

**ROSS ENVIRONMENTAL ASSOCIATES, INC.**

Hydrogeology, Water Quality, GIS Planning, Remediation,  
Geothermal Technology, Regulatory Compliance & Permitting  
Environmental Site Assessments, and Radon Mitigation



**Initial Site Investigation Report**

**Capital Mercury  
100 Pearl Street  
Essex Jct., Vermont**

**SMS Site #: TBD  
Site Coordinates: 44° 29' 40.41" N 73° 7' 17.69" W**

**1 December 2014**

**Prepared For:**

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## EXECUTIVE SUMMARY

**Ross Environmental Associates, Inc. (R.E.A.)** has conducted an Initial Site Investigation (ISI) at the Capital Mercury property located on 100 Pearl Street in Essex Jct., Vermont. Field investigation included: installation of nine soil borings with the installation of seven monitoring wells, sampling and analysis of groundwater from seven newly installed monitoring wells, and a receptor survey to identify potential risks to the environment and human health.

Groundwater beneath the site has been impacted by low concentrations of tetrachloroethene (PCE) and benzene above the corresponding Vermont Groundwater Enforcement Standards (VGESs). Review of the groundwater analytical results do not indicate the presence of Dense Non-Aqueous-Phase Liquid (DNAPL) or a significant on-site source of contamination. The contaminant plume consists primarily of dissolved-phase PCE with an area of benzene at the most downgradient southern edge of the current plume. In addition, no volatile organic compounds (VOCs) were detected in any of the soil samples collected during the soil boring program, except for low concentrations of methylene chloride, which is a common laboratory contaminant. Also, if degreasing solvents containing PCE were used and released on-site, one would expect to find a correlation between the occurrence of PCE and petroleum-related compounds.

The contaminant distribution suggests the possible presence of an off-site source of PCE to the northeast; however, no known off-site source of PCE was readily identified during this investigation. No PCE, PCE daughter products (trichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, & vinyl chloride) or petroleum-related compounds were detected in any of the subsurface soil samples and no PCE breakdown products were detected in any of the groundwater samples collected during the October 2014 sampling event. The presence of benzene in one of the monitoring wells (MW-1) may be associated with an onsite source; however, the extent of dissolved-phase benzene contamination appears to be very limited and not indicative of an on-going release.

On the basis of the results of this investigation, **R.E.A.** makes the following recommendations:

1. Due to the exceedance of the Vermont Groundwater Enforcement Standards (VGESs) for VOCs (PCE and benzene) in groundwater beneath the site, a follow up groundwater sampling event should be completed in December 2014 to confirm the previous findings. Samples should be analyzed for the possible presence of VOCs in accordance with EPA Method 8260.
2. The New York Cleaners, which is the only upgradient and nearby facility that is associated with the possible use of PCE, should be contacted regarding site history and

## EXECUTIVE SUMMARY

operations. Available information suggests the current facility, located in the Essex Shopping Plaza, is a pick up/drop off location.

3. The location and depths of underground utilities on the property should be evaluated to determine if these features may be influencing groundwater flow and contaminant migration on the property.
4. Plans for redevelopment of the property should incorporate precautionary measures such as worker health and safety during construction, soil screening during excavation in the areas of documented contamination and possible installation of a vapor barrier.
5. A summary report should be completed following the next ground water sampling event, which should include recommendations for possible long term monitoring, or site closure.

## SITE PROFILE

### Site Information

Site Name: Capital Mercury  
SMS Site #: 2014-TBD  
Site Address: 100 Pearl Street - Essex Jct., Vermont  
Mailing Address: 100 Pearl Street - Essex Jct., Vermont 05452  
Telephone: (802) 728-3260  
Contact/Owner: Mr. Steve Carbone  
Coordinates: 44° 29' 40.41" N 73° 7' 17.69" W  
Contaminants of Concern: Tetrachloroethene (PCE) and benzene.  
Source: Historic site operations (benzene) and/or off-site source (PCE).

### Aquifer Characteristics

Soil Type: predominantly fine brown sand with some medium sand and silt  
Effective Porosity: 0.3  
Ground-water flow direction: southwest  
Horizontal hydraulic gradient: 0.9%  
Ground-water depth bgs: 6.3 to 9.0 feet bgs  
Saturated thickness: Unknown  
Depth to Bedrock: > 20 feet bgs

### Receptors

Drinking water: The subject property and surrounding properties are provided drinking water by the Essex Jct. municipal water system (WSID #5066). The source of water for the Essex Jct. municipal water system is the Champlain Water District that receives drinking water from Lake Champlain. No off-site private supply wells are located within 0.5 miles based on review of the ANR Interest Locator (See **Figure 2**).

Groundwater: The Vermont Groundwater Enforcement Standard (VGES) for PCE was exceeded in the groundwater samples collected from MW-2, MW-3, MW-3D, MW-5 & MW-6. The VGES for benzene was exceeded in the groundwater sample collected from MW-1. No VOCs were detected above the laboratory detection limits in the sample collected from MW-4. Tabulated data is included on **Table 4**.

Surface water: Indian Brook is located approximately 0.5 miles northeast of the subject property with an adjoining Class 2 wetland (See **Figure 2**). At this time, none of these surface water bodies appear to be threatened by site operations or residual contamination discovered on site.

Buildings: The on-site building is located on an at-grade slab foundation and does not contain any sub-grade spaces. Based on available information, indoor air inside the building is not likely to be threatened by residual contamination.

Underground utilities: Several underground utilities are located within the area of documented contamination. The possible effect that the underground utilities may have on contaminant migration was not evaluated as part of this investigation.

## 1.0 INTRODUCTION

On 20 October 2014, Mr. Steve Carbone of Capital Mercury retained the services of **Ross Environmental Associates, Inc. (R.E.A.)** to complete an Initial Site Investigation (ISI) at the property located on Pearl Street in Essex Jct., Vermont. The investigation was performed to address the findings of the Phase I and limited Phase II site assessments completed in September 2014 by KAS, Inc. of Williston, Vermont, which identified the presence of PCE in groundwater beneath the site at concentrations above state guidelines. The ISI was performed in accordance with the work plan dated 17 October 2014.

This report has been prepared by **R.E.A.** under the direction of Mr. Steve Carbone, unauthorized use or reproduction of this report is prohibited without written authorization from **R.E.A.**, or Mr. Carbone.

### 1.1 Site Location and Setting

The subject property, Capital Mercury, is located at 100 Pearl Street (also known as Route 15) approximately one-half mile northwest of Essex Jct. five corners (**Figure 1**). The subject property has been used as a car dealership and automobile-related business since the late-1960s. The site encompasses two parcels totaling approximately 2.26 acres on the southern side of Pearl Street, and is currently occupied by a 9,600 square foot, single-story building which is used as a auto sales and auto maintenance facility and a three story building currently used as a two unit residential rental apartment. An addition was constructed on the southern portion of the maintenance garage area in 1988 extending the building to the south. A seam in the concrete floor indicates the location of the addition. Mr. Carbone stated that the rental house currently located on the southeastern portion of the subject property was previously located further north, approximately in the area of the main parking lot. A majority of the remaining surrounding property is used for vehicle parking. According to Mr. Carbone, no Underground Storage Tanks (USTs) are currently located on site, but one 550-gallon used motor-oil UST was removed from beneath the maintenance garage in October 2008. The maintenance garage and sales/office area are heated with waste oil and natural gas and the apartment building uses natural gas for heating. An aerial photograph showing the site and surrounding properties is included as **Figure 2**.

The ground surface at the site is relatively flat with an average elevation of about 350 feet above mean sea level (USGS: Essex Junction, Vermont Quadrangle 1987). The ground surface around the building is primarily paved asphalt with small grass islands along Pearl Street. The nearest surface water body is Indian Brook located approximately 0.5 miles to the northeast with an adjoining Class 2 wetland. The Winooski River, which is the dominant surface water feature in the general area, is located approximately 0.8 miles to the southwest. The geographic coordinates of the site are: latitude 44° 29' 40.41" North, and longitude 73° 7' 17.69" West.

The surficial geology of the area is mapped as pebbly marine sand (Stewart and MacClintock, 1970). Bedrock underlying the site is classified as the Skeels Corners Slate (OCsk) which consists of laminated black slate with thin orange dolostone beds of Lower Ordovician and Cambrian age (Ratcliffe et al, 2011). No bedrock outcrops were observed on the site or adjacent properties, and bedrock was not encountered during soil boring activities. The surficial soil in the vicinity of the site is mapped as Adam and Windsor loamy sands with 0 to 35 percent slopes by the U.S. Department of Agriculture Natural Resources Conservation Service.

## **1.2 Site History**

On 7 October 2014, Ross Environmental Associates, Inc. (**R.E.A.**) was contact by Mr. Steve Carbone of Capital Mercury, regarding the discovery of PCE in groundwater beneath the site during a Phase I/II ESA completed as part of a possible sale of the property. On 20 October 2014, **R.E.A.** performed a site visit to inspect the property and areas of the KAS soil borings. At that time, Mr. Carbone provided **R.E.A.** with a tour of the property and brief overview of the site operations. According to Mr. Carbone the facility has been in operation for over 40 years and was previously owned and operated by Pecor Auto Sales. Available information indicates the property was first developed for commercial use in the late 1960s and was primarily residential prior to that time. Mr. Carbone has owned the property since 2005 and was an employee of the previous business owner dating back to the mid-1980s.

In September 2008, **R.E.A.** completed a Phase I ESA for the subject property. The results of this assessment identified three recognized environmental conditions (REC) associated with the property; including the presence of a used motor oil UST located beneath the floor of the maintenance garage, an area of staining and petroleum sludge in the shop area, specifically in the vicinity of hazardous waste containers, and the Fairgrounds Beverage/CITGO (SMS Site # 90-0593) located north of Pearl Street, directly across from the subject property.

In October 2008, one 550-gallon used motor-oil UST, which was noted in the **R.E.A.** Phase I ESA report, was removed from beneath the floor of the maintenance garage by EP&S of South Burlington, Vermont. The tank was reported to be in fair condition at the time of the removal, but had no holes or visible leaks. Laboratory analysis of a soil sample collected from beneath the area of the UST did not detect the presence of VOCs, TPH, PCBs or PAHs. Based on information included in the 2008 UST closure report, the former UST is not considered to be a source of the groundwater contamination discovered on-site.

In September 2014, a Phase I/II ESA was performed by KAS, which identified the presence of tetrachloroethene (AKA perc or PCE) in groundwater beneath the site at concentrations above state guidelines. No source of the PCE was identified or reported in the KAS report.

In October 2014, further investigation was requested by the Vermont Department of Environmental Conservation (VT DEC) due to the discovery of PCE above the VT DEC guidelines during the KAS Phase I/II.

### **1.3 Land Use and Adjacent Property Ownership**

The subject property is located on Pearl Street approximately 0.5 miles northwest of the Essex Jct. five corners. The area is situated in a mixed commercial/residential setting serviced by municipal sewer and water. Pearl Street (AKA Route 15) abuts the property to the north. The Fairgrounds Beverage CITGO, which is a convenience store and gasoline outlet operated by the Champlain Oil Company, is located on the property on the northern side of Pearl Street. Fairground Beverage is included on the Sites Management Section (SMS) Hazardous Waste sites list (SMS Site # 900593) as a low priority petroleum release site. The Essex Shopping Plaza is also located on the property to the north of Pearl Street. Several commercial businesses are located in the Essex Shopping Plaza including: Macs Market, AT&T, New York Cleaners (pick up/drop off), Dino's Pizza, Saunders Jewelers, Main Street Floor Covering, O'Briens Salon, Clays (retail clothing store), Gary's Barber Shop, Aubuchon Hardware, Quality Bake Shop, Sherwin Williams Paint (Store #5278), Easy Home (lease to own furniture), Essex Junction Launderette, VT Lamp & Shade, The Body Shop, Eye Care of Vermont and Rite Aid Pharmacy. The adjoining property to the east is occupied by an apartment building and the property to the south is occupied by railroad tracks owned by Central Vermont Railway with a residential neighborhood further south. A McDonald's restaurant occupies the adjoining property to the west. An aerial photograph showing adjacent property site features and sensitive receptors is included as **Figure 3**.

## **2.0 FIELD INVESTIGATION RESULTS AND PROCEDURES**

**R.E.A.'s** field investigation included the completion of nine soil borings with the subsequent installation of seven monitoring wells (MW-1, MW-2, MW-3, MW-3D, MW-4, MW-5, and MW-6), field screening of subsurface soil samples for the possible presence of volatile organic compounds (VOCs) using a portable photo-ionization detector (PID), collection and analysis of subsurface soil samples from five soil borings, collection and analysis of groundwater samples from seven newly installed monitoring wells, a site survey to obtain relative groundwater elevations to calculate groundwater flow, and a receptor survey to identify potential risks to the environment and human health. Monitoring well locations and significant site features are shown on **Figure 4**. Photographs taken during the soil boring program are included in **Appendix A**.

The objectives of this initial site investigation were to complete the following.

- Evaluate the degree, extent, and type of contamination present in soils and groundwater;
- Identify potential source(s) and nature of contamination;
- Qualitatively assess the risks to environmental and public health via relevant sensitive receptors and potential contaminant migration pathways;
- Identify the need for further site characterization, appropriate monitoring, and/or remedial actions based on the site conditions.

## 2.1 Contaminants of Concern

Based on available information, the contaminants of concern (COC) at Capital Mercury property appear to be PCE and benzene. PCE was detected above the VGES in all but one on-site monitoring well and benzene was detected above the VGES in one on-site monitoring well (MW-1). Benzene is typically associated with petroleum products such as gasoline, fuel oil, and diesel; whereas, PCE is a component of degreasing solvents and dry cleaning fluids. Methylene chloride was detected in subsurface soil samples; however, this compound is a common laboratory contaminant. A summary of various regulatory standards and chemical properties for these compounds is included on **Table 1**.

## 2.2 Source Area Evaluation

Based on a review of available information, no clear source of PCE has been identified. At this time, the possible source of PCE may be related to historic site operations or from an unknown off-site source. The PCE concentrations detected on-site to date are not indicative of the presence of a dense non-aqueous phase liquid (DNAPL). Possible on-site sources of contamination evaluated during this investigation included: the original floor drain, the newer floor drain, the former UST located beneath the slab and the oil/water separator located on the southern side of the building. According to Mr. Carbone, both floor drains are connected to the oil/water separator, which discharges into the municipal sewer system. Products such as motor oil (new and used), gasoline, antifreeze, windshield wiper fluid, transmission fluid, rust protection/sealer and hydraulic fluid are frequently used and stored on site; however, Mr. Carbone is not aware of any products containing PCE being used during his ownership. Capital Mercury is listed as a conditionally exempt (CEG) RCRA generator (VTD982200800); however, review of the VT DEC database identified only one shipment during the past 10 years that included liquid waste classified as "RQ Hazardous Waste Liquid NOS lead benzene" (Manifest #000163226FLE - shipped 10/208/2008).

The property has been used as an automobile dealership, maintenance and repair shop since the 1960s. The original floor drain is centrally located in the main garage area, but does not appear to be a source of

PCE. PCE was detected above the VGES at 18.5 µg/L in the groundwater sample collected from MW-6, which is located adjacent to the original floor drain; however, none of the contaminants of concern were detected in the soil sample collected from the MW-6 soil boring (SB-7). Also, laboratory analysis of the groundwater sample collected from the KAS SB-6 boring, which was installed downgradient of the original floor drain and adjacent to the newer floor drain, identified a low concentration of PCE (5.0 µg/L), which is not indicative source area concentrations.

Based on information included in the 2008 UST closure report, the former used motor oil UST is not considered to be a source of the groundwater contamination discovered on-site. At the time of the removal, the tank was reported to be in fair condition at the time of the removal, but had no holes or visible leaks. Laboratory analysis of a soil sample collected from beneath the area of the UST did not detect the presence of VOCs, TPH, PCBs or PAHs.

Low concentrations of PCE (4.1 µg/L) and benzene (18.1 µg/L) were detected in the groundwater sample collected from MW-1, which was installed adjacent to the oil/water separator; however, no contaminants of concern were detected in the soil sample collected from the MW-1 soil boring (SB-1). Also, laboratory analysis of the groundwater sample collected from the KAS SB-5 boring, which was installed adjacent to the oil/water separator, identified a low concentration of PCE (3.8 µg/L) and low concentrations of several petroleum related compounds (total xylenes, 1,2,4-trimethylbenzene, n-propylbenzene, sec-butyl benzene, isopropyl benzene, naphthalene and 1,3,5-trimethylbenzene). Again, the concentrations detected in this area of the property are not indicative of a source area.

Several potential off-site sources of contamination were identified during review of available information and VT Agency of Natural Resources databases. The New York Cleaners is located within the Essex Shopping Plaza, but available information indicates that this facility is a pick up/drop off location only and has recently moved to this location within the past few years. The New York Cleaners was reportedly located in a different portion of the Essex Shopping Plaza prior to moving to its current location, but did not perform any on-site dry cleaning. Several sites located within 0.5 miles of the subject property are included on the VT ANR on-line hazardous waste site database; however, none of these sites include PCE as a contaminant of concern.

- Fairgrounds Beverage/CITGO (SMS Site # 90-0593) - Located approximately 140 feet to the north - low priority with on-going quarterly monitoring - contaminant of concern is gasoline.
- Essex Shopping Plaza (SMS Site # 94-1612) - Located approximately 500 feet to the northeast - Sites Management Activities Completed (SMAC) - contaminant of concern was fuel oil.

- Champlain Farms- Essex Gulf (SMS Site # 2011-4179) - Located approximately 1,200 feet to the east-southeast - low priority with on-going annual monitoring - contaminant of concern is gasoline.
- Jiffy Lube - RCRA conditional exempt hazardous waste generator (VT5000001396). Located approximately 1,300 feet to the east.
- Monroe Muffler/Brake - RCRA conditional exempt hazardous waste generator (no id #). Located approximately 450 feet to the northwest.
- Cumberland Farms #4021 - RCRA conditional exempt hazardous waste generator (VT5000001628). Located approximately 550 feet to the northwest.

According to Mr. Carbone, there has never been a reportable spill on site, which was confirmed based on review of the Vermont ANR on-line spill database. Several spills have occurred in the general vicinity of the subject property, but a majority of the spills were reportedly related to gasoline or petroleum products.

- Big Lots - Pearl Street (WMD # 2011-321). Gasoline spill into storm drain system. Spill incident was closed in June 2011.
- Champlain Farms/Essex Gulf - 56 Pearl Street (several spills between 1994 and 2014). All appear to be gasoline related incidents that have been closed.
- Condos at 209 Pearl Street (WMD # 2011-307). Kerosene spill closed in September 2011.
- 197, Inc. - 197 Pearl Street (WMD #2001-143). Alleged dumping behind building and into storm drain. No additional information available. Closed in April 2001

Based on review of available information and contaminant distribution, none of the sites listed above are likely sources of the PCE contamination identified on the subject property. Although the extent of contamination present on the subject property has not been fully defined, available information does not indicate contamination has migrated off-site to the south-southwest.

### 2.3 Soil Boring and Monitoring Well Installation

On 23 October 2014, *R.E.A.* provided oversight during the installation of nine soil borings with the subsequent installation of seven monitoring wells. Monitoring wells were installed at locations based on field observations with spatial distribution upgradient and downgradient of the area of concern identified during the KAS Phase I/II investigation. Approximate soil boring and monitoring well locations are shown on **Figure 4**.

- MW-1 was installed on the southern side of the building near the oil/water separator and outside of the southern garage bay door.
- MW-2 was installed east of the building in the area outside of the eastern garage bay door presumably downgradient of the KAS boring labeled SB-4.
- MW-3 was installed on the northeast corner of the building in the approximate location of the KAS SB-4.
- MW-3D was installed as a nested well adjacent to MW-3 in the approximate location of the KAS boring labeled SB-4.
- MW-4 was installed along the northern property boundary near the Pearl Street exit, which is downgradient of the Fairground Beverage CITGO and presumably upgradient of the KAS boring labeled SB-4.
- MW-5 was installed approximately 45 feet east of MW-3 presumably upgradient of the KAS boring labeled SB-4.
- MW-6 was installed inside the main garage bay adjacent (downgradient) to the original floor drain.
- SB-8 was installed in the parking lot approximately 150 feet east of the building, which is cross-gradient of the KAS boring labeled SB-4.
- SB-9 was installed in front of the building along the northern property boundary, which is downgradient of the Fairground Beverage/CITGO and presumably upgradient of the KAS boring labeled SB-4.

