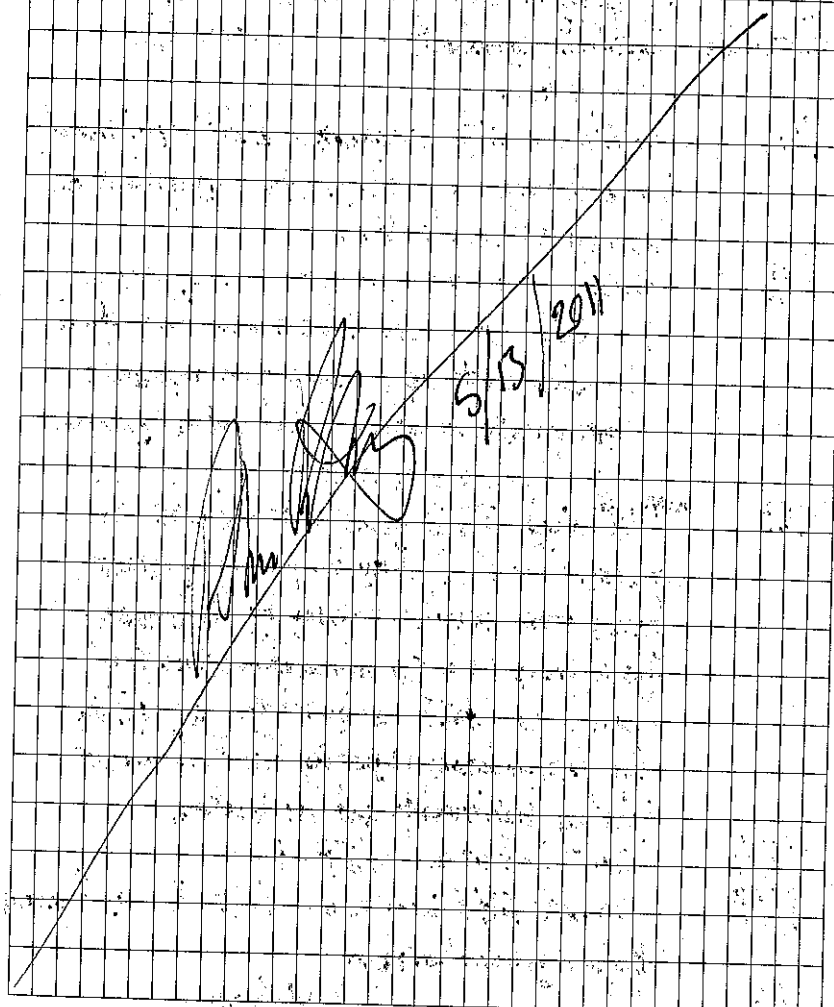
1:16 Rods are out. Put away more equipment, fill hole with Bentonite →

and Patch with asphalt

1:44 Finish Patch and put things away equipment

Do some paper work with Zahra

2:30 All personell off Site



5/16/2011

Personell: A. Eisberg, J Diamond, Q Brandt

Weather: Light Rain, cloudy, 60°, wind 5-10mph

Scope: Continue work on MIP-5 and MIP-6 if time Allows ~~pt~~ Clear MIP-7.

Materials: C.A.M.P. equipment, John Deere MIP Geoprobe.

7:40 Arrive on site, Prepare CAMP equipment to be deployed, Calibrate equipment and Ready it in its Box

8:45 Zebra Arrives on Site and starts to set up. At this time the CAMP is also set up, cones are deployed in Appropriate locations, And Zebra equipment is checked + calibrated

9:15 down ~~the~~ wind PID goes off and sets off Alarm. The PID may be picking up exhaust fumes from traffic passing by. Unfortunately this appears to be the only location where the down wind CAMP can be set up. Call Cristina for Recommendations regarding the PID and wet weather/high humidity and its location.

9:34 Start Set up on MIP-5

9:45 Start MIP work on MIP-5 @ 3 inches Below ground Surface

9:53 The down wind PID Alarm continues to go off in fresh Air Also the fan keeps

5/16/2011

stoping, water may be getting in to the device and making it difficult to draw air through the wet filter the PID is turned off due to wet weather and not reading concentrations of VOC's in fresh air also when compared to the other PID the Readings are off. However they were almost Identical this morning after calibration

10:00 Pull the MIP up from 14 ft bgs. the device is malfunctioning and needs to be troubleshot.

10:25 I was contacted By Cristina and was told that the PID may get fussy in High humidity and Rain. I attempted to Dry it out and put it back out after this the PID lasted 15 min. before going off The PID has been shut down and put in to the truck to keep it out of the elements

10:30 John has told me that there is something lodged in the trunkline and he is unsure of how long it will take to clear it or if he will need a new trunkline he said one of this length may take days to get in.

10:43 John is going to homedepot to get a compressor to try to blow out the particle in the trunk line

over →

5/16/2011 (64)

John said this is a trick his Mentor has had some success with in the past.

11:34 John Returns with compressor to blow out the lines.

12:37 We have gotten some mud and small chunks out of the trunk line John continues to purge the line as we break for lunch

12:50 Continue to purge the trunk line and John starts to get the other lines ready to connect them to the MIP

2:30 Contact Cristina let her know we have been fighting with a clog in the trunk line all day and now we may need to replace it. We were given the option a 75ft line that they have already or a new 200ft line. The 75ft line could be ready and hooked up before work tomorrow. The 200ft line would be ordered and express shiped and potentially hooked up by 12noon. Cristine chose the 75ft line since most of the contamination is above 75ft bgs.

2:40 Pack up for the day

3:15 END Day All personell off site

5/17/2011 (65)

Personell: A Eisberg, John Diamond, Q Brandt, C Ramsey

Weather: 55 rain Cloudy 5-15 mph wind

Scope: Complete MIP-5 and MIP-6 if time Allowed. Clear first 5' of MIP-7.

7:45 Arrive Zebra is on site setting up.

8:00 Prepair and calibrate CAMP equipment.

8:45 CAMP + Geoprobe are set up and in position MIP is still getting ready.

Equipment on site: CAMP Equipment (Data Ram 4, PID, Radio, Weather Resistant enclosure, Tripod, Battery) Geoprobe, John Deere Gator Mounted MIP with 75ft trunkline.

8:55 We continue MIP-5 from 14ft bgs

9-10ft bgs hit a spike this was in the open hole from yesterday John says if it continues to go up and down like this we may consider it a hit

14-15ft bgs strong hit, marked out meter

Up to 28ft the Readings Keep maxing out the meter and just dipping down into a range that can be read by the meter then it maxes out again This pattern ends at around 30ft bgs where the pattern turns into a declining spike and full pattern declining with depth.

at 45ft the second fan too is rather small comparitively speaking ending around 60ft where it levels off through the end at 77.3 ft bgs

1030 start to pull Rods to retrieve MIP-5 at 77.3ft bgs

5/17/2011 (66)

1049 Take down CAMP equiptment as per Cristinas Recomendation, The rain has been intense on and off and we are concern for the safety of the equiptment

1114 finish pulling rod backfill hole with ½ bag Bentanite chips reapply asphalt patch and tamp

1121 move equipment to MIP-6 and setup ReOpen pavement to 9inches bgs

1150 Dump Asphalt into 55gal drum, and talk to Cristina She has new plans in the works for the rest of this week

1210 Start MIP-6 at 9 inches below ground surface Hit at 6ft bgs, Big spike at 16, at 19ft bgs the meter maxed out, again at 24" it maxed out and ~~that~~ stayed there until 30ft bgs, the meter continues to max out and drop down until 40ft bgs where we hit Refusal

1:10 Site walk with Cristina to see some New locations, while Zeke cleans up at MIP-6

1:30 Fill Patch with asphalt MIP-6 (Fill: Bentanite)

2:10 Break for lunch

2:30 Start to clear MIP-7

0-5" Asphalt

(67) 5/17/2011

5'-8": fmc S x $ MG

8"-36": $ & fmC S & G

move from MIP-7 alt to original boulder at MIP-7

6 inches of asphalt

6-10 inches f-MG & fmC S & $

10"-24" f-MG and C & $

24"-50" C & $ & f-MG

50"-62" C & $ & fG & fmc & S

3:40 Start MIP-7 @ 4" bgs

3:42 MIP went in cracked and Bent the MIP it now must be replaced This location will be sealed and continued to new row.

4:19 Finish cleaning up equiptment filling and Patching MIP-7 move Equiptment to Vehicle to load and trouble shoot/repair MIP

800 Repairs are finished, All personell offsite

5/17/2011

5/18/2011 (68)

Personell: A. Eisberg, J. Diamond, Q Brandt

Weather: Light Rain, Cloudy, 50°, 5-10 mph wind.

Scope: Relocate MIP-7 due to obstruction and then clear the first 5 ft by hand and continue from there down with the MIP. When MIP-7 is complete move to one of the 3 locations Cristina gave us yesterday clear 1 and the others.

Materials: Lamp Equipment, John Deere MIP, Geoprobe

7:40 on site Repair/Calibrate LAMP.

7:55 J. Diamond of Zebra arrives and starts to prepair the MIP

8:30 Start to set up at MIP-7 find new location and hand clear it to 5 ft

9:20 Finish Hand clearing MIP-7 move MIP into position and ready equipment

9:33 Start MIP-7 @ 14 inches bgs
Readings went up from 29-37.5

10:30 @ 37.5 End of Boring Clean up
Patch and fill hole Fill (Bentonite)
tamp down Patch (Asphalt)

11:30 Finish clean up on MIP-7 call Cristina to confirm the order of the next 2 locations (MIP-1b, MIP-3b, & MIP-2b)

(69) 5/18/2011

11:45 Move to MIP-1b and set up on location
Note: Both of the PID's are wet and not operating properly they will be dried out again tonight.

12:40 Patch up and fill location and move to another location for MIP-1b due to an obstruction in previous location

0-6" Asphalt
6"-39" GP mod S. some G to S wet moist tan
39"-56" SP mod S & LC LPG wet brown
56"-57" wood chips wet brown
57"-78" SP some S LPG gray brown

1:37 Start MIP-1b at ground surface file name "MIP 1b"
@ 10 ft bgs ECD starts to climb at 21 ft bgs it returns to normal

2:08 25.6 End of MIP Refusal

2:36 move All equipment to MIP-3b open pavement and clear the first 5 ft by hand.

0-6" Asphalt
6"-36" GP some S LC Brown

Obstruction in the way: Abandon hole

3:30 Lightning + heavy Rain Resume work tomorrow

5/18/2011

5/19/2011 (20)

Personell: A. Eisberg, J. Diamond, Q. Brandt
Weather: Cloudy, 55°, wind 0-5mph,
Scope: clear and complete MIP-2b and MIP-3b
Materials: CAMP Equipment, John Deere MIP, Geoprobe

7:50 Arrive On site Zebra on site starting to set up Calibrate Equipment
8:30 Start to clear MIP-3b
0-9" Asphalt
9"-60" cf sand s.f G; moist Red Brown
60"-66" Organic Silt s.f S t twigs/grass moist Black
66"-72" cf sand s.f G moist Red Brown
9:00 Start MIP-3b @ 3" bgs
@ 37ft bgs there was a small bump in the readings @ 39ft Bgs another little bump. 42ft bgs Another little bump/hit
10:50 End of Boring/MIP @ 81.85 ft bgs
Start to pull Rods and clean up
11:35 fill hole with 1/4 bag of Bentonite chips and 1/4 bag of sand and patch with asphalt cold patch & tamp down 1/2 bag of Asphalt
12:12 There is a problem with the MIP, John takes it apart to investigate while the last of the equipment is moved to MIP-2b and gets setup.

(21) 5/19/2011

12:30 - 1:00 Lunch
12:45 Call Cristina grover progress and see if there is any more work to be done after MIP-2b
1:19 Start to clear MIP-2b to 5ft
0-6" Asphalt
6"-34" cf sand s.f G red-brown moist Abegaeon hole obstruction at 3ft backfill and patch with 1/2 bag of Asphalt
New location for MIP-2b 18 inches on center from previous location
0-7" Asphalt
7-12" f/m S s.f G l $
12"-60" cf S s.f G l $
2:19 Start MIP-2b from 3" bgs
29 ft bgs Hit ECP continues to go up and down with each foot of progression in a upwards trending pattern until 35ft bgs when it goes off the chart it goes off the chart again at 36 then it reestablishes a rise and fall pattern that is still trending downward until 56ft bgs where it levels off
4:07 End of boring 78.25 Pull Rods and Start to clean up work area
5:02 Fill hole with Bentonite chips and patch top with Asphalt patch & tamp 1/2 bag each

5/19/2011 (12)

5:15 John starts to investigate the reason why the heater on the MIP kept turning off and constantly needed to be turned back on.

5:50 Pack up the last of the gear John said that he will figure out what to do with the probe tomorrow

6:00 All Personell off Site.

5/19/2011

(13) 5/20/2011

Personell: K. Kesberg, J. Renaud, Q. Brandt

Weather: Cloudy, 70°, Rain

Equipment: John Deere Gator mounted with an MIP setup, Geoprobe, CAMP equipment.

Scope: MIP-5b located behind the Northfield Bank

7:40 On site Zebra has arrived and is finishing repairs (Tieing into a new Probe!). Calibrate Camp equipment

7:45 Call Cristina to determine todays Scope or list of boring locations

8:00 Move equipment into position at MIP-5b

8:30 Start clearing MIP-5b

0'-5' Asphalt

5'-43' fine Sand GW Brown moist

45'-60' SW fine Sand GW

9:02 Back fill hole and prepair MIP equipment

9:23 Start MIP-5b @ 3 inches bgs

ECD Spiked and maxed out the meter at 13 ft It went down a bit briefly then Maxed out the meter again until 22 ft bgs. from 22 ft bgs to 25 ft bgs the ECD spikes up high and then falls. End of boring/MIP at 25.65 ft bgs Due to Refusal

9:55 Start to clean up at this location Prepair to Move to MIP-1c

1028 Move to MIP-1c and start to hand clear the location and setup CAMP equipment.

1040 While Attempting to clear MIP-1c the hand auger broke. the crew (Zebra) Attempted to proceed using the shale bar. this proved unsuccessful then they used the Rig. They were Reminded that there company is liable if they proceed and hit any utilities they acknowledged this and went on while hammering they hit something hard and discontinued at this location I have selected another spot to Attempt to clear at 10ft further down the transect. 1st Attempt was 3.5ft

11:00 Attempt to clear MIP-1c at a new location. This location proved to be unsuccessfull also ending at 2.5ft bgs.

11:10 Move to new location patch + fill old locations with Asphalt + bentonite + back fill materials

11:15 One of the PID's Alarm started to go off I restarted the fan and it stopped again. Turn off PID

1130 Just finished the 3rd location at 3ft before hitting an obstruction and discontinuing move to 4th location another 10 ft further on the transect.

1136 MIP-1c has been cleared. The drillers used a macrocore tube to clear the location they used the rig to hammer it into the ground.

1145 Start MIP-1c @ 3' inches bgs

1220 End at 26.30 ft bgs No hits Start to pull rods

1240 fill hole with bentonite and apply asphalt cold patch to top and tamp down

1250 Clean up and move equipment to MIP-1d

105 Quincy went out for Diesle and Asphalt John and I are going to take lunch

120 I'm back and John is sitting in his truck Now we are waiting for Quincy to continue work

231 Start MIP-1d hole was cleared with the use of the macrocore soil was droped back into the hole as soon as it was taken out. at 26 ft bgs is our first hit, it is relatively small. there were other small hit at 28 and 31 and 38 and at 53.

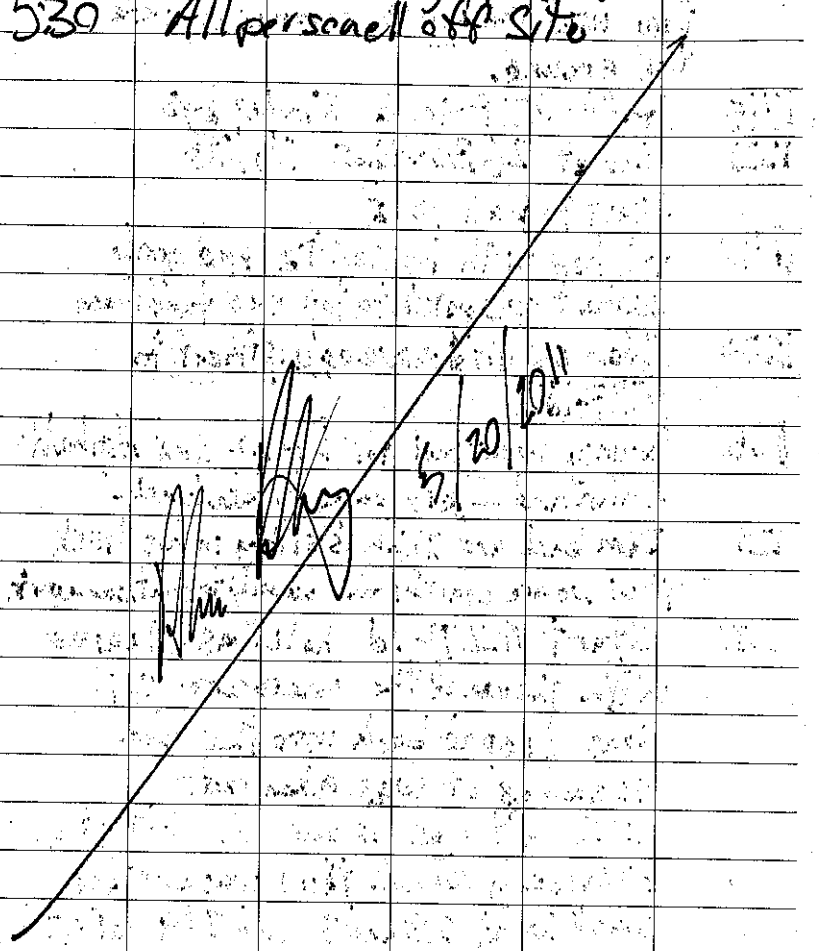
5/20/2011 (76)

413 End of Boring at 63.35 due to a Rupture in the gas line

451 fill hole with bentonite chips and tamp then fill top with Asphalt and tamp

5:00 finish cleaning up

5:30 All personell off site



(77) 5/23/2011

Personell: A. Eisberg, C. Romesciatti, J. Diamond, Quincy Brandt, Tom Horn

Weather: Cloudy, 50°

Equipment: CAMP Equipment, RAE QRAE II multigas unit, LaMotte 2020 Solinst Peristaltic pump, water level indicator, interface meter, Geoprobe

Scope: Get water levels and soil samples for locations that we have used the MIP at depths specified by Cristina R.

7:30 A. Eisberg on site

7:45 C. Ramasciotti on site Discuss scope of work for the day

8:00 Calabrate all Equiptment

9:30 John Diamond Arrives

10:00 Quincy Brandt Arrives with Geoprobe

10:45 Collected field Blank 8021B-FB-110523 4 VOC's, SVOC's, PEST, Metals, Mercury. By Pouring lab provided Deionized water from Lab provided container into decontaminated bowl and then into sample bottles: 3-40mL Amber Vials for VOC's, 1-250mL HDPE HNO_3 preserved for metals + mercury, 4-1L amber glass unpreserved for PCB, Pesticides, SVOC's.

5/23/11 (78)

11:10 Start work to Retrieve Samples at MIP7

1205 Sample time MIP7 and DUP1. Taghorn onsite.

37-38ft bgs Sand & l.C l fG red Brown moist

1245 Start MIP6; Find water table take a Soil sample 0-6" Above and then a soil sample at 40 ft bgs.

0-6" Asphalt

6"-5ft Sand & l.C t fG red Brown Recovery 55 inches.

5'-5.5' Slough

5.5-6' f-mS t a. f G l$ red Brown 40" Recovery

6-10' f-mS a. $ l. f G red Brown

10-11' f-mS a. $ s. f G red Brown 24" Rec

11-12' f-mS l. $ t. f G red Brown water table at 11'

13:00 Field Blank - 8021B-FBAQ-110523 for VOA-semi VOA-Metals-Mercury HCl HNO3

1335 Sample time MIP6 at 10ft-11ft

1400 Collect MIP6 at 25-30'

DRILLER REPORTS THAT 2nd ROD HAS BEEN DEFORMED. DRILLING ON HOLD UNTIL REPLACEMENT

5/23/11 (79)

EQUIPMENT IS REMOVED OR CLEAN IS DIRECTED TO CLEAN SHOOTER HOUSE. I AM CLEAN GLOVES AND CHANGE. DISCUSS SAMPLE COLLECTION OBSERVATIONS RECOVERED

MIP6	HIGH PID	RECOVERY	DESCRIPTION
10-15'	370@25	100% 50%	DK REDDISH BRN MOD COARSE SAND, WET.
25-30'	47@29	40%	25-28 - DK REDDISH BRN MOD COARSE F-C SAND - SLOUGH, MOIST
	COLLECT GRAB SAMPLE		28-30' - DK REDDISH - BRN V. STIFF SLT, & CLAY MOIST

33½ ft bgs water Sample 1653

11-15 ft bgs water Sample 1730

for all water samples the turbidity is less than 50 ntu 6/6/11 AC

1630 All Personell off Site.

5/23/11

5/24/11

Personell: A Eisberg, T Horn, J. Diamond, Q. Brandt

Weather: 80° Partly Cloudy

Equipment: GW/SP Equipment, Turbidity meter, QRAE, Peristaltic pump, water level indicator, interface meter, Geoprobe.

Scope: Recover 2 water Samples from MIP5 and 2 Soil Samples from MIP5. Then follow the Specified Samples on the Sheet Cristina gave for all remaining locations and depths of soil samples

8:00 On Site. Zebra is onsite setting up

8:15 T Horn Arives, Calibrate all equipment and set up continues. Receive a call from Mitchem they will be here around 1pm to pick up the samples. Call Cristina and leave a message. Tom and I have Decided to go forward with sampling the ground water first then taking the Soil samples since it is important to sample and get the water samples out quickly

9:00 Reach 32 ft bgs and attempt to sample ground water.

9:10 could not sample There was not enough water

9:15 try again to sample

9:23 found water at 24-28 ft starting to sample

1055 Water is ready for sampleing. turbidity is 36. Start to sample.

1210 Sample at 15 ft bgs and PID 1 @ 1800 Turbidity is less than 5 on the meter

1225 Start to sample soil -

MIP5 Soil Sample:

0-6 Black Asphalt Boy

6-1 @ fine c S s. $ t f G Dry Red Brown SM

1-1.5 ↓ same

1.5-2 ↓ same

2-2.5 f f S s. $ Moist Red Brown SM

2.5-3 ↓ same

3-3.5 f G s. S l $ Moist Red Brown GP

3.5-5 No Recovery

5-5.5 @ fine c S s. $ l f G. Red Brown SM

5.5-6 f G MS l $ Dry Gray GP

6-6.5 ↓ same

6.5-7 @ fine S l $ s. f G Red Brown SM

7-7.5 f G s. $ fine S l $ Red Brown GP

7.5-8 f S s. $ Red Brown SM

8-10 No Recovery

10-13 f S s. $ Red Brown SM 12.5 ft PID = 13

13-15 No Recovery

25-16.5 f m c S l $ f G t $ Red Brown SP

26.5-30 f f @ fine c S s $ l f G Red Brown SM

Sample 10-11 ft and 30 ft.

12:50 1:07

5/24/11

1:30 Lunch

2:00 Start clean up and move to MIP-1 Setup

3:00 Rod is jammed in the macrocore and the tip is destroyed Tom has pictures to prove it working on removing the rod from inside the core

3:35 Soil Sample at MIP-1 16ft bgs

14-14.2 fG Crushed stone Grey GP

14.2-16 ~~fmc~~ s.sf mc S l.C l.fG Red Brown wet

16-16.5 fmc S l.~~s~~ f fG Red Brown wet

16.5-17 (f)fmc S s.~~s~~ l fG Red Brown moist Sample (16.5-17)

MIP-2 25-30 ft bgs. The tube crushed in the macrocore Rod so what was retrived was shook and hammered out. there was just enough to Sample.

25-30ft orfsm mc S l ~~s~~ l fG t C Red Brown moist @ 4:45

5:30 All personell off site

5/24/11

5/25/11

Personell: A Eisberg, J Pimentel, Q. Brandt, T Horn

weather: 80°, Sunny

Scope: Collect as many soil samples as possible in accordance with the ~~3-day~~ grounded program.

Equipment: Geoprobe, CAMP Equipment, Peristaltic Pump,

8:00 on site Zebra on site Start setup By MIP3 and MIP4.

9:08 Start ~~of~~ to Send macrocore down to 38ft bgs to retrieve soil sample. Sampler hit Refusal at 30ft

9:45 Sample MIP3 at 30 ft bgs 80230-MIP3-30 & 80230-MIP1-50 MIP 2400

10:10 Lab arrives for sample pick up

10:20 Down field Blank AS for yesterday

10:30 Move to MIP4

11:10 Start work to retrive sample at 42 ft

11:20 Tom Horn Arives

11:30 Refusal MIP4 @ 20ft Pull out Try again a few feet aft

11:40 Refusal MIP4 @ 25ft Pull out Try again a few feet away from this location

11:47 Refusal @ MIP4 @ 4ft bgs call off location as per Crosstrans Recomendation patch asphalt in all 3 locations

(84)

Location	Depth	Sample ID ← 6/26/11 →	Color	USCS
MIP3	30	80230-MIP3-30	Red Brown	SM
MIP3	30	80230-MIP2-30	Red Brown	SM
MIP16	14	80230-MIP16-14	Red Brown	SM
MIP16	9-13.5	———	P. Brown	SM
~~MIP16~~				
MIP56	22	80230-MIP56-22	Brown	ML
MIP56	18-20.5	———	Brown	CL
MIP56	20.5-22	———	Brown	ML

5/25/11

(85)

5/25/11

Description	Moisture	Notes
(+)fnc S l $ l C l G fmG	wet	
(+)fnc S l $ l C l fmG	wet	
(+)fnc S l $ l C f G	wet	
(+)fnc S s. $ s. C	wet	
		RK
$and fnc S l C l fmG	wet	
(+)a. $ l fnc S l fmG	wet	
$and fnc S l C l fmG	wet	

5/25/11

(86) 5/25/11

1155 Move to MIP1b and start work to retrive sample from 14ft
1210 Refusal at 2.5ft move to location a few feet away try again
1230 Sample at 14ft bgs and patch holes
1:00 Lunch
1:30 Return from lunch, Clean up site
1:55 move to ~~5b~~ MIP5b
2:20 Refusal on MIP5b at 12ft bgs move to a new location try again
~~1Dan~~ ~~$10CAL~~ Sample @ 22ft Bgs MIP5b
305 Clean up and move to MIP1c and try to retrieve sample at 26ft bgs
340 Refusal at 16ft End day
Clean up and patch asphalt
Pack up equipment
345 Tom Horn off site
415 Clean up is completed all personel off site

5/25/11

5/26/11 (87)

Personell: A Fisher, Lukas Reiss, Q. Brandt, Tom Horn
Weather: 80° Sunny
Scope: finish the four Remaining locations by gathering Soil Samples from there specified Depths
Equipment: same as yesterday
800 Onsite Setup and Calibrate equipment
810 Zebra onsite Continue with setup
840 Start to ~~Dr~~ Send down macrocore for a sample at MIP3b at a depth of 45ft bgs
855 Pull out Blind probe Send down Macrocore
900 Tom Horn on site
920 Sample MIP3b @ 45ft bgs 32 inch Rec
915 Field Blank drawn
940 move to MIP2b attempt to Recover a sample at 40ft bgs
1030 Sample MIP2b @ 40ft bgs 36 inch Rec
1050 Move to MIP1d and start working towards retraining a sample @ 37.5ft bgs
1140 MIP1d 33.5→37.5ft bgs 48 inch Recovery
1155 Start work at MIP1c sample at 26ft bgs
1225 Sample MIP1c @ 26ft bgs
1230 clean up, Tom Horn off site
1250 Lukas Reiss off site
2:00 make new 55gal drum for soil. and All personell off site

5/26/11

5/26/11

Location	Depth	Sample #	color	USCS
FB		80230-FB-110526		
MIP3b	42-45	80230-MIP3b-45	Brown	SP
MIP2b	35-40	80230-MIP2b-40	Brown	SP
MIP1d	36.5-37.5	80230-MIP1d-37.5	Red Brown	SM
MIP1d	33.5-36.5	——	Red Brown	SP
MIP1c	26	80230-MIP1c-26	Red Brown	

5/26/11

Description drawn at 9:15	moisture	notes
fmc S t$ tfmG	wet	920
fm&S t$	wet	1030
cfgrvlrS s.$ tfG	wet	11:40
fmS l$ tG	wet	——
⊗f↔mcS l$ lfmGtC	wet	6 inch Recovery 12:25

5/26/11

(90) 6/7/2011

Personell A.Eisberg, J.Diamond, Q.Brandt

Weather 90°F, Mostly Sunny Hazy

Scope Clear location MIP5c and perform MIP work at this location, if time Allows move to MIP6b followed by MIP7b

7:40 on site Quincy B. on site, start to clear MIP5c, calibrate equipment. call National grid there are no markouts on this side of the street.

7:55 Chris Scarfone from National Grid arrives shows me the markouts in the area and lets me know my dig locations are safe. He Recomends Renewing our one call This Information was relayed to Cristina R

805 Call Pine The lamp on our RIG 2000 is acting up. They will Replace this today

8:10 J. Diamond is on site

8:30 Contact Cristina let her know how things are going this far and get location Names

8:50 MIP5c needs to be relocated due to obstructions at 1.5 ft. Seal Location with Asphalt and tamp.

6/7/2011 (91)

9:10 finish patching Asphalt move to new location for MIP5c. start to clear it.

9:30 Soil in MIP5c

0-8" Asphalt

8"-3.5' Fill Sand Silt FG moist

9:45 Go to ST Bank & Trust talk to the Manager let her know we will be working next to the building this week

9:47 Fill MIP5c @ 3.5' due to obstruction in the hole. Seal location with Asphalt + Tamp

9:50 Start new location for MIP5c

0"-8" Asphalt concrete

8"-24" Fill Sand Silt FG moist Grey Brown

24"-36' FSa. Silt FG moist L. Red Brown

10:40 Too many Rocks to proceed @ MIP5c Backfill and Apply Asphalt patch and tamp down

10:47 Move to a new location for MIP5c. Call Cristina leave message about Progress

10:55 ~~Contin~~ start new location for MIP5c

0"-8" Asphalt concrete

8"-4' FSa. Silt F.M.G

12:10 Abandon location move to new location after speeking with Cristina She Recomends further back from the street.

6/7/2011

12:15 Patch + fill location they dawn Asphalt

12:20 Lunch

12:50 Return from lunch and start ~~Move~~ New location for MIP5c

12:57 Asked to confirm the locations of all previous MIP investigations on the Map

13:36 J. Diamond starts to clear MIP6b leaving MIP5c temporarily.

14:18 MIP6b Cleared started with hand Auger then completed with Blind probe, to a depth of 66"

1427 J. Diamond takes the Geoprobe to MIP5c and advances the blind probe to 61' bgs. John Says the hole is bad, it twisted the Rods. He said it will not be good for the MIP we must find a new location for MIP5c

1452 Reposition rig for a new location for MIP5c Back fill + Asphalt patch the last one ~~one~~ prior to this.

1530 Move to new location for MIP5c Back fill and seal this location discontinued at 3ft due to obstruction

6/7/2011

1604 Start New location for MIP5c

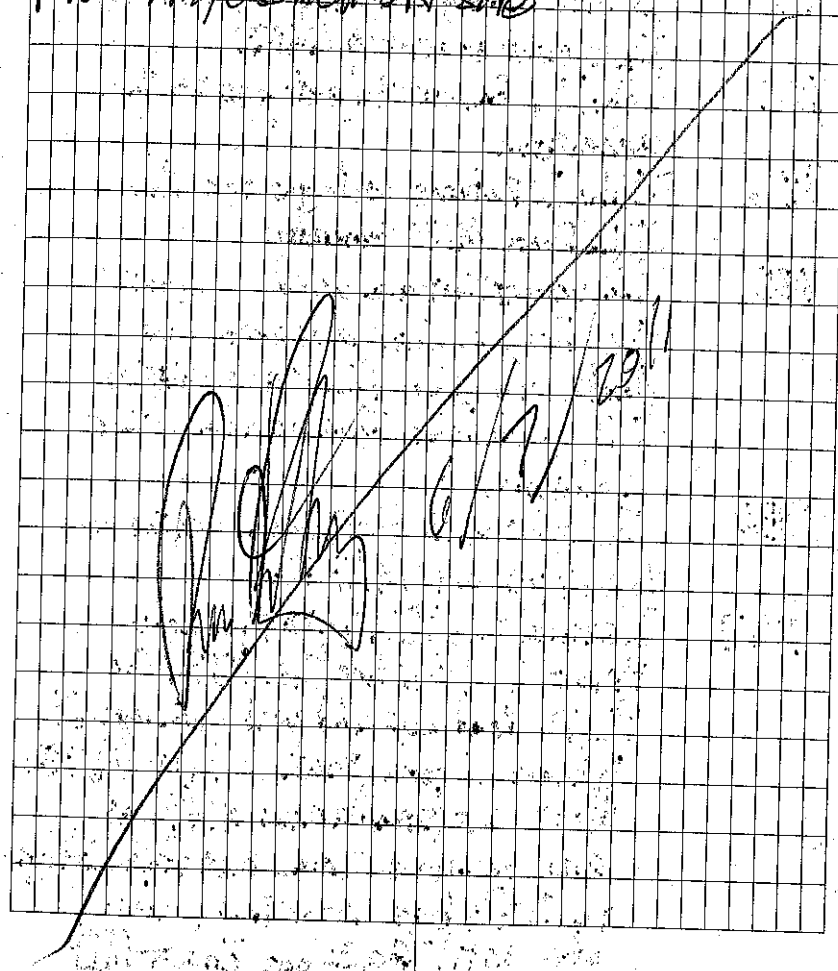
1615 Location Cleared to 5ft and sealed

1620 Start to clear MIP7b

Location cleared to 5ft

1706 Clean up and Backfill hole MIP7b

1715 All personell off site



6/8/2011

Personell: A. Esberg, Q. Brandt, J. Diamond
Weather: Sunny 95° F
Scope: Start work at MIP5c then move to MIP6b, then if time Allows move to MIP7b.

7:40 On Site Zebra is setting up, Calibrate Equipment and setup LabMP.

8:00 John D. Ran out to get gas for the generator.

8:26 John D. Returns with gas for the John Deere MIP Generator.

8:35 The screws that are used to mount the Device that measures the depth for the MIP are missing John looks for them or some other Solution.

8:51 The solution is Zip ties! Continue to set up on MIP5c

9:07 I stuck the PID in the hole Prior to Starting the MIP. the PID Read 200 and was climbing still When I took it out. Start MIP5c first hit (small) around 32 ft bgs and continuous small hits from 32 ft bgs to 39 ft bgs after this it levels off until 60 ft bgs End of MIP

11:31 End of MIP5c @ 60 ft bgs
12:18 Set up on MIP6b. Fill and Temp MIP5c.
12:42 Lunch
13:12 Return from lunch
13:52 Start MIP6b @ 3 inches bgs
We are getting small hits on the ECD from the start every foot until 12 ft bgs where we get a larger hit but still ~~melting too large~~ be on the small side. after this it levels out @ 31 ft bgs There is a small spike @ 40 ft bgs it goes up and plateaus and slowly makes its way back down by 48 ft bgs. End at 67.25
16:02 End of MIP6b @ 67.25. Start to clean up
16:57 Count the number of locations attempted for MIP5c = 7 ~~attempts~~ locations in all.
17:23 Finish Clean up. All personell off site

6/8/2011

(96) 6/9/2011

Personell A. Eustace, Q. Brandt, J. Diamond

Weather 100°F humid Sunny

Scope MIP7b finish The MIP at this location then Begin work to be determined

7:40 All personell onsite, calabrate equipment

8:39 Clear MIP7b

8:55 Start MIP7b @ 6" bgs EOB at 14.65ft bgs due to obstruction

9:08 End of MIP7b @ 14.65 move this to a new location and continue

9:25 Start to clear a new location for MIP7b

9:46 Start MIP7b No hits hit obstruction @ 19.55ft bgs

10:15 End MIP7b @ 19.55ft bgs

10:15 Backfill + Seal with Asphalt tamp down

10:23 Move rig to a new location and Clear and prep work area

10:54 Start New location for MIP7b

11:18 End MIP7b at ~~18~~ 17.95ft bgs

11:22 Call Cristina let her know we have hit Refusal once again and that we are going to move in the opposite direction that we have moved last time

6/9/2011 (97)

11:35 Lunch

12:05 I am back from lunch and so are Zeora

12:10 start to move into position for MIP7b and clear location

12:53 Start MIP7b at the new cleared location. End at 37.45ft bgs No hits

1:55 End MIP7b at 37.45ft bgs

2:54 Move to MIP4b and start to hand clear the location

0-3" Asphalt concrete

3"-45" fmcSlSlC lfG

45'-60" SlC lfS

3:21 Finish hand clearing MIP7b backfill and apply Asphalt patch tamped down

3:30 Move to MIP2c and start to clear this location

0"-3" Asphalt

3"-24" fmcS and fG

24" took a PID Reading when I pulled it out after 30 seconds it was at 147 and climbing

24"-69. fmcS lSlC lfG

4:30 finish Clearing MIP2c and clean up

4:53 All personell at the Safe

6/9/2011

(98) 6/10/2011

Personell: A. Eisberg, Q. Brandt, J. Dismuke

Weather: 85 Sunny

Scope: Clear and complete MIP work on MIP4c then if time allows go to MIP2c or clear MIP5d

7:30 On Site Zebra is here setting up Calibrate Equipment and call Cristina to confirm MIP4c's location

8:40 Location has been cleared to 5ft bgs. JD ~~calibrates~~ checks MIP by giving it something to make sure it is working properly on the membrane

9:11 Start MIP4c

9:23 Refusal @ 12.25ft Bgs

9:28 Move to new location start to clear

945 Start MIP4c
at 24ft bgs first hit
at 35ft there is a very high Spike
at 36ft maxed out the meter until 42ft
at 42ft it falls most of the way down to baseline and then spikes half way up it continues to go up and down in a downward sloping trend until 57ft bgs where it turns around and starts to go up then we discover there →

6/10/2011 (99)

→ is a problem with the heater and we must pull out 58.25ft bgs

11:21 pull out @ 58.25ft bgs End of MIP4c

11:53 John D. said the Reason for that small spike may be because the heater gave out.