During the soil boring program, subsurface soil at the site was predominantly characterized as fine sand with varying amounts of medium sand and silt. Intermittent gravel layers were encountered in several of the soil borings, although no significant correlation was noted between the borings. The observed soil conditions were consistent with published reports, which listed the surficial geology as pebbly marine sand. Groundwater was encountered between 8 and 10 feet bgs at the time of drilling. Soil borings were advanced to approximately 15 to 20 feet bgs based on subsurface conditions and depth to groundwater.

Five subsurface soil samples were collected for laboratory analysis from five of the soil borings (SB-1, BS-3, SB-4, SB-7 & SB-8). Soil samples were analyzed for the possible presence of volatile organic compounds in accordance with U.S. EPA Method 8260 and total organic carbon in accordance with Method SW846 9060. All samples were transported under chain-of-custody in an ice-filled cooler to AMRO Environmental Laboratories of Merrimack, New Hampshire for laboratory analysis.

No volatile organic compounds were detected in any of the soil samples except methylene chloride, which is a common laboratory contaminant. Methylene chloride was detected in each soil sample at concentrations between 110 and 710 micrograms per kilogram ( $\mu\text{g}/\text{Kg}$ ). The VT Soil Screening Values (SSV) for methylene chloride are 56,000  $\mu\text{g}/\text{Kg}$  for a residential setting and 960,000  $\mu\text{g}/\text{Kg}$  for an industrial setting. No PCE, PCE daughter products (trichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, & vinyl chloride) or petroleum-related compounds were detected in any of the subsurface soil samples.

The percent moisture and total organic carbon (TOC) levels were within the typical range for predominantly sandy soils. Percent moisture of the subsurface soil samples ranged between 11.4 and 22.8 percent. The TOC levels ranged from 482 to 881 milligrams per kilogram ( $\text{mg}/\text{Kg}$ ), which suggests a low adsorption potential for dissolved contaminants.

The VOC analytical results for the soil samples do not indicate the presence of an on-site source of PCE contamination and the TOC levels suggest a potential for contaminant migration. The laboratory analytical results for subsurface soil samples are summarized on **Table 2** and the laboratory reports are included in **Appendix B**.

No petroleum or solvent-like odors were noted on subsurface soil samples collected as part of this soil boring program. The highest PID readings (3.4 ppmv) were obtained on soil samples collected at the water table from the MW-3 soil boring (approx. 10 feet bgs) and at about 12 feet bgs in the MW-3D soil borings, which were completed in the same vicinity as the KAS soil boring labeled SB-4. PID readings obtained on the soil samples collected from the MW-4, SB-8 and SB-9 soil borings and were generally 0.7 ppmv or less in the other soil borings (MW-1, MW-2, MW-5 and MW-6). PID screening results are included on the soil boring/monitoring well construction logs in **Appendix C**.

Each monitoring well was constructed using a 1.0-inch-diameter schedule 40 polyvinyl chloride (PVC) with flush threaded joints and 0.01-inch factory-slotted well screens. Ten-foot well screens were used for MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6 and MW-3D was installed with a two-foot well screen. One nested well couplet (MW-3/MW-3D) was installed to evaluate potential hydraulic gradients and contaminant distribution. Solid PVC risers, extending from the top of the well screen to ground surface were used to complete each well. A clean sand pack was placed around the screened section of each monitoring well extending one to two feet above the top of the screen and a bentonite seal was placed above the sand pack. Flush-mounted road-box protective casings were installed over each monitoring well. Each well was developed after installation by removing eight to ten standing volumes of water using a peristaltic pump. Soil descriptions and monitoring well construction details are included on the

soil boring logs in **Appendix C**. ENPRO Services, Inc. of Burlington, Vermont installed the soil borings and monitoring wells with a Geoprobe® under direct supervision of **R.E.A.** personnel.

**R.E.A.**'s Field Scientist screened soil samples from each soil boring for the possible presence of volatile organic compounds (VOCs) using an Ion-science Pho-check Tiger portable PID. The PID was calibrated with an isobutylene standard gas to a benzene reference on the day of drilling.

After installation of the soil boring/monitoring wells, **R.E.A.** surveyed the locations of the borings/wells in relation to existing site features. Each boring/well was located in azimuth to an accuracy of  $\pm 1.0$  foot, and in elevation with an accuracy of  $\pm 0.01$  feet relative to an on-site benchmark of 100.00 feet.

#### **2.4 Groundwater Elevations and Flow Direction**

On 30 October 2014, groundwater flow in the unconfined surficial aquifer at the site was primarily toward the southwest with an average hydraulic gradient of approximately 0.9 percent (between MW-5 and MW-1). A vertical downward gradient of about 19 percent was calculated between MW-3 and MW-3D. This data suggests that the natural vertical gradient may be influencing groundwater flow and contaminant migration on the property. Water level measurements and elevation calculations for 30 October 2014 are presented in **Table 3** and the groundwater contour map prepared using this data is presented as **Figure 5**.

Static water-table elevations were computed for each monitoring well by subtracting measured depth-to-water readings from the surveyed top-of-casing (TOC) elevations, which are relative to an arbitrary site datum of 100.00 feet. Depth to groundwater during the sampling event (30 October 2014) ranged from 6.32 to 9.0 feet bgs. Groundwater was observed in each soil boring at the time of drilling on 23 October 2014 at depths ranging from 8 to 10 feet bgs.

#### **2.5 Groundwater Sampling and Analysis**

Groundwater beneath the site has been impacted by low concentrations of PCE and benzene at concentrations above the corresponding VGESs. Review of the groundwater analytical results do not indicate the presence of DNAPL or a significant on-site source of contamination. The contaminant plume consists primarily of dissolve-phase PCE with an area of benzene at the most downgradient southern edge of the current plume. The contaminant distribution suggests the possible presence of an off-site source; however, no known off-site source of PCE was readily identified during this investigation.

No PCE daughter products or volatile petroleum compounds were detected in any of the samples collected during this sampling event, except for the presence of benzene in the MW-1 sample. The

Vermont Groundwater Enforcement Standard (VGES<sup>1</sup>) for PCE was exceeded in the samples collected from MW-2, MW-3, MW-3D, MW-5, and MW-6 and the VGES for benzene was exceeded in the MW-1 sample. A low concentration of PCE (4.1 µg/L) was also detected in the sample collected from MW-1, which is located adjacent to the oil/water separator. No other VOCs were detected in any of the other samples collected on 30 October 2014 and no VOCs were detected in the MW-4 sample.

No VOCs were detected in the trip-blank sample and the analytical results for the blind field duplicate sample (MW-3D) were within the acceptable EPA criteria. The analytical results are summarized on **Table 4**, and a copy of the groundwater laboratory analytical report is included as **Appendix D**. Contaminant distribution, based on samples collected on 30 October 2014, is shown on **Figure 6**.

Prior to sample collection, *R.E.A* field personnel measured the water level in each monitoring well and purged approximately three to five standing volumes of water from each well. All of the groundwater samples were collected using dedicated polyethylene tubing. Groundwater was pumped directly into unpreserved one-liter amber jars and 40-milliliter glass vials with Teflon-lined septum lids. Each 40-milliliter VOC sample vial was preserved with hydrochloric acid to reduce the pH to less than 2 standard units. Immediately after sample collection, field measurements were obtained for pH, specific conductivity, temperature, total dissolved solids (TDS), dissolved oxygen (DO) and oxygen reduction potential (ORP). A summary of the field measurement data is included on **Table 5**.

On 30 October 2014, groundwater samples were collected from seven on-site monitoring wells (MW-1, MW-2, MW-3, MW-3D, MW-4, MW-5 and MW-6). Groundwater samples were analyzed for the possible presence of volatile organic compounds in accordance with U.S. EPA Method 8260. All samples were transported under chain-of-custody in an ice-filled cooler to Endyne, Inc. of Williston, Vermont for laboratory analysis.

## 2.6 Natural Attenuation Evaluation

Review of geochemical water quality data indicates that site conditions are not conducive to the anaerobic biodegradation of PCE, which is supported by the observed contaminant distribution and chemical makeup of the dissolved-phase plume. The data is inconclusive as to the possible effectiveness of monitored natural attenuation as a remedial strategy, but provides a good baseline for future monitoring. In general, the concentrations of geochemical parameters are within the typical range of background conditions. Some depletion of DO was noted moving downgradient along the contaminant plume. Carbon dioxide (CO<sub>2</sub>) and oxygen reduction potential (ORP) appeared to increase slightly along the same trend line. No other discernible trends were noted during review of the geochemical data. The

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<sup>1</sup>The Vermont DEC has established groundwater enforcement standards for the VOC contaminants of concern, as follows: benzene - 5 ug/L; PCE 5 ug/L; TCE - 5 ug/L; cis-1,2-dichloroethene 70 ug/L; and vinyl chloride – 2 ug/L.

analytical results for natural attenuation data are summarized on **Table 6**, graphs showing water quality trends versus distance along the contaminant flow path are included in **Appendix E**, and copies of the laboratory analytical reports are included as **Appendix D**.

Samples from selected monitoring wells located within and downgradient of the contaminant plume were analyzed for dissolved oxygen, alkalinity, methane, carbon dioxide, dissolved iron, and dissolved manganese to evaluate site conditions relative to natural attenuation. The iron and manganese samples were filtered in the field using 0.45 micron filters. All samples were transported under chain-of-custody in an ice-filled cooler to Endyne, Inc. of Williston, Vermont for laboratory analysis.

## 2.7 Investigation Procedures

The procedures used during the initial site investigation at the Capital Mercury property are consistent with the following guidance documents:

- *“Investigation and Remediation of Contaminated Properties Procedure.”* Vermont Agency of Natural Resources, Waste Management Division. April 2012.
- ASTM D 2488-93. *“Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).”* American Society for Testing and Materials.
- ASTM D 5092-90. *“Standard Practice for Design and Installation of Ground Water Monitoring Wells in Aquifers.”* American Society for Testing and Materials.
- ASTM D 4750-87. *“Standard Test Method for Determining Subsurface Liquid Levels in a Borehole or Monitoring Well.”* American Society for Testing and Materials.
- ASTM D 4448-85a. *“Standard Guide for Sampling Ground Water Monitoring Wells.”* American Society for Testing and Materials..

## 3.0 SENSITIVE RECEPTOR IDENTIFICATION AND RISK ASSESSMENT

Based on available information, groundwater beneath the site has been impacted by PCE and benzene above corresponding VGESs; however, no other sensitive receptors appear to be impacted at this time. No Vermont Soil Screening Values (SSVs) for VOCs were exceeded in soil samples collected on-site during the soil boring program and no drinking water supplies or surface water bodies are located in close proximity of the subject property. The approximate locations of nearby sensitive receptors are shown on **Figure 2**.

### 3.1 Receptor Identification

Sensitive receptors identified in the vicinity of the subject property are listed below:

- Soil and groundwater beneath the site.
- Underground utilities servicing the property.
- Indian Brook located approximately 0.5 miles feet to the northeast of the subject property.

- A Class 2 wetland adjoining Indian Brook located within 0.5 miles of the subject property.

### 3.2 Risk Assessment

On the basis of the information obtained during this investigation, *R.E.A.* has qualitatively assessed the risks that the subsurface contamination poses to human health and the environment. The findings are summarized as follows:

- Review of available data indicates that subsurface soils have not been impacted at this time. No PCE, PCE daughter products or petroleum-related compounds were detected in any of the subsurface soil samples collected as part of this investigation. In addition, no petroleum or solvent-like odors were noted during the collection of subsurface soil samples.
- Groundwater beneath the site has been impacted by PCE and benzene at concentrations above the corresponding VGESs. The contaminant plume consists primarily of dissolve-phase PCE with an area of benzene at the most downgradient southern edge of the currently defined plume. The contaminant distribution suggests the possible presence of an off-site source; however, no known off-site source of PCE was readily identified during this investigation.
- Several underground utilities are located in the general vicinity of the contaminant plume. The utility corridor is likely above the water-table and not likely to be impacted by contamination; however, the threat to nearby underground utilities has not been fully characterized but is considered to be low based on the concentrations of contaminants detected on site.
- The threat to nearby surface water bodies is considered to be very low; no surface water bodies are located in close proximity to the site. Indian Brook and an adjoining Class 2 wetland are located approximately 0.5 miles north of the subject property, which is upgradient of the subject property. The nearest downgradient surface water body is located greater than 0.5 miles south-southwest of the subject property.

### 4.0 DATA EVALUATION AND CONCEPTUAL MODEL

The primarily contaminant of concern at the site is PCE, although benzene was detected in one monitoring well on the southern portion of the property. Soil screening data, field observations, and soil laboratory analytical results do not indicate the presence of an active ongoing release or an on-site source of PCE contamination. In addition, the contaminant distribution in groundwater beneath the site suggests the possible presence of an off-site source; however, no known off-site source of PCE was readily identified during this investigation. The highest concentrations of dissolved-phase PCE were detected on the northeastern portion of the property (MW- 3, MW-3D and MW-5), which is upgradient of any possible on-site sources of contamination (floor drains, former UST, oil/water separator, or areas of current hazardous

materials use). Also, no PCE daughter products or volatile petroleum compounds were detected in any of the samples collected during this sampling event, except for the presence of benzene in the MW-1 sample. The VGESs for PCE and benzene were the only regulatory standards exceeded at the site. Although the extent of contamination present on the subject property has not been fully defined, available information does not indicate contamination has migrated off-site to the south-southwest.

Generally, the VT DEC requires active remediation when greater than 1/8" of free-product is present, or when human health or a sensitive receptor is impacted or threatened by contamination. Based on available information, active remediation is not likely to be required by the VT DEC at this time. However, additional groundwater and sensitive receptor monitoring may be required. In addition, precautions should be taken during excavation or re-development of the property. If contaminated soil is encountered beneath the building during construction, the material will need to be managed in accordance with State and federal guidelines.

A summary of the significant findings of the ISI is outlined below:

- The VGES for PCE was exceeded in the groundwater samples collected from MW-2, MW-3, MW-3D, MW-5 and MW-6; no other VOCs were detected in any of these groundwater samples collected on 30 October 2014.
- The VGES for benzene was exceeded in the groundwater sample collected from MW-1 and PCE was detected at 4.1 ug/L, which is below the corresponding VGES. No other VOCs were detected in the MW-1 sample.
- No VOCs were detected in the groundwater sample collected from MW-4, which is located near the northern property boundary between the Fairgrounds Beverage/CITGO and the Capital Mercury building.
- The PCE concentrations detected in groundwater beneath the site are not indicative of DNAPL. In addition, no PCE daughter products were detected in any of the samples collected to date (including the KAS groundwater samples collected in September 2014).
- The contaminant distribution suggests the possible presence of an off-site source; however, no known off-site source of PCE was readily identified during this investigation. The soil type (predominantly fine sand) and relatively low TOC levels suggests that site conditions are favorable for contaminant migration from a potential off-site source.
- No VOCs were detected in the subsurface soil samples, except for methylene chloride, which is likely related to laboratory contamination.

- No solvent or petroleum odors were noted on subsurface soil samples collected from the soil borings. The highest PID readings (3.4 ppmv) were obtained in the soil borings corresponding with the locations where the highest dissolved-phase PCE concentrations were detected in groundwater (MW-3/MW-3D).
- Subsurface soils at the site consisted predominantly of fine sand with varying amounts of medium sand, silt and gravel. Several intermittent gravel layers were noted during the soil boring program.
- Groundwater flow in the unconfined surficial aquifer at the site was primarily toward the southwest with a hydraulic gradient of approximately 0.9 percent. This groundwater flow is generally toward the Winooski River which is located approximately 0.8 miles southwest of the subject property.
- A vertical downward gradient of about 19 percent was calculated between MW-3 and MW-3D. This data suggests that the natural vertical gradient may be influencing groundwater flow and contaminant migration on the property
- Several underground utilities are located in the general vicinity of the contaminant plume. Based on available information, the utility corridor is likely above the water-table and not likely to be impacted by contamination.
- None of the off-site sensitive receptors identified during the ISI appear to be impacted at this time.

## 5.0 RECOMMENDATIONS

On the basis of the results of this investigation and the conclusions stated above, **R.E.A.** makes the following recommendations.

1. Due to the exceedance of the Vermont Groundwater Enforcement Standards (VGESs) for volatile organic compounds (PCE & benzene) in groundwater beneath the site, a follow up groundwater sampling event should be completed in December 2014 to confirm the previous findings. Samples should be analyzed for the possible presence of VOCs in accordance with EPA method 8260.
2. The New York Cleaners, which is the only upgradient and nearby facility that is associated with the possible use of PCE, should be contacted regarding site history and operations. Available information suggests the current facility, located in the Essex Shopping Plaza, is a pick up/drop off location.
3. The location and depths of underground utilities on the property should be evaluated to determine if these features may be influencing groundwater flow and contaminant migration on the property.

4. Plans for redevelopment of the property should incorporate precautionary measures such as worker health and safety during construction, soil screening during excavation in the areas of documented contamination and possible installation of a vapor barrier.
5. A summary report should be completed following the next ground water sampling event, which should include recommendations for possible long term monitoring, or site closure.

## 6.0 LIMITATIONS

This report was completed by *Ross Environmental Associates, Inc. (R.E.A.)* for the sole use of Mr. Steve Carbone in connection with an assessment of on-site environmental conditions. Use of this report by any other person or for any other use is not authorized except with prior written consent of *R.E.A.* or Mr. Carbone.

The work was undertaken to assess environmental conditions specifically on the subject property in accordance with generally accepted engineering and hydrogeological practices. No other warranty, express or implied, is made. Absolute assurance that any and all possible contamination at the site was identified cannot be provided.

The report conclusions are based, in part, on information provided by the client, their agents, or third parties, including state or local officials. *R.E.A.* assumes no responsibility for the accuracy and completeness of the information. Where visual observations are included in the report, they represent conditions at the time of the inspection, and may not be indicative of past or future site conditions.

## 7.0 REFERENCES

Freeze, R. A., and Cherry, J.A., 1976. *Groundwater*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 29 p.

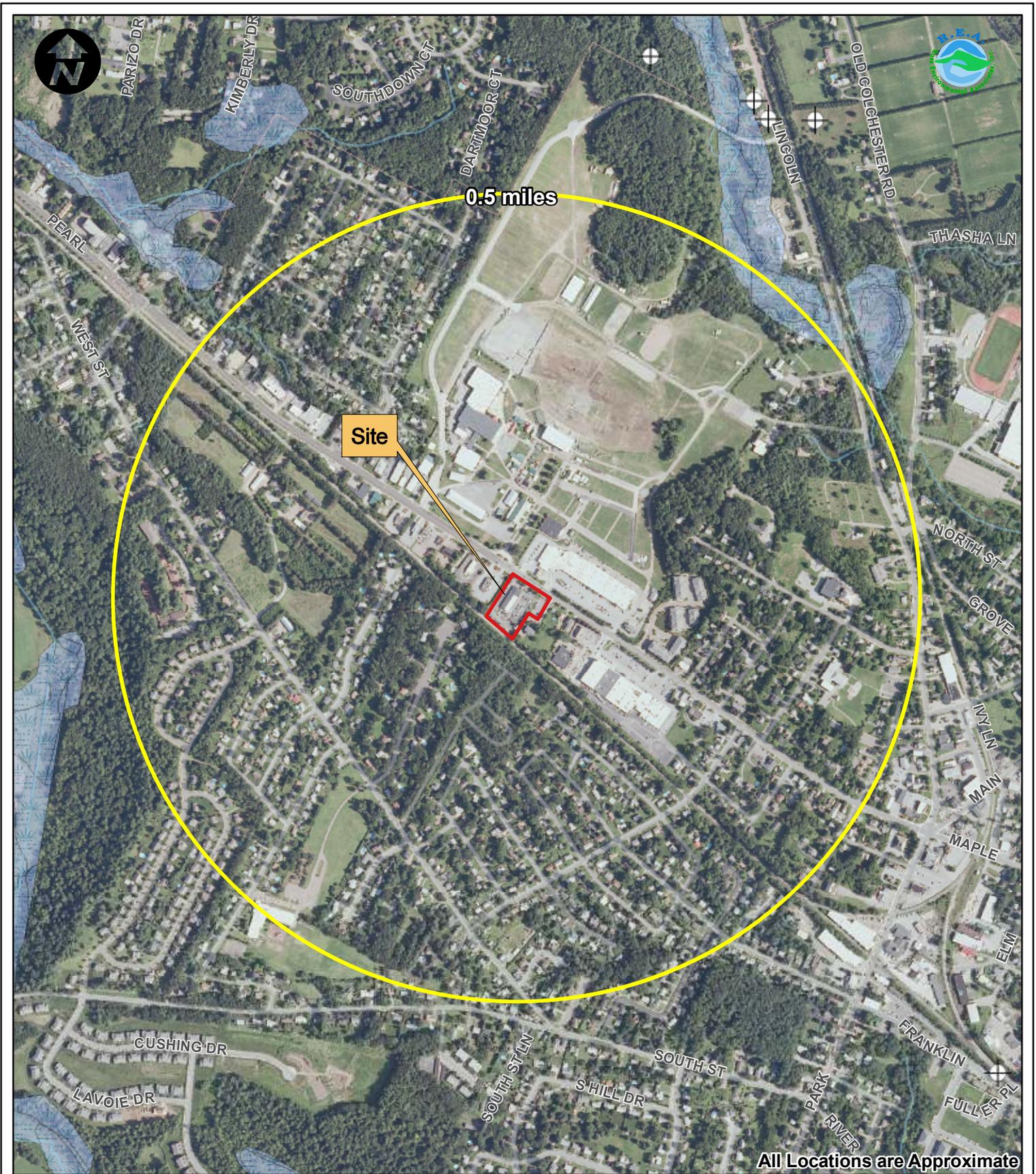
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Ratcliffe, N.M et al., 2011. "*Bedrock Geologic Map of Vermont*". U.S. Geological Survey Scientific Investigations Map 3184, 3 sheets, scale 1:100,000

Stewart, D.P. and MacClintock, P., 1970. "*Surficial Geologic Map of Vermont*", Office of the State Geologist. Vermont ANR on-line databases.

# **F I G U R E S**





2010 VT Significant Wetland

 Class 2

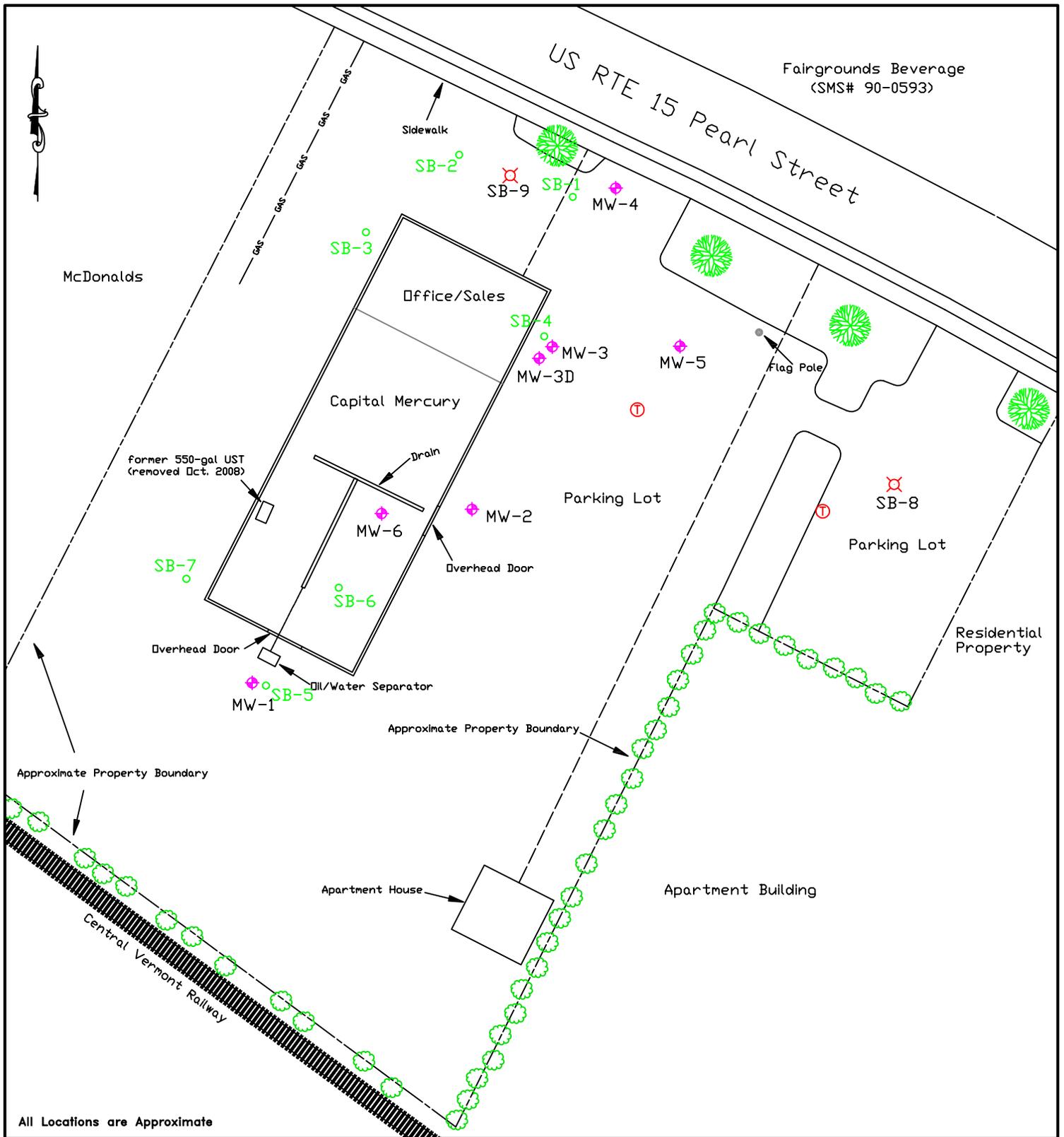


2012 VT Private Supply Wells

**Figure 2**  
**Orthophoto &**  
**Sensitive Receptors**  
**Capital Lincoln Mercury**  
**Essex, Vermont**

Imagery: 2009 NAIP

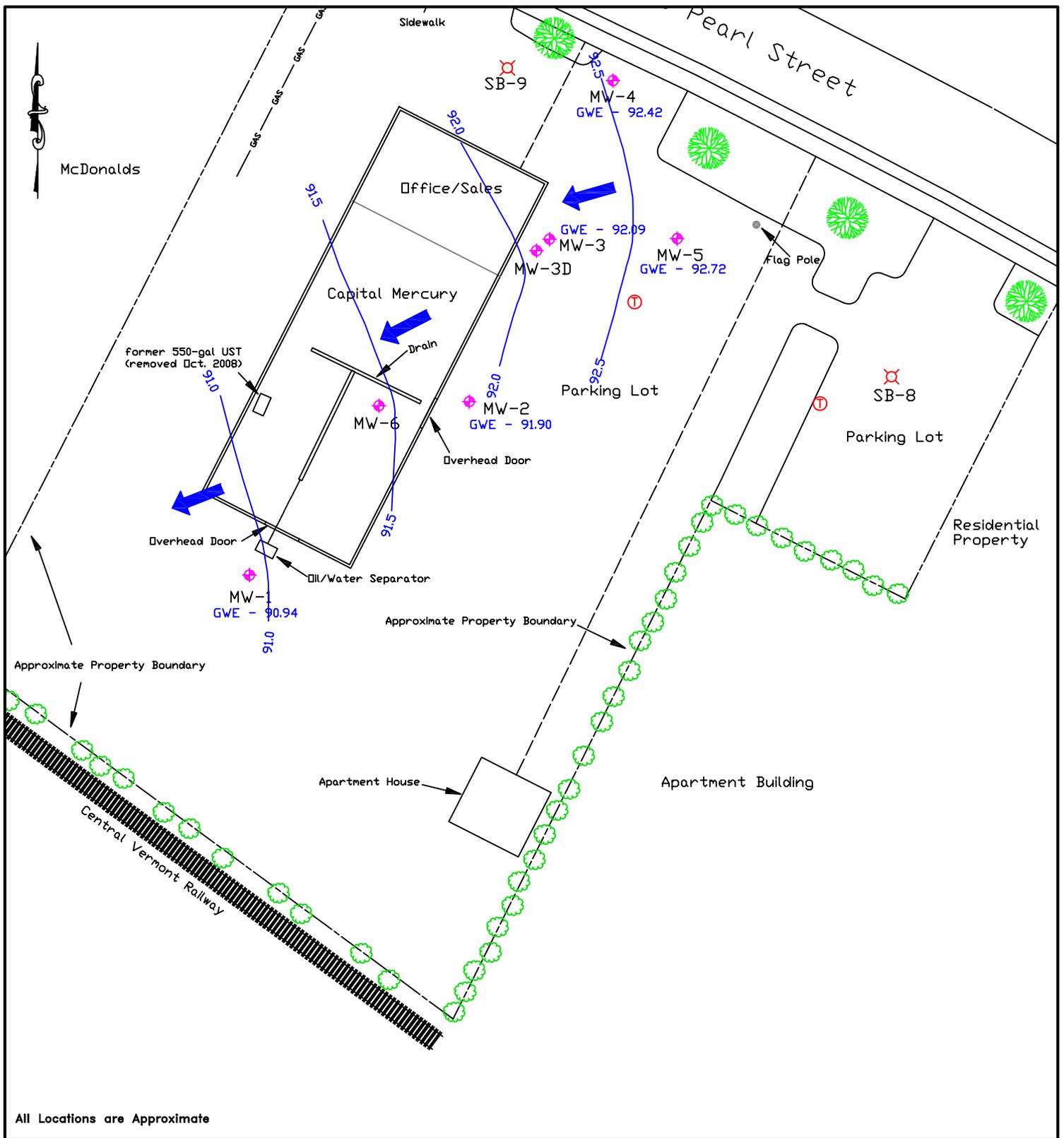


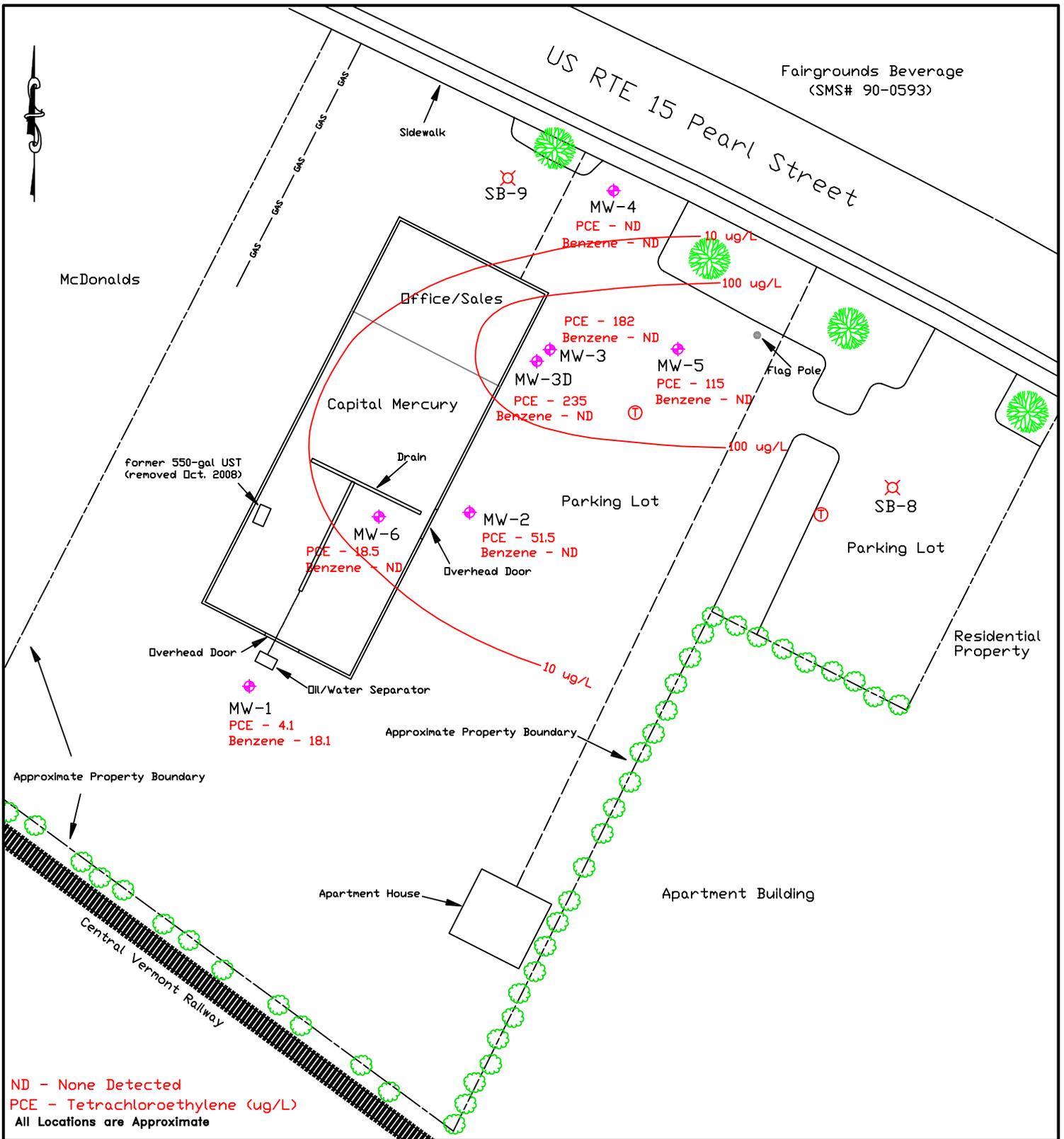


	Monitoring Well		Soil Boring
	Hedgerow		Water Line (approximate)
	Tree		Natural Gas Line (approximate)
	Utility Pole		KAS Soil Boring

<b>Scale:</b> 1" = 50'	<b>Date:</b> 14 November 2014
<b>File Name:</b> 34-133fig.dwg	<b>Drawn By:</b> JRW

**FIGURE 4.**  
**SITE PLAN**  
 (with monitoring well locations)  
 Capital Mercury - Essex, VT





<b>Legend</b>	Monitoring Well	Soil Boring
	Hedgerow	Water Line (approximate)
	Tree	Natural Gas Line (approximate)
	Utility Pole	

**Scale** 1" = 50'

**Date** 14 November 2014

**File Name** 34-133fig.dwg

**Drawn By** JRW

**Ross Environmental Associates, Inc.**  
P.O. Box 1533 Stowe, Vt 05672  
(802) 253-4280

**FIGURE 6.**  
**CONTAMINANT DISTRIBUTION**  
(Monitoring Date: 30 October 2014)  
Capital Mercury - Essex, VT

# **T A B L E S**

**TABLE 1**  
**Contaminants of Concern**

Capital Mercury  
Essex Jct., Vermont

Parameter	CASN	VTGWES (ug/L)	WQC (ug/L)	VT DEC SSVs (ug/L) Soil		VDH - Cleanup Criteria	density (g/cm <sup>3</sup> ) @ 20 °C	log K <sub>oc</sub>	log K <sub>ow</sub>	water solubility
				residential	Industrial					
MtBE	1634-04-4	40	--	43	220	647	0.7404	2.89	1.20	51 g/L @ 25 °C
Benzene	71-43-2	5.0	1.2	110	54	0.471	0.8789	1.69	2.13	1,755 mg/L @ 25 °C
Methylene Chloride	75-09-2	5.0	4.7	56	960	--	1.3361	1.00	1.35	1,300 m g/L @ 25 °C
Tetrachloroethene (PCE)	127-18-4	5.0	0.8	22	110	1.57	1.6230	2.35	2.1	150 mg/L @ 20 °C
Trichloroethene (TCE)	79-01-6	5.0	2.7	0.91	6.4	0.471	1.464	1.81	2.53	1,100 mg/L @ 20 °C
cis-1,2-dichloroethene	156-59-2	70	--	160	2,000	135	1.26	---	1.86	3,500 mg/L @ 20°C
trans-1,2-dichloroethene	156-60-5	100	--	150	690	150	1.3565	1.58	2.09	6,300 mg/L @ 25 °C
Vinyl Chloride	75-01-4	2.0	2.0	0.06	1.7	--	0.9106	0.39	0.60	1,100 mg/L @ 25°C

Montgomery, J.H., 2000. "Groundwater Chemicals - Desk Reference" Third Edition. Lewis Publishers, Boca Raton, Florida.

Toxicology Data Network - <http://toxnet.nlm.nih.gov>

VT DEC SSVs. Vermont Department of Environmental Conservation Soil Screening Values (IROCP, 2012)

Vermont Groundwater Enforcement Standards (VTGWESs). In micrograms per liter (ug/L).

Vermont Water Quality Criteria (WQC) for the protection of human health in Class B waters. In micrograms per liter (ug/L).

Soil sorption coefficient, log K<sub>oc</sub>

Octanol/water partition coefficient, log K<sub>ow</sub>

**TABLE 2  
SUMMARY OF SOIL ANALYTICAL RESULTS**

Capital Mercury  
Essex Jct., Vermont  
Monitoring Date: 23 October 2014

Analyte	VT DEC - Soil Screening Values (SSVs)		VDH - Cleanup Criteria	SB-1	SB-3	SB-4	SB-7	SB-8
	Residential Soil	Industrial Soil	---	Sample depth				
				11 ft, bgs	10 ft, bgs	10 ft, bgs	10 ft, bgs	11 ft, bgs
<b>Volatile Organic Compounds - 8260 (mg/Kg, dry)</b>								
Methylene Chloride	56.0	960	--	0.110	0.710	0.450	0.110	0.190
Tetrachloroethene (PCE)	22.0	110	1.57	ND<0.056	ND<0.059	ND<0.056	ND<0.049	ND<0.057
Trichloroethene (TCE)	0.91	6.4	0.471	ND<0.056	ND<0.059	ND<0.056	ND<0.049	ND<0.057
cis-1,2-dichloroethene	160	2,000	135	ND<0.056	ND<0.059	ND<0.056	ND<0.049	ND<0.057
trans-1,2-dichloroethene	150	690	150	ND<0.056	ND<0.059	ND<0.056	ND<0.049	ND<0.057
Vinyl Chloride	0.06	1.7	--	ND<0.056	ND<0.059	ND<0.056	ND<0.049	ND<0.057
Benzene	110	54	0.471	ND<0.028	ND<0.030	ND<0.028	ND<0.025	ND<0.029
MtBE	43	220	647	ND<0.028	ND<0.030	ND<0.028	ND<0.025	ND<0.029
TOC (mg/Kg)	not applicable			703	881	472	788	808
percent moisture	not applicable			15.0	18.0	22.8	12.6	11.4
<b>Field Screening</b>								
PID (ppmv)	VT DEC action level*			0.4	3.4	0.0	0.6	0.0

Notes:

VT DEC Soil Screening Values (SSVs) - IROCP, April 2012. Values reported as indicated in (mg/Kg). VDH - Vermont Department of Health.

ND: Not detected above indicated detection limit. "---" sample not analyzed for parameter.