12:4 John Brings the MIP Back to the trailer to work on it Quincy cleans up the side and pot fills and patches the hole

12:26 Move Rig and equipment over to MIP5d

12:30 Take a quick lunch

12:40 Open up MIP5d and start to hand clear
0"-4" Asphalt concrete
4"-38" fS sA lt G dry Redbrown
38" boulder Quincy opts for the blind probe to advance the rest of the way to 5 feet

1:15-1:45 John + Quincy take lunch

1:45 Return from lunch move equipment into position

2:08 ~~Start MIP5d~~ Hydrogen in the MIP is too low to proceed John said that he will have a fresh tank for Monday

Clean up

3:05 All personel off site

6/10/2011

6/13/2011

Personell: A. Eisberg, J. Dawind, Q. Brandt
Weather: Cloudy, Drizzle, 70
Scope: MIP5D Then MIP4B
7:40 Arrive on site Start calibration of CAMP Equipment
8:30 Zebra on site, Start setup and Switch out Gas canesters.
9:00 Calibrate MIP
9:41 Start MIP5d
6-9 still setting, disregard this
9 baseline End MIP @ 2.69 5ft bgs
10:08 End MIP5d @ 2.45ft bgs Due to Refusal Pull Rods
10:10 Call Cristina and confirm that we need more info and move 15ft west and try again
weather: Sunny 72°
10:30 Repair MIP, fill and temp hole
11:00 Need to replace MIP, the wires got messed up too close to the probe. Location has been moved and cleared It is now Ready to start once the MIP is finished
11:42 ~~Replace~~ MIP is Replaced move to new MIP5d location and set up

1202 Start MIP5d
Small hit on the PID @ 28ft bgs
1255 End of MIP5d Due to Refusal @ 39.45 ft bgs
1:43 finish cleanup on MIP5d and move to MIP4b
2:05-2:35 Take lunch
2:35 Set up on MIP4b
2:52 Start MIP4b
3:01 Refusal @ 10.45 ft bgs for MIP4b move to a new location and try again
3:23 Move MIP4b to the other side of the lane
*after talking to Cristina. She recommends we finish the day out with clearing the remaining locations
3:41 Clear MIP4b to 5' bgs and patch with Asphalt
3:55 Move to MIP5f and start to clear it
4:10 move MIP5f and try again & with Refusal
4:15 Clear MIP5f to 6ft
4:20 Move to MIP5e and clear to five foot bgs
4:30 Finish clearing MIP5e, patch location, clean up for the day.
4:50 All personell off site

6/13/2011

102

6/14/2011

Personnel: A. Eisberg, J. Diamond, Q. Brandt

Weather: 65°F Scattered clouds

Scope: Complete MIP5e as ~~as~~ MIP2e then move onto MIP4b, MIP2c and MIP5f

7:35 On site. J.D. onsite. Calibrate equipment

8:09 equipment calibrated and ready wait for drilling/geoprobe

8:12 Quincy and the geoprobe arive and start to set up

8:33 Start MIP5e

8:40 End MIP5e at 8.35ft bgs Refusal Move to new location, patch and fill and top old location.

9:01 Move location twards forest fire to try to avoid buried culvert shown in a drawing running under these parking spaces. The Zebra crew uses the blind probe to clear the location to 5ft bgs and sets up for MIP work

9:06 Start MIP5e

@ 1635 first small hit we continue to see small hits declining in intensity up to 325 where we hit baseline again. Stop at 50.35

6/14/2011

103

10:30 End MIP5e at 50.35ft bgs
Start to pull Rods and clean up
Preform maintenance on the Rods
grind down mushroom edges.

11:58 Finish pulling rods and grinding now prepare to move equipment to MIP2c

11:43 Start MIP4b

11:50 End MIP4b at 8.05ft bgs Refusal
Move to a new location and try there

12:10 Lunch

12:30 I return from lunch and meet with Kevin and discuss location and what we are looking for

11:50 Rob Zebra Returns from Lunch and starts setup on the new location for MIP4b, start to clear the location, And test the PID

0"-8" Asphalt
8"-14" ~~Fine~~ Sand Light Brown moist
14"-43" fine Sand Brown wet 3.0 PID
43"-45" Peat/wood chips
45"-60" fine Sand Peat 10.2 PID
60"-68" Organic Clay and Peat 6.9 PID 3.2 PID

1:35 Start MIP4b

(104) 6/14/2011

1144 Tag at 10.95ft Refusal
take blind Probe down and hammer on Rock to see if we can punch through

155 We could not punch through the Rock Pull rods and back fill hole, fill with Bentonite, seal with Asphalt.

207 Start New location for MIP46 about 7ft North of the contingent location that was inspected during the geophysical investigation

215 Stop work to Aida man who has fallen on his face. Upon further investigation We (Quincy and I) discover he is intoxicated quite heavily. We called for an ambulance and they are now caring for the man. Quincy went to clean up.

245 Kevin leaves

302 Start MIP46
first hit @ 19ft bgs small spike 2.75
@ 27.5 high spike and it continues to spike each foot ~~becoming~~ more until 42.5 where there is a high spike
@44 we had a spike that went off the chart.

401 End of MIP46 @ 44.95ft bgs

6/14/2011 (105)

410 Update Cristina on progress
415 continue to clean up, fill and patch MIP46 and packing equipment.
445 John Diamond offsite
500 All personnel offsite

6/14/2011

6/15/11

Personnel: A. Eisberg, J. Diamond, Q. Brandt
Weather: 80°F Clear Sunny
Scope: Preform MIP work at MIP5f and MIP2c. If time Allows start Soil Sampleing

7:45 Onsite John is onsite preparing the MIP for the day. Start to calibrate
8:12 Quincy Arrives and starts to prep the geoprobe
8:50 Start to move equipment to MIP5f
9:18 Start MIP5f
9:27 End MIP5f Refusal at 12.75ft bgs No hits
9:29 Pull rods and decontaminate them
9:40 move to a new position
9:45 Clear new location to 5ft bgs
9:50 Start MIP5f
11:33 End MIP5f @ 60.00ft No hits
12:17 Patch and fill MIP5f
12:30 Move equipment to MIP2c
12:47-1:17 Lunch
1:17 Move into position finish prep work
1:30 Start MIP2c
@ 18ft we have our first hit (small)
@ 22ft there was a high spike continuous high spikes until

2:20 37.65 ft bgs where it Maxed out the Meter and hit Refusal
2:25 Start to pull rods and decontaminate
2:40 Call Cristina tell her of progress.
2:42 finish pulling rods find out MIP needs to be repaired.
3:12 Recive call from Cristina She wants another MIP2c with a new name MIP2c2 we need to try to get deeper.
3:20 John starts to do repairs on the MIP
3:45 and Quincy clears the next location for MIP2c2
4:50 John finishes Repairs to the MIP. while I try to contact Cristina, John told me the Overtime rate for MIP work is ridiculously expensive. I am sure when Cristina told me to go ahead and do what I need to to get MIP2c2 done she did not account for the cost of reducing overtime. Since I have tried several times and can not get her I have decided to call it off for the day we will have enough time to return to do this. I have rescheduled my personal matters to account for the project
5:15 All personnel off site

6/15/2011

(108) 6/16/2011

Personnel: A Eisberg, J. Diamond, Q. Brandt, T. Harn
Weather: Hazy, little clouds 80's
Scope: Complete MIP2c2 then sample soils onsite
7:40 Onsite zebra onsite, Calibrate equipment and prepair other equipment
8:00 move into position on MIP2c2
8:15 Start Mip2c2
first hit 18.25 ft bgs good size hits off the chart at 20.15 ft bgs
8:36 Hit Refusal at 20.15 ft bgs
8:50 fill and seal hole with cold patch Asphalt & tamp it down. Cristina asked for one last try at this location to get as deep as possible. This new location will be called MIP2c3.
855 Clear MIP2c3
905 Start MIP2c3
@ 19.25 high hit
@ 22.05 it goes off the chart again at 24.35 until 40 ft bgs where the spikes are still high but it eventually comes back into range
@ 43ft bgs the hits became smaller they have been sloping downward since 40ft bgs

(109) 6/16/2011

1027 Tom Horn arrives on site.
@ 65ft bgs baseline 66-74 small hits
1050 Draw field blank
Small hit @ 69ft bgs
11:00 End MIP@ 77.45
11:05 talk to Shirly Ng. at Mitkem to schedule Pickup for monday 20th
11:25 leave Progress Update for Cristina in Vacuum
12:00 Discuss Progress with Cristina and potential Sample locations and methods, She has decided to go with the blind probe push down to the sample location then push down the macrocore to grab the sample over continuous Sampling.
12:15 Lunch Break
12:45 I am back from lunch John did not take lunch he worked on the broken MIP now he finishes up and goes on lunch at 1:15
1:45 John Returns I have my stuff set up for soil sampling and Quincy is nearly ready with the rest of Hornes equipment.
2:00 Tom Horn leaves
2:12 Start work on MIP2c3 to recover Sample for MIP2c

(10) 6/16/2011

2:27 Start advancing rods

Refusal at 10ft, move to another location

2:32 Start new location for MIP2c sample at 35ft

3:25 Sample leader MIP2c 3 for sample MIP2c Full TAL/TCL +30 at 35 ft bgs

4:00 Move to MIP5e to sample at 16ft Full TAL/TCL +30

16:18 Sample MIP5e @ 16ft bgs

16:20 Clean up fill and patch holes

16:59 Finish paper work with Quincy

17:00 Zebra off site, call Cristina

She has 1 additional location to Sample MW12S @ 35ft bgs

This is supposed to be a difficult location.

17:30 finish with Cristina, All Personnel off Site

6/16/2011

6/16/2011 (11)

6/16/2011

Depth (ft)	Sample #	PID	USCS	Color
MIP2c	30ft-30.5ft	13	SM	Red-Brown
MIP2c	30.5ft-35ft	11	ML	Red Brown
MIP5e	12ft-16ft	0	SM	Red-Brown

6/16/2011

80230-MIP2c-35

80230-MIP5e-16

6/16/2011

Description	Moisture	Notes
fm S l Sd	wet	
Silt some fine Sand	wet	Fe, Mn stains 325
Silty Sand and fine Gravel	wet	16-18 Fe, Mn stains

6/16/2011

6/17/2011

Personnel: A Eisberg, Q Brandt, J Diamond
Weather: Damp cool 75°F
Scope: get All 5 remaining Soil Samples

7:30	Zebra on site
8:10	A. Eisberg on site
9:05	Start work on MIP44c Sample at a depth of 45ft
10:20	Sample 80230-MIP4c-41
10:40	move to MIP46 and attempt to retrive a sample @ 45ft bgs
12:25	Sample MIP46; 80230-MIP46-45
13:15	move to MIP66 and setup
13:30	Go to lunch
13:40	Start to rain, Thunder + lightning
15:00	All personell off site, work called off due to Lightning

6/17/2011

6/17/2011

(116) 6/17/2011

Location	Sample name	Depth	color	PID/FID
MIP4c	80230-MIP4c-41	4/1-45	L-Brown	60 SP
MIP46	80230-MIP46-45	4445	L-Brown	0 SP

6/17/2011

(117) 6/17/2011

Description	Moisture	Notes
mSt&tfG	wet	10:20
fmSt&tfG	wet	12:25 MS/MSD

(118) 6/23/11

Personnel: A. Eisberg, Terry McKiven
Weather: 70°F, Humid, Cloudy, Rain on and off
Scope: Survey Site
12:00 Arrive on site. Received call that Surveyor will be late, around 1300
12:40 Receive call that surveyor will be late perhaps a ½ hour or 45 min.
13:30 Call Terry McKiven to ask him how far out he is. He is on the bridge so hopefully he will be here in 10-15 min
1340 Terry Arrives on site Start to Survey site using GPS
1500 There is a car in front of Michaels that is over MIP04B it has been there All day
1530 All locations are complete except for MIP04B. Monitoring well MW12S has 2 locations shot for it MW12S and MW12S2. The additional location is in case we hit Refusal.
1535 All Personnel off site

6/24/11 (119)

Personnel: AEisberg Luke Caballero, Quency Brandt
Weather: Cloudy Humid Drizzle and off 70°F
Scope: Sample MIP5c, MIP6B, MW12S
7:40 on site
8:00 Zebra Arrives
9:00 Power field Blank 80230-FB-110624
9:19 Sample @ MIP5c Sample Name 80230-MIP5c-36.5
9:42 Move to MIP6B and Repair to Sample
10:13 The drillers have tried 3 locations for MIP6b so far. The last one has bent ±20 ft of there rods
10:57 Sample MIP6b Sample Names: 80230-MIP6b-42.5 and 80230-DUP3-SO @ 21:00
11:36 finish Cleanup and packing up of equipment
11:50 move all equipment to the MW12S Start to setup
12:00-12:30 Lunch
12:30 continue to setup on MW12S
12:38 Start MW12S Hit Refusal 2 times
13:30 Hit Refusal with macrocore at 30 ft
14:37 Sample MW12S @ 35ft Sample # 80230-MW12S-35

6/24/20

Location	Depth	Sample #	PID/uscs	Color
MIP5c	31.5-32.5	—	1.3 ML.	Red Brown
MIP5c	32.5-35.5	—	2.7 SM	Red Brown
MIP5c	35.5-36.5	80230-MIP5c-36.5	3.8 SP	Red Brown
MIP6b	41-41.5	80230-MIP6b-42.5	0.8 ML	Red Brown
MIP6b	41.5-42.5	80230-DUP3-SO	SM	Red Brown
MW12s	34.5-35	80230-MW12s-38	2.0 ML	Red Brown

14:40 go back down MW12s try for another macrocore from 38-40.

15:20 another additional macrocore has not been successfully retrived. The Tube is stuck in one core and the other was not able to penitrate to 35 ft bgs to start/continue sampleing

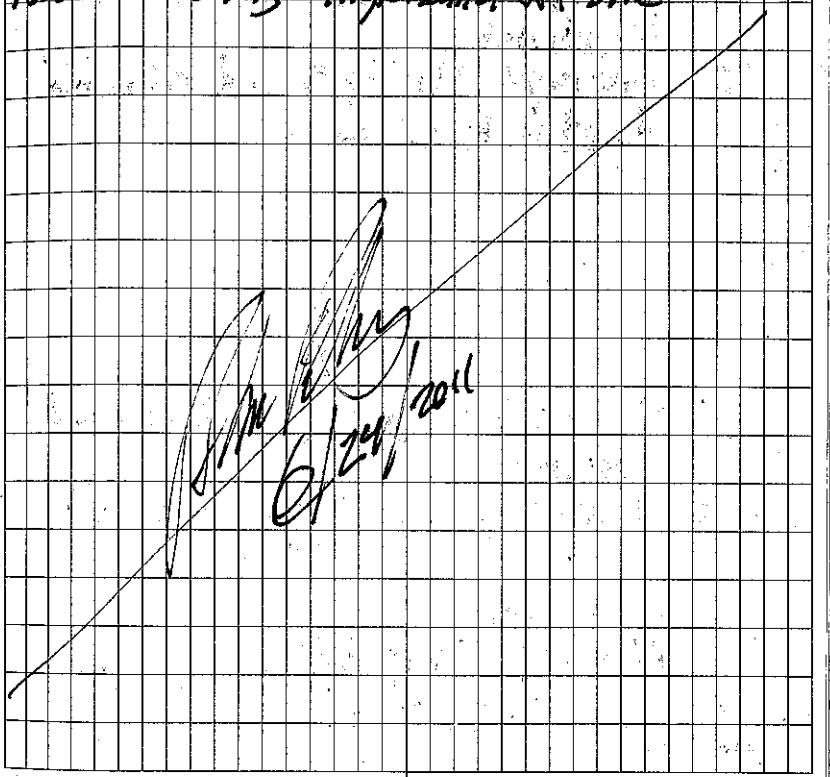
16:01 After talking to Cristina and giving an update. I noticed I have not written. The drillers had to retrive the MW12s sample from the macro core By beating it with a hammer to shake loose any soil they could. The liner had been crushed inside of the tube and was not allowing the sample to be withdrawn in the manner it is usually taken from the Macrocore.

6/24/20 Trac State notes

Description		
Silt some fine Sand	wet	
fm Sand and Silt little gravel	wet	
fmc Sand little Silt trace Gravel	wet	9:19
Silt and fine Sand	moist	
fmc Sand some Silt trace fm Gravel	moist	10:37 21:00
Silt some fm Sand trace fm Gravel	moist	14:37

16:25 finish cleaning and filling and putting away and tamping down asphalt

16:30 End Day all personal off site



9/19/11 Water levels and site Visit

0950 S. Kellogg + R. Chenevert arrive onsite. Meet John Dimond of Zebra to look at locations in Boston Market basement.

1020 Met Kevin Saronwicz of NYSDEC and Paul Waddell of L&A to look at well locations

1130 opened MW-8S and collected depth to water

Weather: light rain ~ 70°F

1200 Moved to MW-16S - can't get the well open
MW-1 is under water
MW-15S - opened and released pressure

12:10 MW-14S bent bolts won't open PZs won't open
took photo
MW-12 bent bolts. Can't open

12:20 MW-13 Cluster @ KFC

12:45 MW-2

SK

Well	time	depth to water
MW-8S	1130	5.01 feet
MW-16S	Can't open	
MW-1	under water	
MW-15S	vac	4.63 feet

MW-~~15~~ 11S			3.87	ft
MW-~~13~~ 11D		3.91	~~3.98~~	ft
MW-3			2.81	ft
MW-4			2.85	ft
MW-2			2.11	ft
MW9S	vac	~~2.49~~	~~2.27~~	ft 2.21
MW-9D	vac		2.27	ft
MW-10D				
MW-10S			2.82	ft
MW-13S			6.31	
MW-13D	vac		~~6.31~~	ft 6.21

400 pm left site for the day

9/20

1700 Unloaded equipment at the warehouse

Sushi Kellogg 9/20/11

9/19/11

1230 - General note - wells need 10 min to stabelize MW-9S took longer

1300 Car parked on well MW-10D

10/31/2011

Personnel: Alan Kisberg, John Dimare, Lukas Reiss Luke Cavallero

Weather: Clear, Sunny, 40° F

Scope: Do borings in the basement

8:30 Arrive on site Start Arranging equipment

9:15 Zebra Arrives, AK calibrates equipment.

10:50 call Seth K and discuss plan of action Zebra does not have equipment to drill inside today. They are going to core through the cement and then leave the drilling for tomorrow, JD is doing drilling

11:00 P-2 Pulled full length of PVC Pipe out 10ft

11:07 P3S 10ft PVC Pulled

11:10 P3D 20ft PVC Pulled

11:15 P5 10ft PVC Pulled

11:30 fill P-2, P3S, P3D, and P-5 with Portland cement

11:45 P4S Could not Be located it is suspected that the drive through pad for KFC is built over P-4S and P4D

11:50 LR. Leaves to get more cement

11:55 L.C. Starts Rehab on MW-12S

12:07 L.C. Move to MW-15D for Rehab

12:25 L.C. moves to MW-14S for Rehab

12:27 LR Returns and helps with Rehab

10/31/2011

1:00 finish MW-14S
1:24 finish MW-15D
1:36 finish MW-12S
1:50 look at Remarks 3 Rehab locations and cuttings in the basement
2:00 try to open wells to determine what is wrong with them
2:38 start work on MW-8S
3:06 finish MW-8S Rehab
3:15 Geoprobe Rung out of fuel we try filling it and starting it
3:25 Geoprobe has air in the fuel line air must be bleed out so fule can make it to the engine
5:30 after much trouble starting we finaly got the rig started
6:15 finish cleanup all personnel off site

10/31/2011

11/4/2011

Personnel: Allen Kisberg, Steve Vosilla, Lukas Reiss
Weather: Sunny 45°F
Scope: Sample Soil and water under the slab in the basement area of the former Paul Miller Dry Cleaners
7:30 on site start calibrations of YSI, Turbidity meter, Multi RAE
9:05 Zebra arives we discuss the days work
9:15 Pour the Trip blank PM-TB-11 2011
9:45 Pour Field Blank PM-FB-SO 11 2011
9:50 Pour Field Blank PM-FB-AQ-11 2011
10:50 Start work on B-2
10:55 Sample B-2 A ~~PM-SE-FS~~ FS s.C Ld ~~6"~~ 6" 3 inches of concrete slab
11:03 Sample B-2 B ~~PM-SE-FS~~ FS s. ~~Sh~~ LC 5ft
11:17 Sample B-1a A ~~—~~ s.f S tC 6"
11:22 Sample B-1a B ~~—~~ fS s.C L ~~Sh~~ tfG 5ft
11:50 Attempt B-4 Refusal at 1ft. 6" of slab. Attempt B-3: Refusal at 1.5ft 6" of slab
12:15 Sample B-4 A ~~—~~ fmG s. fmcS
12:17 Sample B-3 A ~~—~~ fmG s. fmcS
Samples B-3 and B-4 were taken from the soil Between the floor of the Vault and the Slab 1.5ft below the floor of the Vault. later these locations were filled with concrete

11/1/2011

12:33 Sample B-5 A fSs. $tC 6"
12:35 Sample B-5 B fSs $tC 6ft
12:30 Sample B-6 A Cs $ LfS 6"
12:34 Sample B-6 B fSs $ LftG 5ft

All locations were met with Refusal:
B-1a Refusal at 5ft
B-2 Refusal at 5ft
B-3 Refusal at 1.5ft
B-4 Refusal at 1.5ft
B-5 Refusal at 6ft
B-6 Refusal at 5ft

at B-2 and B-3 there is potential for there to be another Slab below the ground inside of the vault where we were drilling

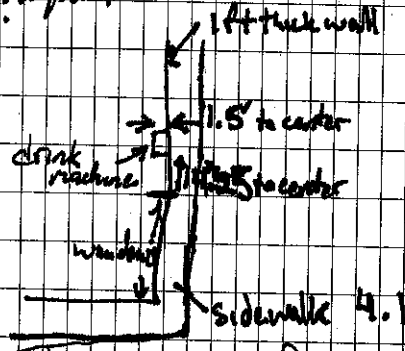
14:00 Pull out drill and other equipment to go to groundwater sampling

Ricky C. talked to me on the phone he said that he would like us to go back in to the basement and do an additional location on the opposite side of the pad that we did B-4 next to. in the phone call prior he wanted to do an angle boring from outside the building after that I told the drillers we were done drilling in the basement

11/1/2011

The drillers did not bring their peristaltic pump with them today they only have a check valve. I talked to Ricky about what to do and he told me I can figure something out what I figured out was we will have to wait for the peristaltic pump tomorrow.

3:00 go outside to figure out the location of the drink machine so I can prepare for the drilling by running the calculations tonight.



3:20 Head to warehouse for Sample management

4:10 Arrive Start working on Samples

all Soil Samples are 1x 2oz Amber jars
Water Samples for field blank are 3x40mL Amber Vials. Trip blanks are 2x40mL Amber Vials. All samples are to be Evaluated for VOC's

Samples are named as follows:

11/1/2011

B-1a "A" 6" bgs	PM-SB-1a-A-111201	11:17
B-1a "B" 5ft bgs	PM-SB-1a-B-111201	11:22
B-2 "A" 6" bgs	PM-SB-2-A-11201	10:55
B-2 "B" 5ft bgs	PM-SB-2-B-11201	11:03
B-3 "A" 6" bgs	PM-SB-3-A-11201	12:17
~~B-3~~ Refusal at 1.5 ft bgs		
B-4 "A" 6" bgs	PM-SB-4-A-11201	12:15
~~B-4~~ Refusal at 1.5 ft bgs		
B-5 "A" 6" bgs	PM-SB-5-A-11201	12:33
B-5 "B" 6ft bgs	PM-SB-5-B-11201	12:35
B-6 "A" 6" bgs	PM-SB-6-A-11201	1330
B-6 "B" 5ft bgs	PM-SB-6-B-11201	1334
Trip Blank	PM-TB-111201	9:15
Field Blank Soils	PM-FB-SO-11201	9:45

11/1/2011

11/2/2011

Personnel: A Eisberg, Steve Vasilla, Laukas Reiss
Weather: Clear Sunny 45°F
Scope: Drone soil sample in the basement on the opposite side of B-1a the pit. From the location B-1a. Sample the water in a well the borings in the basement. Preform 2 directional borings outside the Boston market to get soil samples under the soda machine.

6:30 onsite get in organize equipment
7:00 Calibrate Equipment. YSI, Turbidity meter
7:15 Trip Blank PM-TB-112201
7:30 Field Blank Soils PM-FB-SO-112201
7:45 Field Blank AQueous PM-FB-AQ-112201
7:55 continue calibration of YSI, Turbidity meter
8:45 Drillers Arrive, we Start to Prepare for the Soil and water in the basement
9:00 Start Rehab on MW-1
9:45 Finish Rehab on MW-1 Then Start work Rehab on MW-16S &
10:15 Finish Rehab on MW-16S
10:20 Start moving equipment into basement for B-1b
11:10 SAMPLE PM-SB-1b-A-112201 fSaC 6" Take Duplicate Sample
11:17 Sample PM-SB-1b-B-112201 fSQfGQC 6'

11/2/2011

12:00 Prepare for water Sampling
12:30 Sample PM-AB-2-112201
12:35 Move outside to setup on B-7
13:55 Sample PM-SB-7-B-112201 at 15ft
B-7 B
0-2ft No Recovery
2-3ft Concrete
3-3.5 fS a. C wet
3.5-5 fmG some fmS
5-8.5 fS s/ lfG lC
8.5-9 fm Gravel
9-10 fS s C lS
10-15 fmS s C lfmG
EoB Refusal at 15ft
13:58 B-7A Refusal at 3.5ft
14:15 Sample PM-AB-16-112201
15:10 Sample PM-AB-7-112201
16:15 off site head to Warehouse for Sample management.

11/2/2011

11/3/2011

Personnel: Adam Kosboge, Steve Vasiliq
Weather: Clear Sunny 50°F
Scope: finish the final 3 locations in the basement for water sampling. Check all rehabilitated wells Seth Reported that Ricky could not open some due to the size of the internal well seal being to big to get out of the flush mount.
7:30 on site talk to Seth about todays scope
8:45 Zebra on site go over scope
8:50 Pour Trip blank
8:45 No field Blanks not enough vials for Samples and blank, Called Seth to confirm. OK
9:50 Sample PM-AB-10-113011
Take Duplicate
10:45 Sample PM-AB-6-113011
11:00 have driller open and check accessibility of all wells Refurbished
11:20 Sample PM-AB-5-113011
11:30 Turn in Key to Boston Market have Driller paint patches on the sidewalk
11:45 Recheck personally that all wells are accessable
12:10 Finish Rechecking wells all wells open completely allowing access to the well entirely.

11/3/2011

12:30 off site. Head to warehouse for sample management

*Upon talking to Ricky I realized that we forgot to examine P-1 this will need to be done next time we are in the field. Also the P-4s and P-4d ~~xxx~~ could not be located they may be under the KFC Drive through pad. ~~the~~ P-1 was to be examined and if there was water in this well it was to be kept and a new flush mount installed. P-4s and P-4d were to be removed. Also Measure Locations in the basement of samples taken

11/3/2011

11/4/12 for C

0730	RIC + Cal Walking around
	to the first slug test
	Rocky Comes, sets
0740	Slug test 2 over 11 feet 5 inches
	from US Environmental - feels 1/2 min
	after call on two min test 4 ft
	- 8/48 OK
0742	Returned at 1600-16 1.8 min.
0744	MTW at 1600-16 9.82'
0755	Leaves 16 MW-5 to MW-12 to 4 quarts
0758	Left 1400 MW-5 2.00 min Comes
	Recovery 2.00 0.4 min
	MTW 8.75 (7.75)
0824	Start 16S Fall
0855	Start 16S Rising
0900	Move to 14S
0917	Start 14S Fall
0922	16S MTW 9.82' - 0.4 Fully
0947	MW-12 PID 20.4 ppm
0951	MW-12S MTW 6.63'
0957	Leaves to MW-12S
1100	Completed Fully 4 qts - 12S
	MW-13S MTW 8.99' PID 46 ppm
	Start 14S Rising
1213	Start 13S Rising (Fully caps absent)

11/4/12 for C

4/4/12 Pea

Motor started rigs at MW-14S @ 1107

1216 Start 13S Fall

1243 - DTW at 11S - 6.42' PID = 0.

1303 Stop test at 14S Rig.

1308 - MW-8S PID 10.7 ppm

DTW 7.49 - clay x2.

1839 - 11S Rig fall, down - start rig

~1435 End rig at 8S

DTW at 15S 7.15 PID 6.1.

~1450 End PID Purge - move to 15S

1550 - 15S PID Initial rapid recov

and oscillating levels. Repeated

trips - slow slug motion.

1547 At 9S - PID 2.1 ppm

DTW 4.76

1644 - Finish 9S fall - rig

Leave site.

Summary - Did falling & rising

head tests on wells:

16S	13S
8S	11D
14S	12S
9S	15D

Data on In-Site Level Troll 700

4/4 12 JDC

Drum log

Drum #	Date	Contents	Amount Full
1	5/19/11	Asphalt + surface Soil	80% 5/26/11
2	5/23/11	Purge H_2O	½ 5/26/11
3	5/26/11	Soil (from cores)	15% 5/26/11

DRUM LOG PG 1

DRUM	Date	Contents	Full?
~~29~~ SB			
~~30~~ 29	9/2/18	ASPHALT + DIRT	3/4
30	9/5/18	Asphalt, Surface Co. 1	1/2 +
31	9/5/18	Asphalt Concrete Surface Co. 1	1/2
32	09/08/2008	develop water MW9D	full
33	09/08/2008	dev. water MW9D, [illegible]	full
34	09/08/2008	dev water MW13D	full
35	09/08/2008	dev water MW13D	full
36	09/08/2008	dev water MW13S	full
37	09/09/2008	dev water MW15D	full
38	09/09/2008	dev water MW15D	full
39	09/09/2008	" " MW16S	1/3 full
40	09/29/2008	dev water MW10D, S	full
41	09/29/2008	" " MW9S	2/3 full
42	09/29/2008	plaster	1/4 full

3 new drums for water

CURVE TABLES

HOW TO USE CURVE TABLES

Table I. contains Tangents and Externals to a 1° curve. Tan. and Ext. to any other radius may be found nearly enough, by dividing the Tan. or Ext. opposite the given Central Angle by the given degree of curve.

To find Deg. of Curve, having the Central Angle and Tangent: Divide Tan. opposite the given Central Angle by the given Tangent.

To find Deg. of Curve, having the Central Angle and External: Divide Ext. opposite the given Central Angle by the given External.

To find Nat. Tan. and Nat. Ex. Sec. for any angle by Table I.: Tan. or Ext. of twice the given angle divided by the radius of a 1° curve will be the Nat. Tan. or Nat. Ex. Sec.

EXAMPLE

Wanted a Curve with an Ext. of about 12 ft. Angle of Intersection or I. P. = 23° 20′ to the R. at Station 542+72.

Ext. in Tab. I opposite 23° 20′ = 120.87
120.87 ÷ 12 = 10.07. Say a 10° Curve.

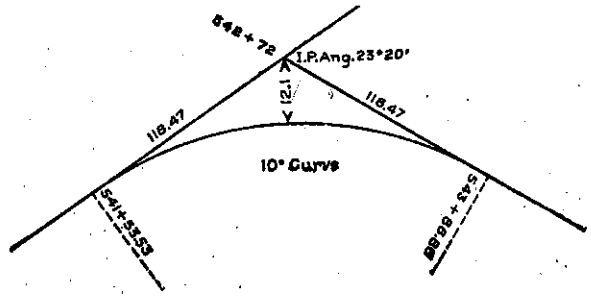
Tan. in Tab. I opp. 23° 20′ = 1183.1
1183.1 ÷ 10 = 118.31.

Correction for A. 23° 20′ for a 10° Cur. = 0.16
118.31 + 0.16 = 118.47 = corrected Tangent.

(If corrected Ext. is required find in same way)
Ang. 23° 20′ = 23.33° ÷ 10 = 2.3333 = L. C.

2° 19½′ = def. for sta.	542	I. P. = sta.	542+72
4° 49½′ = " " "	+50	Tan. =	1 .18.47
7° 19½′ = " " "	543	B. C. = sta.	541+53.53
9° 49½′ = " " "	+50	L. C. =	2 .33.33
11° 40′ = " " "	543+ 86.86	E. C. = Sta.	543+86.86

100 − 53.53 = 46.47 × 3′ (def. for 1 ft. of 10° Cur.) = 139.41′ =
2° 19½′ = def. for sta. 542.
Def. for 50 ft. = 2° 30′ for a 10° Curve.
Def. for 36.86 ft. = 1° 50½′ for a 10° Curve.



Appendix F

Slug Test Results

OBJECTIVE

Slug tests were performed at the Paul Miller Site to estimate the hydraulic conductivity (K) of the strata. Wells tested include six "shallow" wells, screened approxomately 25 to 35 feet below ground surface (bgs), and two deep wells, screened approximately 60 to 70 feet bgs. The shallow strata exhibit the highest contaminant concentrations on site, estimation of the hydraulic conductivity in these wells will allow a more effective review of remedial options during the feasibility study stage. The two deeper wells were tested because understanding underlying hydraulic conductivity beneath the most contaminated zone will help evaluate plume behavior for different remedial alternatives.

PROCEDURE

Slug tests were performed using a weighted cylinder to displace the water and a pressure transducer to measure and record water level changes over time. At each well tested, the pressure transducer was first deployed and programmed to record depth to water on a logarithmic time basis (water levels were recorded at a rate of four times per second at the start of the test, and the time interval between measurements increased logarathmically througout the test). Manual water levels were measured periodically to confirm the accuracy of the pressure transducer.

The slug was tied to a rope and lowered to a depth just above the static water level. A few seconds after activiting the data logger, the slug was rapidly lowered into the water, displacing the water level upward to initiate the falling head test. After the water level recovered to the static level (i.e. minimum 90 percent recovery), the data logger was turned off and reprogrammed for a new test. A few seconds after re-activating the data logger the slug was rapidly removed from the well, lowering the water level to initiate the rising head test. When the water level returned to the static level, the data logger was turned off and the equipment was removed from the well, decontaminated, and moved to the next well.

Slug test analysis was performed with the aid of Aqtesolv Pro 4.0® (Aqtesolv®), a commercially available software package designed specifically for aquifer test analysis. Aqtesolv® offers a range of analytical solutions that correspond to different aquifer types. Based upon the observed stratigraphy and static water levels, which are fairly close for wells with different screen depths, analytical solutions for unconfined wells were used to analyze the tests. The total thickness of the aquifer is unknown; for purposes of slug test analysis the wells were assumed to be installed within an aquifer whose base is at a depth of 70 feet bgs (i.e. the bottom screen depth of the deep wells). The saturated thickness was assumed to be the water column above 70 feet bgs based upon the static water level depth at each well.

With the exception of MW-15D, the slug tests were analyzed by the Bouwer and Rice (1076) method for unconfined aquifers. This is based on a semi-log plot of time versus hydraulic head, or displacement. Time is plotted on the linear X axis and head difference is plotted on the logarithmic Y-axis. Data plotted in this fashion should yield a curve with a distinct straight line portion that is used to calculate hydraulic conductivity of the formation material. With the exception of MW-15D, the test data were compatible with this method when plotted on semilogarithmic graphs.

The slug test data collected at MW-15D exhibited an oscillatory response and was not compatible with the Bouwer and Rice method. In addition, the well returned to static very rapidly. A second set of falling and rising tests were performed, using a slower slug motion, and the rapid oscillatory response was

confirmed. Due to the oscillatory response, the data from
MW-15D was analzyed by the method of Springer and Gelhar (1991), which was specifically developed for slug tests exhibiting the oscillatory response.

RESULTS

The slug test results are summarized on Table 1, along with a summary of the strata screened at each well. In several cases, more than one K value is provided by the Bouwer and Rice method for a given test. This is because in some cases the automated fit performed by Aqtesolv® did not select the best fit for the line. In such cases, the manual fit capability in Aqtesolv® was used to calculate a more appropriate value based on the data. The best results computed for each well are noted on the table as "preferred fit". For MW-15d, the results for the initial test, which were performed with the typical rapid slug motion, are preferred over the second set of tests, when the slug was inserted/removed more slowly as discussed above.

Lithologic logs of the indicate that the geologic deposits at the Paul Miller site are predominantly fine to medium sand, with silty sand lenses, and coarse sand and gravel locally (e.g. MW-11d). In some cases blow counts were low (e.g. a maximum of 15 blows per 6 inches at MW-15d), indicating fairly loose soils; in some cases the soils exhibited higher blow counts indicating more compact soils (e.g. blow counts generally at least 30 per six inches at MW-14S). The calculated hydraulic conductivities range from 0.05 ft/day (MW-14s – falling and rising head tests) to 69 feet per day (MW-15d – falling head test). The relative hydraulic conductivities generally compare favorably with the strata screened at each well, as summarized below:

- MW-15d exhibited the highest hydraulic conductivity at 59-69 ft/day; this is consistent with its strata – medium sand exhibiting low blow counts.

- MW-11d, MW-12s and MW-13s exhibited hydraulic conductivity values ranging from 3 to 6 ft/day; MW-11d and MW-13s both primarily screen sand with blow counts slightly higher than MW-16d, consistent with the lower K observed. MW-12S is screened in more compact sand and silt, and a lower K value would not have been surprising for this well.

- MW-8s, MW-9s and MW-16s exhibited K values of less than 1 ft/day. MW-9s is screened in silty medium sand and MW-16s is screened in fine sand and silty sand; strata at these wells exhbited low blow counts and the lower K values are consistent with the finer aquifer materials. MW-8s is screened in fine sand and sandy gravel with clay layers exhibiting somewhat higher blow counts, both consistent with the lower K values exhibited.

- MW-14s exhibited the lowest K value, 0.05 ft/day. This well is screened in silty sand and sandy silt, and its blow counts were among the highest of the wells tested, which are both consistent with the low K.

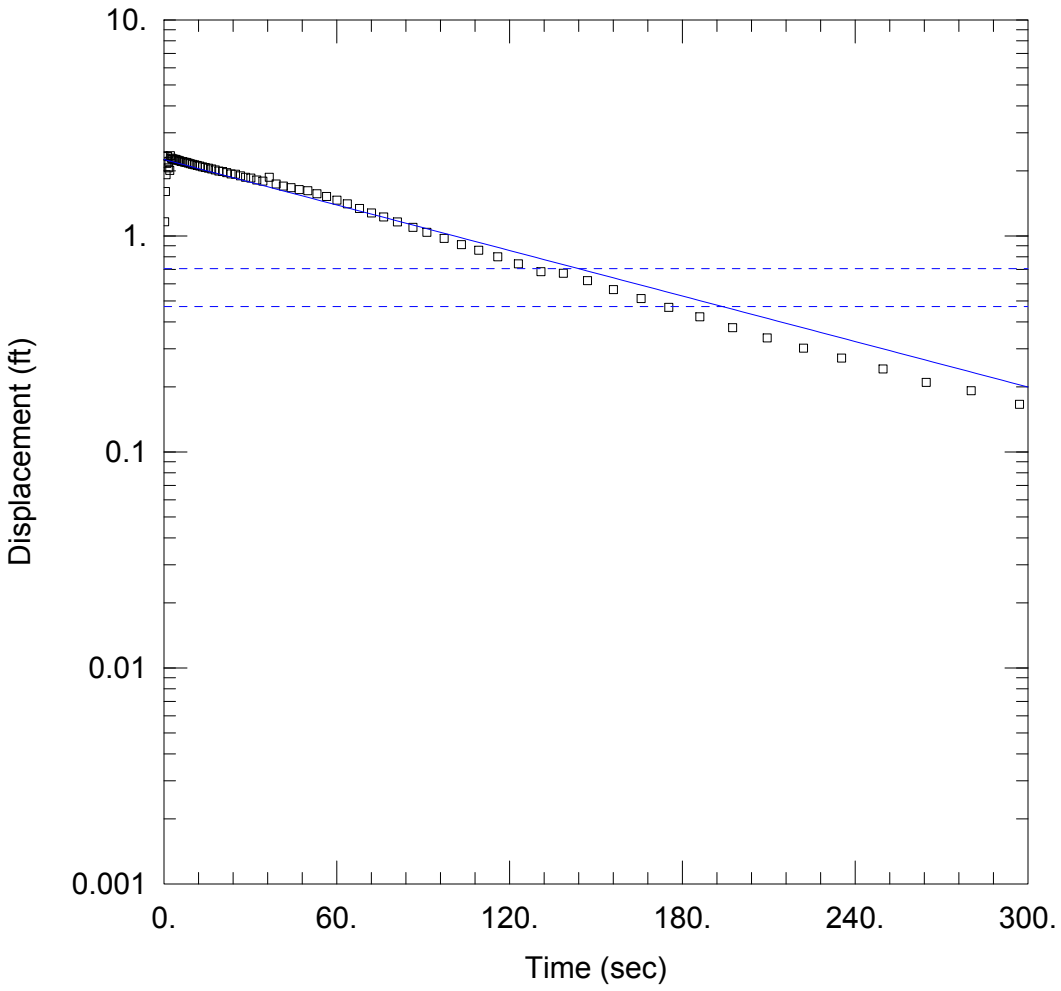
Sensitivity Analysis

Due to uncertainty regarding aquifer thickness, select Aqtesolv® files were revised to recalculate the hydraulic conductivity based upon an aquifer thickness of 125 feet (approximately double the t thickness used for the calculations discussed above). The results indicate that the calculations are not significantly affected by variations in aquifer thickness. For example, the falling head test at MW-15d, which yielded a result of 69.0 ft/day by the Springer-Gelhar method yielded a K value of 52.7 ft/day, well within an order of magnitude of the original result. Changing the aquifer thickness for the falling head test at MW-12s resulted in a K value of 3.5 ft/day, nearly identical to the original result.

References

Bouwer, H. and R.C. Rice, 1976. A slug test method for determining hydraulic conductivity of unconfined aquifers with completely or partially penetrating wells, Water Resources Research, vol. 12, no. 3, pp. 423-428.

Springer, R.K. and L.W. Gelhar, 1991. Characterization of large-scale aquifer heterogeneity in glacial outwash by analysis of slug tests with oscillatory response, Cape Cod, Massachusetts, U.S. Geol. Surv. Water Res. Invest. Rep. 91-4034, pp. 36-40.



FALLING

Data Set: C:\...\8s falling.aqt
Date: 04/16/12 Time: 13:29:08

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

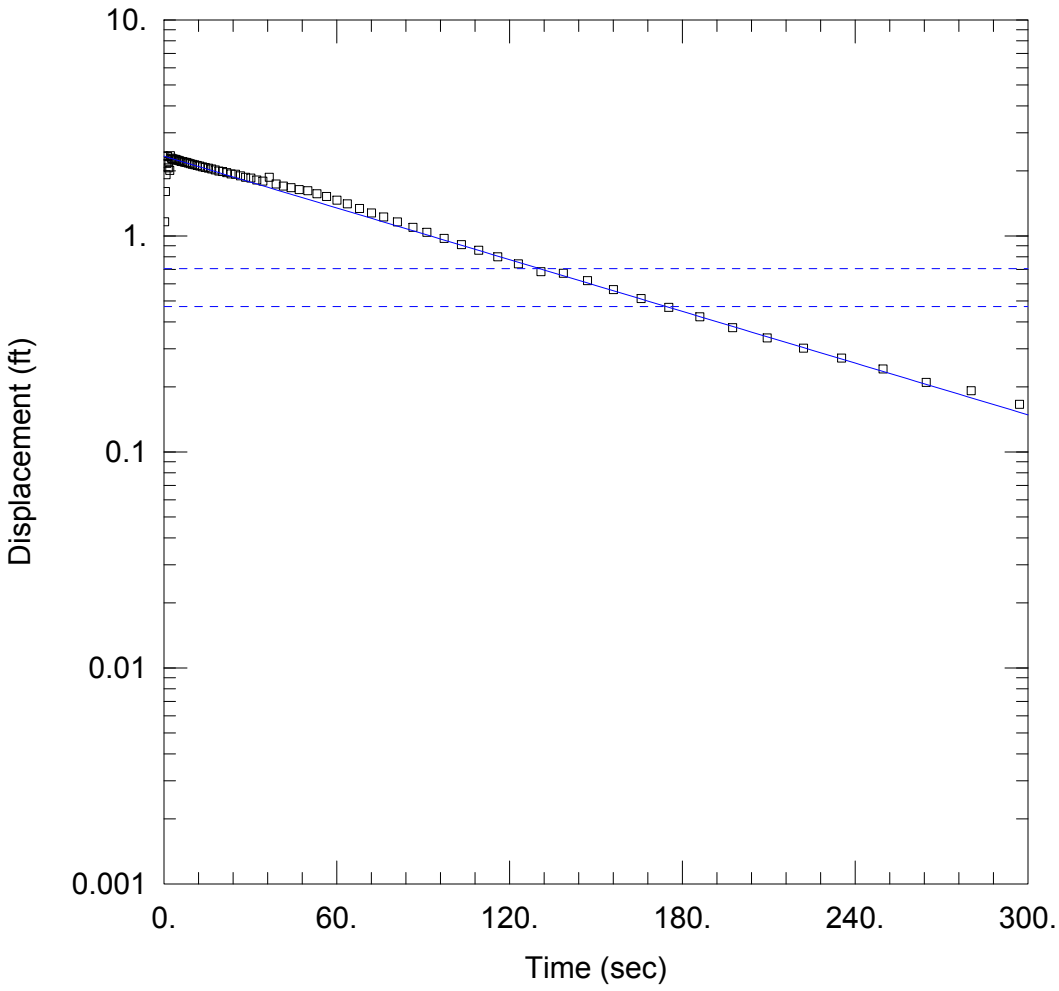
Saturated Thickness: 62.51 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-8s)

Initial Displacement: 2.353 ft
Total Well Penetration Depth: 27.51 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 27.51 ft
Screen Length: 10. ft
Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.6198 ft/day
y0 = 2.259 ft



FALLING

Data Set: C:\...\8s falling.aqt
Date: 04/16/12 Time: 10:51:54

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

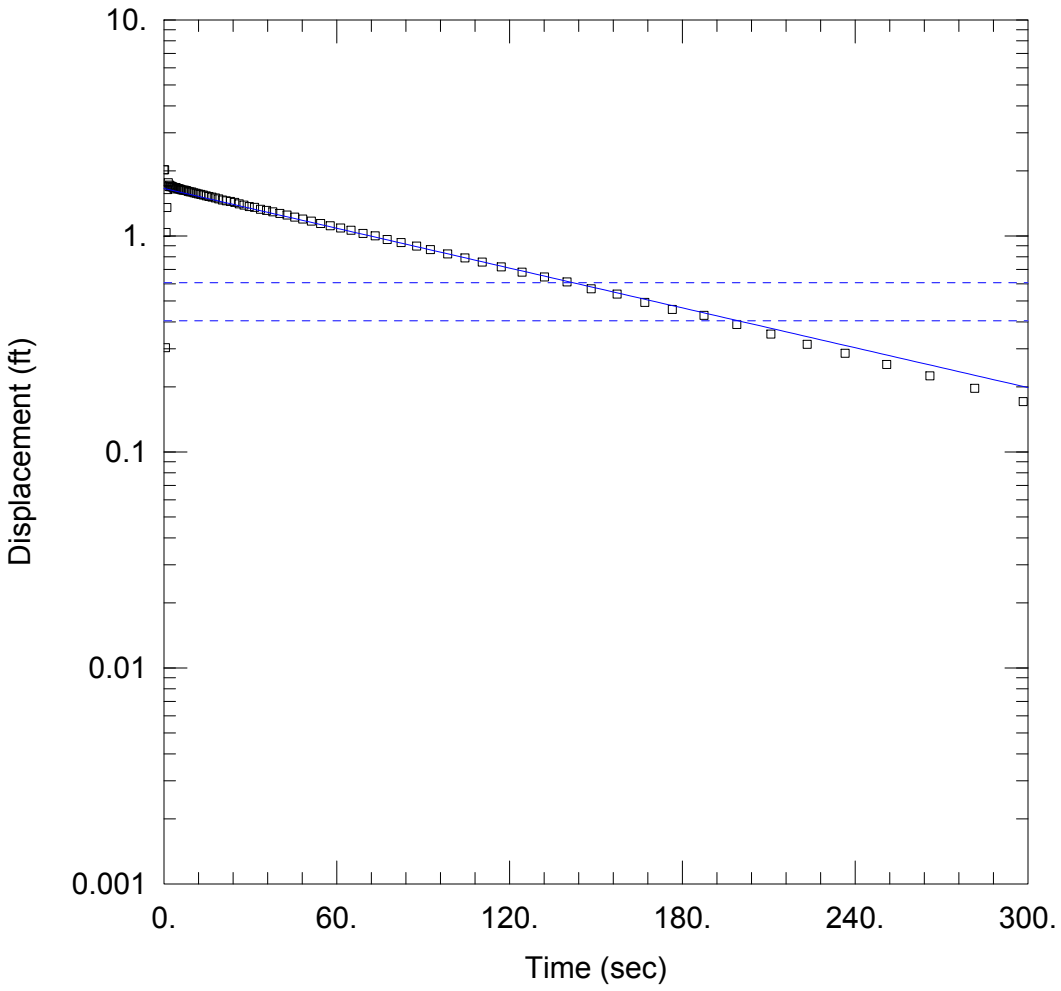
Saturated Thickness: 62.51 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-8s)

Initial Displacement: 2.353 ft
Total Well Penetration Depth: 27.51 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 27.51 ft
Screen Length: 10. ft
Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.7044 ft/day
y0 = 2.338 ft



RISING

Data Set: C:\...\8s rising.aqt
Date: 04/16/12 Time: 12:42:49

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

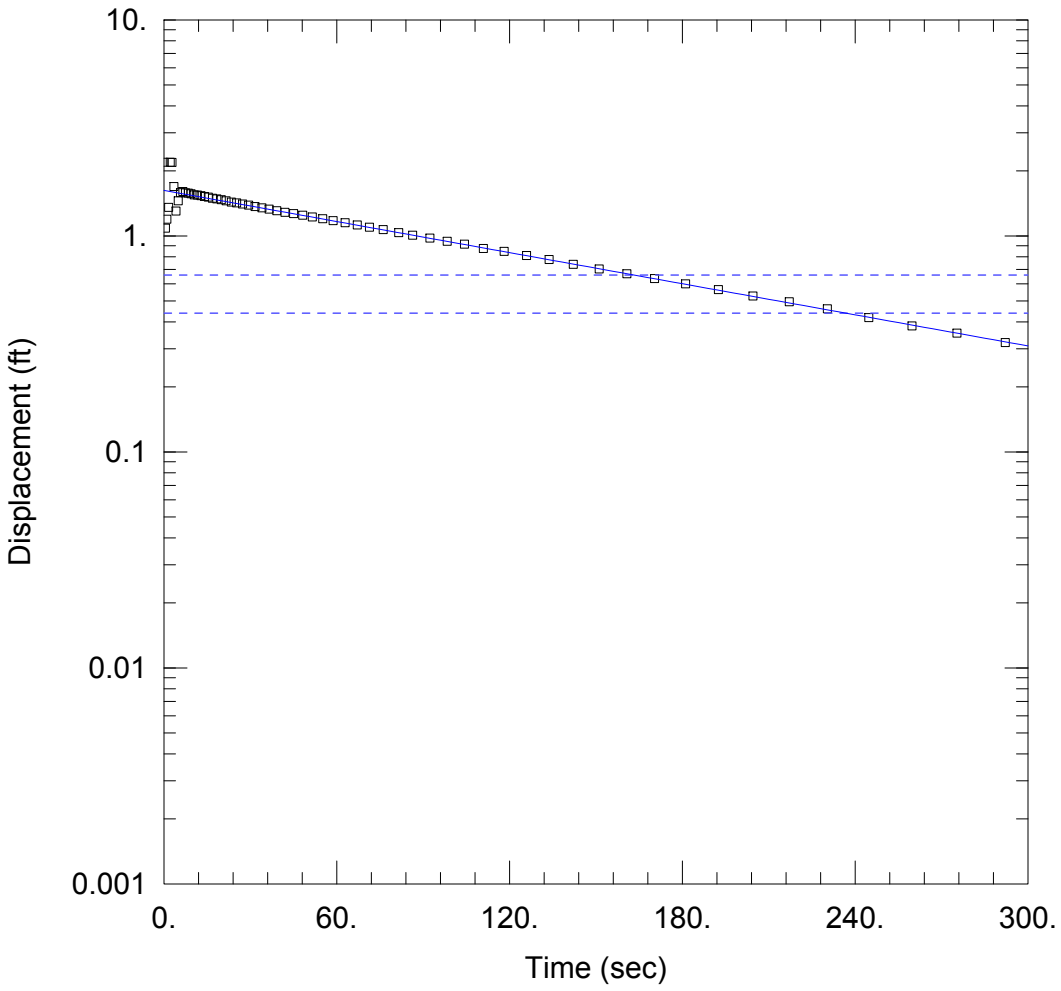
Saturated Thickness: 62.51 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-8s)

Initial Displacement: 2.024 ft Static Water Column Height: 27.51 ft
Total Well Penetration Depth: 27.51 ft Screen Length: 10. ft
Casing Radius: 0.0833 ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.5424 ft/day y0 = 1.659 ft



FALLING

Data Set: C:\...\9s falling.aqt
Date: 04/16/12 Time: 10:54:11

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

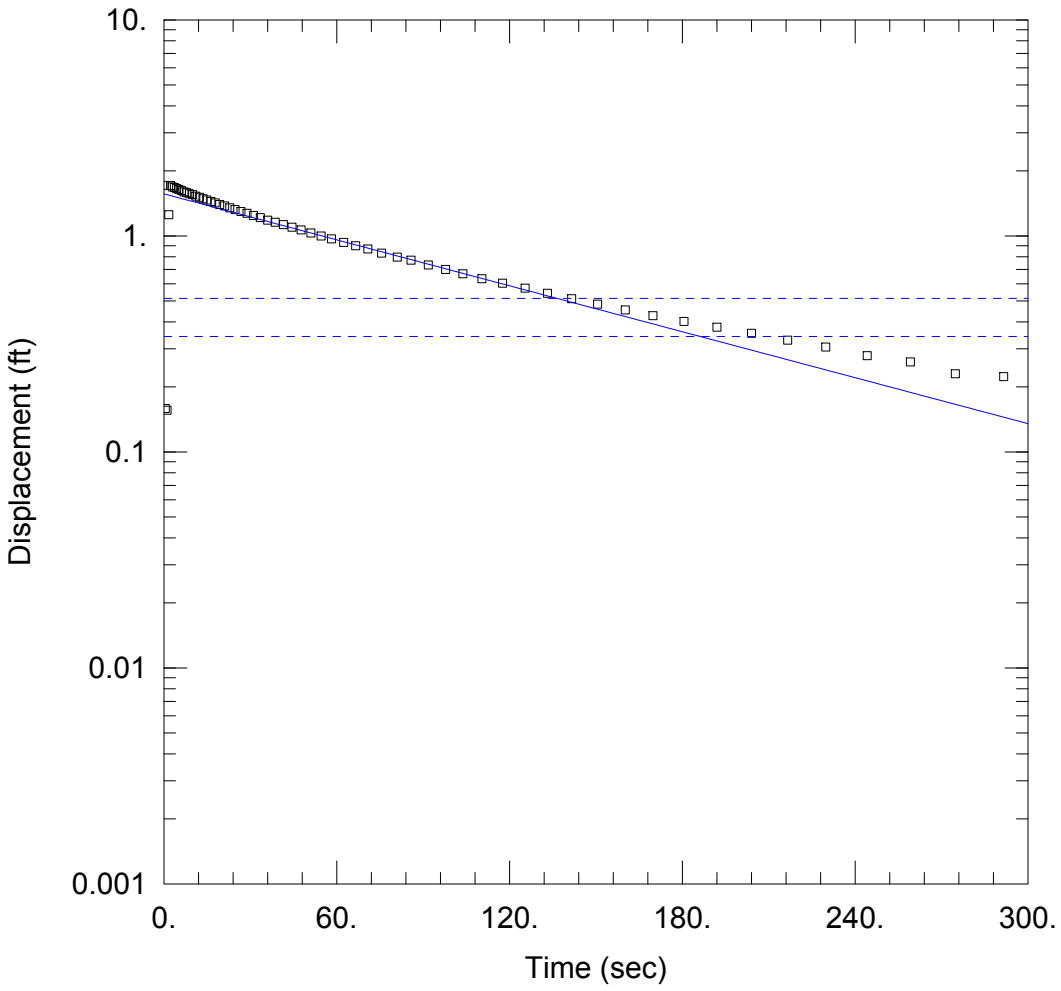
Saturated Thickness: 65.24 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-9s)

Initial Displacement: 2.195 ft Static Water Column Height: 30.24 ft
Total Well Penetration Depth: 30.24 ft Screen Length: 10. ft
Casing Radius: 0.0833 ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.4293 ft/day y0 = 1.624 ft



RISING

Data Set: C:\...\9s rising.aqt
Date: 04/16/12 Time: 13:30:39

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

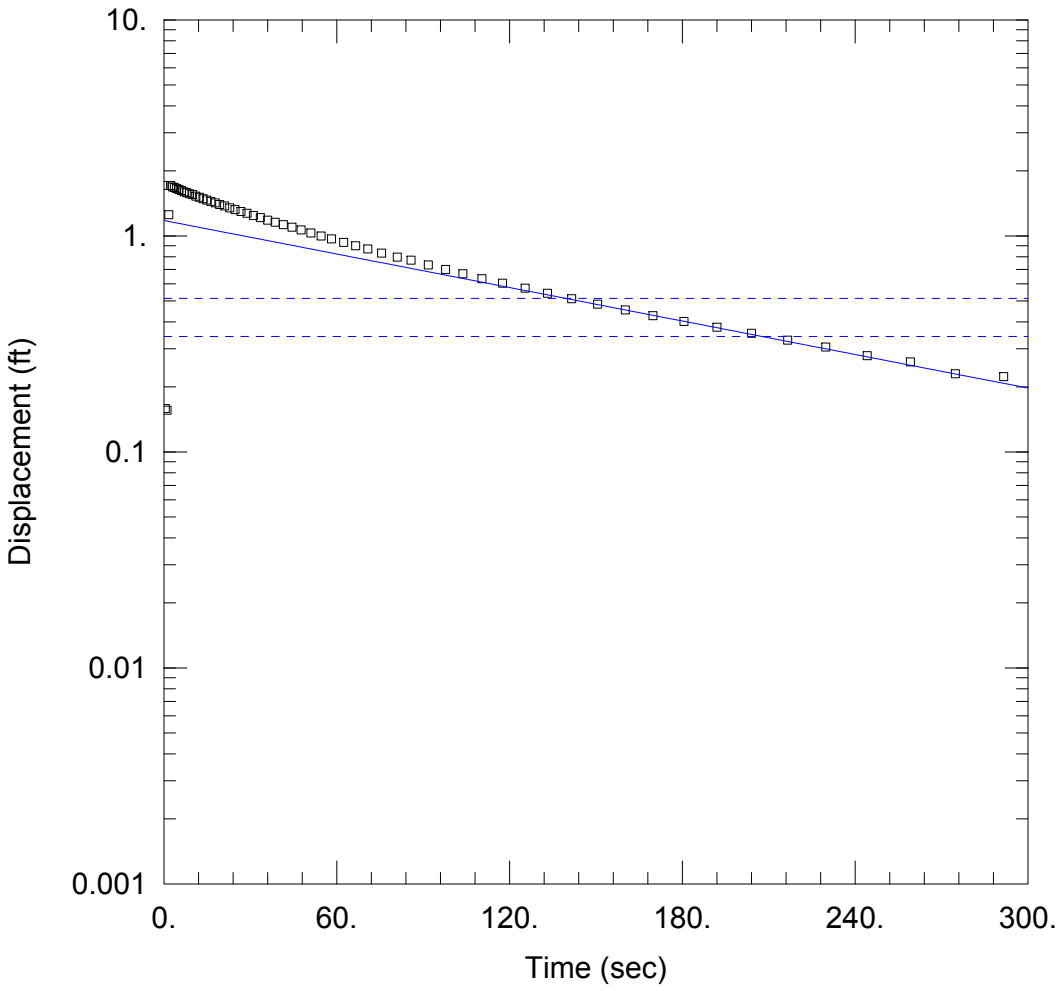
Saturated Thickness: 65.24 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-9s)

Initial Displacement: 1.712 ft
Total Well Penetration Depth: 30.24 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 30.24 ft
Screen Length: 10. ft
Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.6342 ft/day
y0 = 1.565 ft



RISING

Data Set: C:\...\9s rising.aqt
Date: 04/16/12 Time: 11:42:54

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

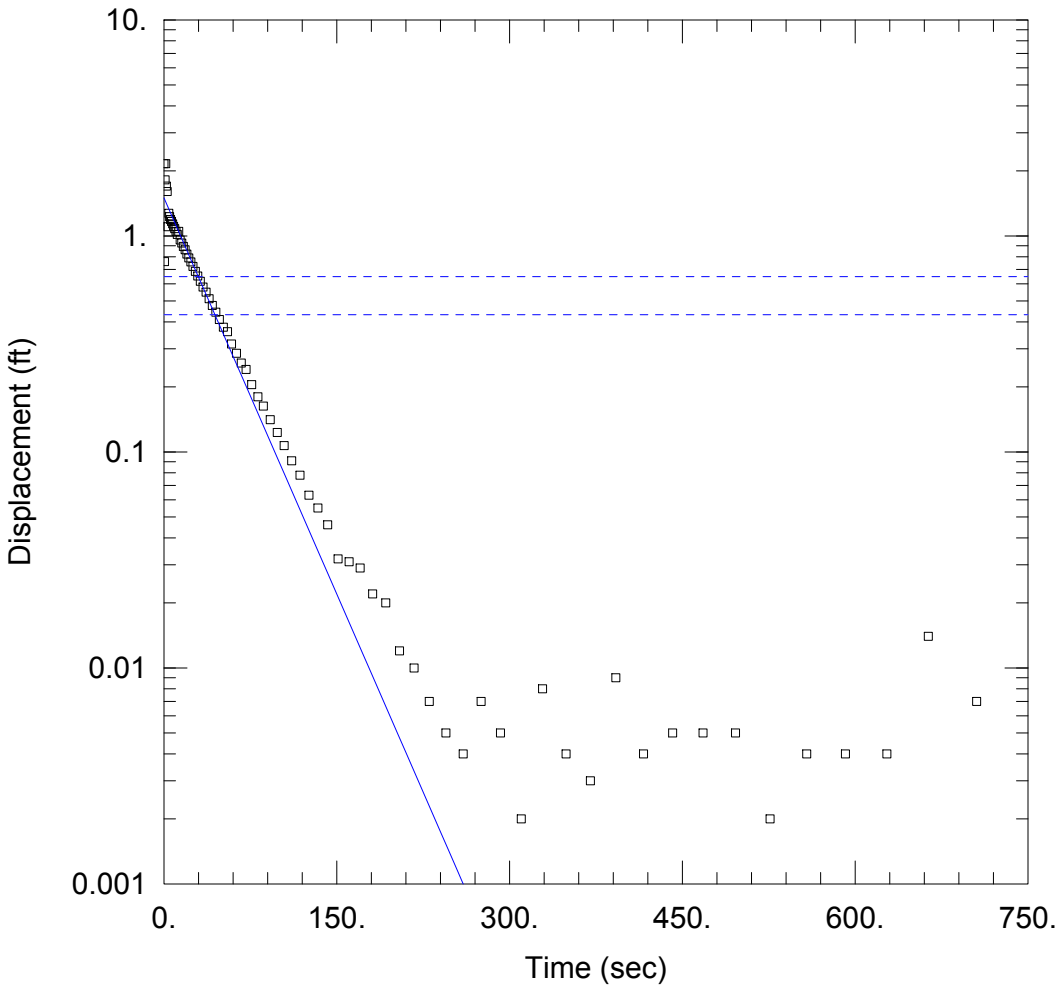
Saturated Thickness: 65.24 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-9s)

Initial Displacement: 1.712 ft Static Water Column Height: 30.24 ft
Total Well Penetration Depth: 30.24 ft Screen Length: 10. ft
Casing Radius: 0.0833 ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.4625 ft/day y0 = 1.178 ft



FALLING

Data Set: C:\...\11d falling.aqt
Date: 04/16/12 Time: 11:44:45

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

Saturated Thickness: 63.58 ft Anisotropy Ratio (Kz/Kr): 1.

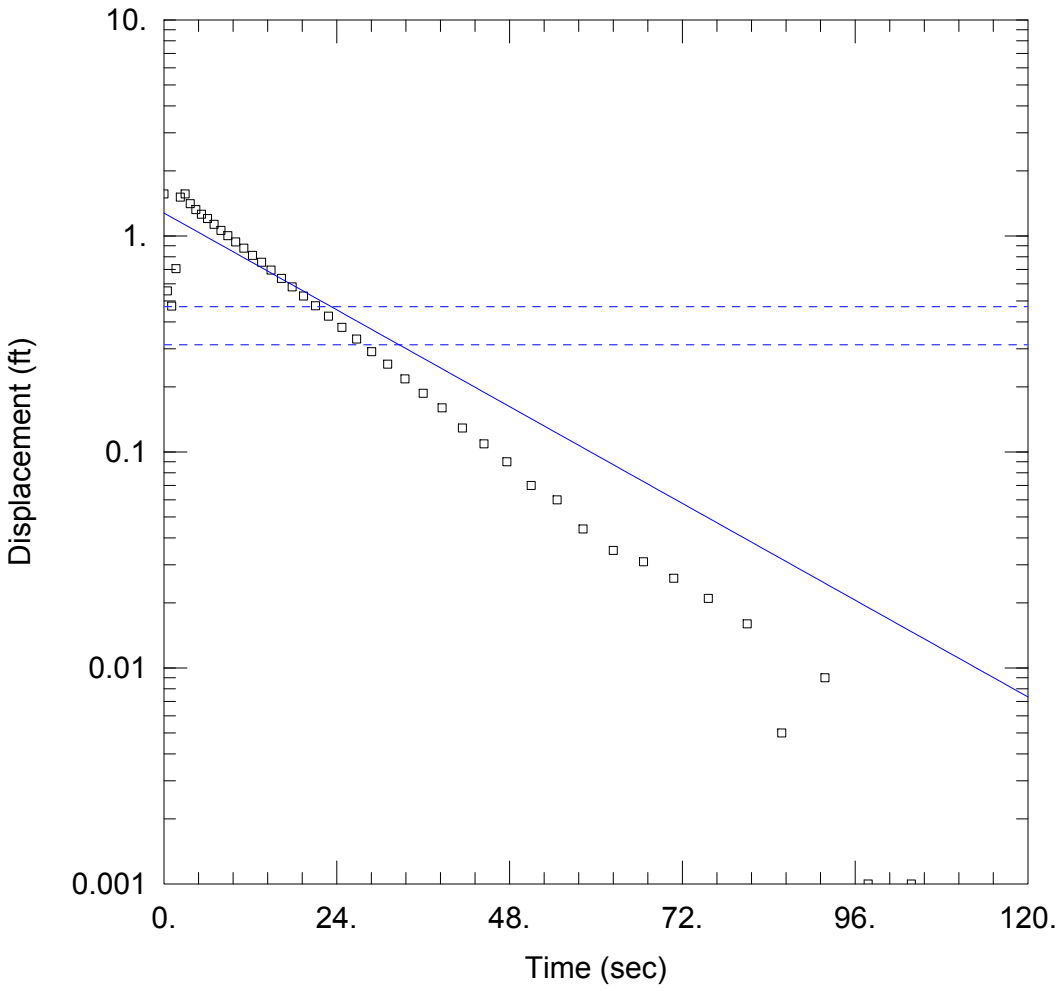
WELL DATA (New Well)

Initial Displacement: 2.159 ft
Total Well Penetration Depth: 63.58 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 63.58 ft
Screen Length: 10. ft
Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 3.076 ft/day y0 = 1.498 ft



RISING

Data Set: C:\...\11d rising.aqt
Date: 04/16/12 Time: 13:32:23

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

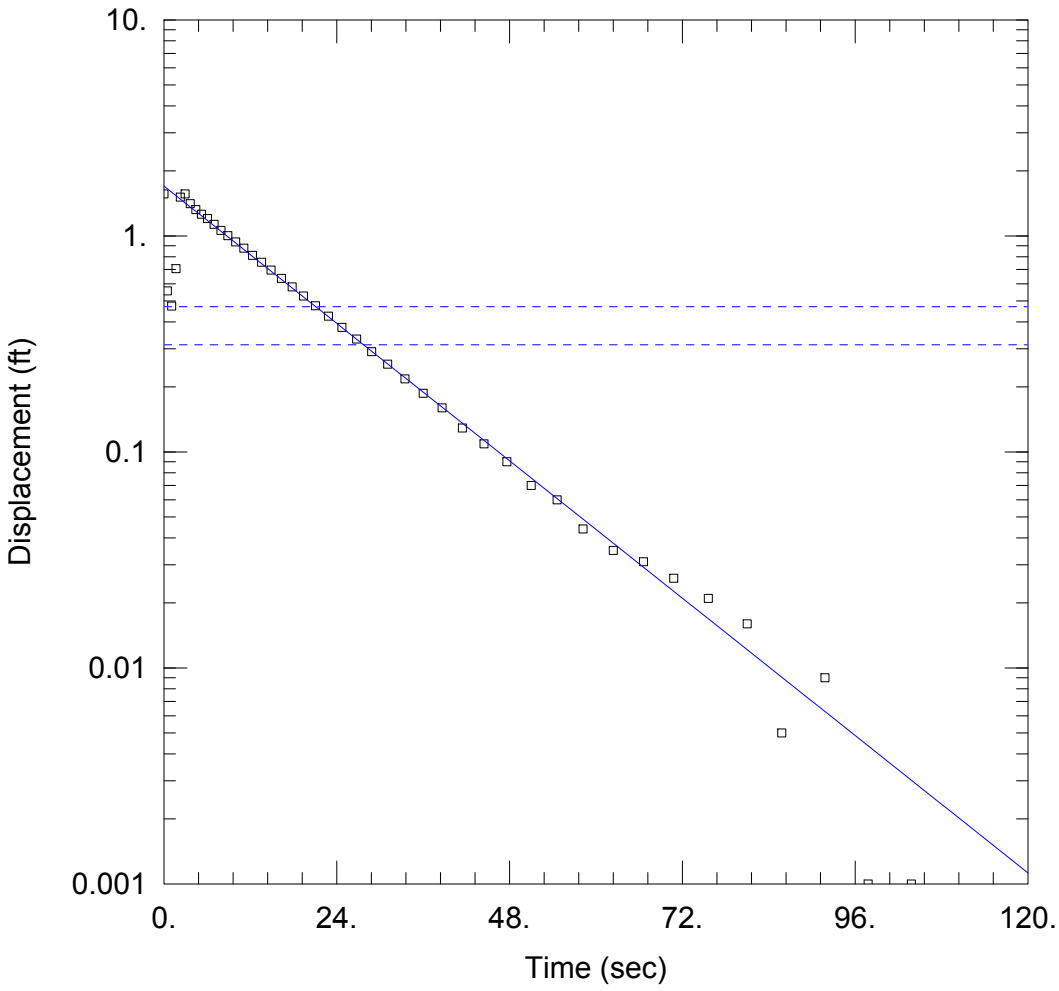
Saturated Thickness: 63.58 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (New Well)

Initial Displacement: 1.566 ft
Total Well Penetration Depth: 63.58 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 63.58 ft
Screen Length: 10. ft
Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 4.697 ft/day
y0 = 1.276 ft



RISING

Data Set: C:\...\11d rising.aqt
Date: 04/16/12 Time: 11:45:33

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

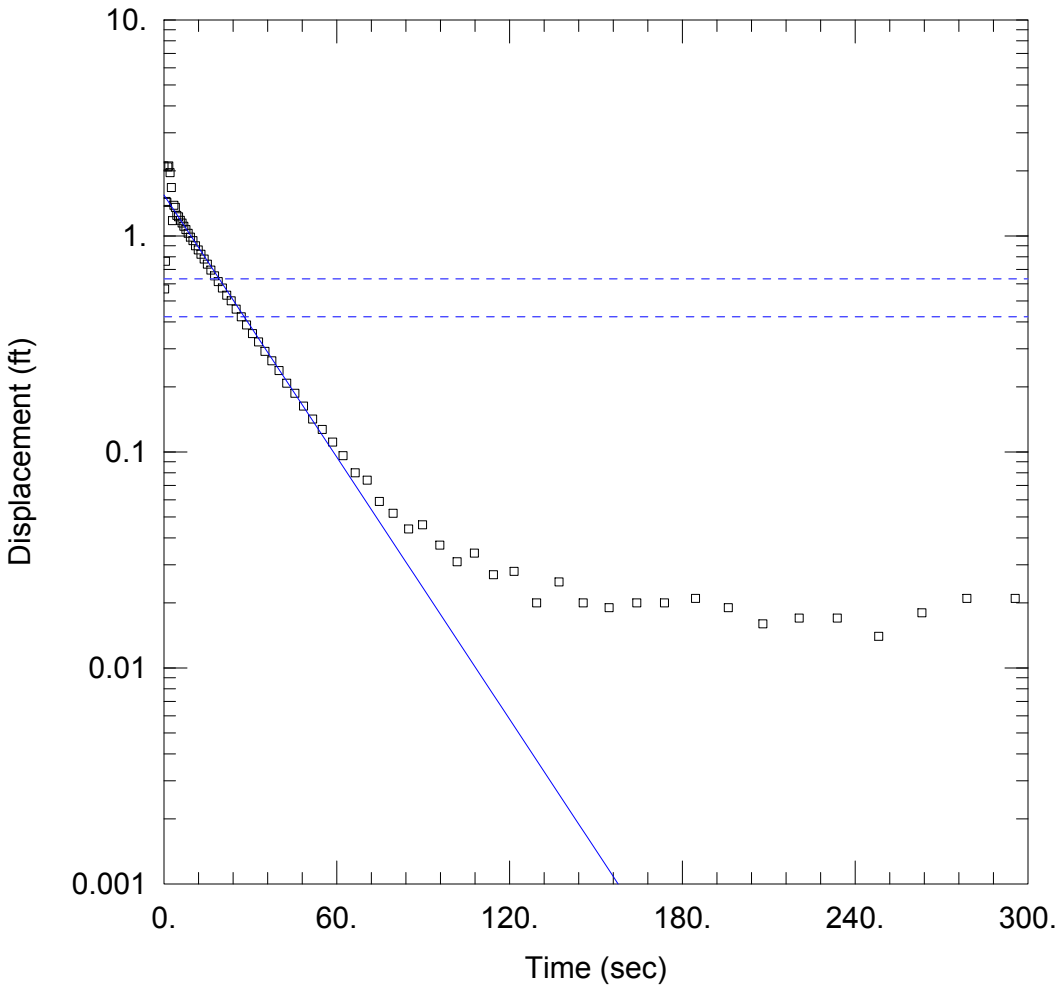
Saturated Thickness: 63.58 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (New Well)

Initial Displacement: 1.566 ft
Total Well Penetration Depth: 63.58 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 63.58 ft
Screen Length: 10. ft
Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 6.666 ft/day
y0 = 1.702 ft



FALLING

Data Set: C:\...\12s falling.aqt
Date: 04/16/12 Time: 13:00:20

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

Saturated Thickness: 63.37 ft Anisotropy Ratio (Kz/Kr): 1.