\*VT DEC Action Level for PID field screening - 10 ppmv for gasoline and 20 ppmv for diesel/fuel oil

PID: Photo-ionization detector (IonScience PhoCheck Tiger). ppm: parts-per-million

TOC - total organic carbon

**TABLE 3**  
**GROUND WATER ELEVATION CALCULATIONS**

Capital Mercury  
Essex Jct., Vermont

Monitoring Date: 30 Oct. 2014

Well I.D.	Top of Casing Elevation (ft)	Depth to Water (ft)	Water Table Elevation (ft)
MW-1	98.87	7.93	90.94
MW-2	99.08	7.18	91.90
MW-3	99.02	6.93	92.09
MW-3D	99.32	9.00	90.32
MW-4	98.99	6.57	92.42
MW-5	99.04	6.32	92.72
MW-6	---	8.13	---

All values reported in feet relative to arbitrary site datum of 100.00 feet

**TABLE 4  
GROUND-WATER ANALYTICAL RESULTS**

Capital Mercury  
Essex Jct., Vermont

Monitoring Date: 30 October 2014

Parameter	MtBE	Benzene	PCE	TCE	cis-1,2 Dichloroethene	trans-1,2 Dichloroethene	vinyl chloride	methylene chloride	Total VOCs
MW-1	ND<2.0	18.1	4.1	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	22.2
MW-2	ND<2.0	ND<1.0	51.5	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	51.5
MW-3	ND<2.0	ND<1.0	182	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	182
MW-3D	ND<20	ND<10	235	ND<10	ND<10	ND<10	ND<20	ND<50	235
MW-4	ND<2.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND
MW-5	ND<2.0	ND<1.0	115	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	115
MW-6	ND<2.0	ND<1.0	18.5	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	18.5
<b>VGES</b>	<b>40</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	<b>70</b>	<b>100</b>	<b>2.0</b>	<b>5.0</b>	<b>--</b>
<b>QA/QC Samples</b>									
<b>MW-3D</b>	ND<20	ND<10	235	ND<10	ND<10	ND<10	ND<20	ND<50	235
<b>Dup (MW-3D)</b>	ND<20	ND<10	250	ND<10	ND<10	ND<10	ND<20	ND<50	250
<b>% Difference</b>	---	---	6.0	---	---	---	---	---	6.0
Trip Blank	ND<2.0	ND<1.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND

Notes:

All results reported as micrograms per liter (µg/L), unless indicated otherwise.

ND: None detected at indicated detection limit.

PCE = Tetrachloroethene or Perchloroethylene

Shaded values indicate exceedance of Vermont Groundwater Enforcement Standards (VGESs).

**TABLE 5  
FIELD MEASUREMENT DATA**

**Capital Mercury  
Essex Jct, Vermont**

Monitoring Date: 30 Oct. 2014

Well ID	pH (su)	temperature (°C)	Specific conductivity (uS)	ORP (mV)	DO	Comments
MW-1	7.00	11.4	1,946	37.5	1.33	good recharge
MW-2	6.95	12.2	5,170	27.3	1.59	good recharge
MW-3	6.97	13.0	2,985	27.4	1.97	good recharge, duplicate
MW-3D	7.00	10.7	3,760	-29.7	4.62	good recharge
MW-4	6.87	11.6	2,086	-11.8	3.81	very silty, purged dry
MW-5	7.07	11.6	2,870	18.5	1.70	good recharge
MW-6	6.60	14.4	4,111	11.4	1.75	good recharge

pH reported in standard units (s.u.).

Specific conductivity reported in microsiemens (uS) or millisiemens (mS).

Oxidation-reduction potential (ORP) reported in millivolts (mV).

Total dissolved solids (TDS) reported in parts per million (ppm) or parts per (ppt) thousand.

**TABLE 6**  
Summary of Natural Attenuation Data

Capital Mercury  
Essex Jct., Vermont

Monitoring Date: 30 October 2014

Well I.D.	methane (ppb w/v)	alkalinity	CO2	TDS	iron	manganese	DO	ORP (mV)	Total VOCs
MW-4	1.61	68	20	888	0.093	0.14	3.81	-11.8	ND
MW-3	ND <1	102	20	1,630	ND < 0.02	0.29	1.97	27.4	0.182
MW-6	ND <1	110	55	2,010	0.40	0.71	1.75	11.4	0.0185
MW-1	ND <1	130	25	924	0.11	0.650	1.33	37.5	0.022
<b>QA/QC Samples</b>									
MW-3	ND <1	102	20	1,630	ND < 0.02	0.29	---	---	0.182
dup (MW-3)	---	113	25	1,710	ND < 0.02	0.26	---	---	---
% Difference	---	9.7	20.0	4.7	---	-11.5	---	---	---

Notes:

Results reported as milligrams per liter (mg/L), unless noted otherwise.

ND = Not detected above indicated detection limit.

CO2 - carbon dioxide

TDS - total dissolved solids

**A  
P  
P  
E  
N  
D  
I  
X  
  
A**



Photo #1 (Site Overview – View Toward Northeast)



Photo #2 (Site Overview – View Toward North)



Photo #3 (View of MW-3 During Installation – View Toward West)



Photo #4 (View of MW-3D During Installation – View Toward West)



Photo #5 (View of MW-5 During Installation – View Toward West)



Photo #6 (View of Soils from MW-3)



Photo #7 (View of Soils from MW-4)



Photo #8 (View of Soils from MW-6)



Photo #9 (View of Soils from MW-5 – note red/orange staining)



Photo #10 (View of Soils from MW-6- Note dark staining)



Photo #11 (View of Soils from MW-3D)



Photo #12 (View of Soils from MW-3D)

**A  
P  
P  
E  
N  
D  
I  
X  
  
B**

**AMRO Environmental Laboratories Corp.**

Date: 05-Nov-14

---

**CLIENT:** Ross Environmental Associates  
**Project:** 34-133 Capital Mercury  
**Lab Order:** 1410078  
**Date Received:** 10/28/2014

---

**Work Order Sample Summary**

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Collection Date</b>	<b>Collection Time</b>
1410078-01A	SB-1	10/23/2014	9:30 AM
1410078-01B	SB-1	10/23/2014	9:30 AM
1410078-01C	SB-1	10/23/2014	9:30 AM
1410078-02A	SB-3	10/23/2014	11:00 AM
1410078-02B	SB-3	10/23/2014	11:00 AM
1410078-02C	SB-3	10/23/2014	11:00 AM
1410078-03A	SB-4	10/23/2014	12:30 PM
1410078-03B	SB-4	10/23/2014	12:30 PM
1410078-03C	SB-4	10/23/2014	12:30 PM
1410078-04A	SB-7	10/23/2014	3:00 PM
1410078-04B	SB-7	10/23/2014	3:00 PM
1410078-04C	SB-7	10/23/2014	3:00 PM
1410078-05A	SB-8	10/23/2014	4:00 PM
1410078-05B	SB-8	10/23/2014	4:00 PM
1410078-05C	SB-8	10/23/2014	4:00 PM

## DATA COMMENT PAGE

### Organic Data Qualifiers

ND	Indicates compound was analyzed for, but not detected at or above the reporting limit.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than the method detection limit.
H	Method prescribed holding time exceeded.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
B	This flag is used when the analyte is found in the associated blank as well as in the sample.
R	RPD outside accepted recovery limits
RL	Reporting limit; defined as the lowest concentration the laboratory can accurately quantitate.
S	Spike Recovery outside accepted recovery limits.
#	See Case Narrative
Q	RPD between signal 1 and signal 2 >40%.

### Micro Data Qualifiers

TNTC	Too numerous to count
------	-----------------------

### Inorganic Data Qualifiers

ND or U	Indicates element was analyzed for, but not detected at or above the reporting limit.
J	Indicates a value greater than or equal to the method detection limit, but less than the quantitation limit.
H	Indicates analytical holding time exceedance.
B	Indicates that the analyte is found in the associated blank, as well as in the sample.
MSA	Indicates value determined by the Method of Standard Addition
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
R	RPD outside accepted recovery limits
RL	Reporting limit; defined as the lowest concentration the laboratory can accurately quantitate.
S	Spike Recovery outside accepted recovery limits.
PS	The analyte was below the Reporting Limit but has significant matrix interference as noted by the poor recovery of the Post Digestion Spike.
#	See Case Narrative
*	MCL Exceeded

### Report Comments:

1. Soil, sediment and sludge sample results are reported on a "dry weight" basis.
2. Reporting limits are adjusted for sample size used, dilutions and moisture content, if applicable.

**AMRO Environmental Laboratories Corp.**

Date: 05-Nov-14

<b>CLIENT:</b>	Ross Environmental Associates	<b>Client Sample ID:</b>	SB-1
<b>Lab Order:</b>	1410078	<b>Collection Date:</b>	10/23/2014 9:30:00 AM
<b>Project:</b>	34-133 Capital Mercury	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	1410078-01A		

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA 8260C VOLATILES BY GC/MS, EPA 5035A M SW8260C</b>						Analyst: DH
Dichlorodifluoromethane	ND	110		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Chloromethane	ND	110		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Vinyl chloride	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Chloroethane	ND	110		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Bromomethane	ND	110		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Trichlorofluoromethane	ND	110		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Diethyl ether	ND	280		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Acetone	ND	280		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,1-Dichloroethene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Carbon disulfide	ND	110		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Methylene chloride	110	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Methyl tert-butyl ether	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
trans-1,2-Dichloroethene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,1-Dichloroethane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
2-Butanone	ND	280		µg/Kg-dry	1	11/3/2014 3:58:00 PM
2,2-Dichloropropane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
cis-1,2-Dichloroethene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Chloroform	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Tetrahydrofuran	ND	280		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Bromochloromethane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,1,1-Trichloroethane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,1-Dichloropropene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Carbon tetrachloride	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,2-Dichloroethane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Benzene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Trichloroethene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,2-Dichloropropane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Bromodichloromethane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Dibromomethane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
4-Methyl-2-pentanone	ND	280		µg/Kg-dry	1	11/3/2014 3:58:00 PM
cis-1,3-Dichloropropene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Toluene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
trans-1,3-Dichloropropene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,1,2-Trichloroethane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,2-Dibromoethane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
2-Hexanone	ND	280		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,3-Dichloropropane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Tetrachloroethene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Dibromochloromethane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM

**AMRO Environmental Laboratories Corp.**

Date: 05-Nov-14

<b>CLIENT:</b>	Ross Environmental Associates	<b>Client Sample ID:</b>	SB-1
<b>Lab Order:</b>	1410078	<b>Collection Date:</b>	10/23/2014 9:30:00 AM
<b>Project:</b>	34-133 Capital Mercury	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	1410078-01A		

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Chlorobenzene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,1,1,2-Tetrachloroethane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Ethylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
m,p-Xylene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
o-Xylene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Styrene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Bromoform	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Isopropylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,1,2,2-Tetrachloroethane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,2,3-Trichloropropane	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Bromobenzene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
n-Propylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
2-Chlorotoluene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
4-Chlorotoluene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,3,5-Trimethylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
tert-Butylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,2,4-Trimethylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
sec-Butylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
4-Isopropyltoluene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,3-Dichlorobenzene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,4-Dichlorobenzene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
n-Butylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,2-Dichlorobenzene	ND	28		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,2-Dibromo-3-chloropropane	ND	140		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,2,4-Trichlorobenzene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Hexachlorobutadiene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Naphthalene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
1,2,3-Trichlorobenzene	ND	56		µg/Kg-dry	1	11/3/2014 3:58:00 PM
Surr: Dibromofluoromethane	88.8	51-137		%REC	1	11/3/2014 3:58:00 PM
Surr: 1,2-Dichloroethane-d4	99.6	47-140		%REC	1	11/3/2014 3:58:00 PM
Surr: Toluene-d8	88.0	55-140		%REC	1	11/3/2014 3:58:00 PM
Surr: 4-Bromofluorobenzene	81.4	44-135		%REC	1	11/3/2014 3:58:00 PM

**AMRO Environmental Laboratories Corp.**

Date: 05-Nov-14

**CLIENT:** Ross Environmental Associates  
**Lab Order:** 1410078  
**Project:** 34-133 Capital Mercury  
**Lab ID:** 1410078-02A

**Client Sample ID:** SB-3  
**Collection Date:** 10/23/2014 11:00:00 AM  
**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA 8260C VOLATILES BY GC/MS, EPA 5035A M SW8260C</b>						Analyst: DH
Dichlorodifluoromethane	ND	120		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Chloromethane	ND	120		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Vinyl chloride	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Chloroethane	ND	120		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Bromomethane	ND	120		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Trichlorofluoromethane	ND	120		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Diethyl ether	ND	300		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Acetone	ND	300		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,1-Dichloroethene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Carbon disulfide	ND	120		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Methylene chloride	710	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Methyl tert-butyl ether	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
trans-1,2-Dichloroethene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,1-Dichloroethane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
2-Butanone	ND	300		µg/Kg-dry	1	11/3/2014 4:33:00 PM
2,2-Dichloropropane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
cis-1,2-Dichloroethene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Chloroform	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Tetrahydrofuran	ND	300		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Bromochloromethane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,1,1-Trichloroethane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,1-Dichloropropene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Carbon tetrachloride	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,2-Dichloroethane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Benzene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Trichloroethene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,2-Dichloropropane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Bromodichloromethane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Dibromomethane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
4-Methyl-2-pentanone	ND	300		µg/Kg-dry	1	11/3/2014 4:33:00 PM
cis-1,3-Dichloropropene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Toluene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
trans-1,3-Dichloropropene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,1,2-Trichloroethane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,2-Dibromoethane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
2-Hexanone	ND	300		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,3-Dichloropropane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Tetrachloroethene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Dibromochloromethane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM

**AMRO Environmental Laboratories Corp.**

Date: 05-Nov-14

**CLIENT:** Ross Environmental Associates  
**Lab Order:** 1410078  
**Project:** 34-133 Capital Mercury  
**Lab ID:** 1410078-02A

**Client Sample ID:** SB-3  
**Collection Date:** 10/23/2014 11:00:00 AM  
**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Chlorobenzene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,1,1,2-Tetrachloroethane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Ethylbenzene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
m,p-Xylene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
o-Xylene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Styrene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Bromoform	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Isopropylbenzene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,1,2,2-Tetrachloroethane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,2,3-Trichloropropane	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Bromobenzene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
n-Propylbenzene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
2-Chlorotoluene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
4-Chlorotoluene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,3,5-Trimethylbenzene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
tert-Butylbenzene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,2,4-Trimethylbenzene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
sec-Butylbenzene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
4-Isopropyltoluene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,3-Dichlorobenzene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,4-Dichlorobenzene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
n-Butylbenzene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,2-Dichlorobenzene	ND	30		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,2-Dibromo-3-chloropropane	ND	150		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,2,4-Trichlorobenzene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Hexachlorobutadiene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Naphthalene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
1,2,3-Trichlorobenzene	ND	59		µg/Kg-dry	1	11/3/2014 4:33:00 PM
Surr: Dibromofluoromethane	102	51-137		%REC	1	11/3/2014 4:33:00 PM
Surr: 1,2-Dichloroethane-d4	119	47-140		%REC	1	11/3/2014 4:33:00 PM
Surr: Toluene-d8	106	55-140		%REC	1	11/3/2014 4:33:00 PM
Surr: 4-Bromofluorobenzene	106	44-135		%REC	1	11/3/2014 4:33:00 PM

**AMRO Environmental Laboratories Corp.**

Date: 05-Nov-14

<b>CLIENT:</b>	Ross Environmental Associates	<b>Client Sample ID:</b>	SB-4
<b>Lab Order:</b>	1410078	<b>Collection Date:</b>	10/23/2014 12:30:00 PM
<b>Project:</b>	34-133 Capital Mercury	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	1410078-03A		

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA 8260C VOLATILES BY GC/MS, EPA 5035A M SW8260C</b>						Analyst: <b>DH</b>
Dichlorodifluoromethane	ND	110		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Chloromethane	ND	110		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Vinyl chloride	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Chloroethane	ND	110		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Bromomethane	ND	110		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Trichlorofluoromethane	ND	110		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Diethyl ether	ND	280		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Acetone	ND	280		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,1-Dichloroethene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Carbon disulfide	ND	110		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Methylene chloride	450	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Methyl tert-butyl ether	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
trans-1,2-Dichloroethene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,1-Dichloroethane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
2-Butanone	ND	280		µg/Kg-dry	1	11/3/2014 5:08:00 PM
2,2-Dichloropropane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
cis-1,2-Dichloroethene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Chloroform	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Tetrahydrofuran	ND	280		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Bromochloromethane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,1,1-Trichloroethane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,1-Dichloropropene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Carbon tetrachloride	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,2-Dichloroethane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Benzene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Trichloroethene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,2-Dichloropropane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Bromodichloromethane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Dibromomethane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
4-Methyl-2-pentanone	ND	280		µg/Kg-dry	1	11/3/2014 5:08:00 PM
cis-1,3-Dichloropropene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Toluene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
trans-1,3-Dichloropropene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,1,2-Trichloroethane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,2-Dibromoethane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
2-Hexanone	ND	280		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,3-Dichloropropane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Tetrachloroethene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Dibromochloromethane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM

**AMRO Environmental Laboratories Corp.**

Date: 05-Nov-14

**CLIENT:** Ross Environmental Associates  
**Lab Order:** 1410078  
**Project:** 34-133 Capital Mercury  
**Lab ID:** 1410078-03A

**Client Sample ID:** SB-4  
**Collection Date:** 10/23/2014 12:30:00 PM  
**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Chlorobenzene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,1,1,2-Tetrachloroethane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Ethylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
m,p-Xylene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
o-Xylene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Styrene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Bromoform	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Isopropylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,1,2,2-Tetrachloroethane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,2,3-Trichloropropane	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Bromobenzene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
n-Propylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
2-Chlorotoluene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
4-Chlorotoluene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,3,5-Trimethylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
tert-Butylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,2,4-Trimethylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
sec-Butylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
4-Isopropyltoluene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,3-Dichlorobenzene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,4-Dichlorobenzene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
n-Butylbenzene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,2-Dichlorobenzene	ND	28		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,2-Dibromo-3-chloropropane	ND	140		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,2,4-Trichlorobenzene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Hexachlorobutadiene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Naphthalene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
1,2,3-Trichlorobenzene	ND	56		µg/Kg-dry	1	11/3/2014 5:08:00 PM
Surr: Dibromofluoromethane	86.0	51-137		%REC	1	11/3/2014 5:08:00 PM
Surr: 1,2-Dichloroethane-d4	102	47-140		%REC	1	11/3/2014 5:08:00 PM
Surr: Toluene-d8	91.7	55-140		%REC	1	11/3/2014 5:08:00 PM
Surr: 4-Bromofluorobenzene	86.5	44-135		%REC	1	11/3/2014 5:08:00 PM

**AMRO Environmental Laboratories Corp.**

Date: 05-Nov-14

<b>CLIENT:</b>	Ross Environmental Associates	<b>Client Sample ID:</b>	SB-7
<b>Lab Order:</b>	1410078	<b>Collection Date:</b>	10/23/2014 3:00:00 PM
<b>Project:</b>	34-133 Capital Mercury	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	1410078-04A		

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA 8260C VOLATILES BY GC/MS, EPA 5035A M SW8260C</b>						Analyst: DH
Dichlorodifluoromethane	ND	99		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Chloromethane	ND	99		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Vinyl chloride	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Chloroethane	ND	99		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Bromomethane	ND	99		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Trichlorofluoromethane	ND	99		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Diethyl ether	ND	250		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Acetone	ND	250		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,1-Dichloroethene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Carbon disulfide	ND	99		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Methylene chloride	110	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Methyl tert-butyl ether	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
trans-1,2-Dichloroethene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,1-Dichloroethane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
2-Butanone	ND	250		µg/Kg-dry	1	11/3/2014 5:43:00 PM
2,2-Dichloropropane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
cis-1,2-Dichloroethene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Chloroform	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Tetrahydrofuran	ND	250		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Bromochloromethane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,1,1-Trichloroethane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,1-Dichloropropene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Carbon tetrachloride	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,2-Dichloroethane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Benzene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Trichloroethene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,2-Dichloropropane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Bromodichloromethane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Dibromomethane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
4-Methyl-2-pentanone	ND	250		µg/Kg-dry	1	11/3/2014 5:43:00 PM
cis-1,3-Dichloropropene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Toluene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
trans-1,3-Dichloropropene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,1,2-Trichloroethane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,2-Dibromoethane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
2-Hexanone	ND	250		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,3-Dichloropropane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Tetrachloroethene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Dibromochloromethane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM

**AMRO Environmental Laboratories Corp.**

Date: 05-Nov-14

**CLIENT:** Ross Environmental Associates  
**Lab Order:** 1410078  
**Project:** 34-133 Capital Mercury  
**Lab ID:** 1410078-04A