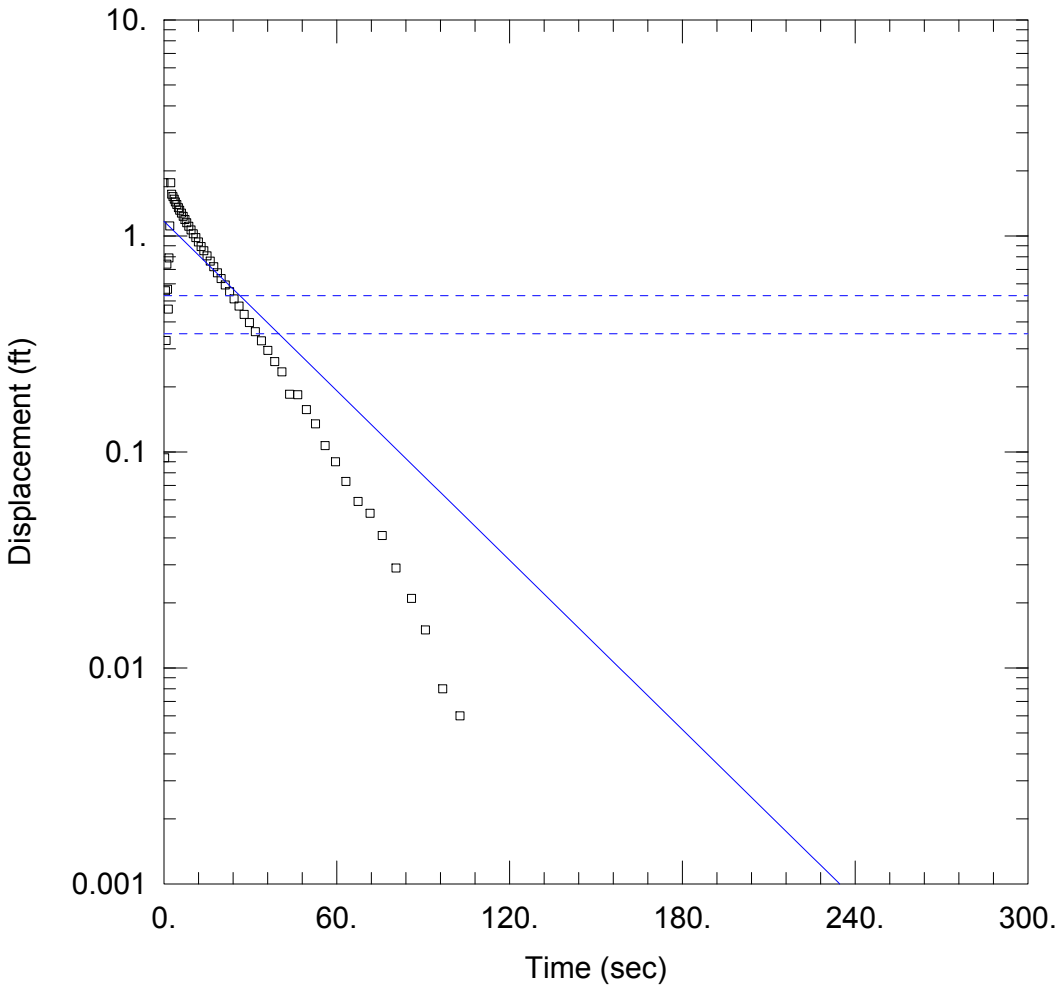
WELL DATA (MW-12s)

Initial Displacement: 2.11 ft
Total Well Penetration Depth: 28.37 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 28.37 ft
Screen Length: 10. ft
Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 3.585 ft/day y0 = 1.545 ft



RISING

Data Set: C:\...\12s rising.aqt
Date: 04/16/12 Time: 13:34:37

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

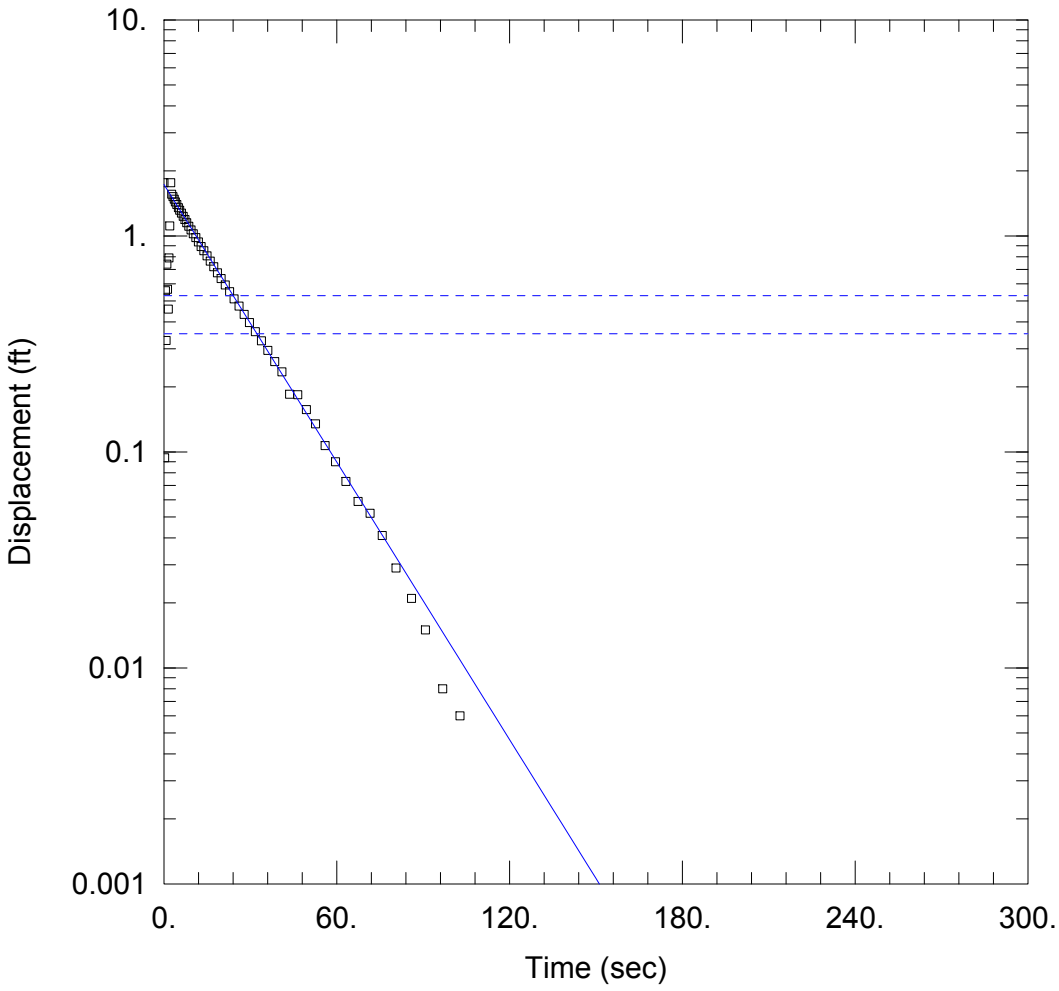
Saturated Thickness: 63.37 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-12s)

Initial Displacement: 1.763 ft
Total Well Penetration Depth: 28.37 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 28.37 ft
Screen Length: 10. ft
Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.318 ft/day
y0 = 1.169 ft



RISING

Data Set: C:\...\12s rising.aqt
Date: 04/16/12 Time: 11:47:05

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

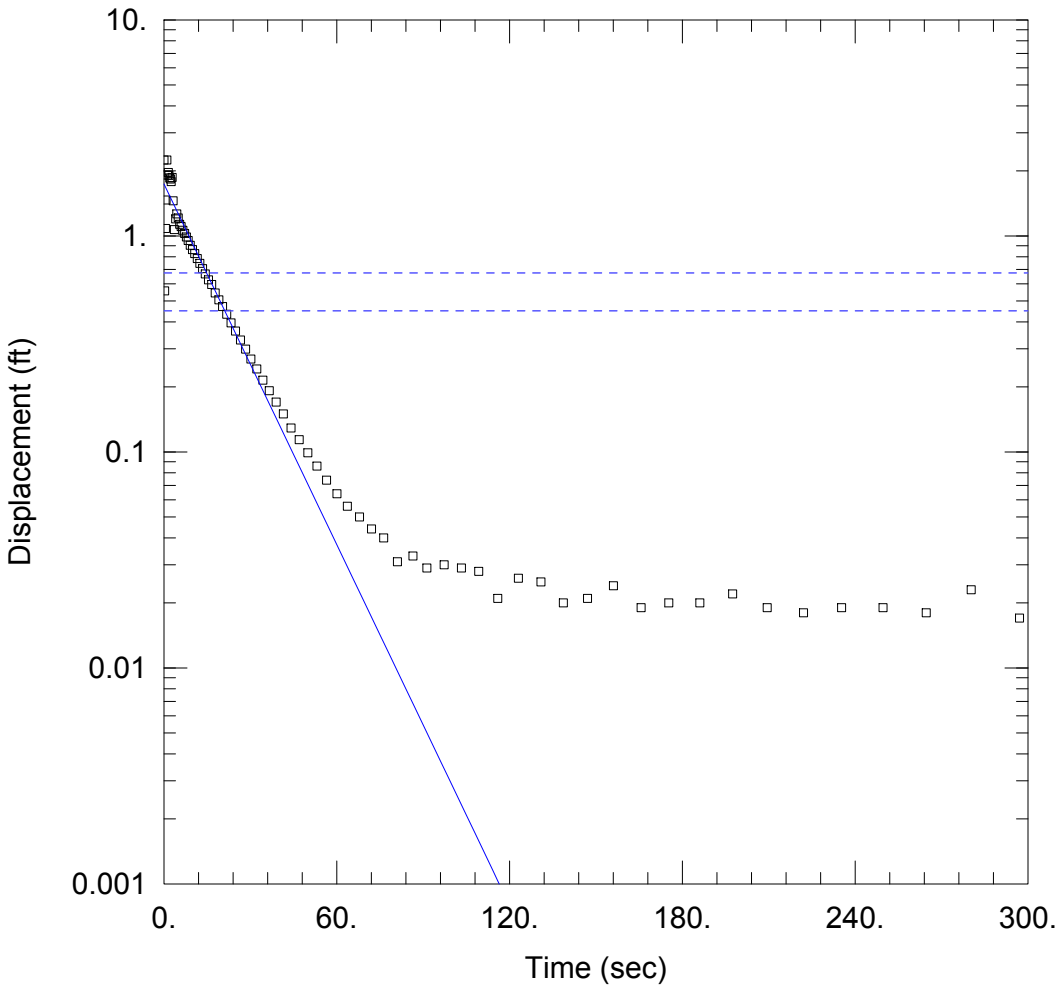
Saturated Thickness: 63.37 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-12s)

Initial Displacement: 1.763 ft Static Water Column Height: 28.37 ft
Total Well Penetration Depth: 28.37 ft Screen Length: 10. ft
Casing Radius: 0.0833 ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 3.797 ft/day y0 = 1.73 ft



FALLING

Data Set: C:\...\13s falling.aqt
Date: 04/16/12 Time: 11:48:28

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

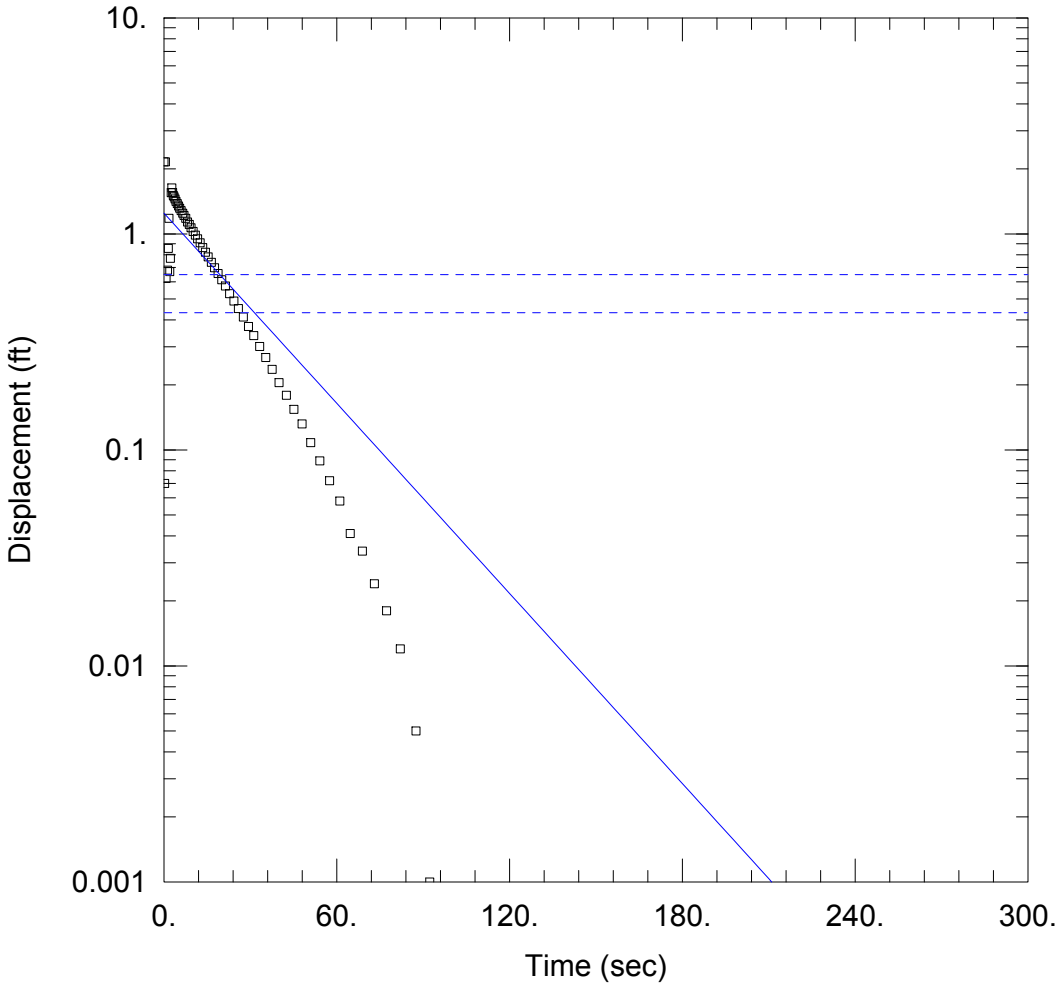
Saturated Thickness: 61.11 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-13s)

Initial Displacement: 2.247 ft Static Water Column Height: 26.11 ft
Total Well Penetration Depth: 26.11 ft Screen Length: 10. ft
Casing Radius: 0.0833 ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 4.874 ft/day y0 = 1.738 ft



RISING

Data Set: C:\...\13s rising.aqt
Date: 04/16/12 Time: 13:36:28

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

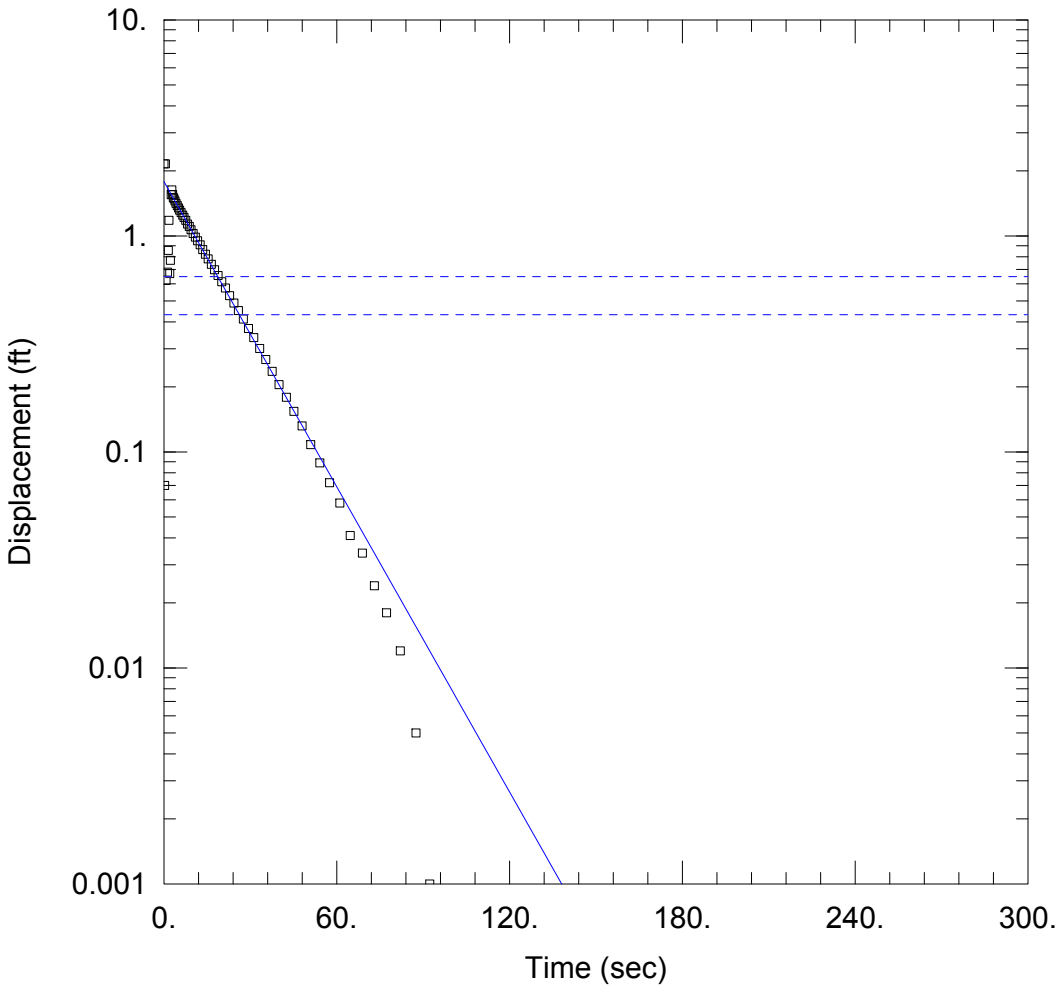
Saturated Thickness: 61.11 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-13s)

Initial Displacement: 2.158 ft Static Water Column Height: 26.11 ft
Total Well Penetration Depth: 26.11 ft Screen Length: 10. ft
Casing Radius: 0.0833 ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 2.57 ft/day y0 = 1.247 ft



RISING

Data Set: C:\...\13s rising.aqt
Date: 04/16/12 Time: 11:49:02

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

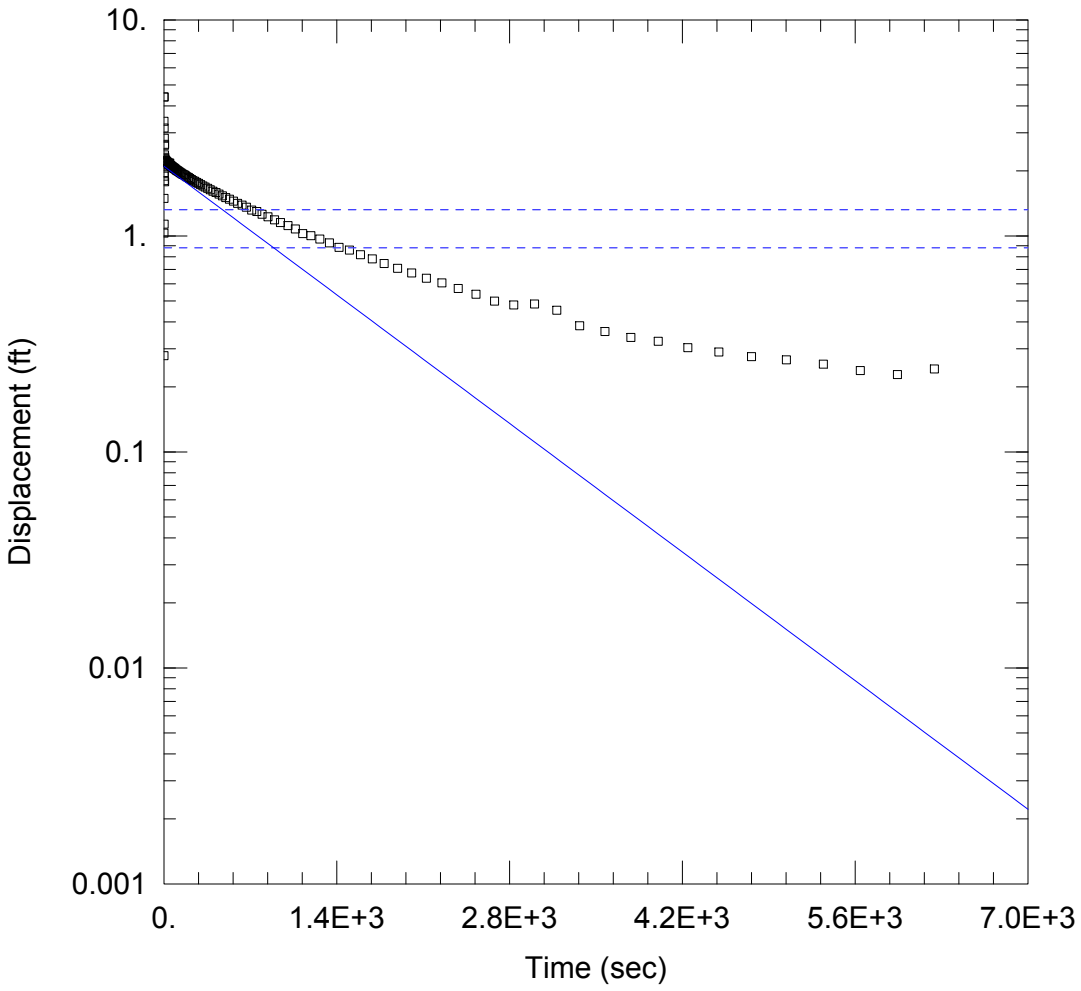
Saturated Thickness: 61.11 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-13s)

Initial Displacement: 2.158 ft Static Water Column Height: 26.11 ft
Total Well Penetration Depth: 26.11 ft Screen Length: 10. ft
Casing Radius: 0.0833 ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 4.125 ft/day y0 = 1.783 ft



FALLING

Data Set: C:\...\14s falling.aqt
Date: 04/16/12 Time: 13:41:11

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

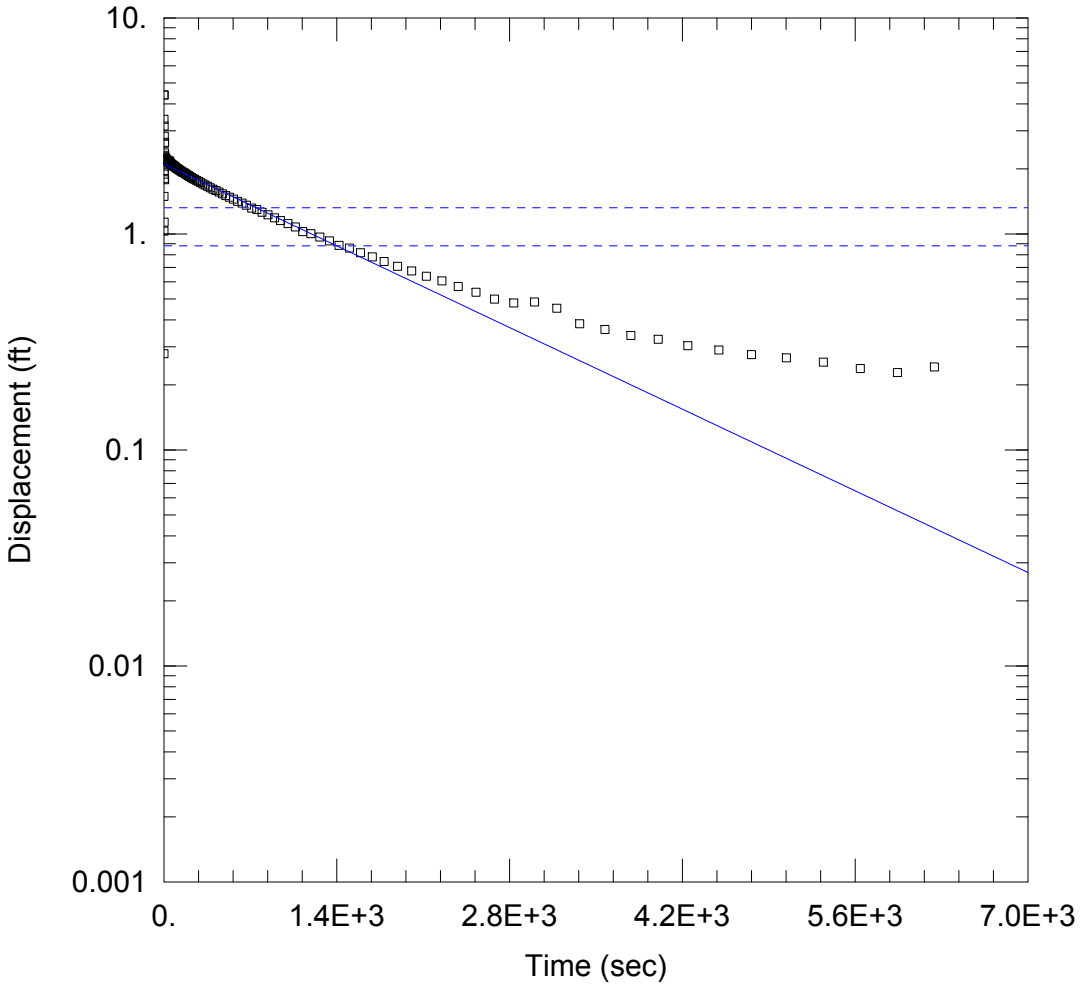
Saturated Thickness: 62.25 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-14s)

Initial Displacement: 4.402 ft
Total Well Penetration Depth: 26.25 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 26.25 ft
Screen Length: 10. ft
Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.07448 ft/day
y0 = 2.102 ft



FALLING

Data Set: C:\...\14s falling.aqt
Date: 04/16/12 Time: 11:50:15

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

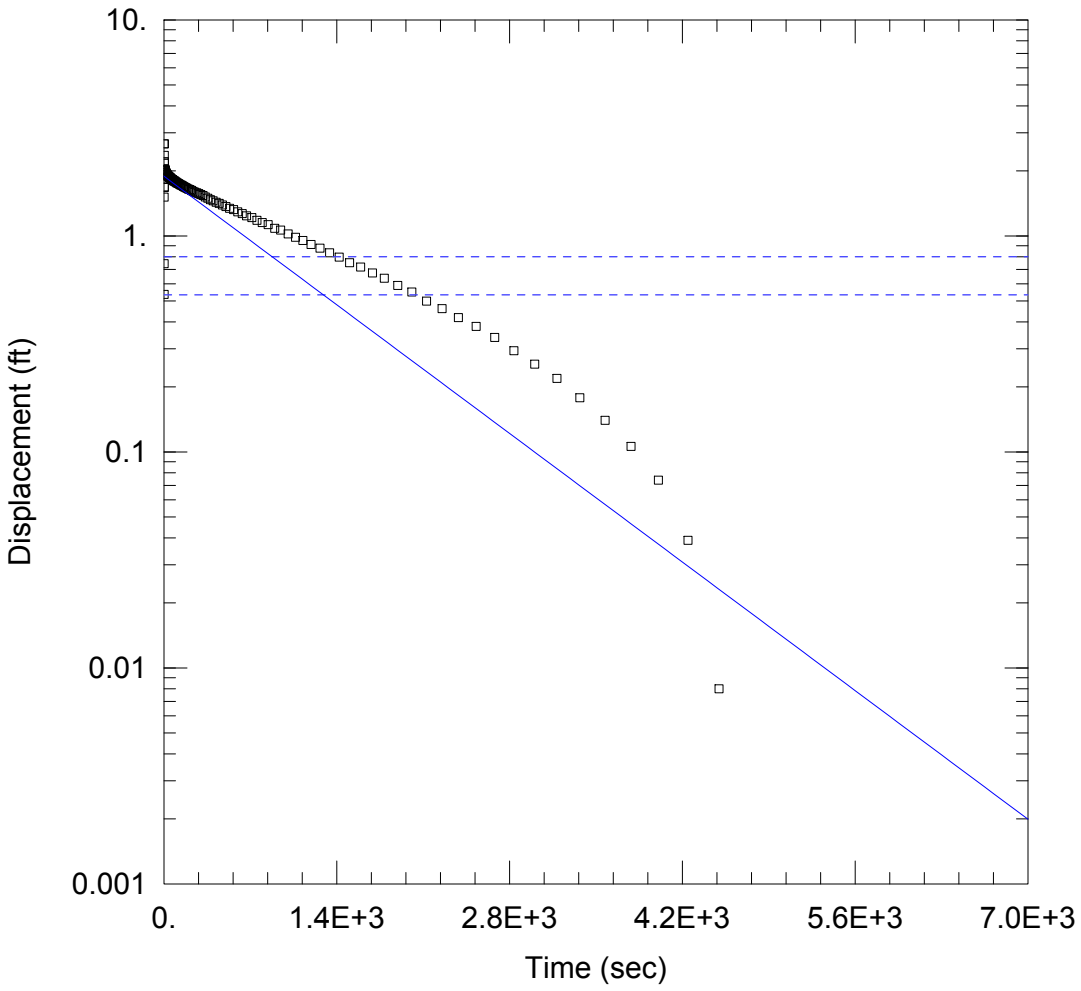
Saturated Thickness: 62.25 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-14s)

Initial Displacement: 4.402 ft Static Water Column Height: 26.25 ft
Total Well Penetration Depth: 26.25 ft Screen Length: 10. ft
Casing Radius: 0.0833 ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.04729 ft/day y0 = 2.102 ft



RISING

Data Set: C:\...\14s rising.aqt
Date: 04/16/12 Time: 13:38:29

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

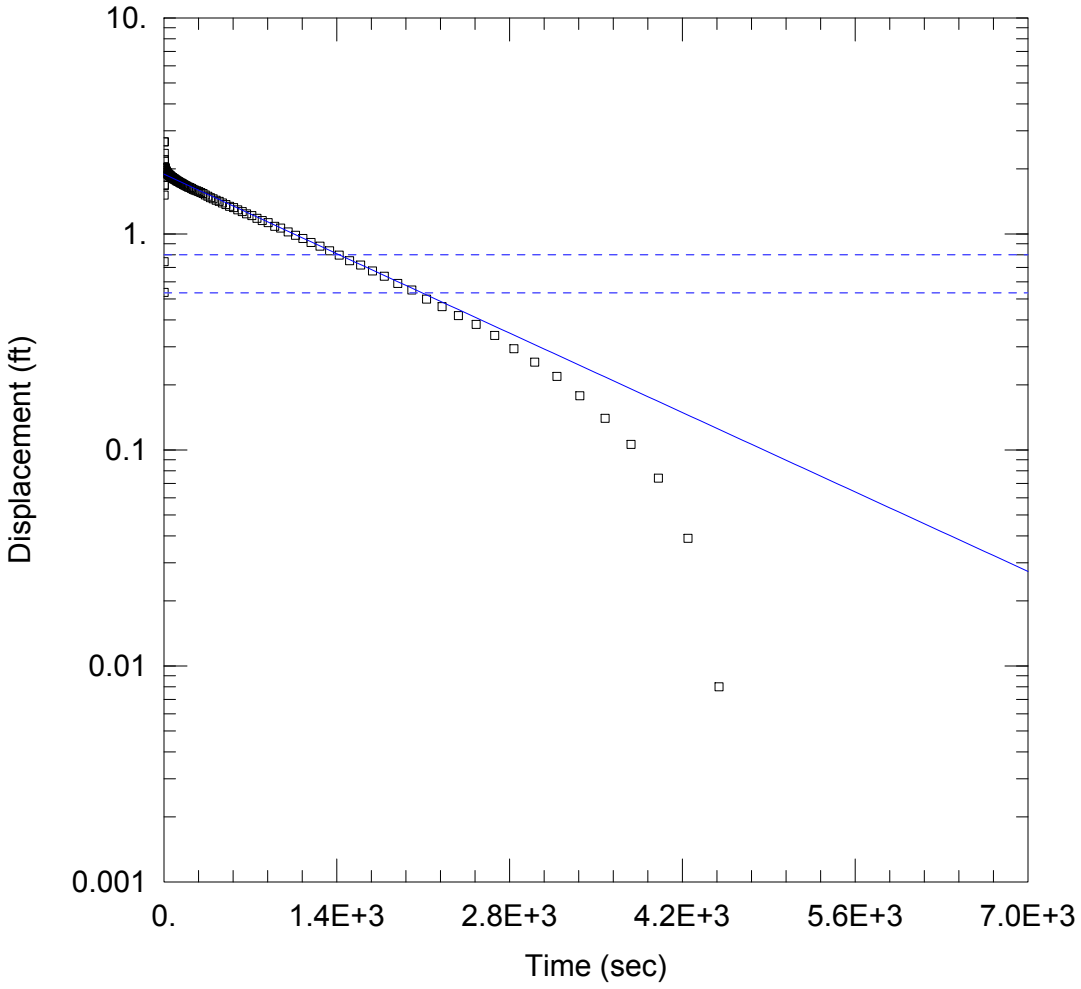
Saturated Thickness: 62.25 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-14s)

Initial Displacement: 2.669 ft
Total Well Penetration Depth: 26.25 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 26.25 ft
Screen Length: 10. ft
Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.07448 ft/day
y0 = 1.889 ft



RISING

Data Set: C:\...\14s rising.aqt
Date: 04/16/12 Time: 11:50:57

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

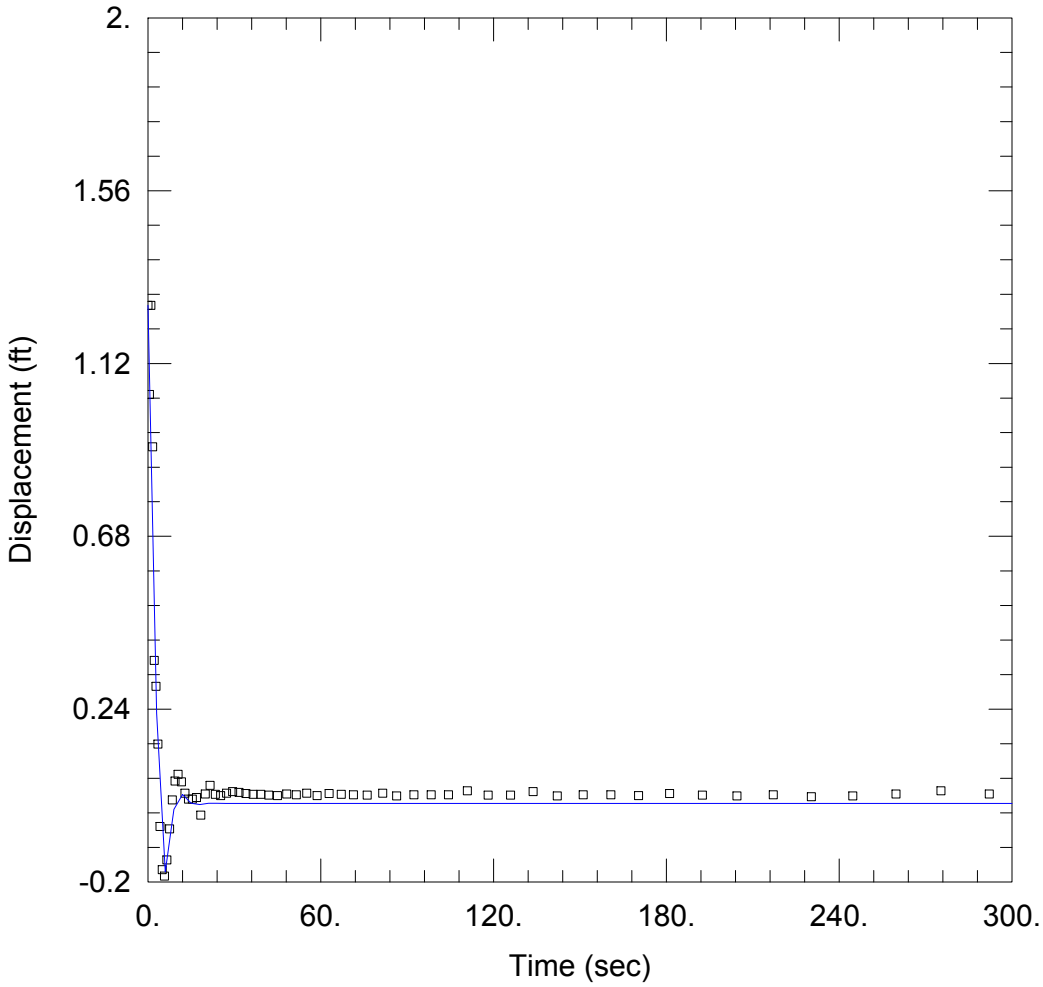
Saturated Thickness: 62.25 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-14s)

Initial Displacement: 2.669 ft
Total Well Penetration Depth: 26.25 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 26.25 ft
Screen Length: 10. ft
Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.04601 ft/day
y0 = 1.889 ft



FALLING

Data Set: C:\...\15d falling1.aqt
Date: 04/16/12 Time: 11:52:12

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

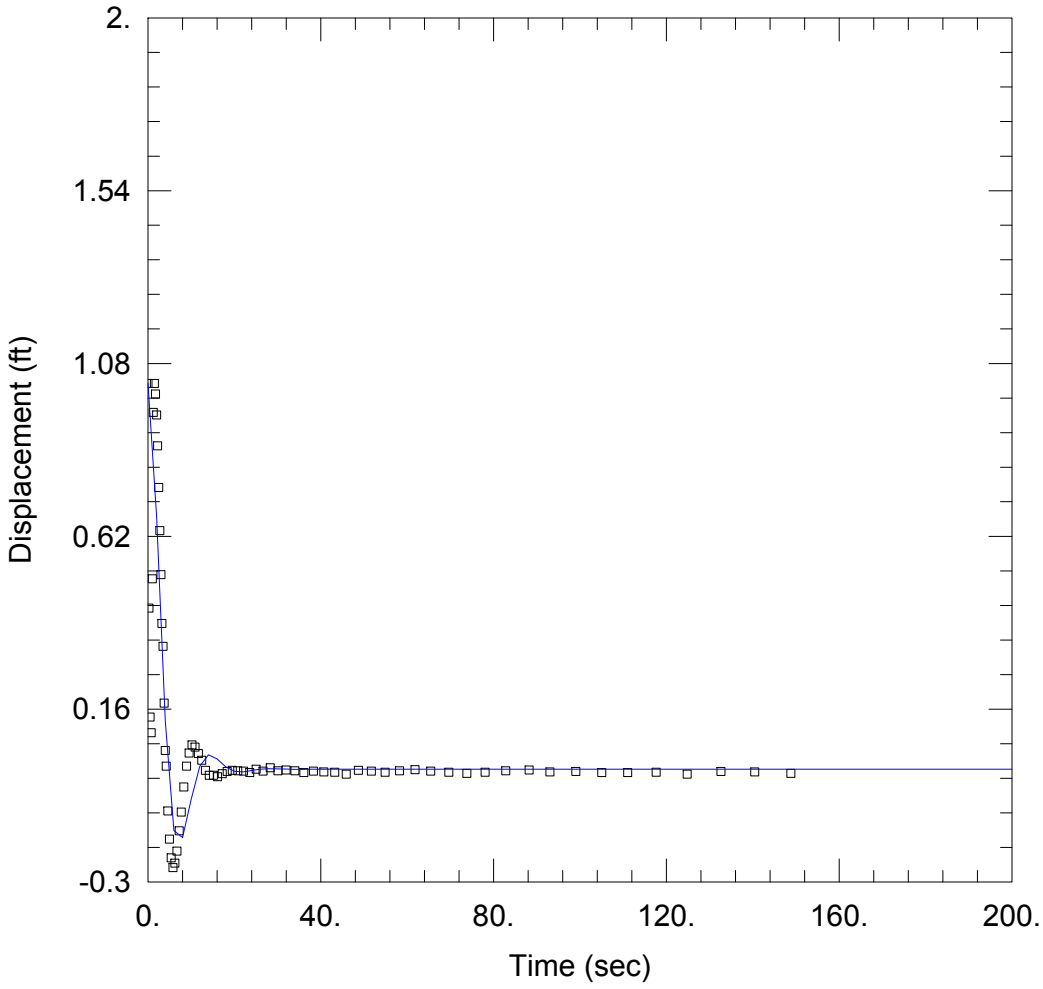
Saturated Thickness: 62.85 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-16s)

Initial Displacement: 1.268 ft Static Water Column Height: 62.85 ft
Total Well Penetration Depth: 62.85 ft Screen Length: 10. ft
Casing Radius: 0.0833 ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
K = 69. ft/day Le = 74.21 ft



RISING

Data Set: C:\...\15d rising1.aqt
Date: 04/16/12 Time: 11:54:18

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

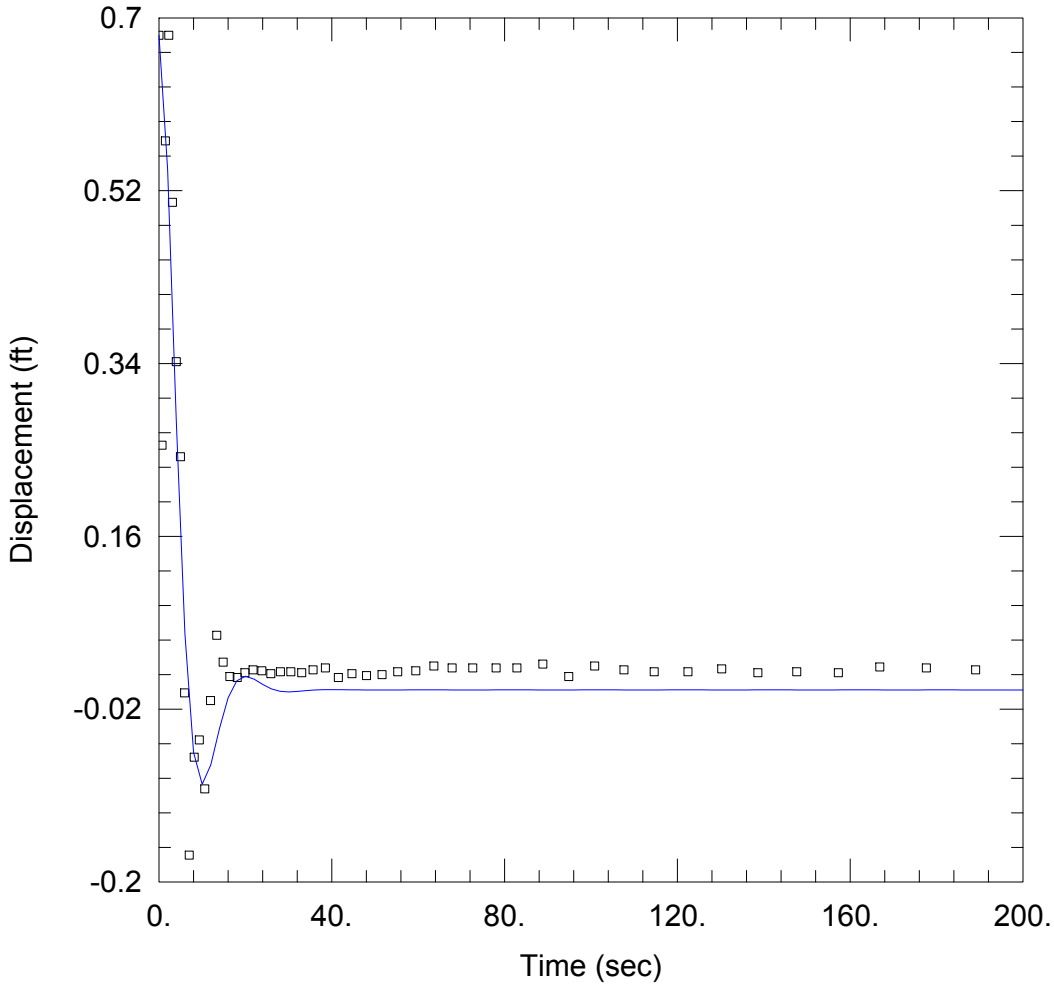
Saturated Thickness: 62.85 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-16s)

Initial Displacement: 1.027 ft
Total Well Penetration Depth: 62.85 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 62.85 ft
Screen Length: 10. ft
Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar
K = 59.53 ft/day
Le = 129.2 ft



FALLING - 2

Data Set: C:\...\15d falling2.aqt
Date: 04/16/12 Time: 11:53:27

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

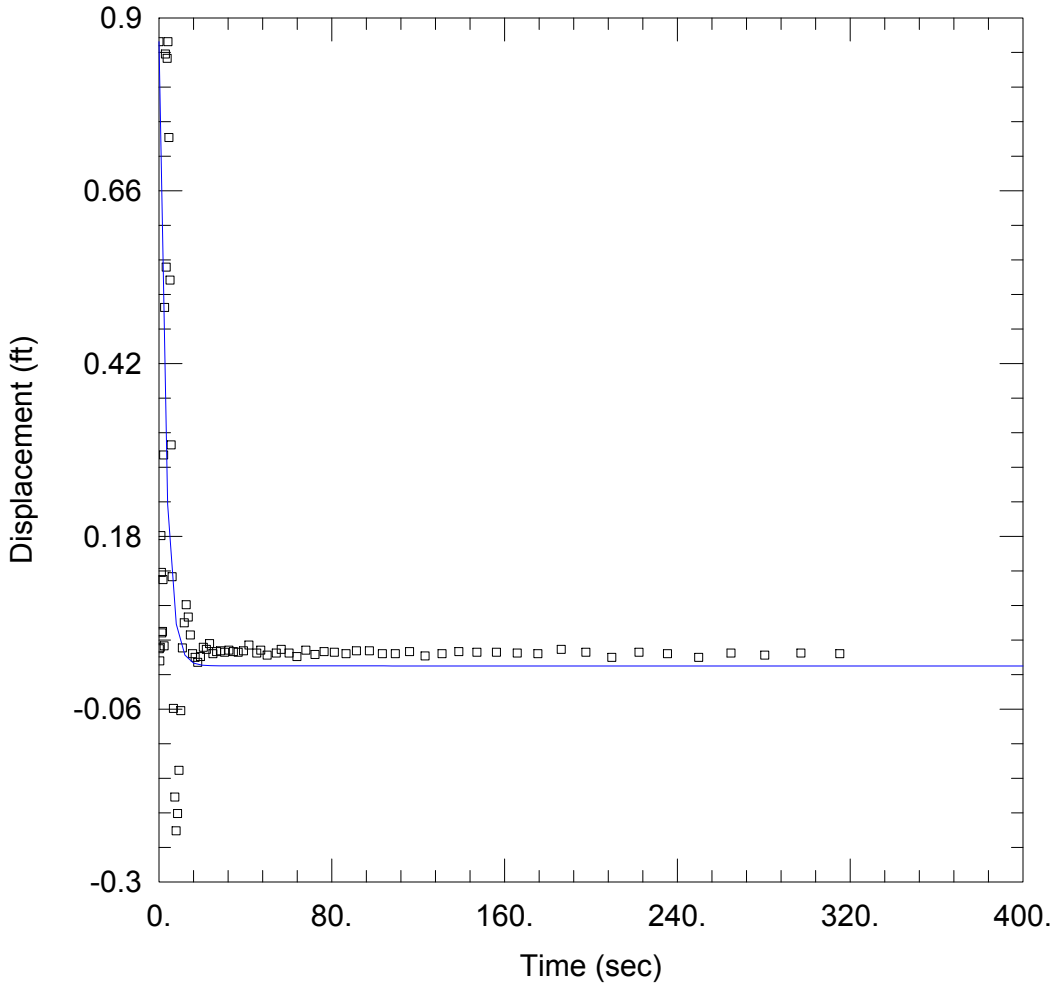
Saturated Thickness: 62.85 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-16s)

Initial Displacement: 0.682 ft
Total Well Penetration Depth: 62.85 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 62.85 ft
Screen Length: 10. ft
Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar
K = 38.74 ft/day
Le = 235.5 ft



RISING-2

Data Set: C:\...\15d rising2.aqt
Date: 04/16/12 Time: 11:55:15

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

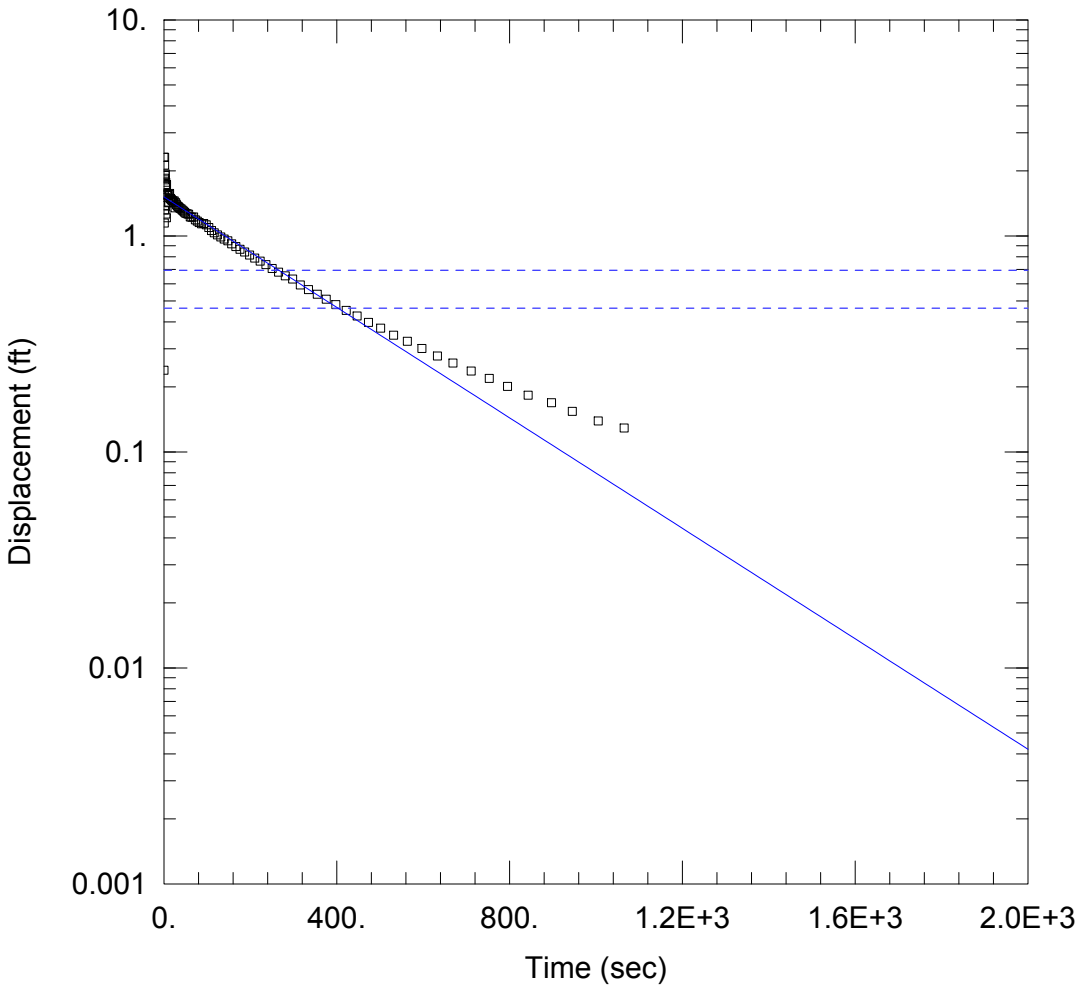
Saturated Thickness: 62.85 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-16s)

Initial Displacement: 0.867 ft Static Water Column Height: 62.85 ft
Total Well Penetration Depth: 62.85 ft Screen Length: 10. ft
Casing Radius: 0.0833 ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
K = 37.14 ft/day Le = 0.1 ft



FALLING

Data Set: C:\...\16s falling.aqt
Date: 04/16/12 Time: 11:56:31

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

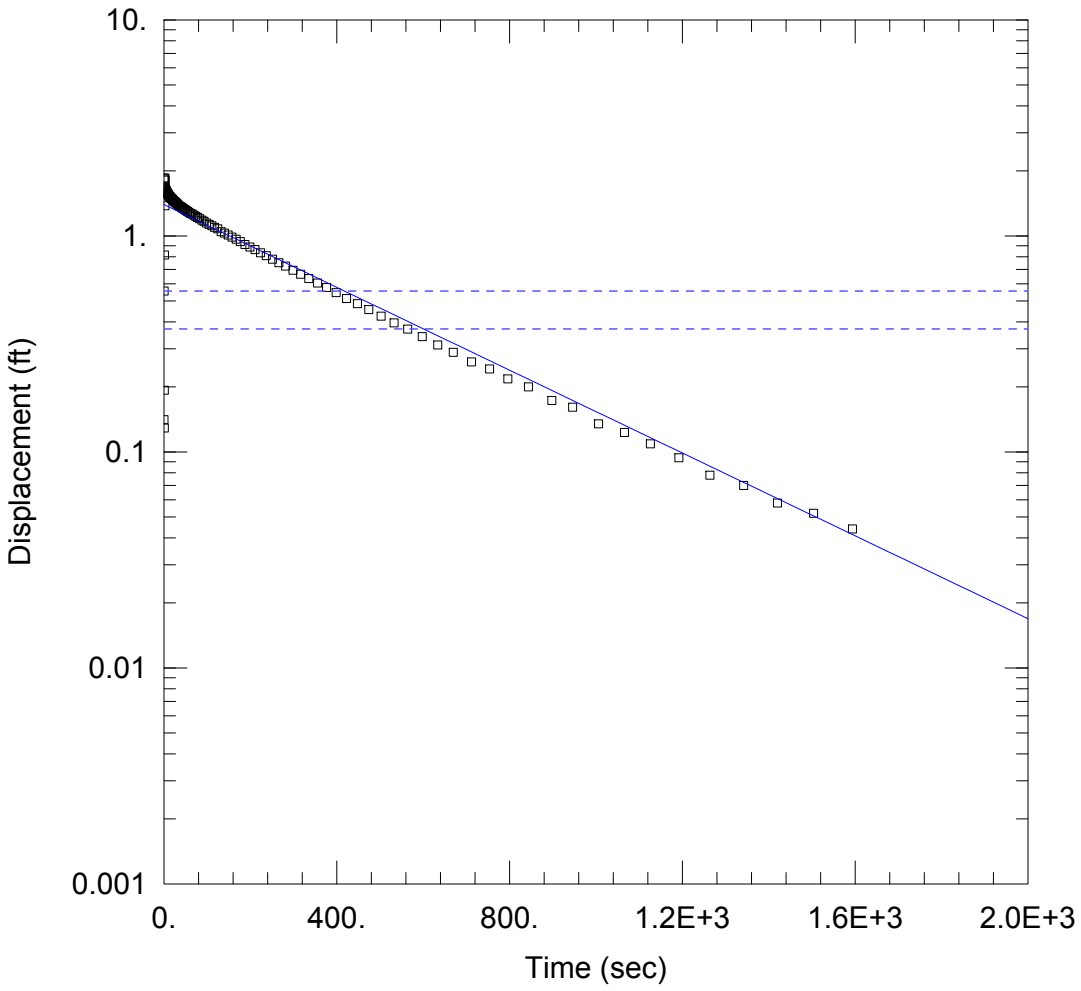
Saturated Thickness: 60.18 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-16s)

Initial Displacement: 2.313 ft Static Water Column Height: 25.18 ft
Total Well Penetration Depth: 25.18 ft Screen Length: 10. ft
Casing Radius: 0.0833 ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.2228 ft/day y0 = 1.516 ft



RISING

Data Set: C:\...\16s rising.aqt
Date: 04/16/12 Time: 11:57:33

PROJECT INFORMATION

Company: CDM
Client: NYSDEC
Project: Site 2-43-018
Location: Paul Miller Site
Test Well: MW-11d
Test Date: 3/28/07

AQUIFER DATA

Saturated Thickness: 60.18 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-16s)

Initial Displacement: 1.853 ft Static Water Column Height: 25.18 ft
Total Well Penetration Depth: 25.18 ft Screen Length: 10. ft
Casing Radius: 0.0833 ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.167 ft/day y0 = 1.397 ft

Slug Test Results Summary
Former Paul Miller Dry Cleaners
Port Richmond, NY

Location	Test	Stickup feet	Total Well Depth (bottom of screen) feet bgs	Well Depth feet bgs	Depth to Water feet TIC	Aquifer Base feet bgs	Aquifer Thickness Feet	Top of Screen feet bgs	Depth to top of Screen from water level Feet	Screen Length Feet	Effective Screen Length Feet	K ft/day	Method	Remarks	Strata Notes
MW-8s	FH	0	35	35	7.49	70	62.51	25	17.51	10	10	0.62	Bouwer & Rice		Fine sand, loose sand gravel; clayey layers; blow counts 20s-30s; max 50/2"
MW-8s	FH - manual fit	0	35	35	7.49	70	62.51	25	17.51	10	10	0.70	Bouwer & Rice	Preferred fit	
MW-8s	RH	0	35	35	7.49	70	62.51	25	17.51	10	10	0.54	Bouwer & Rice	Preferred fit	
MW-9s	FH	0	35	35	4.76	70	65.24	25	20.24	10	10	0.43	Bouwer & Rice	Preferred fit	Silty medium sand, low blow counts - max 20/6"
MW-9s	RH	0	35	35	4.76	70	65.24	25	20.24	10	10	0.63	Bouwer & Rice		
MW-9S	RH - manual fit	0	35	35	4.76	70	65.24	25	20.24	10	10	0.46	Bouwer & Rice		
MW-11d	FH	0	70	70	6.42	70	63.58	60	53.58	10	10	3.1	Bouwer & Rice	Preferred fit	Med-coarse sand, gravel; blow counts 23-53 per 6"
MW-11d	RH	0	70	70	6.42	70	63.58	60	53.58	10	10	4.7	Bouwer & Rice		
MW-11d	RH - manual fit	0	70	70	6.42	70	63.58	60	53.58	10	10	6.66	Bouwer & Rice	Preferred fit	
MW-12s	FH	0	35	35	6.63	70	63.37	25	18.37	10	10	3.6	Bouwer & Rice	Preferred fit	Dense sand, silt, blow counts generally 22-60 per 6", max 50/2"
MW-12s	RH	0	35	35	6.63	70	63.37	25	18.37	10	10	2.3	Bouwer & Rice		
MW-12s	RH - manual fit	0	35	35	6.63	70	63.37	25	18.37	10	10	3.8	Bouwer & Rice	Preferred fit	
MW-13s	FH	0	35	35	8.89	70	61.11	25	16.11	10	10	4.9	Bouwer & Rice	Preferred fit	Loose fine sand; silty, gravelly; Low blow counts - max 23 per 6"
MW-13s	RH	0	35	35	8.89	70	61.11	25	16.11	10	10	2.6	Bouwer & Rice		
MW-13s	RH - manual fit	0	35	35	8.89	70	61.11	25	16.11	10	10	4.1	Bouwer & Rice	Preferred fit	
MW-14s	FH	0	34	34	7.75	70	62.25	24	16.25	10	10	0.07	Bouwer & Rice		
MW-14s	FH - manual	0	34	34	7.75	70	62.25	24	16.25	10	10	0.05	Bouwer & Rice	Preferred fit	Silty sand, sandy silt; blow counts primarily 30s-40s per 6", up to 50/3"
MW-14s	RH	0	34	34	7.75	70	62.25	24	16.25	10	10	0.07	Bouwer & Rice		
MW-14s	RH - manual fit	0	34	34	7.75	70	62.25	24	16.25	10	10	0.05	Bouwer & Rice	Preferred fit	
MW-15d	FH	0	70	70	7.15	70	62.85	60	52.85	10	10	69.0	Springer-Gelhar	Preferred Test	Medium sand, low blow counts; maximum 15 per 6"
MW-15d	RH	0	70	70	7.15	70	62.85	60	52.85	10	10	59.5	Springer-Gelhar	Preferred Test	
MW-15d	FH2	0	70	70	7.15	70	62.85	60	52.85	10	10	38.7	Springer-Gelhar	Slow insertion	
MW-15d	RH2	0	70	70	7.15	70	62.85	60	52.85	10	10	37.1	Springer-Gelhar	Slow insertion	
MW-16s	FH	0	35	35	9.82	70	60.18	25	15.18	10	10	0.22	Bouwer & Rice	Preferred fit	Fine sand, silty sand; wet layers, dense layers; low blow counts - max 17 per 6"
MW-16s	RH	0	35	35	9.82	70	60.18	25	15.18	10	10	0.17	Bouwer & Rice	Preferred fit	

TIC - measurement from top of inner casing
bgs - below ground surface

RH - rising head
FH - falling head

Appendix G

Indoor Air Analytical Results

Galson Laboratories Data Package

Client : Camp, Dresser & McKee, Inc.
Project : NYDEC
SDG : L235614

Data package for samples received:
03/14/11

Ms. Cristina Ramacciotti
Camp, Dresser & McKee, Inc.
110 Fieldcrest Avenue
6th Floor
Edison, NJ 08837

April 04, 2011

DOH ELAP# 11626 Account# 14621 Login# L235614

Dear Ms. Ramacciotti:

Enclosed are the analytical results for the samples received by our laboratory on March 14, 2011. All test results meet the quality control requirements of AIHA and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report.

Please contact Tonya Lancaster at (877) 482-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

Mary G. Unangst
Laboratory Director

Enclosure(s)

GALSON LABORATORIES

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Camp, Dresser & McKee, Inc.
Site : Paul Miller
Project No. : NYDEC

Date Sampled : 11-MAR-11
Date Received : 14-MAR-11
Date Analyzed : 18-MAR-11
Report ID : 684937

Account No.: 14621
Login No. : L235614

Perchloroethylene

Sample ID	Lab ID	Time minutes	Front ug	Back ug	Total ug	Conc ug/m3
PMBANK1	L235614-1	1440	<0.06	<0.06	<0.06	<1
PMBANKDUP	L235614-2	1440	<0.06	<0.06	<0.06	<1
PMAMBAIR	L235614-3	1440	<0.06	<0.06	<0.06	<1

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 0.06 ug
Analytical Method : mod. NYS DOH 311-9
OSHA PEL (TWA) : 100 ppm
Collection Media : M3M-3520

Submitted by: mln
Approved by : nkp
Date : 21-MAR-11 NYS DOH # : 11626
QC by: Tony D'Amico

< -Less Than
> -Greater Than
NA -Not Applicable
mg -Milligrams
ug -Micrograms
ND -Not Detected
m3 -Cubic Meters
l -Liters
ppm -Parts per Million
kg -Kilograms
NS -Not Specified

GALSON LABORATORIES

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LABORATORY FOOTNOTE REPORT

Client Name : Camp, Dresser & McKee, Inc.
Site : Paul Miller
Project No. : NYDEC

Date Sampled : 11-MAR-11 Account No.: 14621
Date Received: 14-MAR-11 Login No. : L235614
Date Analyzed: 18-MAR-11

Unless otherwise noted below, all quality control results associated with the samples were within established control limits.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded in order to fit the report format and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

L235614 (Report ID: 684937):
Total ug corrected for a desorption efficiency of 103%.
SOPs: GC-SOP-12(3), GC-SOP-16(5), GC-SOP-9(4)

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
NA -Not Applicable	ND -Not Detected	ppm -Parts per Million	

GALSON LABORATORIES
6601 Kirkville Rd
East Syracuse, NY 13057-9672
Tel: 315-432-5227
888-432-5227
Fax: 315-437-0571
www.galsonlabs.com

Check if change of address ☐
New Client ? yes ☐ no ☐

Report To* : CRISTINA RAMACCIOTTI
CAMP DRESSER & McKEE
110 FIELDCREST AVE. 6th FL.
EDISON NJ 08837
Phone No.* : 732-590-4701
Cell No.* : 732-425-0357

Invoice To* : SAME
Phone No. : 732-225-7000
Fax/Email : 732-225-7851

1 of 4

Site Name : PAUL MILLER | Project: MYDEC | Sampled By : D. Grove

Need Results By*:	(surcharge)
☒ 5 Business Days	0%
☐ 4 Business Days	35%
☐ 3 Business Days	50%
☐ 2 Business Days	75%
☐ Next Day by 6pm	100%
☐ Next Day by Noon	150%
☐ Same day	200%

☐ Samples submitted using FreePumpLoan™ Program. ☐ Samples submitted using the FreeSamplingBadges™ Program.
Client Account No.* : 14621
Purchase Order No. : 0897802307A33K3A
Credit Card : ☐ Credit Card on File ☐ Will Phone in Credit Card Information

Email Results To : CRISTINA RAMACCIOTTI
Email Address : RAMACCIOTTIC@CDM.COM

Please indicate which OEL this data will be used for:
☒ OSHA PEL ☐ ACGIH TLV ☐ Cal OSHA
☐ Other (please specify):

Sample Identification*	Date Sampled (mm/dd/yy)	Collection Medium	Sample*: Volume, Time, or Area	Sample Units*: L, ml, min., in2, cm2, ft2	Analysis Requested*	Method Reference*	Metals Technique Required, ICAP or ICPMS^ (^Additional Cost)
EXAMPLE	01/01/10	3pc UW MCE	960	L	Lead	Mod. NIOSH 7300	ICPMS
PBBANK1	3/10-11/11	3M 3520	24 HR		NYSDOH METHOD 311-9	PCE	N/A
PBBANKDUP	3/10-11/11	"	"		" "	"	N/A
PBAMBAIR	3/10-11/11	"	"		" "	"	N/A

Report Revised: Generated: 04-APR-11 09:11

For Hexavalent Chromium: process must be listed for each sample submitted (ex. welding, plating, painting, etc.)*: N/A
For Crystalline Silica: form(s) of silica needed must be indicated (Quartz, Cristobalite, and/or Tridymite)*: N/A
List description of industry or process/interferences present in sampling area: N/A
Comments: AMB AIR SAMPLE WAS WET 100% HUMIDITY NEED ADD DELIVERABLES DURING PORTION OF SAMPLE EVENT

Chain of Custody	Print Name	Signature	Date/Time
Relinquished by :	DENNIS GROVE	Dennis Grove	3/11/11 1500
Received by LAB :			3/14/11 10:15

Samples received after 3pm will be considered as next day's business.

*Required fields, failure to complete these fields may result in a delay in your samples being processed.

Page 1 of 1

194013

LAB ORIGINAL

INVOICE

Galson Laboratories

Login No : L235614
Project : STANDARD
PO No : 089780230TASK3A
Site : Paul Miller

Invoice No : 284524
Invoice Date : 04-APR-11
Account No : 14621
Client Project : NYDEC

Bill To : Ms. Cristina Ramacciotti
Camp, Dresser & McKee, Inc.
110 Fieldcrest Avenue
6th Floor
Edison NJ 08837

Report To : Ms. Cristina Ramacciotti

TERMS: NET 30 DAYS
Finance charges will be applied based on the terms and conditions of sale.

Sample #	Client ID	Media	Analysis	Unit Price
L235614-1	PMBANK1	M3M-3520	IG-PERC311-9/Perchloroethylene	$ 65.00
L235614-1	PMBANK1	OPTIONS	IG-DELIVERABLES/Deliverables	$ 0.00
L235614-2	PMBANKDUP	M3M-3520	IG-PERC311-9/Perchloroethylene	$ 65.00
L235614-3	PMAMBAIR	M3M-3520	IG-PERC311-9/Perchloroethylene	$ 65.00

Subtotal :		$ 195.00
20 % Deliverables :	+	$ 39.00
Sampling Media from Order# 196013 :	+	$ 20.00
Amount Due --->		$ 254.00

Please Remit To: Galson Laboratories, P.O. Box 8000, Dept 684, Buffalo, NY 14267
Phone: 888-432-5227

Internal Chain of Custody

GALSON LABORATORIES INTERNAL CHAIN OF CUSTODY

Login #	Client Name	Acct/Job #	VTSR	Debulk Date
L235614	Camp, Dresser & McKee, Inc.	14621	14-MAR-11	

Lab ID.	Client ID	Matrix	Storage	Sequence No.	Date/Time	Action	Tech. Name	Department
L235614-1	PMBANK1	M3M-3520	IG-Low Level Frz					
				1	03/14/2011 12:28	Check In	CMARCHETTI	Login
				2	03/16/2011 04:54	Check Out	RROGERS	GC Prep
L235614-1	PMBANK1	OPTIONS	IG-Freezer					
				1	03/14/2011 12:28	Check In	CMARCHETTI	Login
				2	03/16/2011 04:54	Check Out	RROGERS	GC Prep
L235614-2	PMBANKDUP	M3M-3520	IG-Low Level Frz					
				1	03/14/2011 12:28	Check In	CMARCHETTI	Login
				2	03/16/2011 04:54	Check Out	RROGERS	GC Prep
L235614-3	PMAMBAIR	M3M-3520	IG-Low Level Frz					
				1	03/14/2011 12:28	Check In	CMARCHETTI	Login
				2	03/16/2011 04:54	Check Out	RROGERS	GC Prep

GC ANALYSIS

Camp, Dresser & McKee, Inc. Package: L235614 Project: NYDEC

Galson Laboratories received 3 samples for Perchloroethylene analysis on March 14, 2011. The samples were assigned to Galson Login: L235614. Samples were analyzed by Gas Chromatography (GC) following method(s):

Perchloroethylene	mod. NYS DOH 311-9

Galson SOP(s): GC-SOP-12, GC-SOP-16, and GC-SOP-9.