**Client Sample ID:** SB-7  
**Collection Date:** 10/23/2014 3:00:00 PM  
**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Chlorobenzene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,1,1,2-Tetrachloroethane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Ethylbenzene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
m,p-Xylene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
o-Xylene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Styrene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Bromoform	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Isopropylbenzene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,1,2,2-Tetrachloroethane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,2,3-Trichloropropane	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Bromobenzene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
n-Propylbenzene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
2-Chlorotoluene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
4-Chlorotoluene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,3,5-Trimethylbenzene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
tert-Butylbenzene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,2,4-Trimethylbenzene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
sec-Butylbenzene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
4-Isopropyltoluene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,3-Dichlorobenzene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,4-Dichlorobenzene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
n-Butylbenzene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,2-Dichlorobenzene	ND	25		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,2-Dibromo-3-chloropropane	ND	120		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,2,4-Trichlorobenzene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Hexachlorobutadiene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Naphthalene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
1,2,3-Trichlorobenzene	ND	49		µg/Kg-dry	1	11/3/2014 5:43:00 PM
Surr: Dibromofluoromethane	84.4	51-137		%REC	1	11/3/2014 5:43:00 PM
Surr: 1,2-Dichloroethane-d4	103	47-140		%REC	1	11/3/2014 5:43:00 PM
Surr: Toluene-d8	88.8	55-140		%REC	1	11/3/2014 5:43:00 PM
Surr: 4-Bromofluorobenzene	87.4	44-135		%REC	1	11/3/2014 5:43:00 PM

**AMRO Environmental Laboratories Corp.**

Date: 05-Nov-14

**CLIENT:** Ross Environmental Associates  
**Lab Order:** 1410078  
**Project:** 34-133 Capital Mercury  
**Lab ID:** 1410078-05A

**Client Sample ID:** SB-8  
**Collection Date:** 10/23/2014 4:00:00 PM  
**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA 8260C VOLATILES BY GC/MS, EPA 5035A M SW8260C</b>						Analyst: DH
Dichlorodifluoromethane	ND	110		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Chloromethane	ND	110		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Vinyl chloride	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Chloroethane	ND	110		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Bromomethane	ND	110		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Trichlorofluoromethane	ND	110		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Diethyl ether	ND	290		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Acetone	ND	290		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,1-Dichloroethene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Carbon disulfide	ND	110		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Methylene chloride	190	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Methyl tert-butyl ether	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
trans-1,2-Dichloroethene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,1-Dichloroethane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
2-Butanone	ND	290		µg/Kg-dry	1	11/3/2014 6:18:00 PM
2,2-Dichloropropane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
cis-1,2-Dichloroethene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Chloroform	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Tetrahydrofuran	ND	290		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Bromochloromethane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,1,1-Trichloroethane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,1-Dichloropropene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Carbon tetrachloride	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,2-Dichloroethane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Benzene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Trichloroethene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,2-Dichloropropane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Bromodichloromethane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Dibromomethane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
4-Methyl-2-pentanone	ND	290		µg/Kg-dry	1	11/3/2014 6:18:00 PM
cis-1,3-Dichloropropene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Toluene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
trans-1,3-Dichloropropene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,1,2-Trichloroethane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,2-Dibromoethane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
2-Hexanone	ND	290		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,3-Dichloropropane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Tetrachloroethene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Dibromochloromethane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM

**AMRO Environmental Laboratories Corp.**

Date: 05-Nov-14

<b>CLIENT:</b>	Ross Environmental Associates	<b>Client Sample ID:</b>	SB-8
<b>Lab Order:</b>	1410078	<b>Collection Date:</b>	10/23/2014 4:00:00 PM
<b>Project:</b>	34-133 Capital Mercury	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	1410078-05A		

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Chlorobenzene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,1,1,2-Tetrachloroethane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Ethylbenzene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
m,p-Xylene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
o-Xylene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Styrene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Bromoform	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Isopropylbenzene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,1,2,2-Tetrachloroethane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,2,3-Trichloropropane	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Bromobenzene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
n-Propylbenzene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
2-Chlorotoluene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
4-Chlorotoluene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,3,5-Trimethylbenzene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
tert-Butylbenzene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,2,4-Trimethylbenzene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
sec-Butylbenzene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
4-Isopropyltoluene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,3-Dichlorobenzene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,4-Dichlorobenzene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
n-Butylbenzene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,2-Dichlorobenzene	ND	29		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,2-Dibromo-3-chloropropane	ND	140		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,2,4-Trichlorobenzene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Hexachlorobutadiene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Naphthalene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
1,2,3-Trichlorobenzene	ND	57		µg/Kg-dry	1	11/3/2014 6:18:00 PM
Surr: Dibromofluoromethane	81.1	51-137		%REC	1	11/3/2014 6:18:00 PM
Surr: 1,2-Dichloroethane-d4	94.6	47-140		%REC	1	11/3/2014 6:18:00 PM
Surr: Toluene-d8	88.7	55-140		%REC	1	11/3/2014 6:18:00 PM
Surr: 4-Bromofluorobenzene	87.4	44-135		%REC	1	11/3/2014 6:18:00 PM

**AMRO Environmental Laboratories Corp.**

Date: 05-Nov-14

**CLIENT:** Ross Environmental Associates  
**Project:** 34-133 Capital Mercury**Lab Order:** 1410078**Lab ID:** 1410078-01 **Collection Date:** 10/23/2014 9:30:00 AM**Collection Time:****Client Sample ID:** SB-1**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PERCENT MOISTURE** **D2216** **Analyst: JM**

Percent Moisture	15.0	0		wt%	1	10/28/2014
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**Lab ID:** 1410078-02 **Collection Date:** 10/23/2014 11:00:00 AM**Collection Time:****Client Sample ID:** SB-3**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PERCENT MOISTURE** **D2216** **Analyst: JM**

Percent Moisture	18.0	0		wt%	1	10/28/2014
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**Lab ID:** 1410078-03 **Collection Date:** 10/23/2014 12:30:00 PM**Collection Time:****Client Sample ID:** SB-4**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PERCENT MOISTURE** **D2216** **Analyst: JM**

Percent Moisture	22.8	0		wt%	1	10/28/2014
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**Lab ID:** 1410078-04 **Collection Date:** 10/23/2014 3:00:00 PM**Collection Time:****Client Sample ID:** SB-7**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PERCENT MOISTURE** **D2216** **Analyst: JM**

Percent Moisture	12.6	0		wt%	1	10/28/2014
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**AMRO Environmental Laboratories Corp.**

Date: 05-Nov-14

**CLIENT:** Ross Environmental Associates  
**Project:** 34-133 Capital Mercury

**Lab Order:** 1410078

**Lab ID:** 1410078-05

**Collection Date:** 10/23/2014 4:00:00 PM

**Collection Time:**

**Client Sample ID:** SB-8

**Matrix:** SOIL

<b>Analyses</b>	<b>Result</b>	<b>RL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
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**PERCENT MOISTURE**

**D2216**

**Analyst: JM**

Percent Moisture

11.4

0

wt%

1

10/28/2014



## Sterling Analytical, Inc.

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Mass Certification - MA-00071  
Conn Certification - PH-0520

Report Date October 31, 2014

Customer	Contact	Laboratory Supervisor	eMail
Amro Environmental Lab	N. Stewart	Madhu Shah	madhu@sterlinganalytical.com
<b>Sample Description</b> Analysis of Solid Samples			

### Samples Analyzed

Enclosed are Report No(s): 47601 to 47605

Reported on dry basis.

Blank = <100mg/kg

ICV 10,000 = 9,982mg/kg

LCS 100 = 100mg/kg

CCV 10,000 = 9,653mg/kg

## Thank you for your business

*madhu shah*

10/31/2014

Madhu Shah, Laboratory Supervisor

Date

ALL the information contained in this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method.

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**Sample Analysis**

Sample Description	Source	Taken/Time	Received
47601 SB-1	Amro Environmental Lab	10/23/14	10/29/14
Parameter	Results	MDL Method	Analyzed/Time Tech
Total Organic Carbon	703 mg/kg	100.00 SW846 9060 Mod(1)	10/31/14 sjr
Sample Description	Source	Taken/Time	Received
47602 SB-3	Amro Environmental Lab	10/23/14	10/29/14
Parameter	Results	MDL Method	Analyzed/Time Tech
Total Organic Carbon	881 mg/kg	100.00 SW846 9060 Mod(1)	10/31/14 sjr
Sample Description	Source	Taken/Time	Received
47603 SB-4	Amro Environmental Lab	10/23/14	10/29/14
Parameter	Results	MDL Method	Analyzed/Time Tech
Total Organic Carbon	472 mg/kg	100.00 SW846 9060 Mod(1)	10/31/14 sjr
Sample Description	Source	Taken/Time	Received
47604 SB-7	Amro Environmental Lab	10/23/14	10/29/14
Parameter	Results	MDL Method	Analyzed/Time Tech
Total Organic Carbon	788 mg/kg	100.00 SW846 9060 Mod(1)	10/31/14 sjr
Sample Description	Source	Taken/Time	Received
47605 SB-8	Amro Environmental Lab	10/23/14	10/29/14
Parameter	Results	MDL Method	Analyzed/Time Tech
Total Organic Carbon	808 mg/kg	100.00 SW846 9060 Mod(1)	10/31/14 sjr

62809

Project No.: 34-133	Project Name: Capital Mercury	Project State: UT	Project Manager: P. Ross	Samplers (Signature):	AMRO Project No.:
P.O.#:	Results Needed by:	Matrix	Total # of Cont. & Size	Requested Analytes	Remarks
QUOTE #:	Seal Intact? Yes No N/A				
Sample ID.:	Date/Time Sampled				
SB-1	10/23/10 930	Soil	1102/5402		UT/ETA Please
SB-3	1/1100				
SB-4	1/1230				
SB-7	1/1500				
SB-8	1/1600				
Preservative: Cl-HCl, MeOH N-HN03, S-H2SO4, Na-NaOH, O- Other					
Send Results To: Pgs Environmental P.O. Box 1023 Stone, UT 84072 PHONE #: 602-265-4080 FAX #:					
PRIORITY TURNAROUND TIME AUTHORIZATION Before submitting samples for expedited TAT, you must have a coded AUTHORIZATION NUMBER AUTHORIZATION No.: BY:					
METALS 8 RCRA <input type="checkbox"/> 13 PP <input type="checkbox"/> 23 TAL <input type="checkbox"/> 14 MCP <input type="checkbox"/> Method: 6010 <input type="checkbox"/> 200.7 <input type="checkbox"/> Other Metals:					
Dissolved Metals Field Filtered? YES <input type="checkbox"/> NO <input type="checkbox"/> MCP Presumptive Certainty Required? YES <input type="checkbox"/> NO <input type="checkbox"/> AMRO report package level needed: EDD required:					
Required Reporting Limits: S-1 <input type="checkbox"/> GW-1 <input type="checkbox"/> S-2 <input type="checkbox"/> GW-2 <input type="checkbox"/> S-3 <input type="checkbox"/> GW-3 <input type="checkbox"/> Other:					
Received By: Date/Time: 10/27/10 1600 SHEET OF AMROCC2004_Rev.3 08/18/04					
Please print clearly, legibly and completely. Samples can not be logged in and the turnaround time clock will not start until any ambiguities are resolved. White: Lab Copy Yellow: Client Copy					

AMRO policy requires notification in writing to the laboratory in cases where the samples were collected from highly contaminated sites.

KNOWN SITE CONTAMINATION:



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**BORING / WELL IDENTIFICATION: MW-1**

Site Name: Capital Mercury

Site Location: Essex Jct., VT

Well Depth: 15 ft

Boring Depth: 16 ft

Installation Date: October 23, 2014

Depth to Water (during drilling): 9 ft

Job Number: 34-133

Screen Diameter: 1 inch

Depth: 5 - 15 ft

REA Representative: J Whipple

Screen Type/Size: sch 40 PVC - 10 slot

Drilling Company: ENPRO

Riser Diameter: 1 inch

Depth: 0-5 ft

Sampling Method: Geoprobe

Riser Type/Size: sch 40 PVC

Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (%)	Sample Description / Notes	PID (ppm)	Well Profile	Legend
	0-4		fine brown SAND with Cobbles (Backfill)			Concrete
		60%		0.0		Native Material
			fine brown SAND	0.0		Bentonite
5	4-8			0.0		Filter Sand
		90%	dark brown SAND	0.1		Riser
			fine brown SAND with FE staining	0.0		Screen
			medium brown SAND - moist	0.0		Water Level
	8-12		fine brown SAND with some gray Sand			
10		100%	fine brown SAND with black specks			
				0.4		
	12-16		medium brown SAND - moist	0.0		
		80%				
15			medium brown SAND with Silt	0.0		
			Bottom of boring - soil sample collected at 11 - 12 ft bgs			
20						
25						

**PROPORTIONS USED**

**BLOW COUNT (COHESIVE SOILS)**

**BLOW COUNT (GRANULAR SOILS)**

**NOTES:**

AND 33-50%  
SOME 20-33%

LITTLE 10-20%  
TRACE 0-10%

<2 VERY SOFT  
2-4 SOFT  
4-8 MEDIUM STIFF

8-15 STIFF  
15-30 VERY STIFF  
>30 HARD

0-4 VERY LOOSE  
4-10 LOOSE  
10-30 MEDIUM DENSE

30-50 DENSE  
>50 VERY DENSE

IonScience Photocheck Tiger



**BORING / WELL IDENTIFICATION: MW-2**

Site Name: Capital Mercury

Site Location: Essex Jct., VT

Well Depth: 15 ft

Boring Depth: 16 ft

Installation Date: October 23, 2014

Depth to Water (during drilling): 9 ft

Job Number: 34-133

Screen Diameter: 1 inch

Depth: 5 - 15 ft

REA Representative: J Whipple

Screen Type/Size: sch 40 PVC - 10 slot

Drilling Company: ENPRO

Riser Diameter: 1 inch

Depth: 0-5 ft

Sampling Method: Geoprobe

Riser Type/Size: sch 40 PVC

Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (%)	Sample Description / Notes	PID (ppm)	Well Profile	Legend
	0-4	60%	fine brown SAND with some Silt - moist	0.0		Concrete Native Material Bentonite Filter Sand Riser Screen Water Level
			dark brown SAND with some Cobbles			
5	4-8	50%	brown medium SAND - thin layer of dark brown SAND	0.0		
				0.0		
			GRAVEL with some medium brown Sand	0.0		
	8-12	90%	medium brown SAND with some Gravel	0.1		
10				0		
	12-16	100%	fine brown SAND with some Silt	0.4		
				0.1		
15			Bottom of boring - soil sample collected at 10 ft bgs			
20						
25						

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE	30-50 DENSE	IonScience Photocheck Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE	>50 VERY	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE		



**BORING / WELL IDENTIFICATION: MW-3**

Site Name: Capital Mercury

Site Location: Essex Jct., VT

Well Depth: 15 ft

Boring Depth: 16 ft

Installation Date: October 23, 2014

Depth to Water (during drilling): 8 ft

Job Number: 34-133

Screen Diameter: 1 inch

Depth: 5 - 15 ft

REA Representative: J Whipple

Screen Type/Size: sch 40 PVC - 10 slot

Drilling Company: ENPRO

Riser Diameter: 1 inch

Depth: 0-5 ft

Sampling Method: Geoprobe

Riser Type/Size: sch 40 PVC

Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (%)	Sample Description / Notes	PID (ppm)	Well Profile	Legend
	0-4		asphalt GRAVEL backfill	0.0		Concrete
		70%	brown medium SAND	0.0		Native Material
5	4-8	90%		brown medium SAND with some fine Sand trace dark brown staining		0.4
				0.3		Filter Sand
	8-12		brown medium SAND some gravel and staining			Riser
10		100%				3.4
	12-16		GRAVEL	1.8		Water Level
		100%	brown SAND & SILT			
15						0.0
			Bottom of boring - soil sample collected at 10 ft bgs			
20						
25						

**PROPORTIONS USED**

**BLOW COUNT (COHESIVE SOILS)**

**BLOW COUNT (GRANULAR SOILS)**

**NOTES:**

AND 33-50%  
SOME 20-33%

LITTLE 10-20%  
TRACE 0-10%

<2 VERY SOFT  
2-4 SOFT  
4-8 MEDIUM STIFF

8-15 STIFF  
15-30 VERY STIFF  
>30 HARD

0-4 VERY LOOSE  
4-10 LOOSE  
10-30 MEDIUM DENSE

30-50 DENSE  
>50 VERY

IonScience Photocheck Tiger



**BORING / WELL IDENTIFICATION: MW-3D**

Site Name: Capital Mercury

Site Location: Essex Jct., VT

Well Depth: 20 ft

Boring Depth: 20 ft

Installation Date: October 23, 2014

Depth to Water (during drilling): 8 ft

Job Number: 34-133

Screen Diameter: 1 inch

Depth: 18-20 ft

REA Representative: J Whipple

Screen Type/Size: sch 40 PVC - 10 slot

Drilling Company: ENPRO

Riser Diameter: 1 inch

Depth: 0-18 ft

Sampling Method: Geoprobe

Riser Type/Size: sch 40 PVC

Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (%)	Sample Description / Notes	PID (ppm)	Well Profile	Legend
	0-4		asphalt GRAVEL backfill			Concrete
		70%	brown fine SAND			Native Material
5	4-8	90%				Bentonite
			▼ brown fine SAND with some brown medium Sand	0.8		Filter Sand
	8-12		medium SAND - dark red staining			Riser
10		90%	brown medium SAND with some Garvel	3.4		Screen
	12-16		brown fine SAND with some Silt			Water Level
		90%				
15						
	16-20					
		90%				
20						
			Bottom of boring - no soil sample			
25						

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE	30-50 DENSE	IonScience Photocheck Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE	>50 VERY	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE		



**BORING / WELL IDENTIFICATION: MW-4**

Site Name: Capital Mercury

Site Location: Essex Jct., VT

Well Depth: 15 ft

Boring Depth: 16 ft

Installation Date: October 23, 2014

Depth to Water (during drilling): 9 ft

Job Number: 34-133

Screen Diameter: 1 inch

Depth: 5 - 15 ft

REA Representative: J Whipple

Screen Type/Size: sch 40 PVC - 10 slot

Drilling Company: ENPRO

Riser Diameter: 1 inch

Depth: 0-5 ft

Sampling Method: Geoprobe

Riser Type/Size: sch 40 PVC

Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (%)	Sample Description / Notes	PID (ppm)	Well Profile	Legend	
	0-4		asphalt GRAVEL backfill	0.0		Concrete	
		60%	brown medium SAND with some fine Sand	0.0		Native Material	
5	4-8	90%		brown medium SAND with some gray medium Sand		0.0	Bentonite
			brown medium SAND with Gravel - staining	0.0		Filter Sand	
	8-12					0.0	Riser
10			brown very fine SAND with some Silt	0.0		Screen	
	12-16					0.0	Water Level
15						0.0	
			Bottom of boring - soil sample collected at 10 ft bgs				
20							
25							

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE	30-50 DENSE	IonScience Photocheck Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE	>50 VERY DENSE	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE		



**BORING / WELL IDENTIFICATION: MW-5**

Site Name: Capital Mercury

Site Location: Essex Jct., VT

Well Depth: 15 ft Boring Depth: 16 ft Installation Date: October 23, 2014

Depth to Water (during drilling): 9 ft Job Number: 34-133

Screen Diameter: 1 inch Depth: 5 - 15 ft REA Representative: J Whipple

Screen Type/Size: sch 40 PVC - 10 slot Drilling Company: ENPRO

Riser Diameter: 1 inch Depth: 0-5 ft Sampling Method: Geoprobe

Riser Type/Size: sch 40 PVC Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (%)	Sample Description / Notes	PID (ppm)	Well Profile	Legend	
	0-4		brown-gray fine SAND	0.0		Concrete	
		60%					Native Material
						0.0	Bentonite
5	4-8		brown medium SAND - staining brown medium SAND some Gravel	0.3	Filter Sand	Riser	
							Screen
10	8-12		brown medium SAND			Water Level	
			Gray fine SAND with Gravel	0.3			
	12-16		Gray fine SAND with some Silt				
15							
			Bottom of boring - soil sample collected at 10 ft bgs				
20							
25							