Sample ID	Date Sampled	Date Analyzed
L235614-1 (PMBANK1)	March 11, 2011	March 18, 2011
L235614-2 (PMBANKDUP)	March 11, 2011	March 18, 2011
L235614-3 (PMAMBAIR)	March 11, 2011	March 18, 2011

The samples were prepared on March 16, 2011 and were associated with analytical workgroup WG194433 and preparation workgroup WG194153. All Continuing Calibration Verification (CCV) standards, the Detection Limit Standard (DLS), the Blank Spike (BS), and the Blank Spike Duplicate (BSD) were within the established percent recovery control limits.

The samples were analyzed on instrument HP23. The initial calibration for HP23 was performed on Mar. 18, 2011 and the range was approximately from 0.03 to 2.0ug/mL.

Quality Control Summary

- The continuing calibration check standards consist of the CCV, which is a standard prepared from a separate source than the initial calibration. The control limits are statistically determined and are listed on the associated CCV recovery forms.
- The detection limit standard, or DLS, is a standard prepared at the concentration that is equivalent to the LOQ. The control limits are 70 to 130%.
- Blanks consist of the eluent/diluent blank and media blanks obtained from the laboratory supply.
- Blank spikes are prepared in-house; the media is spiked with the analyte(s) of interest, then prepared and analyzed with the associated samples. The blank spike control limits are statistically determined and are listed on the associated BS/BSD recovery forms.
- The CCV, DLS, and BS/BSD recoveries are reported on their respective Recovery Report Forms.

Title: Created from worklist V:\WG194433201103181122229.wle
Datasource: CHROMDB
Location: HP23\Sequences\201103
Timebase: HP23
 # Samples: 17

Created: 03/18/2011
Last Update: 03/18/2011

No.	Name:	Comment	Samp Type	Pos.	Inj. Date/Time	inj. Vol.	Dilution	DE Vol	Lot Corr	Program	Method
1	CS2	CS2	IBLANK	1	03/18/2011 11:26	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
2	CS2	CS2	IBLANK	1	03/18/2011 11:39	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
3	WG194433-1	WG194433-1,IH196262-3,1	DLS	8	03/18/2011 11:52	2	1	1	0	HP23_PERC_MI	HP23_20110318_PEI
4	WG194433-2	WG194433-2,IH196262-2,1	CCV	9	03/18/2011 12:05	2	1	1	0	HP23_PERC_MI	HP23_20110318_PEI
5	WG194153-2	WG194153-2,WG194433,STD2BADGE	EBLANK	10	03/18/2011 12:18	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
6	WG194153-3A	WG194153-3A,WG194433,STD2BADGE	MBLANK	11	03/18/2011 12:30	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
7	WG194153-3B	WG194153-3B,WG194433,STD2BADGE	MBLANK	12	03/18/2011 12:43	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
8	WG194153-4	WG194153-4,IH196262-1,1,STD2BADGE	BS	13	03/18/2011 12:56	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
9	WG194153-5	WG194153-5,IH196262-1,1,STD2BADGE	BSD	14	03/18/2011 13:09	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
10	CS2	CS2	IBLANK	1	03/18/2011 13:22	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
11	L235614-1A	L235614-1A,WG194433,STD2BADGE	SAMP	15	03/18/2011 13:34	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
12	L235614-1B	L235614-1B,WG194433,STD2BADGE	SAMP	16	03/18/2011 13:47	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
13	L235614-2A	L235614-2A,WG194433,STD2BADGE	SAMP	17	03/18/2011 14:00	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
14	L235614-2B	L235614-2B,WG194433,STD2BADGE	SAMP	18	03/18/2011 14:13	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
15	L235614-3A	L235614-3A,WG194433,STD2BADGE	SAMP	19	03/18/2011 14:26	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
16	L235614-3B	L235614-3B,WG194433,STD2BADGE	SAMP	20	03/18/2011 14:39	2	1	2	0	HP23_PERC_MI	HP23_20110318_PEI
17	WG194433-3	WG194433-3,IH196262-2,1	CCV	21	03/18/2011 14:51	2	1	1	0	HP23_PERC_MI	HP23_20110318_PEI

Galson Laboratories
6601 Kirkville Rd. E. Syracuse,NY 13057

INITIAL/CONTINUING CALIBRATION REPORT

Client : Camp, Dresser & McKee, Inc.
Account No: 14621
Login No. : L235614

Lab Sample ID		WG194433-2			WG194433-3					
Type		CCV			CCV					
Spike Lot #		IH196262-2			IH196262-2					
Instrument		HP23			HP23					
Analysis Date		Mar 18, 2011 12:05			Mar 18, 2011 14:51					
	Limits (%)	True Value (ug)	Found (ug)	Recovery (%)	True Value (ug)	Found (ug)	Recovery (%)	True Value ()	Found ()	Recovery (%)
TETRACHLOROETHYLENE	80.0-120.	0.987	1.03	104.	0.987	0.987	99.9			

Galson Laboratories
6601 Kirkville Rd. E. Syracuse,NY 13057

DETECTION LIMIT STANDARD RECOVERY REPORT

Client : Camp, Dresser & McKee, Inc.
Account No: 14621
Login No. : L235614

Lab Sample ID		WG194433-1								
Type		DLS								
Spike Lot #		IH196262-3								
Instrument		HP23								
Analysis Date		Mar 18, 2011 11:52								
	Limits (%)	True Value (ug)	Found (ug)	Recovery (%)	True Value ()	Found ()	Recovery (%)	True Value ()	Found ()	Recovery (%)
TETRACHLOROETHYLENE	70.0-130.	0.0300	0.0317	106.						

Galson Laboratories
6601 Kirkville Rd. E. Syracuse,NY 13057

METHOD BLANK REPORT

Client : Camp, Dresser & McKee, Inc.
Account No: 14621
Login No. : L235614

Lab Sample ID		WG194153-3							
Type		MBLANK							
Instrument		HP23							
Analysis Date		03/18/11							
Analysis Time		12:30							
	LOQ (ug)	Found (ug)							
TETRACHLOROETHYLENE	0.06	<0.06							

page 1 of 1

Client Name: Camp, Dresser & McKee, Inc. Login: L235614
Client Acct: 14621

QC Sample	Type	Analysis Date	Instrument	Media
WG194153-4	BS	Mar 18, 2011 12:56	HP23	M3M-3520
WG194153-5	BSD	Mar 18, 2011 13:09	HP23	M3M-3520

Parameter	True Value ug	WG194153-4 BS ug	% Rec	#	WG194153-5 BSD ug	% Rec	#	RPD	#	QC Limits Rec	RPD
TETRACHLOROETHYLENE	1.97	1.93	97.6		1.95	98.9		1.3		75.0-125	20.0

Column to be used to flag recovery and RPD values with an asterisk.
* Values outside of QC limits.

COMMENTS: _____

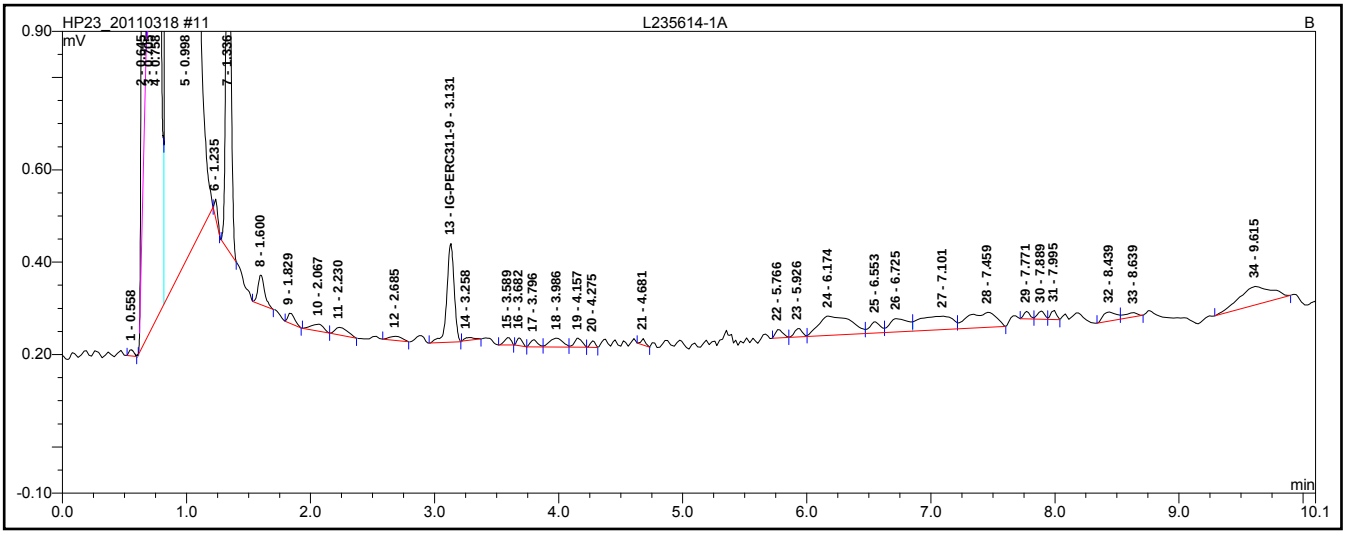
_____

Raw Data

L235614-1A

L235614-1A,WG194433,STD2BADGE

Sample Name:	**L235614-1A**	*Injection Volume:*	**2.0**
Vial Number:	**15**	*Channel:*	**B**
Sample Type:	**SAMP**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 13:34**		
Run Time (min):	**10.10**		



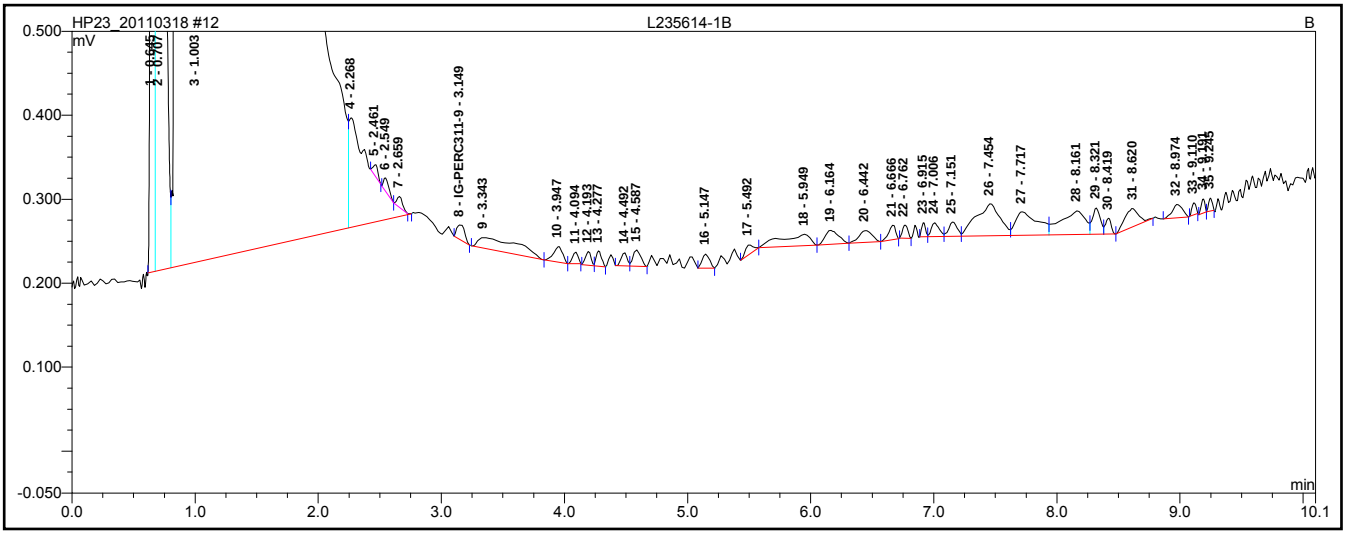
No.	Peak Name	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	0.56	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
2	n.a.	0.65	0.021	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
3	n.a.	0.71	0.009	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
4	n.a.	0.76	0.238	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
5	n.a.	1.00	45.251	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
6	n.a.	1.24	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
7	n.a.	1.34	0.039	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
8	n.a.	1.60	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
9	n.a.	1.83	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
10	n.a.	2.07	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
11	n.a.	2.23	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
12	n.a.	2.69	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
13	IG-PERC311-9	3.13	0.015	XXLOff	3.546E-1	2.801E-2	2.820E+0	-0.0047	1	2.0	-0.0094
14	n.a.	3.26	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
15	n.a.	3.59	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
16	n.a.	3.68	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
17	n.a.	3.80	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
18	n.a.	3.99	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
19	n.a.	4.16	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
20	n.a.	4.28	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
21	n.a.	4.68	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
22	n.a.	5.77	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
23	n.a.	5.93	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
24	n.a.	6.17	0.013	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
25	n.a.	6.55	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
26	n.a.	6.73	0.005	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
27	n.a.	7.10	0.009	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
28	n.a.	7.46	0.009	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
29	n.a.	7.77	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
30	n.a.	7.89	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
31	n.a.	8.00	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
32	n.a.	8.44	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
33	n.a.	8.64	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
34	n.a.	9.61	0.012	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
Total:			45.653								

	Group Name	Group Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Group Conc ug/mL	*Dilution	*DeVol mL	Group Total ug
		0.015	XXLOff	3.546E-1	2.801E-2	2.820E+0	n.a.	1	2	n.a.

L235614-1B

L235614-1B,WG194433,STD2BADGE

Sample Name:	**L235614-1B**	*Injection Volume:*	**2.0**
Vial Number:	**16**	*Channel:*	**B**
Sample Type:	**SAMP**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 13:47**		
Run Time (min):	**10.10**		



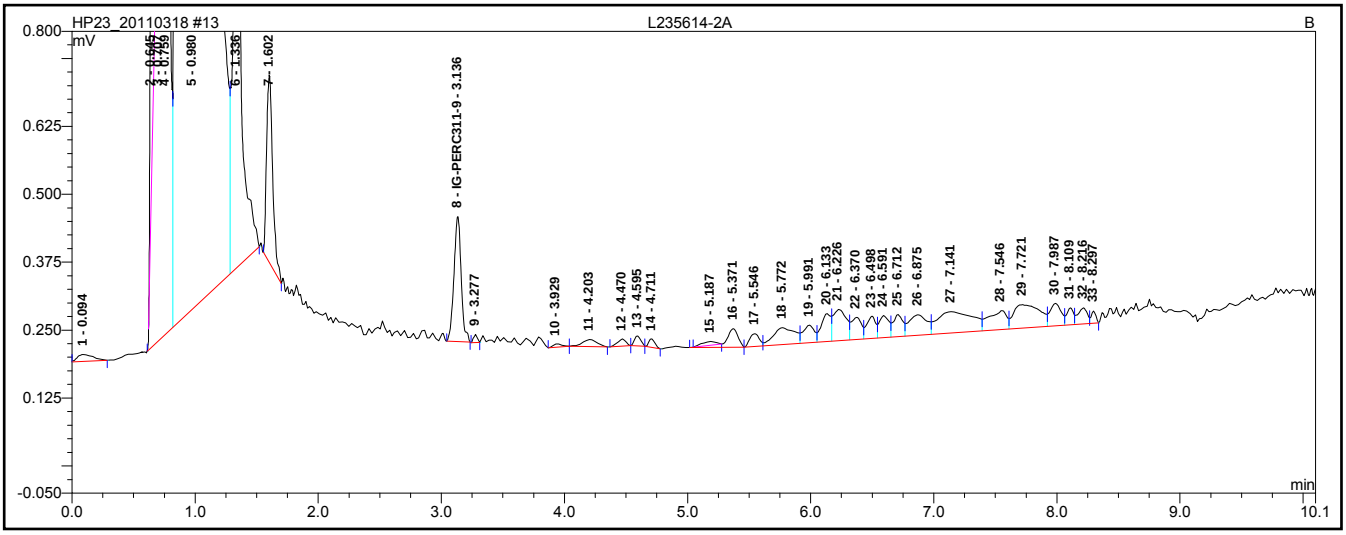
No.	Peak Name	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	0.65	0.031	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
2	n.a.	0.71	0.075	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
3	n.a.	1.00	50.304	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
4	n.a.	2.27	0.026	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
5	n.a.	2.46	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
6	n.a.	2.55	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
7	n.a.	2.66	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
8	IG-PERC311-9	3.15	0.001	XXLOff	3.546E-1	2.801E-2	2.820E+0	-0.0095	1	2.0	-0.0189
9	n.a.	3.34	0.006	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
10	n.a.	3.95	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
11	n.a.	4.09	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
12	n.a.	4.19	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
13	n.a.	4.28	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
14	n.a.	4.49	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
15	n.a.	4.59	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
16	n.a.	5.15	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
17	n.a.	5.49	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
18	n.a.	5.95	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
19	n.a.	6.16	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
20	n.a.	6.44	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
21	n.a.	6.67	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
22	n.a.	6.76	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
23	n.a.	6.92	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
24	n.a.	7.01	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
25	n.a.	7.15	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
26	n.a.	7.45	0.009	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
27	n.a.	7.72	0.006	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
28	n.a.	8.16	0.006	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
29	n.a.	8.32	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
30	n.a.	8.42	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
31	n.a.	8.62	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
32	n.a.	8.97	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
33	n.a.	9.11	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
34	n.a.	9.19	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
35	n.a.	9.24	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
Total:			50.497								

	Group Name	Group Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Group Conc ug/mL	*Dilution	*DeVol mL	Group Total ug
		0.001	XXLOff	3.546E-1	2.801E-2	2.820E+0	n.a.	1	2	n.a.

L235614-2A

L235614-2A,WG194433,STD2BADGE

Sample Name:	**L235614-2A**	*Injection Volume:*	**2.0**
Vial Number:	**17**	*Channel:*	**B**
Sample Type:	**SAMP**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 14:00**		
Run Time (min):	**10.10**		



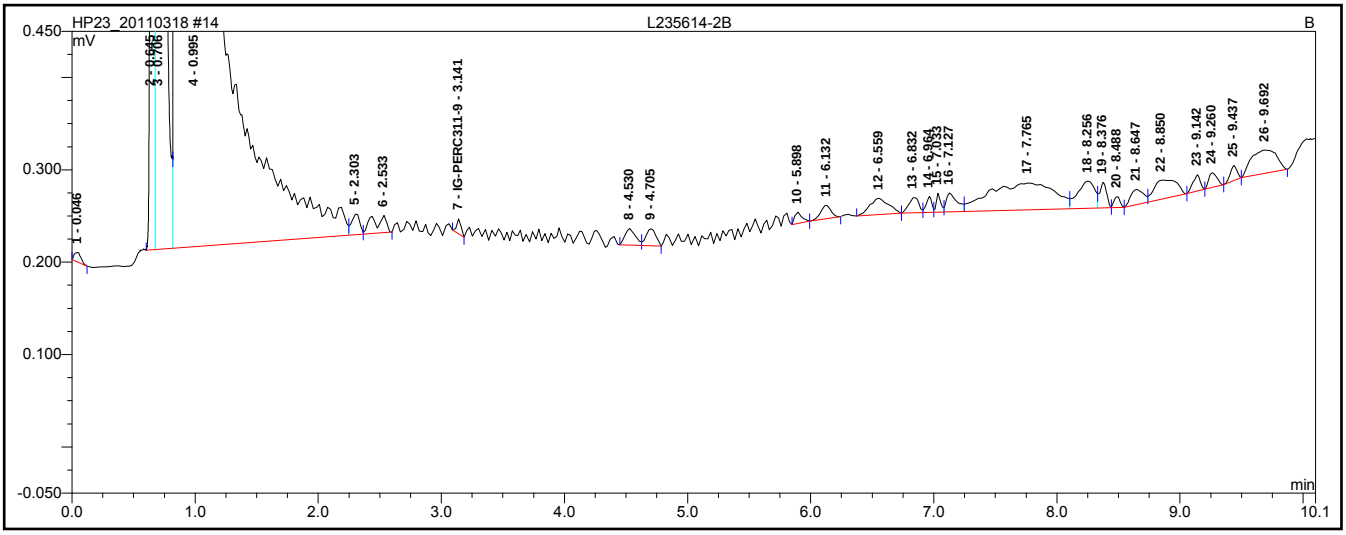
No.	Peak Name	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	0.09	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
2	n.a.	0.64	0.019	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
3	n.a.	0.71	0.011	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
4	n.a.	0.76	0.249	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
5	n.a.	0.98	45.714	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
6	n.a.	1.34	0.076	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
7	n.a.	1.60	0.020	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
8	IG-PERC311-9	3.14	0.016	XXLOff	3.546E-1	2.801E-2	2.820E+0	-0.0044	1	2.0	-0.0087
9	n.a.	3.28	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
10	n.a.	3.93	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
11	n.a.	4.20	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
12	n.a.	4.47	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
13	n.a.	4.59	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
14	n.a.	4.71	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
15	n.a.	5.19	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
16	n.a.	5.37	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
17	n.a.	5.55	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
18	n.a.	5.77	0.006	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
19	n.a.	5.99	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
20	n.a.	6.13	0.005	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
21	n.a.	6.23	0.007	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
22	n.a.	6.37	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
23	n.a.	6.50	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
24	n.a.	6.59	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
25	n.a.	6.71	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
26	n.a.	6.88	0.006	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
27	n.a.	7.14	0.013	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
28	n.a.	7.55	0.006	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
29	n.a.	7.72	0.011	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
30	n.a.	7.99	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
31	n.a.	8.11	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
32	n.a.	8.22	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
33	n.a.	8.30	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
Total:			46.201								

	Group Name	Group Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Group Conc ug/mL	*Dilution	*DeVol mL	Group Total ug
		0.016	XXLOff	3.546E-1	2.801E-2	2.820E+0	n.a.	1	2	n.a.

L235614-2B

L235614-2B,WG194433,STD2BADGE

Sample Name:	**L235614-2B**	*Injection Volume:*	**2.0**
Vial Number:	**18**	*Channel:*	**B**
Sample Type:	**SAMP**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 14:13**		
Run Time (min):	**10.10**		



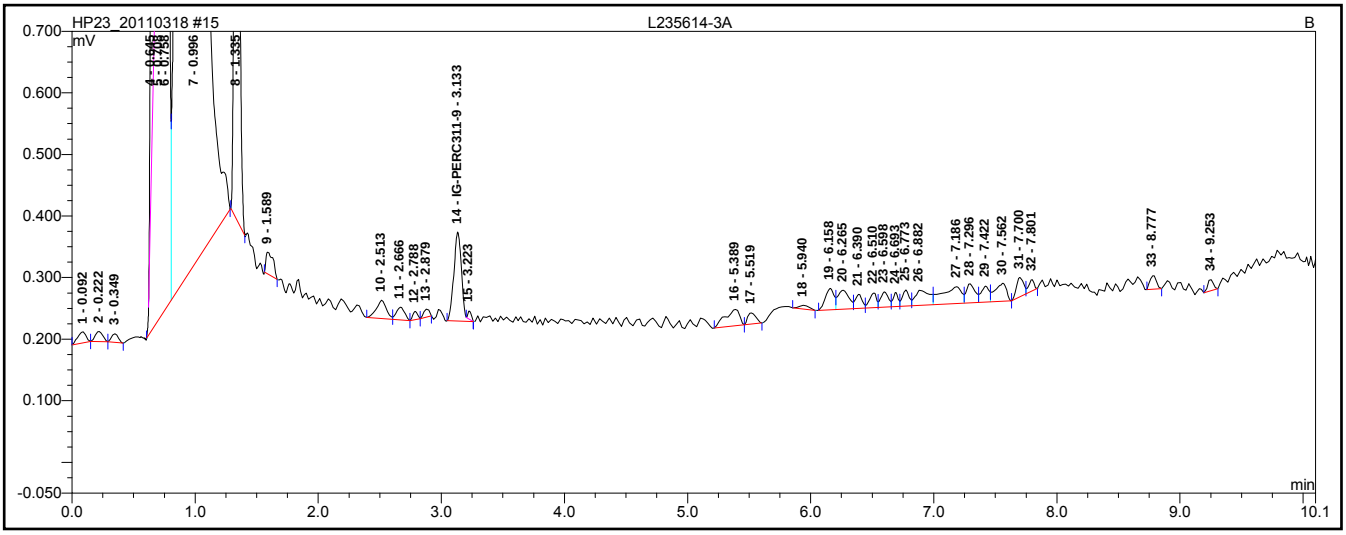
No.	Peak Name	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	0.05	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
2	n.a.	0.65	0.035	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
3	n.a.	0.71	0.081	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
4	n.a.	0.99	45.325	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
5	n.a.	2.30	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
6	n.a.	2.53	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
7	IG-PERC311-9	3.14	0.001	XXLOff	3.546E-1	2.801E-2	2.820E+0	-0.0097	1	2.0	-0.0194
8	n.a.	4.53	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
9	n.a.	4.71	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
10	n.a.	5.90	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
11	n.a.	6.13	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
12	n.a.	6.56	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
13	n.a.	6.83	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
14	n.a.	6.96	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
15	n.a.	7.03	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
16	n.a.	7.13	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
17	n.a.	7.76	0.018	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
18	n.a.	8.26	0.005	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
19	n.a.	8.38	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
20	n.a.	8.49	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
21	n.a.	8.65	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
22	n.a.	8.85	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
23	n.a.	9.14	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
24	n.a.	9.26	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
25	n.a.	9.44	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
26	n.a.	9.69	0.006	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
Total:			45.501								

	Group Name	Group Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Group Conc ug/mL	*Dilution	*DeVol mL	Group Total ug
		0.001	XXLOff	3.546E-1	2.801E-2	2.820E+0	n.a.	1	2	n.a.

L235614-3A

L235614-3A,WG194433,STD2BADGE

Sample Name:	**L235614-3A**	*Injection Volume:*	**2.0**
Vial Number:	**19**	*Channel:*	**B**
Sample Type:	**SAMP**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 14:26**		
Run Time (min):	**10.10**		



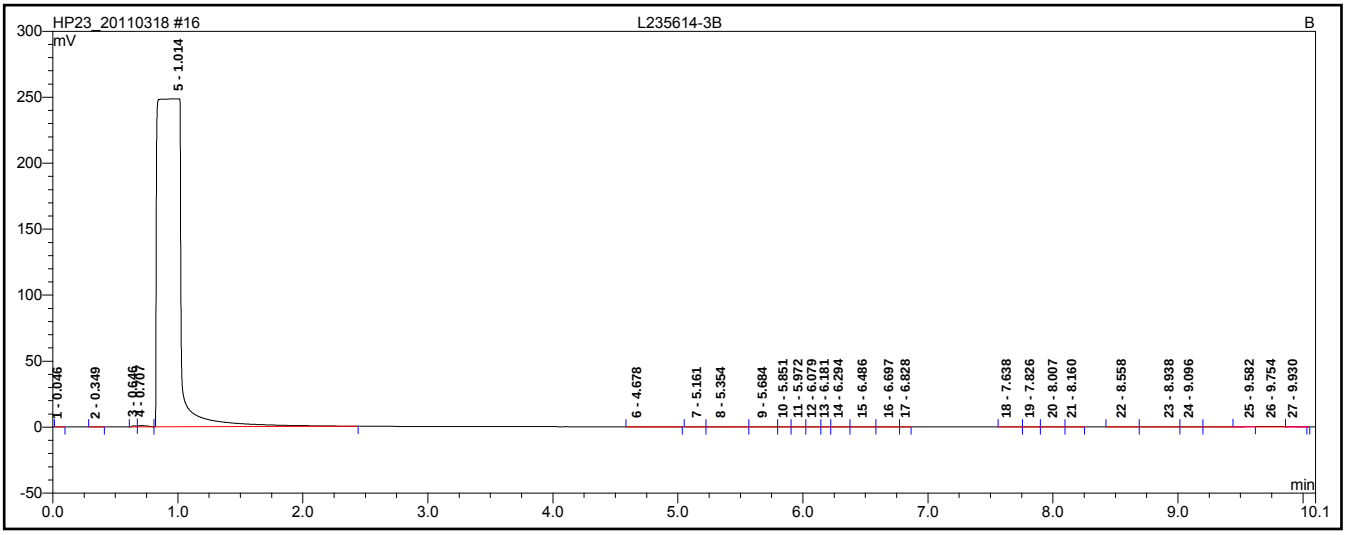
No.	Peak Name	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	0.09	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
2	n.a.	0.22	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
3	n.a.	0.35	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
4	n.a.	0.65	0.013	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
5	n.a.	0.71	0.011	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
6	n.a.	0.76	0.174	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
7	n.a.	1.00	45.266	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
8	n.a.	1.33	0.049	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
9	n.a.	1.59	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
10	n.a.	2.51	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
11	n.a.	2.67	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
12	n.a.	2.79	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
13	n.a.	2.88	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
14	IG-PERC311-9	3.13	0.010	XXLOff	3.546E-1	2.801E-2	2.820E+0	-0.0062	1	2.0	-0.0124
15	n.a.	3.22	0.000	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
16	n.a.	5.39	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
17	n.a.	5.52	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
18	n.a.	5.94	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
19	n.a.	6.16	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
20	n.a.	6.27	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
21	n.a.	6.39	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
22	n.a.	6.51	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
23	n.a.	6.60	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
24	n.a.	6.69	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
25	n.a.	6.77	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
26	n.a.	6.88	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
27	n.a.	7.19	0.005	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
28	n.a.	7.30	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
29	n.a.	7.42	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
30	n.a.	7.56	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
31	n.a.	7.70	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
32	n.a.	7.80	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
33	n.a.	8.78	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
34	n.a.	9.25	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
Total:			45.576								

	Group Name	Group Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Group Conc ug/mL	*Dilution	*DeVol mL	Group Total ug
		0.010	XXLOff	3.546E-1	2.801E-2	2.820E+0	n.a.	1	2	n.a.

L235614-3B

L235614-3B,WG194433,STD2BADGE

Sample Name:	**L235614-3B**	*Injection Volume:*	**2.0**
Vial Number:	**20**	*Channel:*	**B**
Sample Type:	**SAMP**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 14:39**		
Run Time (min):	**10.10**		



No.	Peak Name	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	0.05	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
2	n.a.	0.35	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
3	n.a.	0.65	0.030	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
4	n.a.	0.71	0.080	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
5	n.a.	1.01	53.036	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
6	n.a.	4.68	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
7	n.a.	5.16	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
8	n.a.	5.35	0.005	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
9	n.a.	5.68	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
10	n.a.	5.85	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
11	n.a.	5.97	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
12	n.a.	6.08	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
13	n.a.	6.18	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
14	n.a.	6.29	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
15	n.a.	6.49	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
16	n.a.	6.70	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
17	n.a.	6.83	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
18	n.a.	7.64	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
19	n.a.	7.83	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
20	n.a.	8.01	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
21	n.a.	8.16	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
22	n.a.	8.56	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
23	n.a.	8.94	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
24	n.a.	9.10	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
25	n.a.	9.58	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
26	n.a.	9.75	0.022	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
27	n.a.	9.93	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
Total:			53.212								

	Group Name	Group Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Group Conc ug/mL	*Dilution	*DeVol mL	Group Total ug

Continuing Calibration Standards

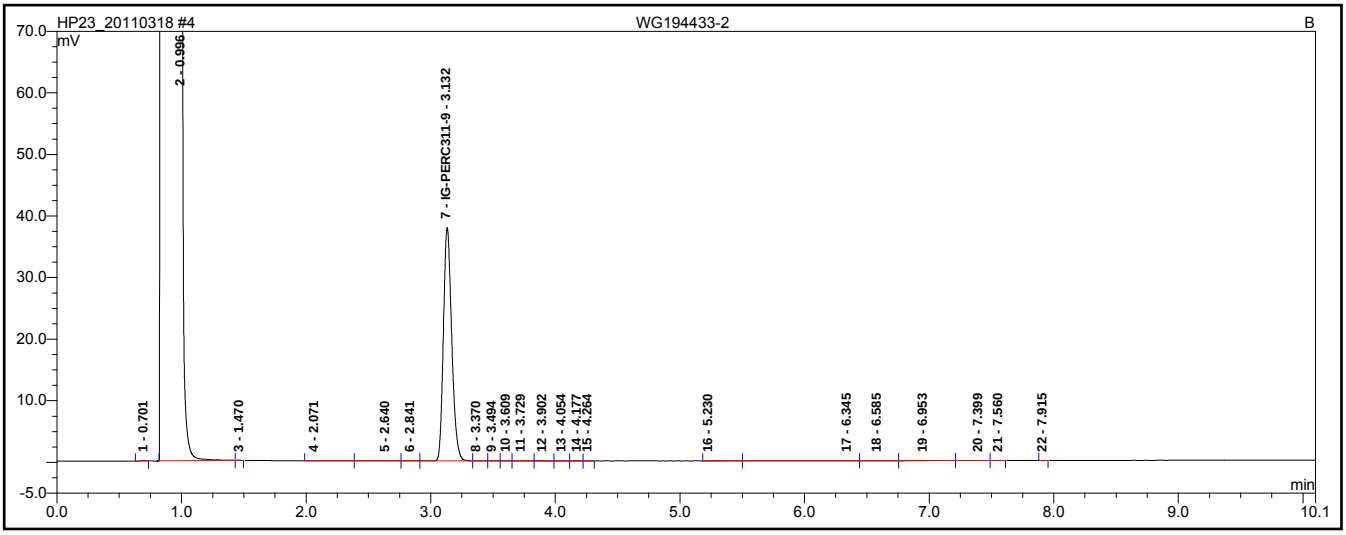
and

Continuing Blank Data

WG194433-2

WG194433-2,IH196262-2,1

Sample Name:	**WG194433-2**	*Injection Volume:*	**2.0**
Vial Number:	**9**	*Channel:*	**B**
Sample Type:	**CCV**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 12:05**		
Run Time (min):	**10.10**		



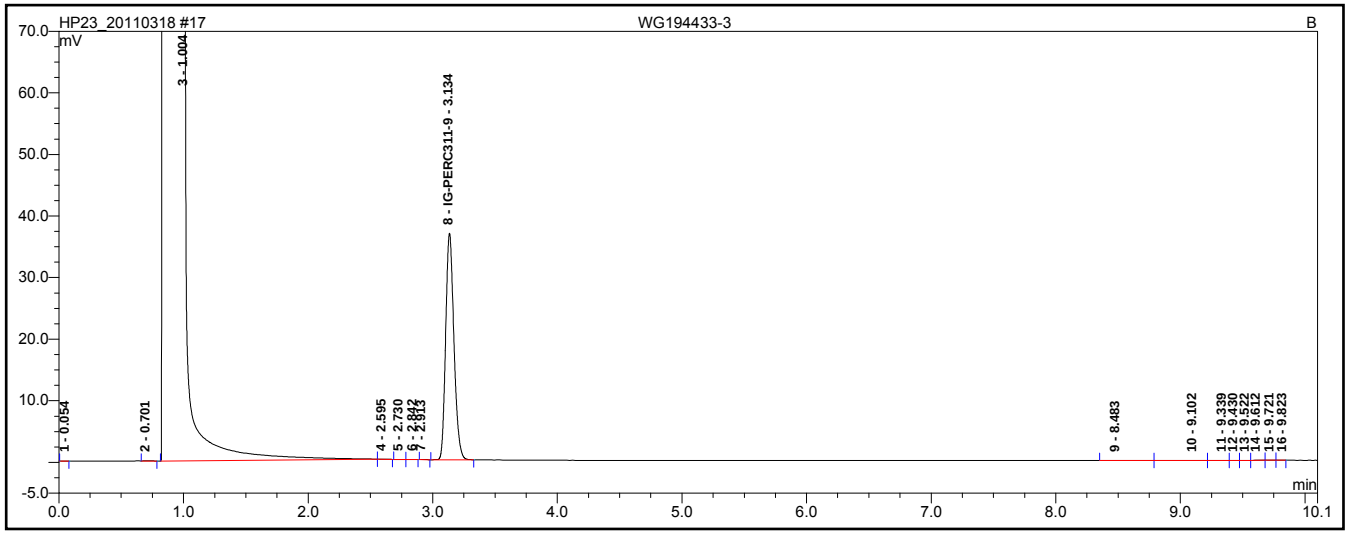
No.	Peak Name	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	0.70	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
2	n.a.	1.00	45.405	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
3	n.a.	1.47	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
4	n.a.	2.07	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
5	n.a.	2.64	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
6	n.a.	2.84	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
7	IG-PERC311-9	3.13	2.921	XXLOff	3.546E-1	2.801E-2	2.820E+0	1.0257	1	1.0	1.0257
8	n.a.	3.37	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
9	n.a.	3.49	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
10	n.a.	3.61	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
11	n.a.	3.73	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
12	n.a.	3.90	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
13	n.a.	4.05	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
14	n.a.	4.18	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
15	n.a.	4.26	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
16	n.a.	5.23	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
17	n.a.	6.35	0.012	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
18	n.a.	6.59	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
19	n.a.	6.95	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
20	n.a.	7.40	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
21	n.a.	7.56	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
22	n.a.	7.91	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
Total:			48.373								

	Group Name	Group Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Group Conc ug/mL	*Dilution	*DeVol mL	Group Total ug
		2.921	XXLOff	3.546E-1	2.801E-2	2.820E+0	n.a.	1	1	n.a.

WG194433-3

WG194433-3,IH196262-2,1

Sample Name:	**WG194433-3**	*Injection Volume:*	**2.0**
Vial Number:	**21**	*Channel:*	**B**
Sample Type:	**CCV**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 14:51**		
Run Time (min):	**10.10**		



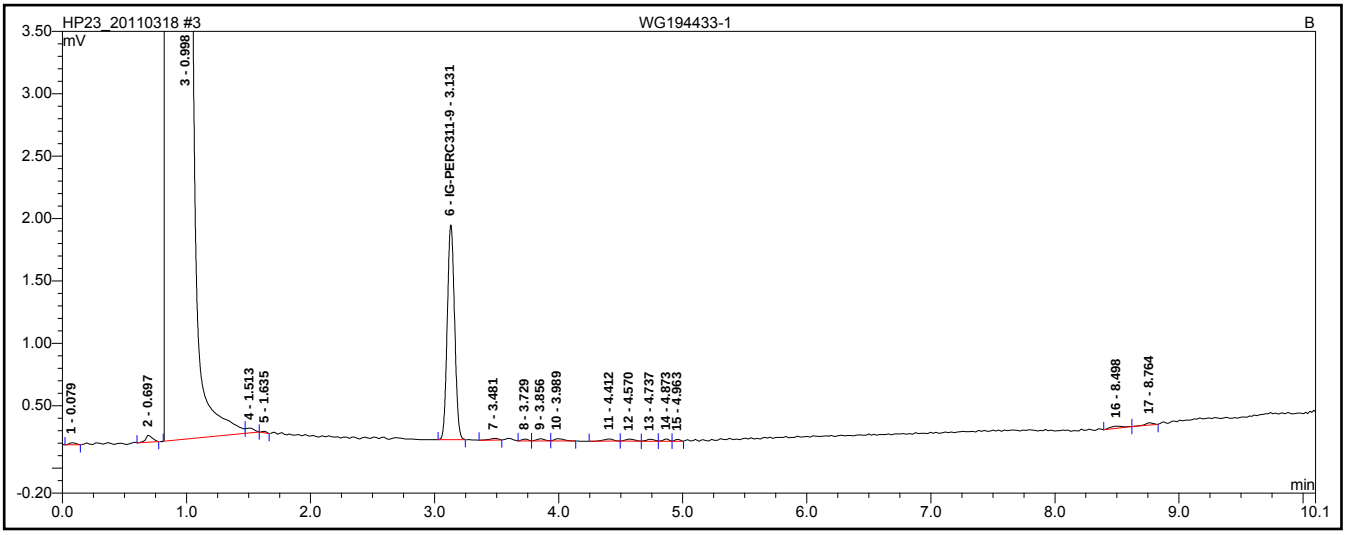
No.	Peak Name	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	0.05	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
2	n.a.	0.70	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
3	n.a.	1.00	48.393	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
4	n.a.	2.60	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
5	n.a.	2.73	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
6	n.a.	2.84	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
7	n.a.	2.91	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
8	IG-PERC311-9	3.13	2.811	XXLOff	3.546E-1	2.801E-2	2.820E+0	0.9868	1	1.0	0.9868
9	n.a.	8.48	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
10	n.a.	9.10	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
11	n.a.	9.34	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
12	n.a.	9.43	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
13	n.a.	9.52	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
14	n.a.	9.61	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
15	n.a.	9.72	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
16	n.a.	9.82	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
Total:			51.222								

	Group Name	Group Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Group Conc ug/mL	*Dilution	*DeVol mL	Group Total ug
		2.811	XXLOff	3.546E-1	2.801E-2	2.820E+0	n.a.	1	1	n.a.

WG194433-1

WG194433-1,IH196262-3,1

Sample Name:	**WG194433-1**	*Injection Volume:*	**2.0**
Vial Number:	**8**	*Channel:*	**B**
Sample Type:	**DLS**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 11:52**		
Run Time (min):	**10.10**		



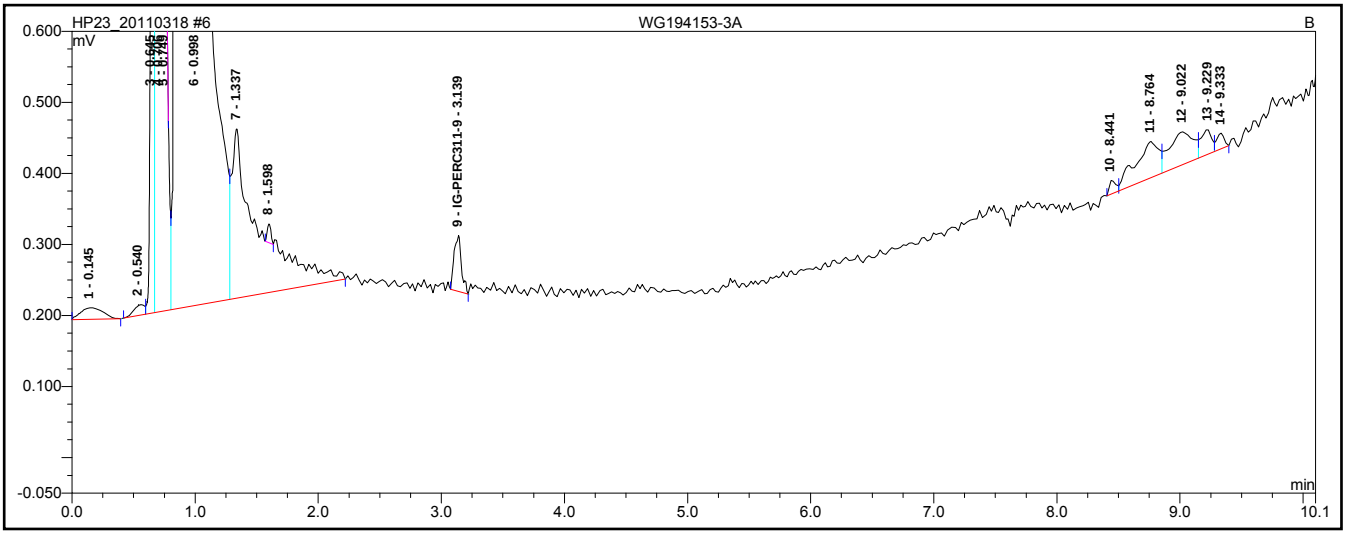
No.	Peak Name	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	0.08	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
2	n.a.	0.70	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
3	n.a.	1.00	45.472	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
4	n.a.	1.51	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
5	n.a.	1.63	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
6	IG-PERC311-9	3.13	0.117	XXLOff	3.546E-1	2.801E-2	2.820E+0	0.0317	1	1.0	0.0317
7	n.a.	3.48	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
8	n.a.	3.73	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
9	n.a.	3.86	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
10	n.a.	3.99	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
11	n.a.	4.41	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
12	n.a.	4.57	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
13	n.a.	4.74	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
14	n.a.	4.87	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
15	n.a.	4.96	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
16	n.a.	8.50	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
17	n.a.	8.76	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
Total:			45.612								

	Group Name	Group Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Group Conc ug/mL	*Dilution	*DeVol mL	Group Total ug
		0.117	XXLOff	3.546E-1	2.801E-2	2.820E+0	n.a.	1	1	n.a.

WG194153-3A

WG194153-3A,WG194433,STD2BADGE

Sample Name:	**WG194153-3A**	*Injection Volume:*	**2.0**
Vial Number:	**11**	*Channel:*	**B**
Sample Type:	**MBLANK**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 12:30**		
Run Time (min):	**10.10**		



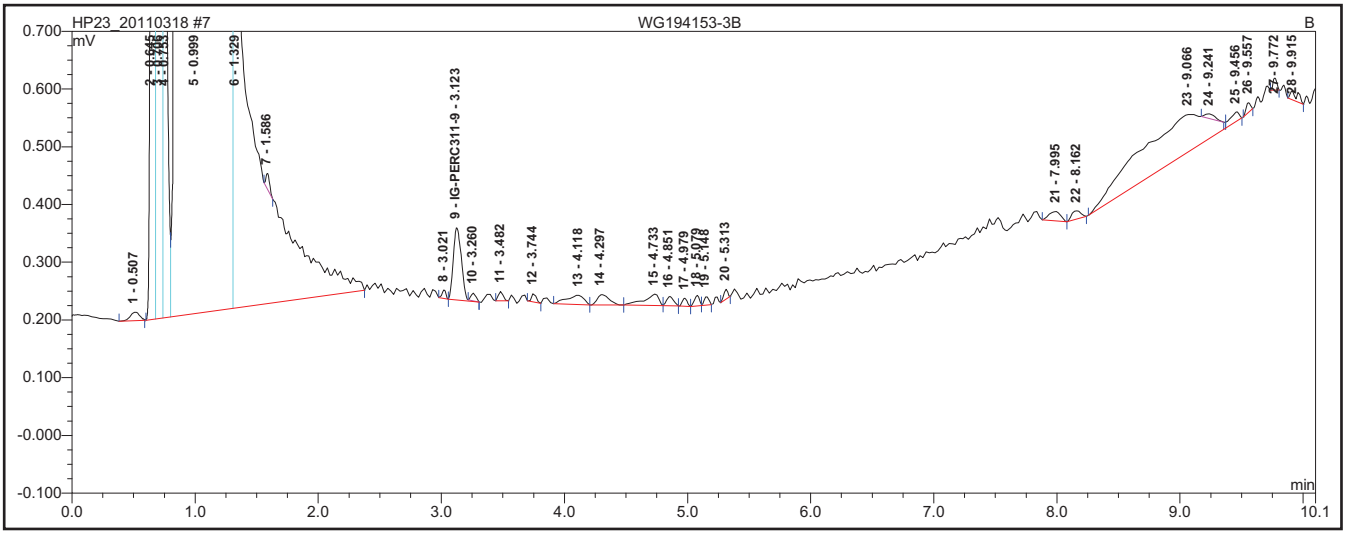
No.	Peak Name	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	0.15	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
2	n.a.	0.54	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
3	n.a.	0.65	0.022	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
4	n.a.	0.71	0.087	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
5	n.a.	0.75	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
6	n.a.	1.00	45.366	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
7	n.a.	1.34	0.061	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
8	n.a.	1.60	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
9	IG-PERC311-9	3.14	0.005	XXLOff	3.546E-1	2.801E-2	2.820E+0	-0.0080	1	2.0	-0.0160
10	n.a.	8.44	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
11	n.a.	8.76	0.011	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
12	n.a.	9.02	0.011	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
13	n.a.	9.23	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
14	n.a.	9.33	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
Total:			45.578								

	Group Name	Group Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Group Conc ug/mL	*Dilution	*DeVol mL	Group Total ug
		0.005	XXLOff	3.546E-1	2.801E-2	2.820E+0	n.a.	1	2	n.a.

WG194153-3B

WG194153-3B,WG194433,STD2BADGE

Sample Name:	**WG194153-3B**	*Injection Volume:*	**2.0**
Vial Number:	**12**	*Channel:*	**B**
Sample Type:	**MBLANK**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 12:43**		
Run Time (min):	**10.10**		



No.	Peak Name	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	0.51	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
2	n.a.	0.64	0.044	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
3	n.a.	0.71	0.058	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
4	n.a.	0.75	0.036	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
5	n.a.	1.00	45.973	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
6	n.a.	1.33	0.161	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
7	n.a.	1.59	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
8	n.a.	3.02	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
9	IG-PERC311-9	3.12	0.009	XXLOff	3.546E-1	2.801E-2	2.820E+0	-0.0066	1	2.0	-0.0132
10	n.a.	3.26	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
11	n.a.	3.48	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
12	n.a.	3.74	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
13	n.a.	4.12	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
14	n.a.	4.30	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
15	n.a.	4.73	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
16	n.a.	4.85	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
17	n.a.	4.98	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
18	n.a.	5.08	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
19	n.a.	5.15	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
20	n.a.	5.31	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
21	n.a.	7.99	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
22	n.a.	8.16	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
23	n.a.	9.07	0.048	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
24	n.a.	9.24	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
25	n.a.	9.46	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
26	n.a.	9.56	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
27	n.a.	9.77	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
28	n.a.	9.92	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
Total:			46.353								

	Group Name	Group Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Group Conc ug/mL	*Dilution	*DeVol mL	Group Total ug
		0.009	XXLOff	3.546E-1	2.801E-2	2.820E+0	n.a.	1	2	n.a.

Initial Calibration Data

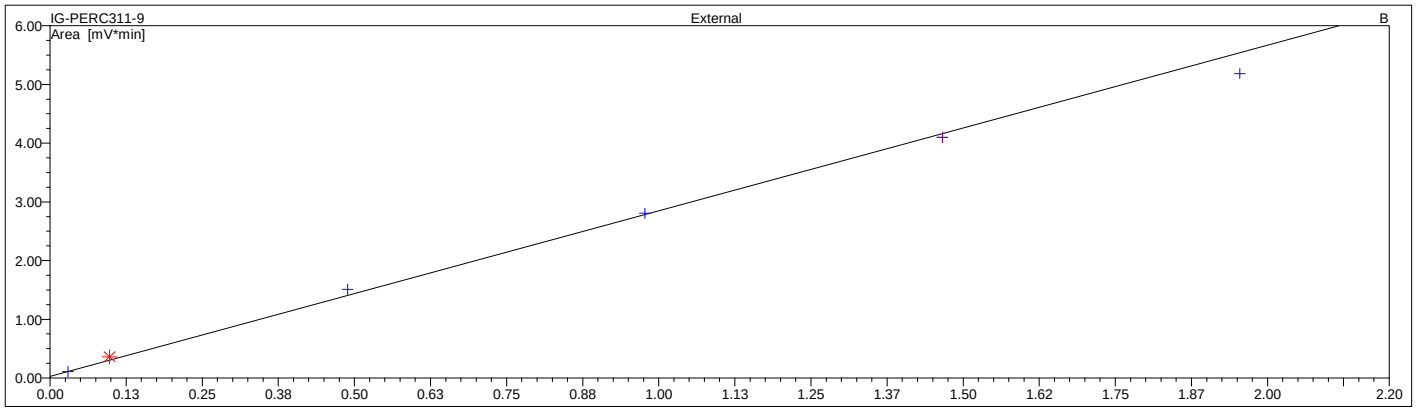
Method: HP23_20110318_PERC311-9

Program: HP23_PERC_METHOD_A

Sequence: HP23_20110318_PERC311-9

Path: HP23\Methods

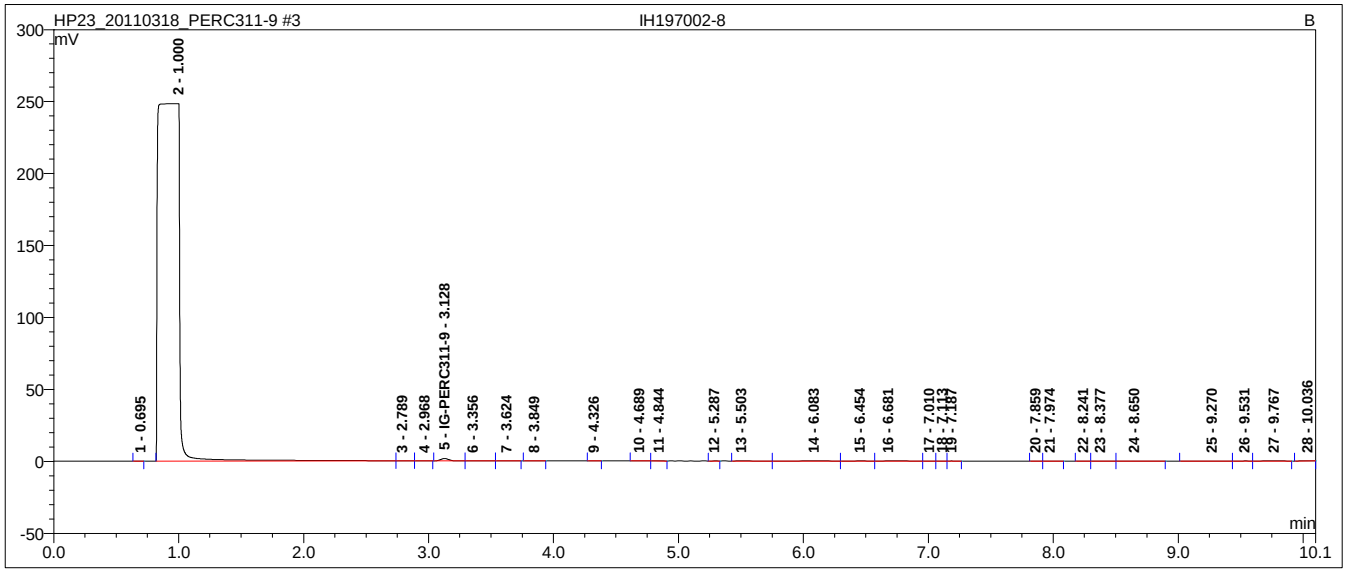
Name	Cal.Mode	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Std.Dev.	Rel.Std.Dev. %	R-Square
IG-PERC311-9	Fixed	XXLOff	3.546E-1	2.801E-2	2.820E+0	0.011	8.881	0.9973



Calibration Levels	Calibration Sequence	Target Amount	Area mV*min	Amnt.Dev. (rel) %	RF-Value Conc/Area	Offset b	Slope m	n Point Status
		IG-PERC311-9 B	IG-PERC311-9 B	IG-PERC311-9 B	IG-PERC311-9 B	IG-PERC311-9 B	IG-PERC311-9 B	IG-PERC311-9 B
IH197002-8	HP23\Methods\HP23_20110318_PERC311-9	0.0293	0.110	-0.3	3.546E-1	2.801E-2	2.820E+0	Enabled
IH197002-7	HP23\Methods\HP23_20110318_PERC311-9	0.0977	0.362	21.1	3.546E-1	2.801E-2	2.820E+0	Disabled
IH197002-6	HP23\Methods\HP23_20110318_PERC311-9	0.4886	1.510	7.5	3.546E-1	2.801E-2	2.820E+0	Enabled
IH197002-5	HP23\Methods\HP23_20110318_PERC311-9	0.9772	2.806	0.8	3.546E-1	2.801E-2	2.820E+0	Enabled
IH197002-4	HP23\Methods\HP23_20110318_PERC311-9	1.4658	4.098	-1.5	3.546E-1	2.801E-2	2.820E+0	Enabled
IH197002-3	HP23\Methods\HP23_20110318_PERC311-9	1.9545	5.185	-6.4	3.546E-1	2.801E-2	2.820E+0	Enabled

IH197002-8

Sample Name:	**IH197002-8**	*Injection Volume:*	**2.0**
Vial Number:	**2**	*Channel:*	**B**
Sample Type:	**ICAL**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 9:32**		
Run Time (min):	**10.10**		



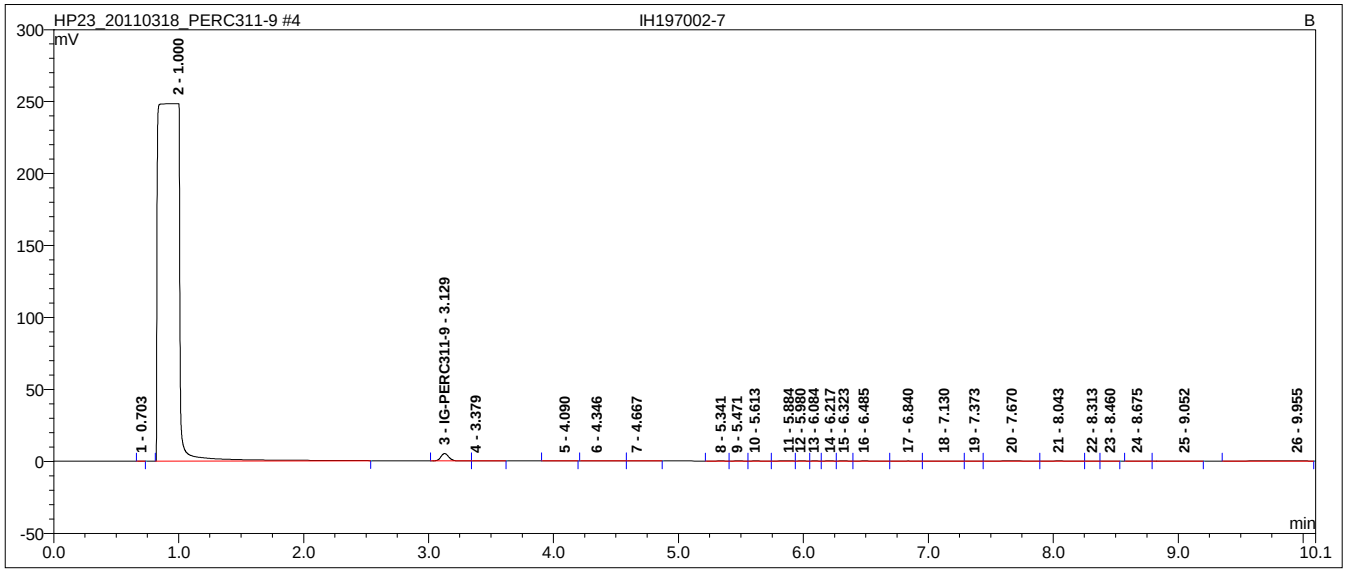
No.	Peak Name	Comment	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	n.a.	0.69	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
2	n.a.	n.a.	1.00	46.756	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
3	n.a.	n.a.	2.79	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
4	n.a.	n.a.	2.97	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
5	IG-PERC311-9		3.13	0.110	XXLOff	3.546E-1	2.801E-2	2.820E+0	0.0292	1	1.0	0.0292
6	n.a.	n.a.	3.36	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
7	n.a.	n.a.	3.62	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
8	n.a.	n.a.	3.85	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
9	n.a.	n.a.	4.33	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
10	n.a.	n.a.	4.69	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
11	n.a.	n.a.	4.84	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
12	n.a.	n.a.	5.29	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
13	n.a.	n.a.	5.50	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
14	n.a.	n.a.	6.08	0.005	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
15	n.a.	n.a.	6.45	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
16	n.a.	n.a.	6.68	0.005	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
17	n.a.	n.a.	7.01	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
18	n.a.	n.a.	7.11	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
19	n.a.	n.a.	7.19	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
20	n.a.	n.a.	7.86	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
21	n.a.	n.a.	7.97	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
22	n.a.	n.a.	8.24	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
23	n.a.	n.a.	8.38	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
24	n.a.	n.a.	8.65	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
25	n.a.	n.a.	9.27	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
26	n.a.	n.a.	9.53	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
27	n.a.	n.a.	9.77	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
28	n.a.	n.a.	10.04	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
Total:				46.913								

	Group Name	Group Total ug
		0.0292

IH197002-7

not used - dev >20%

Sample Name:	**IH197002-7**	*Injection Volume:*	**2.0**
Vial Number:	**3**	*Channel:*	**B**
Sample Type:	**ICAL**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 9:45**		
Run Time (min):	**10.10**		

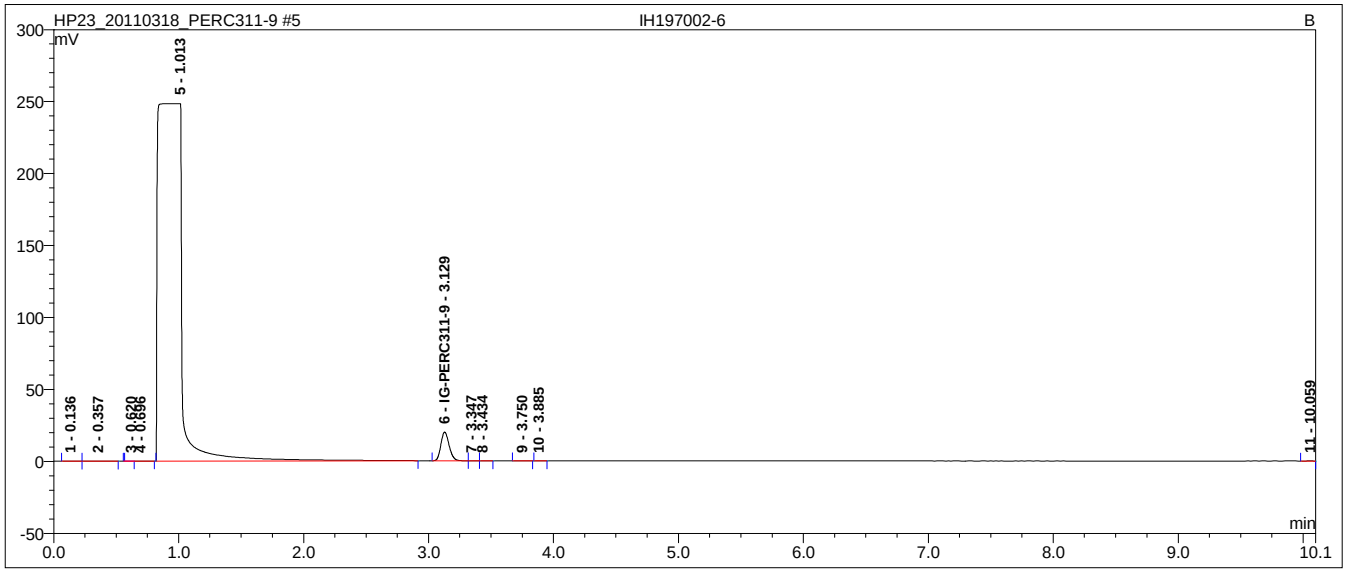


No.	Peak Name	Comment	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	n.a.	0.70	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
2	n.a.	n.a.	1.00	47.356	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
3	IG-PERC311-9		3.13	0.362	XXLOff	3.546E-1	2.801E-2	2.820E+0	0.1183	1	1.0	0.1183
4	n.a.	n.a.	3.38	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
5	n.a.	n.a.	4.09	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
6	n.a.	n.a.	4.35	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
7	n.a.	n.a.	4.67	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
8	n.a.	n.a.	5.34	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
9	n.a.	n.a.	5.47	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
10	n.a.	n.a.	5.61	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
11	n.a.	n.a.	5.88	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
12	n.a.	n.a.	5.98	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
13	n.a.	n.a.	6.08	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
14	n.a.	n.a.	6.22	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
15	n.a.	n.a.	6.32	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
16	n.a.	n.a.	6.49	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
17	n.a.	n.a.	6.84	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
18	n.a.	n.a.	7.13	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
19	n.a.	n.a.	7.37	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
20	n.a.	n.a.	7.67	0.007	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
21	n.a.	n.a.	8.04	0.005	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
22	n.a.	n.a.	8.31	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
23	n.a.	n.a.	8.46	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
24	n.a.	n.a.	8.67	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
25	n.a.	n.a.	9.05	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
26	n.a.	n.a.	9.96	0.005	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
Total:				47.773								

	Group Name	Group Total ug
		0.1183

IH197002-6

Sample Name:	**IH197002-6**	*Injection Volume:*	**2.0**
Vial Number:	**4**	*Channel:*	**B**
Sample Type:	**ICAL**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 9:58**		
Run Time (min):	**10.10**		

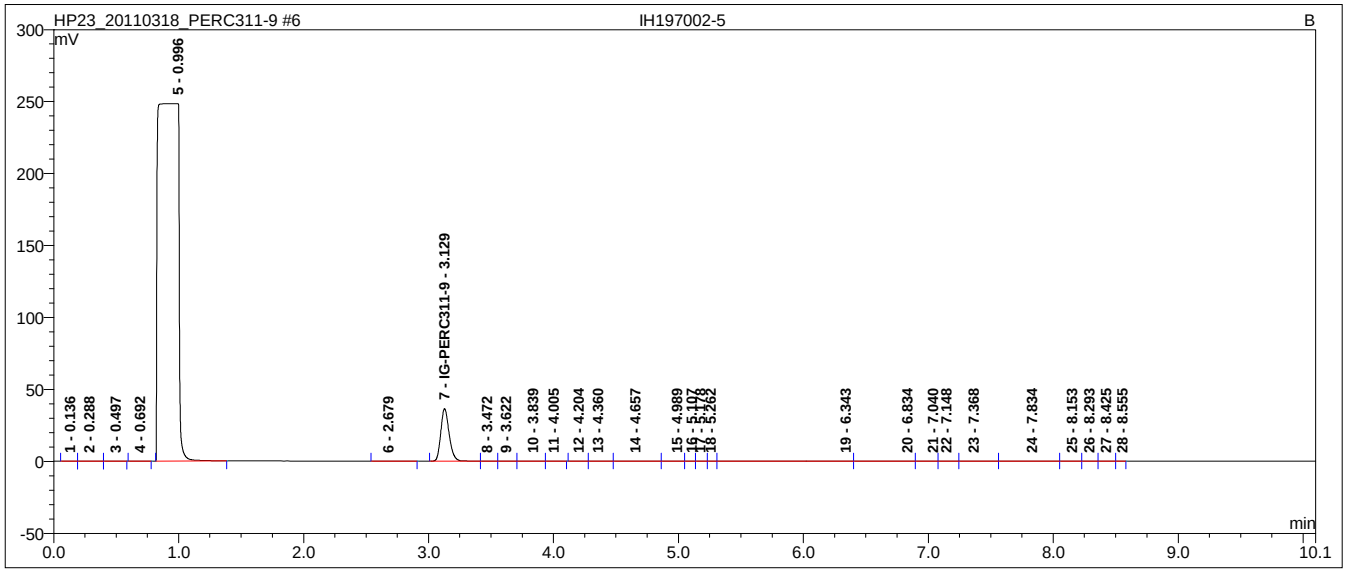


No.	Peak Name	Comment	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	n.a.	0.14	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
2	n.a.	n.a.	0.36	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
3	n.a.	n.a.	0.62	0.000	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
4	n.a.	n.a.	0.70	0.006	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
5	n.a.	n.a.	1.01	53.332	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
6	IG-PERC311-9		3.13	1.510	XXLOff	3.546E-1	2.801E-2	2.820E+0	0.5254	1	1.0	0.5254
7	n.a.	n.a.	3.35	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
8	n.a.	n.a.	3.43	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
9	n.a.	n.a.	3.75	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
10	n.a.	n.a.	3.89	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
11	n.a.	n.a.	10.06	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
Total:				54.856								

	Group Name	Group Total ug
		0.5254

IH197002-5

Sample Name:	**IH197002-5**	*Injection Volume:*	**2.0**
Vial Number:	**5**	*Channel:*	**B**
Sample Type:	**ICAL**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 10:11**		
Run Time (min):	**10.10**		

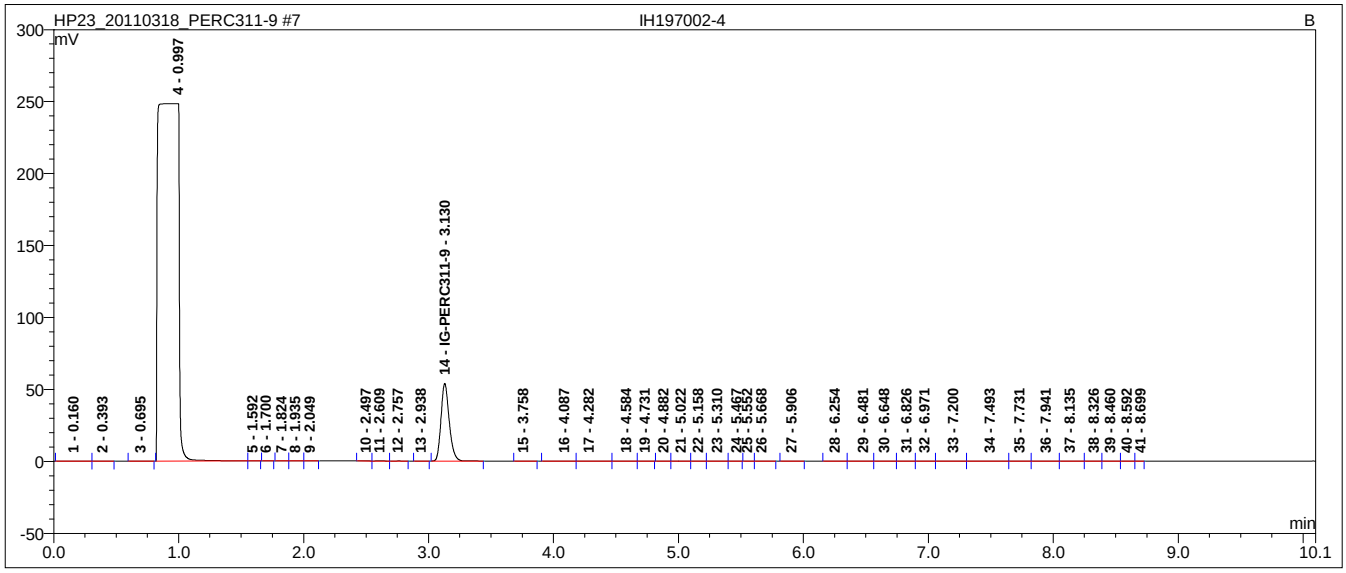


No.	Peak Name	Comment	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	n.a.	0.14	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
2	n.a.	n.a.	0.29	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
3	n.a.	n.a.	0.50	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
4	n.a.	n.a.	0.69	0.007	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
5	n.a.	n.a.	1.00	45.497	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
6	n.a.	n.a.	2.68	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
7	IG-PERC311-9		3.13	2.806	XXLOff	3.546E-1	2.801E-2	2.820E+0	0.9851	1	1.0	0.9851
8	n.a.	n.a.	3.47	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
9	n.a.	n.a.	3.62	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
10	n.a.	n.a.	3.84	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
11	n.a.	n.a.	4.00	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
12	n.a.	n.a.	4.20	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
13	n.a.	n.a.	4.36	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
14	n.a.	n.a.	4.66	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
15	n.a.	n.a.	4.99	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
16	n.a.	n.a.	5.11	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
17	n.a.	n.a.	5.18	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
18	n.a.	n.a.	5.26	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
19	n.a.	n.a.	6.34	0.021	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
20	n.a.	n.a.	6.83	0.010	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
21	n.a.	n.a.	7.04	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
22	n.a.	n.a.	7.15	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
23	n.a.	n.a.	7.37	0.006	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
24	n.a.	n.a.	7.83	0.008	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
25	n.a.	n.a.	8.15	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
26	n.a.	n.a.	8.29	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
27	n.a.	n.a.	8.42	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
28	n.a.	n.a.	8.55	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
Total:				48.392								

	Group Name	Group Total ug
		0.9851

IH197002-4

Sample Name:	**IH197002-4**	*Injection Volume:*	**2.0**
Vial Number:	**6**	*Channel:*	**B**
Sample Type:	**ICAL**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 10:24**		
Run Time (min):	**10.10**		



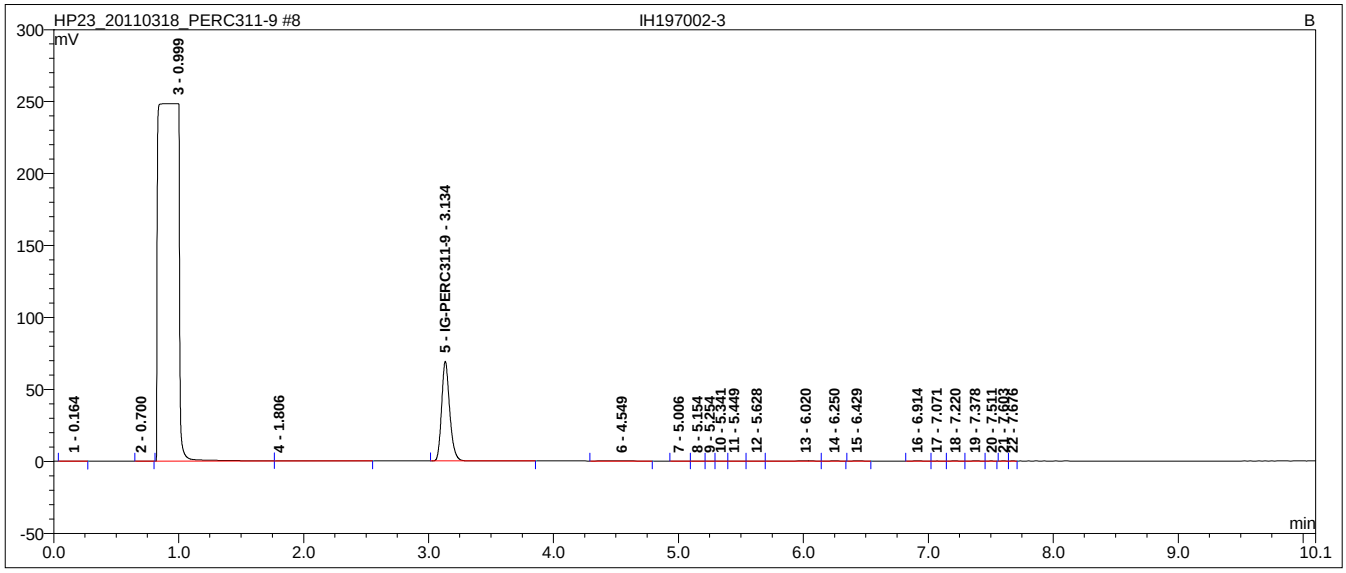
No.	Peak Name	Comment	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	n.a.	0.16	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
2	n.a.	n.a.	0.39	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
3	n.a.	n.a.	0.70	0.006	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
4	n.a.	n.a.	1.00	45.485	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
5	n.a.	n.a.	1.59	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
6	n.a.	n.a.	1.70	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
7	n.a.	n.a.	1.82	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
8	n.a.	n.a.	1.93	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
9	n.a.	n.a.	2.05	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
10	n.a.	n.a.	2.50	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
11	n.a.	n.a.	2.61	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
12	n.a.	n.a.	2.76	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
13	n.a.	n.a.	2.94	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
14	IG-PERC311-9		3.13	4.098	XXLOff	3.546E-1	2.801E-2	2.820E+0	1.4431	1	1.0	1.4431
15	n.a.	n.a.	3.76	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
16	n.a.	n.a.	4.09	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
17	n.a.	n.a.	4.28	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
18	n.a.	n.a.	4.58	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
19	n.a.	n.a.	4.73	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
20	n.a.	n.a.	4.88	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
21	n.a.	n.a.	5.02	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
22	n.a.	n.a.	5.16	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
23	n.a.	n.a.	5.31	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
24	n.a.	n.a.	5.47	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
25	n.a.	n.a.	5.55	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
26	n.a.	n.a.	5.67	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
27	n.a.	n.a.	5.91	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
28	n.a.	n.a.	6.25	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
29	n.a.	n.a.	6.48	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
30	n.a.	n.a.	6.65	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
31	n.a.	n.a.	6.83	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
32	n.a.	n.a.	6.97	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
33	n.a.	n.a.	7.20	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
34	n.a.	n.a.	7.49	0.005	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
35	n.a.	n.a.	7.73	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
36	n.a.	n.a.	7.94	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
37	n.a.	n.a.	8.13	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.