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE	30-50 DENSE	IonScience Photocheck Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE	>50 VERY	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE		



**BORING / WELL IDENTIFICATION: MW-6**

Site Name: Capital Mercury

Site Location: Essex Jct., VT

Well Depth: 15 ft

Boring Depth: 16 ft

Installation Date: October 23, 2014

Depth to Water (during drilling): 10 ft

Job Number: 34-133

Screen Diameter: 1 inch

Depth: 5 - 15 ft

REA Representative: J Whipple

Screen Type/Size: sch 40 PVC - 10 slot

Drilling Company: ENPRO

Riser Diameter: 1 inch

Depth: 0-5 ft

Sampling Method: Geoprobe

Riser Type/Size: sch 40 PVC

Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (%)	Sample Description / Notes	PID (ppm)	Well Profile	Legend	
	0-4		brown fine SAND with Silt	0.0		Concrete	
		50%					Native Material
						0.0	
5	4-8		dark brown medium SAND - stained			Bentonite	
		90%	brown medium SAND with Staining dark black staining	0.7		Filter Sand	
					0.5		Riser
10	8-12						Screen
		90%	brown medium SAND	0.6			
	12-16		gray fine SAND with some Silt			Water Level	
		100%					
15				Bottom of boring - soil sample collected at 10 ft bgs			
20							
25							

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE	30-50 DENSE	IonScience Photocheck Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE	>50 VERY	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE		



**BORING / WELL IDENTIFICATION: SB-8**

Site Name: Capital Mercury

Site Location: Essex Jct., VT

Well Depth: --- Boring Depth: **12 ft** Installation Date: October 23, 2014

Depth to Water (during drilling): 8 ft Job Number: 34-133

Screen Diameter: Depth: REA Representative: **J Whipple**

Screen Type/Size: Drilling Company: **ENPRO**

Riser Diameter: Depth: Sampling Method: **Geoprobe**

Riser Type/Size: Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (%)	Sample Description / Notes	PID (ppm)	Well Profile	Legend
	0-4	60%	brown fine SAND	0.0		Concrete
						Native Material
5	4-8	90%		brown medium SAND with some dark staining		0.0
			▼	0.0		Filter Sand
10	8-12		gray fine SAND	0.0		Riser
			brown medium SAND with dark black staining	0.0		Screen
			Bottom of boring - soil sample collected at 11 ft bgs. No well set			▼ Water Level
20						
25						

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE	30-50 DENSE	IonScience Photocheck Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE	>50 VERY	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE		



**BORING / WELL IDENTIFICATION: SB-9**

Site Name: Capital Mercury

Site Location: Essex Jct., VT

Well Depth: --- Boring Depth: **16 ft** Installation Date: October 23, 2014

Depth to Water (during drilling): 8 ft Job Number: 34-133

Screen Diameter: Depth: REA Representative: **J Whipple**

Screen Type/Size: Drilling Company: **ENPRO**

Riser Diameter: Depth: Sampling Method: Geoprobe

Riser Type/Size: Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (%)	Sample Description / Notes	PID (ppm)	Well Profile	Legend	
	0-4		brown fine SAND	0.0		Concrete	
		60%				0.0	Native Material
5	4-8						Bentonite
		100%				Filter Sand	
			brown fine SAND with some gray medium Sand	<b>0.0</b>		Riser	
10	8-12		gray medium SAND with some Gravel			Screen	
		90%				Water Level	
	12-16		gray fine SAND with some Silt				
		100%					
15			Bottom of boring - no soil sample collected & no well set				
20							
25							

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE	30-50 DENSE	IonScience Photocheck Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE	>50 VERY	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE		

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## Laboratory Report

Ross Environmental Associates	090219
PO Box 1533	
Stowe, VT 05672	
Atten: Bob Ross	

PROJECT: 34-133 Capital Mercury-Revised

WORK ORDER: 1410-22663

DATE RECEIVED: October 30, 2014

DATE REPORTED: November 24, 2014

SAMPLER: Justin Whipple

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. All required method quality control elements including instrument calibration were performed in accordance with method requirements and determined to be acceptable unless otherwise noted.

The column labeled Lab/Tech in the accompanying report denotes the laboratory facility where the testing was performed and the technician who conducted the assay. A "W" designates the Williston, VT lab under NELAC certification ELAP 11263; "R" designates the Lebanon, NH facility under certification NH 2037 and "N" the Plattsburgh, NY lab under certification ELAP 11892. "Sub" indicates the testing was performed by a subcontracted laboratory. The accreditation status of the subcontracted lab is referenced in the corresponding NELAC and Qual fields.

The NELAC column also denotes the accreditation status of each laboratory for each reported parameter. "A" indicates the referenced laboratory is NELAC accredited for the parameter reported. "N" indicates the laboratory is not accredited. "U" indicates that NELAC does not offer accreditation for that parameter in that specific matrix. Test results denoted with an "A" meet all National Environmental Laboratory Accreditation Program requirements except where denoted by pertinent data qualifiers. Test results are representative of the samples as they were received at the laboratory

Endyne, Inc. warrants, to the best of its knowledge and belief, the accuracy of the analytical test results contained in this report, but makes no other warranty, expressed or implied, especially no warranties of merchantability or fitness for a particular purpose.

Reviewed by:

Harry B. Locker, Ph.D.  
Laboratory Director



160 James Brown Dr., Williston, VT 05495  
Ph 802-879-4333 Fax 802-879-7103

[www.endynelabs.com](http://www.endynelabs.com)

56 Etna Road, Lebanon, NH 03755  
Ph 603-678-4891 Fax 603-678-4893



**Laboratory Report**

CLIENT: Ross Environmental Associates  
 PROJECT: 34-133 Capital Mercury-Revised  
 REPORT DATE: 11/24/2014

WORK ORDER: 1410-22663  
 DATE RECEIVED: 10/30/2014

001 Site: MW-1 Date Sampled: 10/30/14 Time: 12:00

Parameter	Result	Units	Method	Analysis Date	Lab/Tech	NELAC	Qual.
pH per Client	7.00	SU at __C	Client Data	10/30/14 12:00	W CLI	N	
Temperature per Client	11.41	Celsius	Client Data	10/30/14 12:00	W CLI	N	
Alkalinity, as CaCO3	130	mg/L	SM 2320B-97	11/12/14	W JSS	N	
Carbon Dioxide	25	mg/L	SM20 4500-CO2 B.	11/21/14	W MLF	U	
Solids, Total Dissolved	924	mg/L	SM 2540C-97	11/6/14	W JSS	A	
Iron, Total	0.11	mg/L	EPA 200.7	11/11/14	W RGT	A	
Manganese, Total	0.65	mg/L	EPA 200.7	11/11/14	W RGT	A	

002 Site: MW-3 Date Sampled: 10/30/14 Time: 12:30

Parameter	Result	Units	Method	Analysis Date	Lab/Tech	NELAC	Qual.
pH per Client	6.97	SU at __C	Client Data	10/30/14 12:30	W CLI	N	
Temperature per Client	13.0	Celsius	Client Data	10/30/14 12:30	W CLI	N	
Alkalinity, as CaCO3	102	mg/L	SM 2320B-97	11/12/14	W JSS	N	
Carbon Dioxide	20	mg/L	SM20 4500-CO2 B.	11/21/14	W MLF	U	
Solids, Total Dissolved	1,630	mg/L	SM 2540C-97	11/6/14	W JSS	A	
Iron, Total	< 0.020	mg/L	EPA 200.7	11/11/14	W RGT	A	
Manganese, Total	0.29	mg/L	EPA 200.7	11/11/14	W RGT	A	

003 Site: MW-4 Date Sampled: 10/30/14 Time: 12:45

Parameter	Result	Units	Method	Analysis Date	Lab/Tech	NELAC	Qual.
pH per Client	6.87	SU at __C	Client Data	10/30/14 12:45	W CLI	N	
Temperature per Client	11.6	Celsius	Client Data	10/30/14 12:45	W CLI	N	
Alkalinity, as CaCO3	68	mg/L	SM 2320B-97	11/12/14	W JSS	N	
Carbon Dioxide	20	mg/L	SM20 4500-CO2 B.	11/21/14	W MLF	U	
Solids, Total Dissolved	888	mg/L	SM 2540C-97	11/6/14	W JSS	A	
Iron, Total	0.093	mg/L	EPA 200.7	11/11/14	W RGT	A	
Manganese, Total	0.14	mg/L	EPA 200.7	11/11/14	W RGT	A	

004 Site: MW-6 Date Sampled: 10/30/14 Time: 13:30

Parameter	Result	Units	Method	Analysis Date	Lab/Tech	NELAC	Qual.
pH per Client	6.60	SU at __C	Client Data	10/30/14 13:30	W CLI	N	
Temperature per Client	14.4	Celsius	Client Data	10/30/14 13:30	W CLI	N	
Alkalinity, as CaCO3	110	mg/L	SM 2320B-97	11/12/14	W JSS	N	
Carbon Dioxide	55	mg/L	SM20 4500-CO2 B.	11/21/14	W MLF	U	
Solids, Total Dissolved	2,010	mg/L	SM 2540C-97	11/6/14	W JSS	A	
Iron, Total	0.40	mg/L	EPA 200.7	11/11/14	W RGT	A	
Manganese, Total	0.71	mg/L	EPA 200.7	11/11/14	W RGT	A	

005 Site: MW-2 Date Sampled: 10/30/14 Time: 12:15

Parameter	Result	Units	Method	Analysis Date	Lab/Tech	NELAC	Qual.
pH per Client	6.95	SU at __C	Client Data	10/30/14 12:15	W CLI	N	
Temperature per Client	12.2	Celsius	Client Data	10/30/14 12:15	W CLI	N	

006 Site: MW-5 Date Sampled: 10/30/14 Time: 13:15

**Laboratory Report**

CLIENT: Ross Environmental Associates  
PROJECT: 34-133 Capital Mercury-Revised  
REPORT DATE: 11/24/2014

WORK ORDER: 1410-22663  
DATE RECEIVED: 10/30/2014

006 Site: MW-5 Date Sampled: 10/30/14 Time: 13:15

Parameter	Result	Units	Method	Analysis Date	Lab/Tech	NELAC	Qual.
pH per Client	7.07	SU at __C	Client Data	10/30/14 13:15	W CLI	N	
Temperature per Client	11.6	Celsius	Client Data	10/30/14 13:15	W CLI	N	

007 Site: Dup Date Sampled: 10/30/14 Time:

Parameter	Result	Units	Method	Analysis Date	Lab/Tech	NELAC	Qual.
Alkalinity, as CaCO3	113	mg/L	SM 2320B-97	11/12/14	W JSS	N	
Carbon Dioxide	25	mg/L	SM20 4500-CO2 B.	11/21/14	W MLF	U	
Solids, Total Dissolved	1,710	mg/L	SM 2540C-97	11/6/14	W JSS	A	
Iron, Total	< 0.020	mg/L	EPA 200.7	11/11/14	W RGT	A	
Manganese, Total	0.26	mg/L	EPA 200.7	11/11/14	W RGT	A	

**Laboratory Report**

CLIENT: Ross Environmental Associates  
 PROJECT: 34-133 Capital Mercury-Revised  
 REPORT DATE: 11/24/2014

WORK ORDER: 1410-22663  
 DATE RECEIVED: 10/30/2014

**TEST METHOD: EPA 8015B**

001	Site: MW-1	Sampled: 10/30/14 12:00	Test Date: 11/3/14	W MDP					
Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methane	< 1.0	ppb w/v	N						

**TEST METHOD: EPA 8260C**

001	Site: MW-1	Sampled: 10/30/14 12:00	Test Date: 11/10/14	W SJM					
Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 5.0	ug/L	A		Chloromethane	< 3.0	ug/L	N	
Vinyl chloride	< 2.0	ug/L	A		Bromomethane	< 5.0	ug/L	A	
Chloroethane	< 5.0	ug/L	A		Trichlorofluoromethane	< 2.0	ug/L	A	
Diethyl ether	< 5.0	ug/L	N		1,1-Dichloroethene	< 1.0	ug/L	A	
Acetone	< 10.0	ug/L	A		Carbon disulfide	< 5.0	ug/L	A	
Methylene chloride	< 5.0	ug/L	A		t-Butanol	< 20.0	ug/L	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	A		trans-1,2-Dichloroethene	< 1.0	ug/L	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	N		1,1-Dichloroethane	< 1.0	ug/L	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	N		2-Butanone	< 10.0	ug/L	A	
2,2-Dichloropropane	< 2.0	ug/L	N		cis-1,2-Dichloroethene	< 1.0	ug/L	N	
Bromochloromethane	< 2.0	ug/L	N		Chloroform	< 1.0	ug/L	A	
Tetrahydrofuran	< 10.0	ug/L	U		1,1,1-Trichloroethane	< 1.0	ug/L	A	
Carbon tetrachloride	< 1.0	ug/L	A		1,1-Dichloropropene	< 1.0	ug/L	N	
Benzene	18.1	ug/L	A		t-Amylmethyl ether (TAME)	< 2.0	ug/L	N	
1,2-Dichloroethane	< 1.0	ug/L	A		Trichloroethene	< 1.0	ug/L	A	
1,2-Dichloropropane	< 2.0	ug/L	A		Dibromomethane	< 2.0	ug/L	N	
Bromodichloromethane	< 0.5	ug/L	A		cis-1,3-Dichloropropene	< 2.0	ug/L	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	N		Toluene	< 1.0	ug/L	A	
trans-1,3-Dichloropropene	< 2.0	ug/L	A		1,1,2-Trichloroethane	< 1.0	ug/L	A	
Tetrachloroethene	4.1	ug/L	A		1,3-Dichloropropane	< 1.0	ug/L	N	
2-Hexanone	< 10.0	ug/L	N		Dibromochloromethane	< 2.0	ug/L	A	
1,2-Dibromoethane	< 1.0	ug/L	A		Chlorobenzene	< 1.0	ug/L	A	
Ethylbenzene	< 1.0	ug/L	A		1,1,1,2-Tetrachloroethane	< 2.0	ug/L	A	
Xylenes, Total	< 2.0	ug/L	A		Styrene	< 1.0	ug/L	N	
Bromoform	< 2.0	ug/L	A		Isopropylbenzene	< 1.0	ug/L	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	A		Bromobenzene	< 1.0	ug/L	N	
n-Propylbenzene	< 1.0	ug/L	A		1,2,3-Trichloropropane	< 2.0	ug/L	N	
2-Chlorotoluene	< 1.0	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L	A	
4-Chlorotoluene	< 1.0	ug/L	N		t-Butylbenzene	< 1.0	ug/L	A	
1,2,4-Trimethylbenzene	< 1.0	ug/L	A		s-Butylbenzene	< 1.0	ug/L	N	
4-Isopropyltoluene	< 1.0	ug/L	A		1,3-Dichlorobenzene	< 1.0	ug/L	A	
1,4-Dichlorobenzene	< 1.0	ug/L	A		n-Butylbenzene	< 2.0	ug/L	A	
1,2-Dichlorobenzene	< 1.0	ug/L	A		1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	A	
1,2,4-Trichlorobenzene	< 2.0	ug/L	A		1,3,5-Trichlorobenzene	< 2.0	ug/L	N	
Hexachlorobutadiene	< 0.5	ug/L	N		Naphthalene	< 2.0	ug/L	A	
1,2,3-Trichlorobenzene	< 2.0	ug/L	N		Surr. 1 (Dibromofluoromethane)	104	%	N	
Surr. 3 (4-Bromofluorobenzene)	92	%	N		Surr. 2 (Toluene d8)	101	%	N	
Unidentified Peaks	2		U						

**Laboratory Report**

CLIENT: Ross Environmental Associates  
 PROJECT: 34-133 Capital Mercury-Revised  
 REPORT DATE: 11/24/2014

WORK ORDER: 1410-22663  
 DATE RECEIVED: 10/30/2014

TEST METHOD: EPA 8015B

002	Site: MW-3	Sampled: 10/30/14 12:30	Test Date: 11/3/14	W MDP					
Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methane	< 1.0	ppb w/v	N						

TEST METHOD: EPA 8260C

002	Site: MW-3	Sampled: 10/30/14 12:30	Test Date: 11/10/14	W SJM					
Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 5.0	ug/L	A		Chloromethane	< 3.0	ug/L	N	
Vinyl chloride	< 2.0	ug/L	A		Bromomethane	< 5.0	ug/L	A	
Chloroethane	< 5.0	ug/L	A		Trichlorofluoromethane	< 2.0	ug/L	A	
Diethyl ether	< 5.0	ug/L	N		1,1-Dichloroethene	< 1.0	ug/L	A	
Acetone	< 10.0	ug/L	A		Carbon disulfide	< 5.0	ug/L	A	
Methylene chloride	< 5.0	ug/L	A		t-Butanol	< 20.0	ug/L	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	A		trans-1,2-Dichloroethene	< 1.0	ug/L	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	N		1,1-Dichloroethane	< 1.0	ug/L	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	N		2-Butanone	< 10.0	ug/L	A	
2,2-Dichloropropane	< 2.0	ug/L	N		cis-1,2-Dichloroethene	< 1.0	ug/L	N	
Bromochloromethane	< 2.0	ug/L	N		Chloroform	< 1.0	ug/L	A	
Tetrahydrofuran	< 10.0	ug/L	U		1,1,1-Trichloroethane	< 1.0	ug/L	A	
Carbon tetrachloride	< 1.0	ug/L	A		1,1-Dichloropropene	< 1.0	ug/L	N	
Benzene	< 1.0	ug/L	A		t-Amylmethyl ether (TAME)	< 2.0	ug/L	N	
1,2-Dichloroethane	< 1.0	ug/L	A		Trichloroethene	< 1.0	ug/L	A	
1,2-Dichloropropane	< 2.0	ug/L	A		Dibromomethane	< 2.0	ug/L	N	
Bromodichloromethane	< 0.5	ug/L	A		cis-1,3-Dichloropropene	< 2.0	ug/L	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	N		Toluene	< 1.0	ug/L	A	
trans-1,3-Dichloropropene	< 2.0	ug/L	A		1,1,2-Trichloroethane	< 1.0	ug/L	A	
Tetrachloroethene	182	ug/L	A		1,3-Dichloropropane	< 1.0	ug/L	N	
2-Hexanone	< 10.0	ug/L	N		Dibromochloromethane	< 2.0	ug/L	A	
1,2-Dibromoethane	< 1.0	ug/L	A		Chlorobenzene	< 1.0	ug/L	A	
Ethylbenzene	< 1.0	ug/L	A		1,1,1,2-Tetrachloroethane	< 2.0	ug/L	A	
Xylenes, Total	< 2.0	ug/L	A		Styrene	< 1.0	ug/L	N	
Bromoform	< 2.0	ug/L	A		Isopropylbenzene	< 1.0	ug/L	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	A		Bromobenzene	< 1.0	ug/L	N	
n-Propylbenzene	< 1.0	ug/L	A		1,2,3-Trichloropropane	< 2.0	ug/L	N	
2-Chlorotoluene	< 1.0	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L	A	
4-Chlorotoluene	< 1.0	ug/L	N		t-Butylbenzene	< 1.0	ug/L	A	
1,2,4-Trimethylbenzene	< 1.0	ug/L	A		s-Butylbenzene	< 1.0	ug/L	N	
4-Isopropyltoluene	< 1.0	ug/L	A		1,3-Dichlorobenzene	< 1.0	ug/L	A	
1,4-Dichlorobenzene	< 1.0	ug/L	A		n-Butylbenzene	< 2.0	ug/L	A	
1,2-Dichlorobenzene	< 1.0	ug/L	A		1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	A	
1,2,4-Trichlorobenzene	< 2.0	ug/L	A		1,3,5-Trichlorobenzene	< 2.0	ug/L	N	
Hexachlorobutadiene	< 0.5	ug/L	N		Naphthalene	< 2.0	ug/L	A	
1,2,3-Trichlorobenzene	< 2.0	ug/L	N		Surr. 1 (Dibromofluoromethane)	104	%	N	
Surr. 3 (4-Bromofluorobenzene)	93	%	N		Surr. 2 (Toluene d8)	103	%	N	
Unidentified Peaks	0		U						

**Laboratory Report**

CLIENT: Ross Environmental Associates  
 PROJECT: 34-133 Capital Mercury-Revised  
 REPORT DATE: 11/24/2014

WORK ORDER: 1410-22663  
 DATE RECEIVED: 10/30/2014

**TEST METHOD: EPA 8015B**

003	Site: MW-4	Sampled: 10/30/14	12:45	Test Date: 11/3/14	W MDP				
Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methane	1.61	ppb w/v	N						

**TEST METHOD: EPA 8260C**

003	Site: MW-4	Sampled: 10/30/14	12:45	Test Date: 11/10/14	W SJM				
Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 5.0	ug/L	A		Chloromethane	< 3.0	ug/L	N	
Vinyl chloride	< 2.0	ug/L	A		Bromomethane	< 5.0	ug/L	A	
Chloroethane	< 5.0	ug/L	A		Trichlorofluoromethane	< 2.0	ug/L	A	
Diethyl ether	< 5.0	ug/L	N		1,1-Dichloroethene	< 1.0	ug/L	A	
Acetone	< 10.0	ug/L	A		Carbon disulfide	< 5.0	ug/L	A	
Methylene chloride	< 5.0	ug/L	A		t-Butanol	< 20.0	ug/L	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	A		trans-1,2-Dichloroethene	< 1.0	ug/L	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	N		1,1-Dichloroethane	< 1.0	ug/L	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	N		2-Butanone	< 10.0	ug/L	A	
2,2-Dichloropropane	< 2.0	ug/L	N		cis-1,2-Dichloroethene	< 1.0	ug/L	N	
Bromochloromethane	< 2.0	ug/L	N		Chloroform	< 1.0	ug/L	A	
Tetrahydrofuran	< 10.0	ug/L	U		1,1,1-Trichloroethane	< 1.0	ug/L	A	
Carbon tetrachloride	< 1.0	ug/L	A		1,1-Dichloropropene	< 1.0	ug/L	N	
Benzene	< 1.0	ug/L	A		t-Amylmethyl ether (TAME)	< 2.0	ug/L	N	
1,2-Dichloroethane	< 1.0	ug/L	A		Trichloroethene	< 1.0	ug/L	A	
1,2-Dichloropropane	< 2.0	ug/L	A		Dibromomethane	< 2.0	ug/L	N	
Bromodichloromethane	< 0.5	ug/L	A		cis-1,3-Dichloropropene	< 2.0	ug/L	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	N		Toluene	< 1.0	ug/L	A	
trans-1,3-Dichloropropene	< 2.0	ug/L	A		1,1,2-Trichloroethane	< 1.0	ug/L	A	
Tetrachloroethene	< 1.0	ug/L	A		1,3-Dichloropropane	< 1.0	ug/L	N	
2-Hexanone	< 10.0	ug/L	N		Dibromochloromethane	< 2.0	ug/L	A	
1,2-Dibromoethane	< 1.0	ug/L	A		Chlorobenzene	< 1.0	ug/L	A	
Ethylbenzene	< 1.0	ug/L	A		1,1,1,2-Tetrachloroethane	< 2.0	ug/L	A	
Xylenes, Total	< 2.0	ug/L	A		Styrene	< 1.0	ug/L	N	
Bromoform	< 2.0	ug/L	A		Isopropylbenzene	< 1.0	ug/L	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	A		Bromobenzene	< 1.0	ug/L	N	
n-Propylbenzene	< 1.0	ug/L	A		1,2,3-Trichloropropane	< 2.0	ug/L	N	
2-Chlorotoluene	< 1.0	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L	A	
4-Chlorotoluene	< 1.0	ug/L	N		t-Butylbenzene	< 1.0	ug/L	A	
1,2,4-Trimethylbenzene	< 1.0	ug/L	A		s-Butylbenzene	< 1.0	ug/L	N	
4-Isopropyltoluene	< 1.0	ug/L	A		1,3-Dichlorobenzene	< 1.0	ug/L	A	
1,4-Dichlorobenzene	< 1.0	ug/L	A		n-Butylbenzene	< 2.0	ug/L	A	
1,2-Dichlorobenzene	< 1.0	ug/L	A		1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	A	
1,2,4-Trichlorobenzene	< 2.0	ug/L	A		1,3,5-Trichlorobenzene	< 2.0	ug/L	N	
Hexachlorobutadiene	< 0.5	ug/L	N		Naphthalene	< 2.0	ug/L	A	
1,2,3-Trichlorobenzene	< 2.0	ug/L	N		Surr. 1 (Dibromofluoromethane)	104	%	N	
Surr. 2 (Toluene d8)	102	%	N		Surr. 3 (4-Bromofluorobenzene)	92	%	N	
Unidentified Peaks	0		U						

### Laboratory Report

CLIENT: Ross Environmental Associates  
 PROJECT: 34-133 Capital Mercury-Revised  
 REPORT DATE: 11/24/2014

WORK ORDER: 1410-22663  
 DATE RECEIVED: 10/30/2014

#### TEST METHOD: EPA 8015B

004	Site: MW-6	Sampled: 10/30/14	13:30	Test Date: 11/3/14	W MDP				
Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methane	< 1.0	ppb w/v	N						

#### TEST METHOD: EPA 8260C

004	Site: MW-6	Sampled: 10/30/14	13:30	Test Date: 11/12/14	W SJM				
Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 5.0	ug/L	A		Chloromethane	< 3.0	ug/L	N	
Vinyl chloride	< 2.0	ug/L	A		Bromomethane	< 5.0	ug/L	A	
Chloroethane	< 5.0	ug/L	A		Trichlorofluoromethane	< 2.0	ug/L	A	
Diethyl ether	< 5.0	ug/L	N		1,1-Dichloroethene	< 1.0	ug/L	A	
Acetone	< 10.0	ug/L	A		Carbon disulfide	< 5.0	ug/L	A	
Methylene chloride	< 5.0	ug/L	A		t-Butanol	< 20.0	ug/L	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	A		trans-1,2-Dichloroethene	< 1.0	ug/L	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	N		1,1-Dichloroethane	< 1.0	ug/L	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	N		2-Butanone	< 10.0	ug/L	A	
2,2-Dichloropropane	< 2.0	ug/L	N		cis-1,2-Dichloroethene	< 1.0	ug/L	N	
Bromochloromethane	< 2.0	ug/L	N		Chloroform	< 1.0	ug/L	A	
Tetrahydrofuran	< 10.0	ug/L	U		1,1,1-Trichloroethane	< 1.0	ug/L	A	
Carbon tetrachloride	< 1.0	ug/L	A		1,1-Dichloropropene	< 1.0	ug/L	N	
Benzene	< 1.0	ug/L	A		t-Amylmethyl ether (TAME)	< 2.0	ug/L	N	
1,2-Dichloroethane	< 1.0	ug/L	A		Trichloroethene	< 1.0	ug/L	A	
1,2-Dichloropropane	< 2.0	ug/L	A		Dibromomethane	< 2.0	ug/L	N	
Bromodichloromethane	< 0.5	ug/L	A		cis-1,3-Dichloropropene	< 2.0	ug/L	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	N		Toluene	< 1.0	ug/L	A	
trans-1,3-Dichloropropene	< 2.0	ug/L	A		1,1,2-Trichloroethane	< 1.0	ug/L	A	
Tetrachloroethene	18.5	ug/L	A		1,3-Dichloropropane	< 1.0	ug/L	N	
2-Hexanone	< 10.0	ug/L	N		Dibromochloromethane	< 2.0	ug/L	A	
1,2-Dibromoethane	< 1.0	ug/L	A		Chlorobenzene	< 1.0	ug/L	A	
Ethylbenzene	< 1.0	ug/L	A		1,1,1,2-Tetrachloroethane	< 2.0	ug/L	A	
Xylenes, Total	< 2.0	ug/L	A		Styrene	< 1.0	ug/L	N	
Bromoform	< 2.0	ug/L	A		Isopropylbenzene	< 1.0	ug/L	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	A		Bromobenzene	< 1.0	ug/L	N	
n-Propylbenzene	< 1.0	ug/L	A		1,2,3-Trichloropropane	< 2.0	ug/L	N	
2-Chlorotoluene	< 1.0	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L	A	
4-Chlorotoluene	< 1.0	ug/L	N		t-Butylbenzene	< 1.0	ug/L	A	
1,2,4-Trimethylbenzene	< 1.0	ug/L	A		s-Butylbenzene	< 1.0	ug/L	N	
4-Isopropyltoluene	< 1.0	ug/L	A		1,3-Dichlorobenzene	< 1.0	ug/L	A	
1,4-Dichlorobenzene	< 1.0	ug/L	A		n-Butylbenzene	< 2.0	ug/L	A	
1,2-Dichlorobenzene	< 1.0	ug/L	A		1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	A	
1,2,4-Trichlorobenzene	< 2.0	ug/L	A		1,3,5-Trichlorobenzene	< 2.0	ug/L	N	
Hexachlorobutadiene	< 0.5	ug/L	N		Naphthalene	< 2.0	ug/L	A	
1,2,3-Trichlorobenzene	< 2.0	ug/L	N		Surr. 1 (Dibromofluoromethane)	101	%	N	
Surr. 3 (4-Bromofluorobenzene)	93	%	N		Surr. 2 (Toluene d8)	103	%	N	
Unidentified Peaks	0		U						

**Laboratory Report**

CLIENT: Ross Environmental Associates  
 PROJECT: 34-133 Capital Mercury-Revised  
 REPORT DATE: 11/24/2014

WORK ORDER: 1410-22663  
 DATE RECEIVED: 10/30/2014

TEST METHOD: EPA 8260C

005 Site: MW-2		Sampled: 10/30/14 12:15		Test Date: 11/12/14		W	SJM		
Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 5.0	ug/L	A		Chloromethane	< 3.0	ug/L		N
Vinyl chloride	< 2.0	ug/L	A		Bromomethane	< 5.0	ug/L		A
Chloroethane	< 5.0	ug/L	A		Trichlorofluoromethane	< 2.0	ug/L		A
Diethyl ether	< 5.0	ug/L	N		1,1-Dichloroethene	< 1.0	ug/L		A
Acetone	< 10.0	ug/L	A		Carbon disulfide	< 5.0	ug/L		A
Methylene chloride	< 5.0	ug/L	A		t-Butanol	< 20.0	ug/L		N
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	A		trans-1,2-Dichloroethene	< 1.0	ug/L		A
Di-isopropyl ether (DIPE)	< 2.0	ug/L	N		1,1-Dichloroethane	< 1.0	ug/L		A
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	N		2-Butanone	< 10.0	ug/L		A
2,2-Dichloropropane	< 2.0	ug/L	N		cis-1,2-Dichloroethene	< 1.0	ug/L		N
Bromochloromethane	< 2.0	ug/L	N		Chloroform	< 1.0	ug/L		A
Tetrahydrofuran	< 10.0	ug/L	U		1,1,1-Trichloroethane	< 1.0	ug/L		A
Carbon tetrachloride	< 1.0	ug/L	A		1,1-Dichloropropene	< 1.0	ug/L		N
Benzene	< 1.0	ug/L	A		t-Amylmethyl ether (TAME)	< 2.0	ug/L		N
1,2-Dichloroethane	< 1.0	ug/L	A		Trichloroethene	< 1.0	ug/L		A
1,2-Dichloropropane	< 2.0	ug/L	A		Dibromomethane	< 2.0	ug/L		N
Bromodichloromethane	< 0.5	ug/L	A		cis-1,3-Dichloropropene	< 2.0	ug/L		A
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	N		Toluene	< 1.0	ug/L		A
trans-1,3-Dichloropropene	< 2.0	ug/L	A		1,1,2-Trichloroethane	< 1.0	ug/L		A
Tetrachloroethene	51.5	ug/L	A		1,3-Dichloropropane	< 1.0	ug/L		N
2-Hexanone	< 10.0	ug/L	N		Dibromochloromethane	< 2.0	ug/L		A
1,2-Dibromoethane	< 1.0	ug/L	A		Chlorobenzene	< 1.0	ug/L		A
Ethylbenzene	< 1.0	ug/L	A		1,1,1,2-Tetrachloroethane	< 2.0	ug/L		A
Xylenes, Total	< 2.0	ug/L	A		Styrene	< 1.0	ug/L		N
Bromoform	< 2.0	ug/L	A		Isopropylbenzene	< 1.0	ug/L		A
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	A		Bromobenzene	< 1.0	ug/L		N
n-Propylbenzene	< 1.0	ug/L	A		1,2,3-Trichloropropane	< 2.0	ug/L		N
2-Chlorotoluene	< 1.0	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L		A
4-Chlorotoluene	< 1.0	ug/L	N		t-Butylbenzene	< 1.0	ug/L		A
1,2,4-Trimethylbenzene	< 1.0	ug/L	A		s-Butylbenzene	< 1.0	ug/L		N
4-Isopropyltoluene	< 1.0	ug/L	A		1,3-Dichlorobenzene	< 1.0	ug/L		A
1,4-Dichlorobenzene	< 1.0	ug/L	A		n-Butylbenzene	< 2.0	ug/L		A
1,2-Dichlorobenzene	< 1.0	ug/L	A		1,2-Dibromo-3-Chloropropane	< 2.0	ug/L		A
1,2,4-Trichlorobenzene	< 2.0	ug/L	A		1,3,5-Trichlorobenzene	< 2.0	ug/L		N
Hexachlorobutadiene	< 0.5	ug/L	N		Naphthalene	< 2.0	ug/L		A
1,2,3-Trichlorobenzene	< 2.0	ug/L	N		Surr. 1 (Dibromofluoromethane)	101	%		N
Surr. 3 (4-Bromofluorobenzene)	94	%	N		Surr. 2 (Toluene d8)	104	%		N
Unidentified Peaks	0		U						

**Laboratory Report**

CLIENT: Ross Environmental Associates  
 PROJECT: 34-133 Capital Mercury-Revised  
 REPORT DATE: 11/24/2014

WORK ORDER: 1410-22663  
 DATE RECEIVED: 10/30/2014

TEST METHOD: EPA 8260C

006	Site: MW-5			Sampled: 10/30/14	13:15	Test Date: 11/12/14	W SJM		
Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 5.0	ug/L	A		Chloromethane	< 3.0	ug/L	N	
Vinyl chloride	< 2.0	ug/L	A		Bromomethane	< 5.0	ug/L	A	
Chloroethane	< 5.0	ug/L	A		Trichlorofluoromethane	< 2.0	ug/L	A	
Diethyl ether	< 5.0	ug/L	N		1,1-Dichloroethene	< 1.0	ug/L	A	
Acetone	< 10.0	ug/L	A		Carbon disulfide	< 5.0	ug/L	A	
Methylene chloride	< 5.0	ug/L	A		t-Butanol	< 20.0	ug/L	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	A		trans-1,2-Dichloroethene	< 1.0	ug/L	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	N		1,1-Dichloroethane	< 1.0	ug/L	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	N		2-Butanone	< 10.0	ug/L	A	
2,2-Dichloropropane	< 2.0	ug/L	N		cis-1,2-Dichloroethene	< 1.0	ug/L	N	
Bromochloromethane	< 2.0	ug/L	N		Chloroform	< 1.0	ug/L	A	
Tetrahydrofuran	< 10.0	ug/L	U		1,1,1-Trichloroethane	< 1.0	ug/L	A	
Carbon tetrachloride	< 1.0	ug/L	A		1,1-Dichloropropene	< 1.0	ug/L	N	
Benzene	< 1.0	ug/L	A		t-Amylmethyl ether (TAME)	< 2.0	ug/L	N	
1,2-Dichloroethane	< 1.0	ug/L	A		Trichloroethene	< 1.0	ug/L	A	
1,2-Dichloropropane	< 2.0	ug/L	A		Dibromomethane	< 2.0	ug/L	N	
Bromodichloromethane	< 0.5	ug/L	A		cis-1,3-Dichloropropene	< 2.0	ug/L	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	N		Toluene	< 1.0	ug/L	A	
trans-1,3-Dichloropropene	< 2.0	ug/L	A		1,1,2-Trichloroethane	< 1.0	ug/L	A	
Tetrachloroethene	115	ug/L	A		1,3-Dichloropropane	< 1.0	ug/L	N	
2-Hexanone	< 10.0	ug/L	N		Dibromochloromethane	< 2.0	ug/L	A	
1,2-Dibromoethane	< 1.0	ug/L	A		Chlorobenzene	< 1.0	ug/L	A	
Ethylbenzene	< 1.0	ug/L	A		1,1,1,2-Tetrachloroethane	< 2.0	ug/L	A	
Xylenes, Total	< 2.0	ug/L	A		Styrene	< 1.0	ug/L	N	
Bromoform	< 2.0	ug/L	A		Isopropylbenzene	< 1.0	ug/L	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	A		Bromobenzene	< 1.0	ug/L	N	
n-Propylbenzene	< 1.0	ug/L	A		1,2,3-Trichloropropane	< 2.0	ug/L	N	
2-Chlorotoluene	< 1.0	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L	A	
4-Chlorotoluene	< 1.0	ug/L	N		t-Butylbenzene	< 1.0	ug/L	A	
1,2,4-Trimethylbenzene	< 1.0	ug/L	A		s-Butylbenzene	< 1.0	ug/L	N	
4-Isopropyltoluene	< 1.0	ug/L	A		1,3-Dichlorobenzene	< 1.0	ug/L	A	
1,4-Dichlorobenzene	< 1.0	ug/L	A		n-Butylbenzene	< 2.0	ug/L	A	
1,2-Dichlorobenzene	< 1.0	ug/L	A		1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	A	
1,2,4-Trichlorobenzene	< 2.0	ug/L	A		1,3,5-Trichlorobenzene	< 2.0	ug/L	N	
Hexachlorobutadiene	< 0.5	ug/L	N		Naphthalene	< 2.0	ug/L	A	
1,2,3-Trichlorobenzene	< 2.0	ug/L	N		Surr. 1 (Dibromofluoromethane)	100	%	N	
Surr. 2 (Toluene d8)	103	%	N		Surr. 3 (4-Bromofluorobenzene)	92	%	N	
Unidentified Peaks	0		U						

### Laboratory Report

CLIENT: Ross Environmental Associates  
 PROJECT: 34-133 Capital Mercury-Revised  
 REPORT DATE: 11/24/2014

WORK ORDER: 1410-22663  
 DATE RECEIVED: 10/30/2014

#### TEST METHOD: EPA 8015B

007	Site: Dup	Sampled: 10/30/14	Test Date: 11/3/14	W MDP
Parameter	Result	Unit	Nelac	Qual
Methane	< 1.0	ppb w/v	N	

#### TEST METHOD: EPA 8260C

007	Site: Dup	Sampled: 10/30/14	Test Date: 11/12/14	W SJM
Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 50.0	ug/L	A	
Vinyl chloride	< 20.0	ug/L	A	
Chloroethane	< 50.0	ug/L	A	
Diethyl ether	< 50.0	ug/L	N	
Acetone	< 100	ug/L	A	
Methylene chloride	< 50.0	ug/L	A	
Methyl-t-butyl ether (MTBE)	< 20.0	ug/L	A	
Di-isopropyl ether (DIPE)	< 20.0	ug/L	N	
Ethyl-t-butyl ether (ETBE)	< 20.0	ug/L	N	
2,2-Dichloropropane	< 20.0	ug/L	N	
Bromochloromethane	< 20.0	ug/L	N	
Tetrahydrofuran	< 100	ug/L	U	
Carbon tetrachloride	< 10.0	ug/L	A	
Benzene	< 10.0	ug/L	A	
1,2-Dichloroethane	< 10.0	ug/L	A	
1,2-Dichloropropane	< 20.0	ug/L	A	
Bromodichloromethane	< 5.0	ug/L	A	
4-Methyl-2-pentanone (MIBK)	< 100	ug/L	N	
trans-1,3-Dichloropropene	< 20.0	ug/L	A	
Tetrachloroethene	250	ug/L	A	
2-Hexanone	< 100	ug/L	N	
1,2-Dibromoethane	< 10.0	ug/L	A	
Ethylbenzene	< 10.0	ug/L	A	
Xylenes, Total	< 20.0	ug/L	A	
Bromoform	< 20.0	ug/L	A	
1,1,2,2-Tetrachloroethane	< 20.0	ug/L	A	
n-Propylbenzene	< 10.0	ug/L	A	
2-Chlorotoluene	< 10.0	ug/L	N	
4-Chlorotoluene	< 10.0	ug/L	N	
1,2,4-Trimethylbenzene	< 10.0	ug/L	A	
4-Isopropyltoluene	< 10.0	ug/L	A	
1,4-Dichlorobenzene	< 10.0	ug/L	A	
1,2-Dichlorobenzene	< 10.0	ug/L	A	
1,2,4-Trichlorobenzene	< 20.0	ug/L	A	
Hexachlorobutadiene	< 5.0	ug/L	N	
1,2,3-Trichlorobenzene	< 20.0	ug/L	N	
Surr. 3 (4-Bromofluorobenzene)	91	%	N	
Unidentified Peaks	0		U	