38	n.a.	n.a.	8.33	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
39	n.a.	n.a.	8.46	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
40	n.a.	n.a.	8.59	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
41	n.a.	n.a.	8.70	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
Total:				49.646								

	Group Name	Group Total ug
		1.4431

IH197002-3

Sample Name:	**IH197002-3**	*Injection Volume:*	**2.0**
Vial Number:	**7**	*Channel:*	**B**
Sample Type:	**ICAL**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 10:57**		
Run Time (min):	**10.10**		



No.	Peak Name	Comment	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	n.a.	0.16	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
2	n.a.	n.a.	0.70	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
3	n.a.	n.a.	1.00	45.697	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
4	n.a.	n.a.	1.81	0.059	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
5	IG-PERC311-9		3.13	5.185	XXLOff	3.546E-1	2.801E-2	2.820E+0	1.8288	1	1.0	1.8288
6	n.a.	n.a.	4.55	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
7	n.a.	n.a.	5.01	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
8	n.a.	n.a.	5.15	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
9	n.a.	n.a.	5.25	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
10	n.a.	n.a.	5.34	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
11	n.a.	n.a.	5.45	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
12	n.a.	n.a.	5.63	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
13	n.a.	n.a.	6.02	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
14	n.a.	n.a.	6.25	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
15	n.a.	n.a.	6.43	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
16	n.a.	n.a.	6.91	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
17	n.a.	n.a.	7.07	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
18	n.a.	n.a.	7.22	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
19	n.a.	n.a.	7.38	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
20	n.a.	n.a.	7.51	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
21	n.a.	n.a.	7.60	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
22	n.a.	n.a.	7.68	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	1.0	n.a.
Total:				50.97								

	Group Name	Group Total ug
		1.8288

Blank Spike

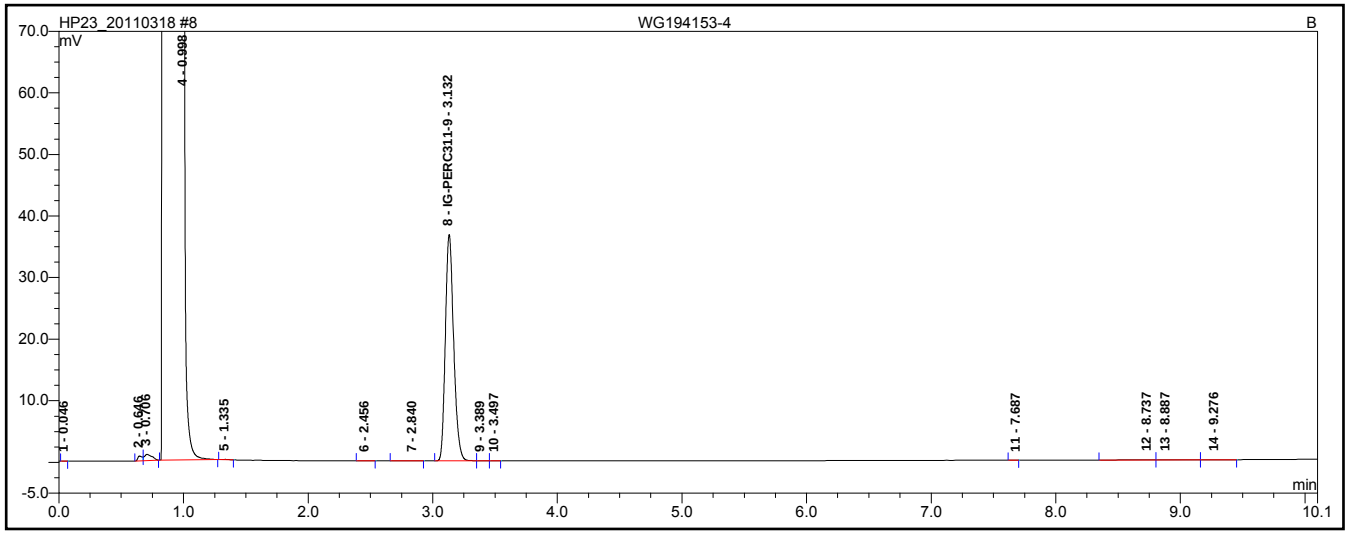
Blank Spike Duplicate

Data

WG194153-4

WG194153-4,IH196262-1,1,STD2BADGE

Sample Name:	**WG194153-4**	*Injection Volume:*	**2.0**
Vial Number:	**13**	*Channel:*	**B**
Sample Type:	**BS**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 12:56**		
Run Time (min):	**10.10**		



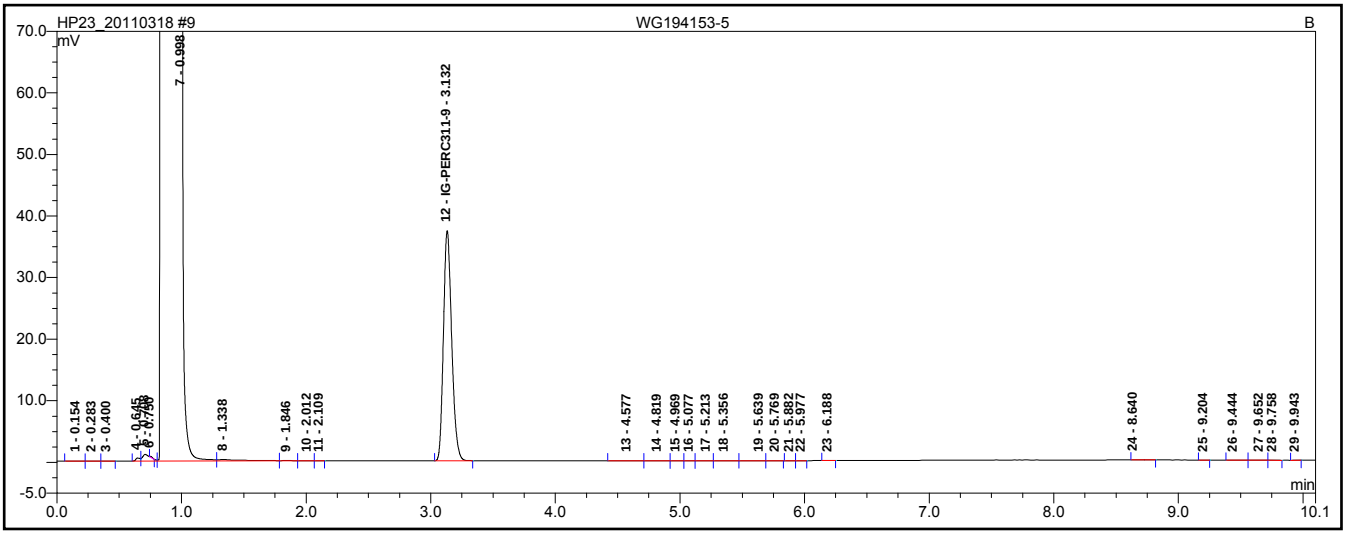
No.	Peak Name	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	0.05	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
2	n.a.	0.65	0.031	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
3	n.a.	0.71	0.073	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
4	n.a.	1.00	45.353	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
5	n.a.	1.34	0.004	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
6	n.a.	2.46	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
7	n.a.	2.84	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
8	IG-PERC311-9	3.13	2.826	XXLOff	3.546E-1	2.801E-2	2.820E+0	0.9923	1	2.0	1.9845
9	n.a.	3.39	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
10	n.a.	3.50	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
11	n.a.	7.69	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
12	n.a.	8.74	0.013	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
13	n.a.	8.89	0.007	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
14	n.a.	9.28	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
Total:			48.314								

	Group Name	Group Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Group Conc ug/mL	*Dilution	*DeVol mL	Group Total ug
		2.826	XXLOff	3.546E-1	2.801E-2	2.820E+0	n.a.	1	2	n.a.

WG194153-5

WG194153-5,IH196262-1,1,STD2BADGE

Sample Name:	**WG194153-5**	*Injection Volume:*	**2.0**
Vial Number:	**14**	*Channel:*	**B**
Sample Type:	**BSD**	*Lot Correction:*	**0 ug**
Control Program:	**HP23_PERC_METHOD_A**	Standard Method:	**External**
Quantif. Method:	**HP23_20110318_PERC311-9**		
Recording Time:	**3/18/2011 13:09**		
Run Time (min):	**10.10**		



No.	Peak Name	RT min	Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Conc ug/mL	*Dilution	*DeVol mL	Total ug
1	n.a.	0.15	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
2	n.a.	0.28	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
3	n.a.	0.40	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
4	n.a.	0.65	0.019	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
5	n.a.	0.71	0.080	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
6	n.a.	0.75	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
7	n.a.	1.00	45.157	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
8	n.a.	1.34	0.041	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
9	n.a.	1.85	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
10	n.a.	2.01	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
11	n.a.	2.11	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
12	IG-PERC311-9	3.13	2.864	XXLOff	3.546E-1	2.801E-2	2.820E+0	1.0057	1	2.0	2.0115
13	n.a.	4.58	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
14	n.a.	4.82	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
15	n.a.	4.97	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
16	n.a.	5.08	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
17	n.a.	5.21	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
18	n.a.	5.36	0.003	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
19	n.a.	5.64	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
20	n.a.	5.77	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
21	n.a.	5.88	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
22	n.a.	5.98	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
23	n.a.	6.19	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
24	n.a.	8.64	0.002	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
25	n.a.	9.20	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
26	n.a.	9.44	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
27	n.a.	9.65	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
28	n.a.	9.76	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
29	n.a.	9.94	0.001	n.a.	n.a.	n.a.	n.a.	n.a.	1	2.0	n.a.
Total:			48.191								

	Group Name	Group Area mV*min	Cal.Type	RF-Value Conc/Area	Offset b	Slope m	Group Conc ug/mL	*Dilution	*DeVol mL	Group Total ug
		2.864	XXLOff	3.546E-1	2.801E-2	2.820E+0	n.a.	1	2	n.a.

Prep Data

Galson Sample Prep Report

Print Date: 03/28/2011 13:04:53
Department: 32
Workgroup: WG194153
Sample Number:

Analyte	Product Code	CAS Number
Perchloroethylene	IG-PERC311-9	127-18-4

Sample Number	Sample Type	Sample Part	Media Type	Media Lot #	Prep Step	Dept	De. Vol	Desorb Sol Lot	Desorption Solvent Lot Description	Dispenser ID	Desorption Start Time	Desorption Stop Time	#1 Prep Analyst	#2 Prep Analyst	Prep Date	Timer Used	Shaken	Comments
L235614-1	SAMP	A	OPTIONS	0228	1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
L235614-1	SAMP	B	OPTIONS	0228	1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
L235614-2	SAMP	A	M3M-3520	0228	1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
L235614-2	SAMP	B	M3M-3520	0228	1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
L235614-3	SAMP	A	M3M-3520	0228	1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
L235614-3	SAMP	B	M3M-3520	0228	1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
WG194153-1	IBLANK	A	M3M-3520		1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
WG194153-1	IBLANK	B	M3M-3520		1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
WG194153-2	EBLANK	A	M3M-3520		1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
WG194153-2	EBLANK	B	M3M-3520		1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
WG194153-3	MBLANK	A	M3M-3520	0235	1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
WG194153-3	MBLANK	B	M3M-3520	0235	1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
WG194153-4	BS	A	M3M-3520	651	1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
WG194153-4	BS	B	M3M-3520	651	1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
WG194153-5	BSD	A	M3M-3520	651	1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	
WG194153-5	BSD	B	M3M-3520	651	1	32	2 ml	IH19580 2	CS2 W/UNDECANE	D761	03/16/2011 06:25:00	03/16/2011 06:55:00	RROGERS		16-MAR-11		Y	
	SOP Name: GC-SOP-9																	

QC Spiking Report

Print Date *March 28, 2011 1:06 PM*

Workgroup *WG194153*

Sample	QC Type	Desc	Reference Sample	Standard Used	Pipette No	Amount Spiked	Spike Units	Spiked Analyst	Media Lot	Comment
WG194153-1	IBLANK	Instrument Blank	CS2							
33	*M3M-3520*	*IG-PERC311-9*	*Perchloroethylene*							
WG194153-2	EBLANK	Eluent Blank	CS2							
33	*M3M-3520*	*IG-PERC311-9*	*Perchloroethylene*							
WG194153-3	MBLANK	Media Blank	OVM						0235	
33	*M3M-3520*	*IG-PERC311-9*	*Perchloroethylene*							
WG194153-4	BS	Blank Spike		IH196262-1	G55	20	ul	MRH	0235	
33	*M3M-3520*	*IG-PERC311-9*	*Perchloroethylene*							
WG194153-5	BSD	Blank Spike Dup	WG194153-4	IH196262-1	G55	20	ul	MRH	0235	
33	*M3M-3520*	*IG-PERC311-9*	*Perchloroethylene*							

Standards Prep Logs

Galson Chemical Inventory Report

03/28/2011 14:15

Ref	Description	Location	Dept	Date Received	Expire Date	Dispose Date	D
11529	UNDECANE	SC5	24GC	01/30/2009	01/30/2012		

Vendor Fisher ***Manufacturer*** ACROS ***Lot No*** B0126569

Comments Cat#14066-1000 100mls

Cas Num	Chemical Name	% Purity	Conc(ug/mL)
1120-21-4	Undecane	99.5	

Galson Chemical Inventory Report

03/28/2011 14:16

Ref	Description	Location	Dept	Date Received	Expire Date	Dispose Date	D
15573	CS2 517	BUNKER	24GC	02/09/2011	02/09/2014		

Vendor Sigma-Aldrich ***Manufacturer*** SIGMA ALDRICH ***Lot No*** 03496LMV

Comments

Cas Num	Chemical Name	% Purity	Conc(ug/mL)
75-15-0	CARBON DISULFIDE	99.96	

Galson Chemical Inventory Report

03/28/2011 14:17

Ref	Description	Location	Dept	Date Received	Expire Date	Dispose Date	D
14920	TETRACHLOROETHYLENE	SC3-S4-4	24GC	10/13/2010	10/11/2011		

Vendor Spex Certiprep ***Manufacturer*** SPEX ***Lot No*** C1101007019

Comments

Cas Num	Chemical Name	% Purity	Conc(ug/mL)
127-18-4	TETRACHLOROETHYLENE	99	

Galson Chemical Inventory Report

03/28/2011 14:17

Ref	Description	Location	Dept	Date Received	Expire Date	Dispose Date	D
15575	CS2 517	BUNKER	24GC	02/09/2011	02/09/2014		

Vendor Sigma-Aldrich ***Manufacturer*** SIGMA ALDRICH ***Lot No*** 03496LMV

Comments

Cas Num	Chemical Name	% Purity	Conc(ug/mL)
75-15-0	CARBON DISULFIDE	99.96	

Galson Chemical Inventory Report

03/28/2011 14:18

Ref	Description	Location	Dept	Date Received	Expire Date	Dispose Date	D
13129	TETRACHLOROETHYLENE	SC3-S4-4	24GC	12/17/2009	12/17/2012		

Vendor Sigma-Aldrich ***Manufacturer*** SIGMA ALDRICH ***Lot No*** 14196BK

Comments

Cas Num	Chemical Name	% Purity	Conc(ug/mL)
127-18-4	TETRACHLOROETHYLENE	99.99	

Galson Laboratories - Standards Report

Lot: IH195802
03/28/2011

IH195802 **CS2 W/UNDECANE** **Analyst:MHERMANN Prep Date:03/11/2011 Expiration Date:01/30/2012**

Final Volume:1,000.00mL

/11529 **UNDECANE** **Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012**

Initial Conc:37.00ug/mL Initial Weight:0.0370g Initial Volume:50.00uL

CAS Number	Description	Final Conc
1120-21-4	*Undecane*	36.82ug/mL

/15573 **CS2 517** **Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014**

Initial Conc:1,263,136.84ug/m Initial Weight:1263.1368g Initial Volume:999,950.00uL

CAS Number	Description	Final Conc
75-15-0	*CARBON DISULFIDE*	1262631.59ug/mL

Galson Laboratories - Standards Report

Lot: IH197002
03/28/2011

IH197002 **IG-PERC311-9 --- CURVE/DE/LOQ** **Analyst:MHERMANN Prep Date:03/18/2011 Expiration Date:06/18/2011**

Final Volume:2.00mL

/14920 **TETRACHLOROETHYLENE** **Prep/Purc. Date:10/13/2010 Expiration Date:10/11/2011**

Initial Conc:9,870.98ug/mL Initial Weight:0.0197g Initial Volume:12.14uL

CAS Number	Description	Final Conc
127-18-4	TETRACHLOROETHYLENE	9772.27ug/mL

/IH196702 **CS2/UNDECANE(diluent)** **Analyst:RROGERS** **Prep/Purc. Date:03/17/2011 Expiration Date:01/30/2012**

/IH196702/11529 **UNDECANE** **Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012**

Initial Conc:37.00ug/mL Initial Weight:0.0370g Initial Volume:50.00uL

CAS Number	Description	Final Conc
1120-21-4	Undecane	18.26ug/mL

/IH196702/15575 **CS2 517** **Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014**

Initial Conc:1,263,136.84ug/m Initial Weight:1263.1368g Initial Volume:999,950.00uL

CAS Number	Description	Final Conc
75-15-0	CARBON DISULFIDE	626098.64ug/mL

IH197002-1 **50X DILUTION** **Analyst:MHERMANN Prep Date:03/18/2011 Expiration Date:04/18/2011**

Final Volume:1,000.00uL

/IH197002/14920 **TETRACHLOROETHYLENE** **Prep/Purc. Date:10/13/2010 Expiration Date:10/11/2011**

Initial Conc:9,772.27ug/mL Initial Weight:0.0197g Initial Volume:20.00uL

CAS Number	Description	Final Conc
127-18-4	TETRACHLOROETHYLENE	195.45ug/mL

/IH197002/IH196702 **CS2/UNDECANE(diluent)** **Analyst:RROGERS** **Prep/Purc. Date:03/17/2011 Expiration Date:01/30/2012**

/IH197002/IH196702/11529 **UNDECANE** **Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012**

Initial Conc:18.26ug/mL Initial Weight:0.0370g Initial Volume:20.00uL

CAS Number	Description	Final Conc
1120-21-4	Undecane	0.37ug/mL

/IH197002/IH196702/15575 **CS2 517** **Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014**

Initial Conc:626,098.64ug/mL Initial Weight:1263.1368g Initial Volume:20.00uL

CAS Number	Description	Final Conc
75-15-0	CARBON DISULFIDE	12521.97ug/mL

IH197002-2 **1000X DILUTION** **Analyst:MHERMANN Prep Date:03/18/2011 Expiration Date:04/18/2011**

Final Volume:1,000.00uL

/IH197002-5/IH197002-2/IH197002-1/IH197002/14920 **TETRACHLOROETHYLENE** **Prep/Purc. Date:10/13/2010 Expiration Date:10/11/2011**

Initial Conc:195.45ug/mL Initial Weight:0.0197g Initial Volume:50.00uL

CAS Number	Description	Final Conc
127-18-4	TETRACHLOROETHYLENE	9.77ug/mL

/IH197002-5/IH197002-2/IH197002-1/IH197002/IH196702 **CS2/UNDECANE(diluent)** **Analyst:RROGERS** **Prep/Purc. Date:03/17/2011 Expiration Date:01/30/2012**

/IH197002-5/IH197002-2/IH197002-1/IH197002/IH196702/11529 **UNDECANE** **Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012**

Initial Conc:0.37ug/mL Initial Weight:0.0370g Initial Volume:50.00uL

CAS Number	Description	Final Conc
1120-21-4	Undecane	0.018ug/mL

/IH197002-5/IH197002-2/IH197002-1/IH197002/IH196702/15575 **CS2 517** **Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014**

Initial Conc:12,521.97ug/mL Initial Weight:1263.1368g Initial Volume:50.00uL

CAS Number	Description	Final Conc
75-15-0	CARBON DISULFIDE	626.1ug/mL

IH197002-3 **LEV 6** **Analyst:MHERMANN Prep Date:03/18/2011 Expiration Date:04/18/2011**

Final Volume:1,000.00uL

/IH197002-1/IH197002/14920 **TETRACHLOROETHYLENE** **Prep/Purc. Date:10/13/2010 Expiration Date:10/11/2011**

Initial Conc:195.45ug/mL Initial Weight:0.0197g Initial Volume:10.00uL

CAS Number	Description	Final Conc
127-18-4	TETRACHLOROETHYLENE	1.95ug/mL

/IH197002-1/IH197002/IH196702 **CS2/UNDECANE(diluent)** **Analyst:RROGERS** **Prep/Purc. Date:03/17/2011 Expiration Date:01/30/2012**

/IH197002-1/IH197002/IH196702/11529 **UNDECANE** **Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012**

Initial Conc:0.37ug/mL Initial Weight:0.0370g Initial Volume:10.00uL

CAS Number	Description	Final Conc
1120-21-4	Undecane	0.0037ug/mL

/IH197002-1/IH197002/IH196702/15575 **CS2 517** **Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014**

Initial Conc:12,521.97ug/mL Initial Weight:1263.1368g Initial Volume:10.00uL

CAS Number	Description	Final Conc
75-15-0	CARBON DISULFIDE	125.22ug/mL

IH197002-4 **LEV 5** **Analyst:MHERMANN Prep Date:03/18/2011 Expiration Date:04/18/2011**

Final Volume:2,000.00uL

/IH197002-1/IH197002/14920 **TETRACHLOROETHYLENE** **Prep/Purc. Date:10/13/2010 Expiration Date:10/11/2011**

Initial Conc:195.45ug/mL Initial Weight:0.0197g Initial Volume:15.00uL

CAS Number	Description	Final Conc
127-18-4	TETRACHLOROETHYLENE	1.47ug/mL

/IH197002-1/IH197002/IH196702 **CS2/UNDECANE(diluent)** **Analyst:RROGERS** **Prep/Purc. Date:03/17/2011 Expiration Date:01/30/2012**

/IH197002-1/IH197002/IH196702/11529 **UNDECANE** **Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012**

Initial Conc:0.37ug/mL Initial Weight:0.0370g Initial Volume:15.00uL

CAS Number	Description	Final Conc
1120-21-4	Undecane	0.0027ug/mL

/IH197002-1/IH197002/IH196702/15575 **CS2 517** **Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014**

Initial Conc:12,521.97ug/mL Initial Weight:1263.1368g Initial Volume:15.00uL

CAS Number	Description	Final Conc
75-15-0	CARBON DISULFIDE	93.91ug/mL

IH197002-5 LEV 4 Analyst:MHERMANN Prep Date:03/18/2011 Expiration Date:04/18/2011

Final Volume:1,000.00uL

/IH197002-5/IH197002-2/IH197002/14920 TETRACHLOROETHYLENE Prep/Purc. Date:10/13/2010 Expiration Date:10/11/2011

Initial Conc:9.77ug/mL Initial Weight:0.0197g Initial Volume:100.00uL

CAS Number	Description	Final Conc
127-18-4	TETRACHLOROETHYLENE	0.98ug/mL

/IH197002-5/IH197002-2/IH197002/IH196702 CS2/UNDECANE(diluent) Analyst:RROGERS Prep/Purc. Date:03/17/2011 Expiration Date:01/30/2012

/IH197002-5/IH197002-2/IH197002/IH196702/11529 UNDECANE Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012

Initial Conc:0.02ug/mL Initial Weight:0.0370g Initial Volume:100.00uL

CAS Number	Description	Final Conc
1120-21-4	Undecane	0.0018ug/mL

/IH197002-5/IH197002-2/IH197002/IH196702/15575 CS2 517 Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014

Initial Conc:626.10ug/mL Initial Weight:1263.1368g Initial Volume:100.00uL

CAS Number	Description	Final Conc
75-15-0	CARBON DISULFIDE	62.61ug/mL

IH197002-6 LEV 3 Analyst:MHERMANN Prep Date:03/18/2011 Expiration Date:04/18/2011

Final Volume:1,000.00uL

/IH197002-2/IH197002/14920 TETRACHLOROETHYLENE Prep/Purc. Date:10/13/2010 Expiration Date:10/11/2011

Initial Conc:9.77ug/mL Initial Weight:0.0197g Initial Volume:50.00uL

CAS Number	Description	Final Conc
127-18-4	TETRACHLOROETHYLENE	0.49ug/mL

/IH197002-2/IH197002/IH196702 CS2/UNDECANE(diluent) Analyst:RROGERS Prep/Purc. Date:03/17/2011 Expiration Date:01/30/2012

/IH197002-2/IH197002/IH196702/11529 UNDECANE Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012

Initial Conc:0.02ug/mL Initial Weight:0.0370g Initial Volume:50.00uL

CAS Number	Description	Final Conc
1120-21-4	Undecane	0.00091ug/mL

/IH197002-2/IH197002/IH196702/15575 CS2 517 Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014

Initial Conc:626.10ug/mL Initial Weight:1263.1368g Initial Volume:50.00uL

CAS Number	Description	Final Conc
75-15-0	CARBON DISULFIDE	31.3ug/mL

IH197002-7 LEV 2 Analyst:MHERMANN Prep Date:03/18/2011 Expiration Date:04/18/2011

Final Volume:1,000.00uL

/IH197002-2/IH197002/14920 TETRACHLOROETHYLENE Prep/Purc. Date:10/13/2010 Expiration Date:10/11/2011

Initial Conc:9.77ug/mL Initial Weight:0.0197g Initial Volume:10.00uL

CAS Number	Description	Final Conc
127-18-4	TETRACHLOROETHYLENE	0.098ug/mL

/IH197002-2/IH197002/IH196702 **CS2/UNDECANE(diluent)** **Analyst:RROGERS** **Prep/Purc. Date:03/17/2011 Expiration Date:01/30/2012**

/IH197002-2/IH197002/IH196702/11529 **UNDECANE** **Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012**

Initial Conc:0.02ug/mL Initial Weight:0.0370g Initial Volume:10.00uL

CAS Number	Description	Final Conc
1120-21-4	Undecane	0.00018ug/mL

/IH197002-2/IH197002/IH196702/15575 **CS2 517** **Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014**

Initial Conc:626.10ug/mL Initial Weight:1263.1368g Initial Volume:10.00uL

CAS Number	Description	Final Conc
75-15-0	CARBON DISULFIDE	6.26ug/mL

IH197002-8 **LEV 1** **Analyst:MHERMANN Prep Date:03/18/2011 Expiration Date:04/18/2011**

Final Volume:1.000.00uL

/IH197002-5/IH197002/14920 **TETRACHLOROETHYLENE** **Prep/Purc. Date:10/13/2010 Expiration Date:10/11/2011**

Initial Conc:0.98ug/mL Initial Weight:0.0197g Initial Volume:30.00uL

CAS Number	Description	Final Conc
127-18-4	TETRACHLOROETHYLENE	0.029ug/mL

/IH197002-5/IH197002/IH196702 **CS2/UNDECANE(diluent)** **Analyst:RROGERS** **Prep/Purc. Date:03/17/2011 Expiration Date:01/30/2012**

/IH197002-5/IH197002/IH196702/11529 **UNDECANE** **Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012**

Initial Conc:0.00ug/mL Initial Weight:0.0370g Initial Volume:30.00uL

CAS Number	Description	Final Conc
1120-21-4	Undecane	0.000055ug/mL

/IH197002-5/IH197002/IH196702/15575 **CS2 517** **Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014**

Initial Conc:62.61ug/mL Initial Weight:1263.1368g Initial Volume:30.00uL

CAS Number	Description	Final Conc
75-15-0	CARBON DISULFIDE	1.88ug/mL

Galson Laboratories - Standards Report

Lot: IH196702
03/28/2011

IH196702 **CS2/UNDECANE** **Analyst:RROGERS Prep Date:03/17/2011 Expiration Date:01/30/2012**

Final Volume:1.000.00mL

/11529 **UNDECANE** **Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012**

Initial Conc:37.00ug/mL Initial Weight:0.0370g Initial Volume:50.00uL

CAS Number	Description	Final Conc
1120-21-4	*Undecane*	36.82ug/mL

/15575 **CS2 517** **Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014**

Initial Conc:1,263,136.84ug/m Initial Weight:1263.1368g Initial Volume:999,950.00uL

CAS Number	Description	Final Conc
75-15-0	*CARBON DISULFIDE*	1262631.59ug/mL

Galson Laboratories - Standards Report

Lot: IH196262
03/28/2011

IH196262 **IG-PERC311-9 --- CCV/DLS** **Analyst:MHERMANN Prep Date:03/15/2011 Expiration Date:06/15/2011**

Final Volume:2.01mL

/13129 **TETRACHLOROETHYLENE** **Prep/Purc. Date:12/17/2009 Expiration Date:12/17/2012**

Initial Conc:9,874.56ug/mL Initial Weight:0.0198g Initial Volume:12.20uL

CAS Number	Description	Final Conc
127-18-4	TETRACHLOROETHYLENE	9873.57ug/mL

/IH195802 **CS2 W/UNDECANE** **Analyst:MHERMANN** **Prep/Purc. Date:03/11/2011 Expiration Date:01/30/2012**

Initial Final Volume:1,000.00 mL Initial Weight:1.2543g Initial Volume:993.11uL

/IH195802/11529 **UNDECANE** **Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012**

Initial Conc:37.00ug/mL Initial Weight:0.0370g Initial Volume:50.00uL

CAS Number	Description	Final Conc
1120-21-4	Undecane	18.23ug/mL

/IH195802/15573 **CS2 517** **Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014**

Initial Conc:1,263,136.84ug/m Initial Weight:1263.1368g Initial Volume:999,950.00uL

CAS Number	Description	Final Conc
75-15-0	CARBON DISULFIDE	625355.86ug/mL

IH196262-1 **100X DILUTION** **Analyst:MHERMANN Prep Date:03/15/2011 Expiration Date:04/15/2011**

Final Volume:1,000.00uL

/IH196262/13129 **TETRACHLOROETHYLENE** **Prep/Purc. Date:12/17/2009 Expiration Date:12/17/2012**

Initial Conc:9,873.57ug/mL Initial Weight:0.0198g Initial Volume:10.00uL

CAS Number	Description	Final Conc
127-18-4	TETRACHLOROETHYLENE	98.74ug/mL

/IH196262/IH195802 **CS2 W/UNDECANE** **Analyst:MHERMANN** **Prep/Purc. Date:03/11/2011 Expiration Date:01/30/2012**

Initial Final Volume:1,000.00 mL Initial Weight:1.2543g Initial Volume:10.00uL

/IH196262/IH195802/11529 **UNDECANE** **Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012**

Initial Conc:18.23ug/mL Initial Weight:0.0370g Initial Volume:10.00uL

CAS Number	Description	Final Conc
1120-21-4	Undecane	0.18ug/mL

/IH196262/IH195802/15573 **CS2 517** **Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014**

Initial Conc:625,355.86ug/mL Initial Weight:1263.1368g Initial Volume:10.00uL

CAS Number	Description	Final Conc
75-15-0	CARBON DISULFIDE	6253.56ug/mL

IH196262-2 **CCV(C15)** **Analyst:MHERMANN Prep Date:03/15/2011 Expiration Date:04/15/2011**

Final Volume:1,999.97uL

/IH196262-2/IH196262-1/IH196262/13129 **TETRACHLOROETHYLENE** **Prep/Purc. Date:12/17/2009 Expiration Date:12/17/2012**

Initial Conc:98.74ug/mL Initial Weight:0.0198g Initial Volume:20.00uL

CAS Number	Description	Final Conc
127-18-4	TETRACHLOROETHYLENE	0.99ug/mL

/IH196262-2/IH196262-1 /IH196262/IH195802 **CS2 W/UNDECANE** **Analyst:MHERMANN** **Prep/Purc. Date:03/11/2011 Expiration Date:01/30/2012**

Initial Final Volume:1,000.00 mL Initial Weight:1.2543g Initial Volume:20.00uL

/IH196262-2/IH196262-1 /IH196262/IH195802/11529 **UNDECANE** **Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012**

Initial Conc:0.18ug/mL Initial Weight:0.0370g Initial Volume:20.00uL

CAS Number	Description	Final Conc
1120-21-4	Undecane	0.0018ug/mL

/IH196262-2/IH196262-1 /IH196262/IH195802/15573 **CS2 517** **Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014**

Initial Conc:6,253.56ug/mL Initial Weight:1263.1368g Initial Volume:20.00uL

CAS Number	Description	Final Conc
75-15-0	CARBON DISULFIDE	62.54ug/mL

IH196262-3 DLS Analyst:MHERMANN Prep Date:03/15/2011 Expiration Date:04/15/2011

Final Volume:2.043.55uL

/IH196262-2/IH196262/13129 **TETRACHLOROETHYLENE** **Prep/Purc. Date:12/17/2009 Expiration Date:12/17/2012**

Initial Conc:0.99ug/mL Initial Weight:0.0198g Initial Volume:62.00uL

CAS Number	Description	Final Conc
127-18-4	TETRACHLOROETHYLENE	0.030ug/mL

/IH196262-2/IH196262/IH195802 **CS2 W/UNDECANE** **Analyst:MHERMANN** **Prep/Purc. Date:03/11/2011 Expiration Date:01/30/2012**

Initial Final Volume:1,000.00 mL Initial Weight:1.2543g Initial Volume:62.00uL

/IH196262-2/IH196262/IH195802/11529 **UNDECANE** **Prep/Purc. Date:01/30/2009 Expiration Date:01/30/2012**

Initial Conc:0.00ug/mL Initial Weight:0.0370g Initial Volume:62.00uL

CAS Number	Description	Final Conc
1120-21-4	Undecane	0.000055ug/mL

/IH196262-2/IH196262/IH195802/15573 **CS2 517** **Prep/Purc. Date:02/09/2011 Expiration Date:02/09/2014**

Initial Conc:62.54ug/mL Initial Weight:1263.1368g Initial Volume:62.00uL

CAS Number	Description	Final Conc
75-15-0	CARBON DISULFIDE	1.9ug/mL