**Laboratory Report**

CLIENT: Ross Environmental Associates  
 PROJECT: 34-133 Capital Mercury-Revised  
 REPORT DATE: 11/24/2014

WORK ORDER: 1410-22663  
 DATE RECEIVED: 10/30/2014

TEST METHOD: EPA 8260C

008 Site: MW-3D		Sampled: 10/30/14 13:00		Test Date: 11/12/14		W SJM			
Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 50.0	ug/L	A		Chloromethane	< 30.0	ug/L	N	
Vinyl chloride	< 20.0	ug/L	A		Bromomethane	< 50.0	ug/L	A	
Chloroethane	< 50.0	ug/L	A		Trichlorofluoromethane	< 20.0	ug/L	A	
Diethyl ether	< 50.0	ug/L	N		1,1-Dichloroethene	< 10.0	ug/L	A	
Acetone	< 200	ug/L	A		Carbon disulfide	< 50.0	ug/L	A	
Methylene chloride	< 50.0	ug/L	A		t-Butanol	< 200	ug/L	N	
Methyl-t-butyl ether (MTBE)	< 20.0	ug/L	A		trans-1,2-Dichloroethene	< 10.0	ug/L	A	
Di-isopropyl ether (DIPE)	< 20.0	ug/L	N		1,1-Dichloroethane	< 10.0	ug/L	A	
Ethyl-t-butyl ether (ETBE)	< 20.0	ug/L	N		2-Butanone	< 100	ug/L	A	
2,2-Dichloropropane	< 20.0	ug/L	N		cis-1,2-Dichloroethene	< 10.0	ug/L	N	
Bromochloromethane	< 20.0	ug/L	N		Chloroform	< 10.0	ug/L	A	
Tetrahydrofuran	< 100	ug/L	U		1,1,1-Trichloroethane	< 10.0	ug/L	A	
Carbon tetrachloride	< 10.0	ug/L	A		1,1-Dichloropropene	< 10.0	ug/L	N	
Benzene	< 10.0	ug/L	A		t-Amylmethyl ether (TAME)	< 20.0	ug/L	N	
1,2-Dichloroethane	< 10.0	ug/L	A		Trichloroethene	< 10.0	ug/L	A	
1,2-Dichloropropane	< 20.0	ug/L	A		Dibromomethane	< 20.0	ug/L	N	
Bromodichloromethane	< 5.0	ug/L	A		cis-1,3-Dichloropropene	< 20.0	ug/L	A	
4-Methyl-2-pentanone (MIBK)	< 100	ug/L	N		Toluene	< 10.0	ug/L	A	
trans-1,3-Dichloropropene	< 20.0	ug/L	A		1,1,2-Trichloroethane	< 10.0	ug/L	A	
Tetrachloroethene	235	ug/L	A		1,3-Dichloropropane	< 10.0	ug/L	N	
2-Hexanone	< 100	ug/L	N		Dibromochloromethane	< 20.0	ug/L	A	
1,2-Dibromoethane	< 10.0	ug/L	A		Chlorobenzene	< 10.0	ug/L	A	
Ethylbenzene	< 10.0	ug/L	A		1,1,1,2-Tetrachloroethane	< 20.0	ug/L	A	
Xylenes, Total	< 20.0	ug/L	A		Styrene	< 10.0	ug/L	N	
Bromoform	< 20.0	ug/L	A		Isopropylbenzene	< 10.0	ug/L	A	
1,1,2,2-Tetrachloroethane	< 20.0	ug/L	A		Bromobenzene	< 10.0	ug/L	N	
n-Propylbenzene	< 10.0	ug/L	A		1,2,3-Trichloropropane	< 20.0	ug/L	N	
2-Chlorotoluene	< 10.0	ug/L	N		1,3,5-Trimethylbenzene	< 10.0	ug/L	A	
4-Chlorotoluene	< 10.0	ug/L	N		t-Butylbenzene	< 10.0	ug/L	A	
1,2,4-Trimethylbenzene	< 10.0	ug/L	A		s-Butylbenzene	< 10.0	ug/L	N	
4-Isopropyltoluene	< 10.0	ug/L	A		1,3-Dichlorobenzene	< 10.0	ug/L	A	
1,4-Dichlorobenzene	< 10.0	ug/L	A		n-Butylbenzene	< 20.0	ug/L	A	
1,2-Dichlorobenzene	< 10.0	ug/L	A		1,2-Dibromo-3-Chloropropane	< 20.0	ug/L	A	
1,2,4-Trichlorobenzene	< 20.0	ug/L	A		1,3,5-Trichlorobenzene	< 20.0	ug/L	N	
Hexachlorobutadiene	< 5.0	ug/L	N		Naphthalene	< 20.0	ug/L	A	
1,2,3-Trichlorobenzene	< 20.0	ug/L	N		Surr. 1 (Dibromofluoromethane)	99	%	N	
Surr. 3 (4-Bromofluorobenzene)	90	%	N		Surr. 2 (Toluene d8)	97	%	N	
Unidentified Peaks	0		U						

Report Summary of Qualifiers and Notes

Report revised to include Carbon Dioxide.



**ENDYNE, INC.**  
 160 James Brown Drive  
 Williston, Vermont 05495  
 (802) 879-4333

**CHAIN-OF-CUSTODY-RECORD**

Special Reporting Instructions/PO#:

73016

Project Name: 31133 Capital Mercury  
 State of Origin: VT  NY  NH  Other   
 Endyne WO # 1410-226603  
 Client/Contact Name: PEA  
 Phone #: \_\_\_\_\_  
 Mailing Address: \_\_\_\_\_  
 Sampler Name: Dustin Chipple  
 Phone #: \_\_\_\_\_  
 Billing Address: \_\_\_\_\_

Sample Location	Matrix	G R A B	C O M P	Date/Time Sampled	Sample Containers		Sample Preservation	Analysis Required	Field Results/Remarks	Date
					No.	Type/Size				
MU-1	goc	X		10:30 AM / 10:00	4/2	40cc / 500cc 16oz	HC1	3/10/33/13 pH = 7.00 Temp = 11.41°C		
MU-3		X		10:30				pH = 6.97 Temp = 13.0°C		
MU-4		X		10:46				pH = 6.87 Temp = 11.6°C		
MU-6		X		10:30				pH = 6.60 Temp = 14.4°C		
MU-2		X		10:15				pH = 6.95 Temp = 12.2°C		
MU-5		X		10:16				pH = 7.07 Temp = 11.6°C		
<del>MU-3D</del>	<del>per phone call</del>			<del>10:00</del>				<del>3/10/33/13/24</del>		
								<del>24</del>		

Relinquished by: [Signature] Date/Time: 10:30/1400  
 Received by: [Signature] Date/Time: 10:30/1405

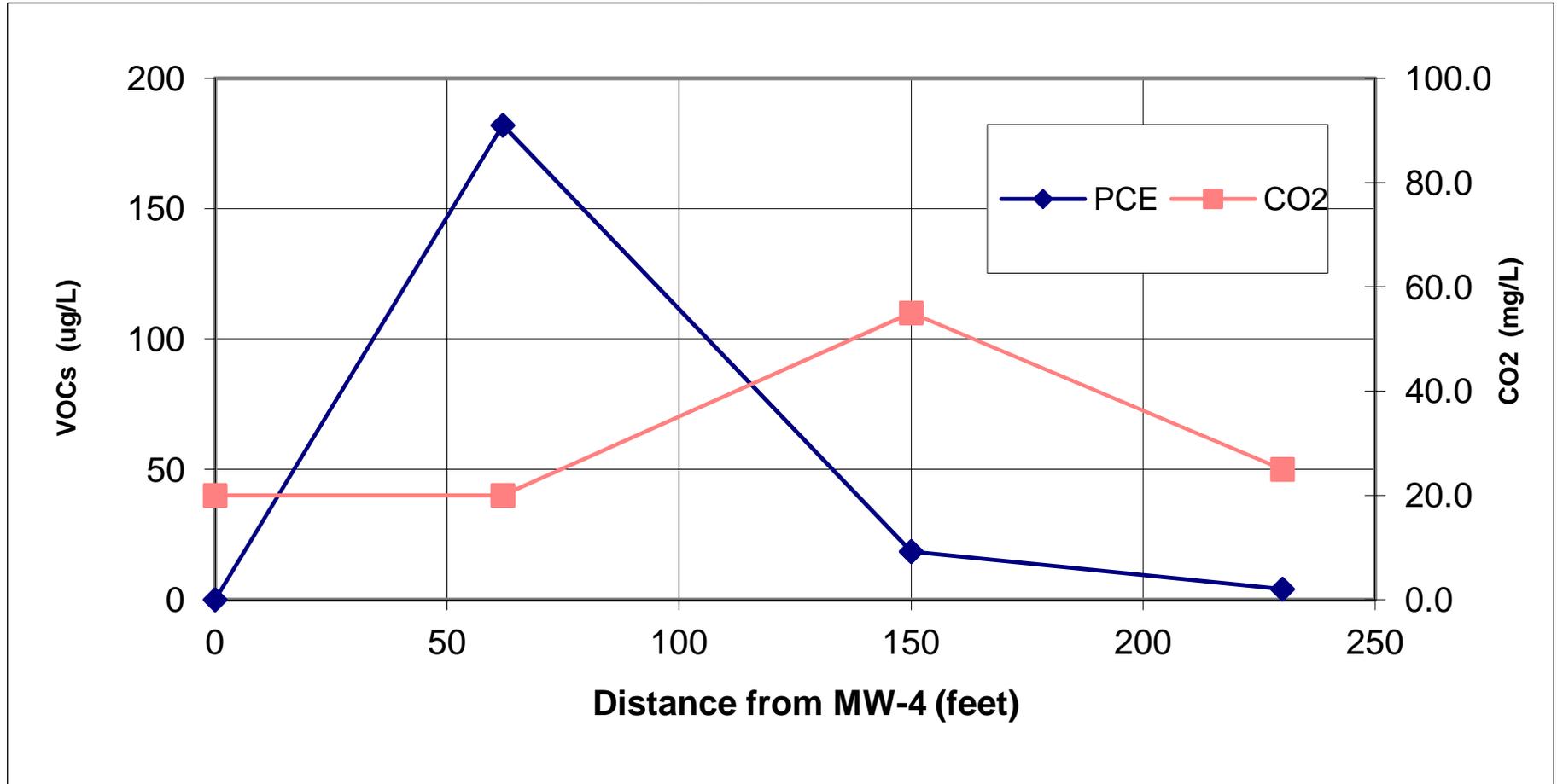
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
pH	TKN	Total Solids	Sulfate	1664 TPH/FOG	8270 DAH Only	Chloride	Total P	TSS	Coliform (Specify)	8015 GRO	8081 Pest	Ammonia N	Total Diss. P	TDS	8015 DRO	8082 PCB	Nitrite N	BOD	Turbidity	VT PCF	8260B	PP13 Metals	Nitrate N	Alkalinity	Conductivity	VOC Halocarbons	8270 B/N or Acid	Total RCRA8	Metals (Total, Diss.) Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Tl, U, V, Zn	TCLP (volatiles, semi-volatiles, metals, pesticides, herbicides)	Other: <u>Methylene</u>	Corrosivity	Ignitability	Reactivity	Other	Other	

**A  
P  
P  
E  
N  
D  
I  
X  
  
E**

Total VOCs and CO2 Vs. Distance

Capital Mercury  
Essex Jct., VT

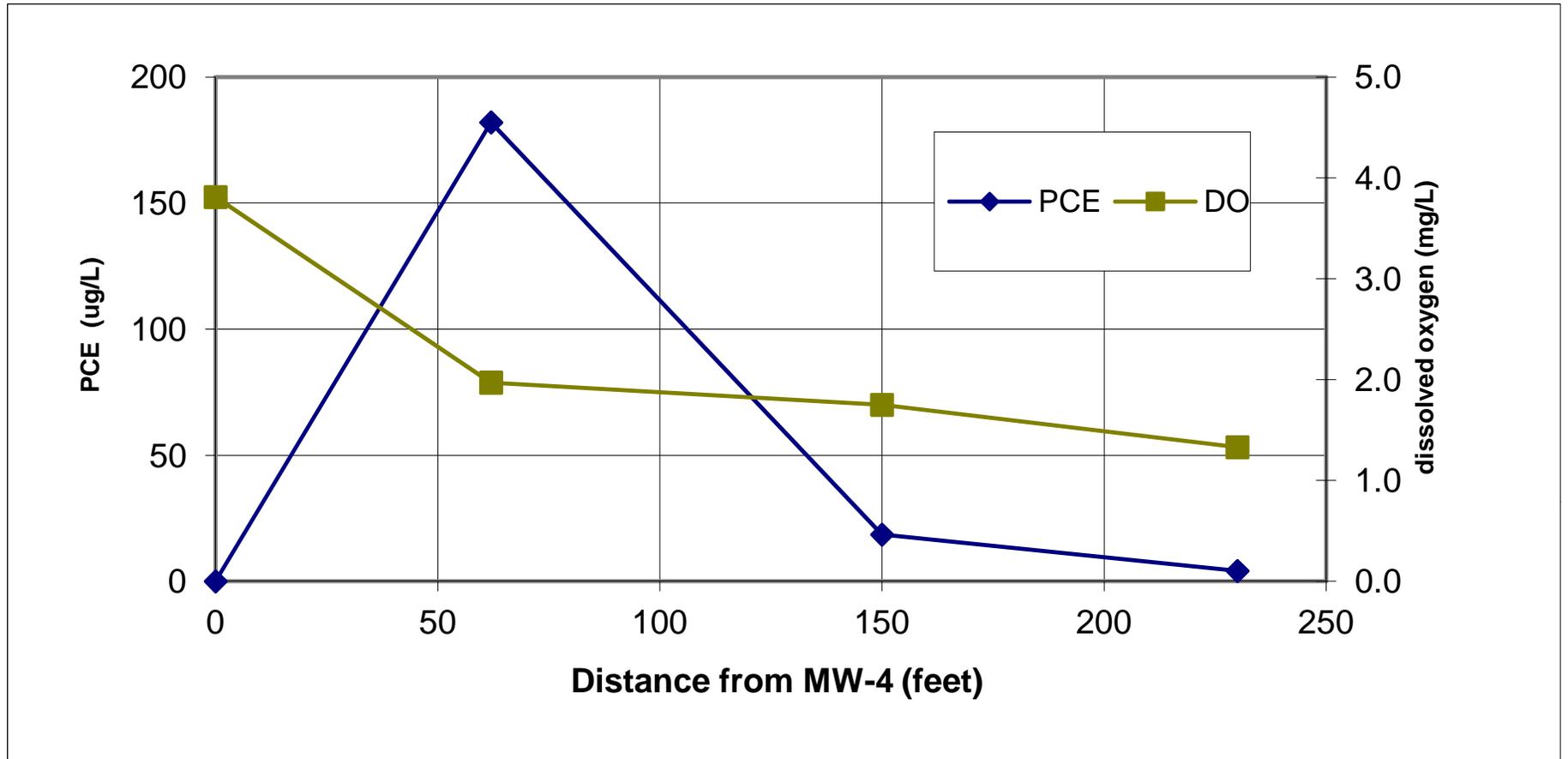
Monitoring Date: 30 October 2014



Total VOCs and Dissolved Oxygen Vs. Distance

Capital Mercury  
Essex Jct., VT

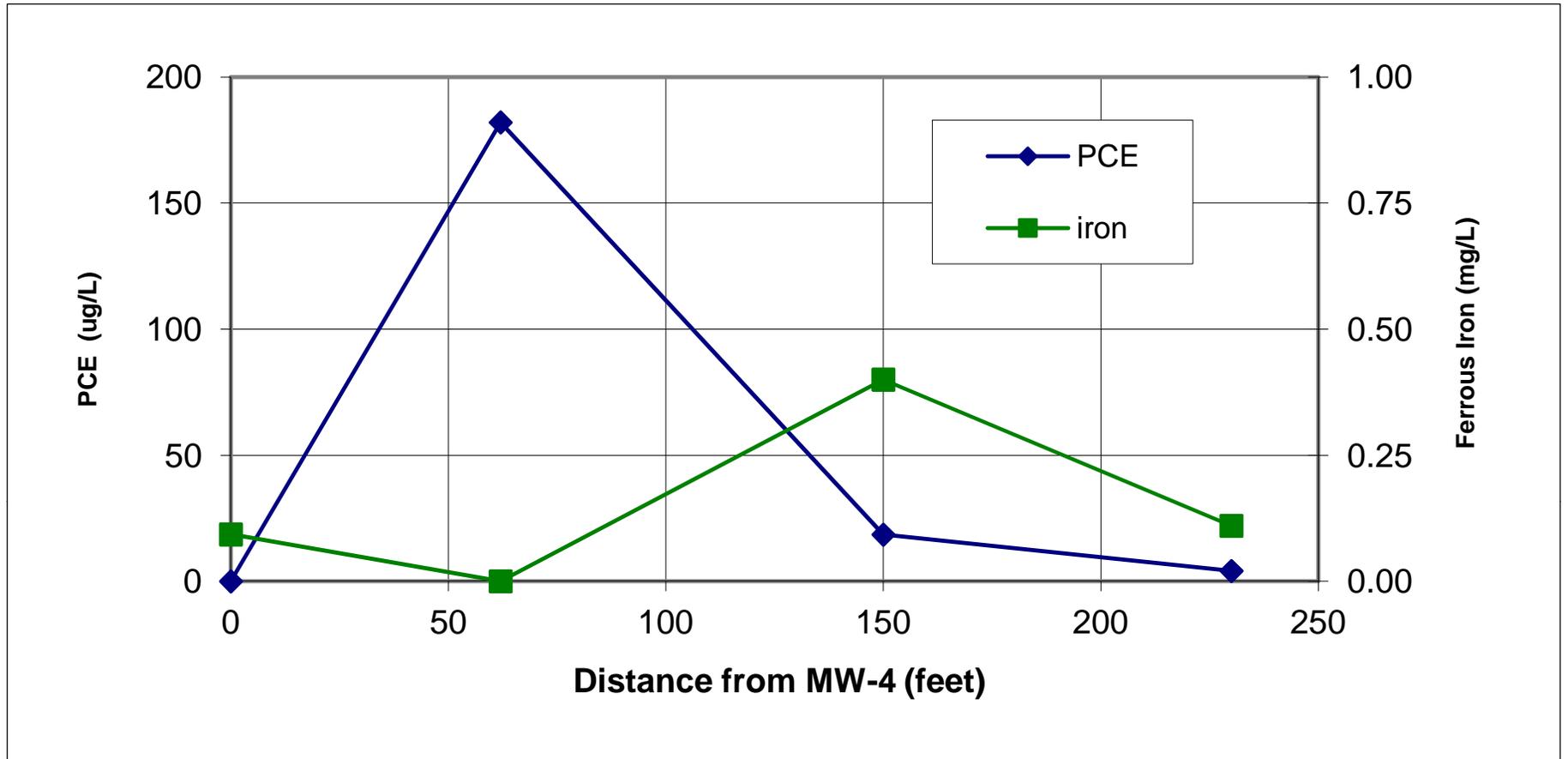
Monitoring Date: 30 October 2014



Total VOCs and Iron vs. Distance

Capital Mercury  
Essex Jct., VT

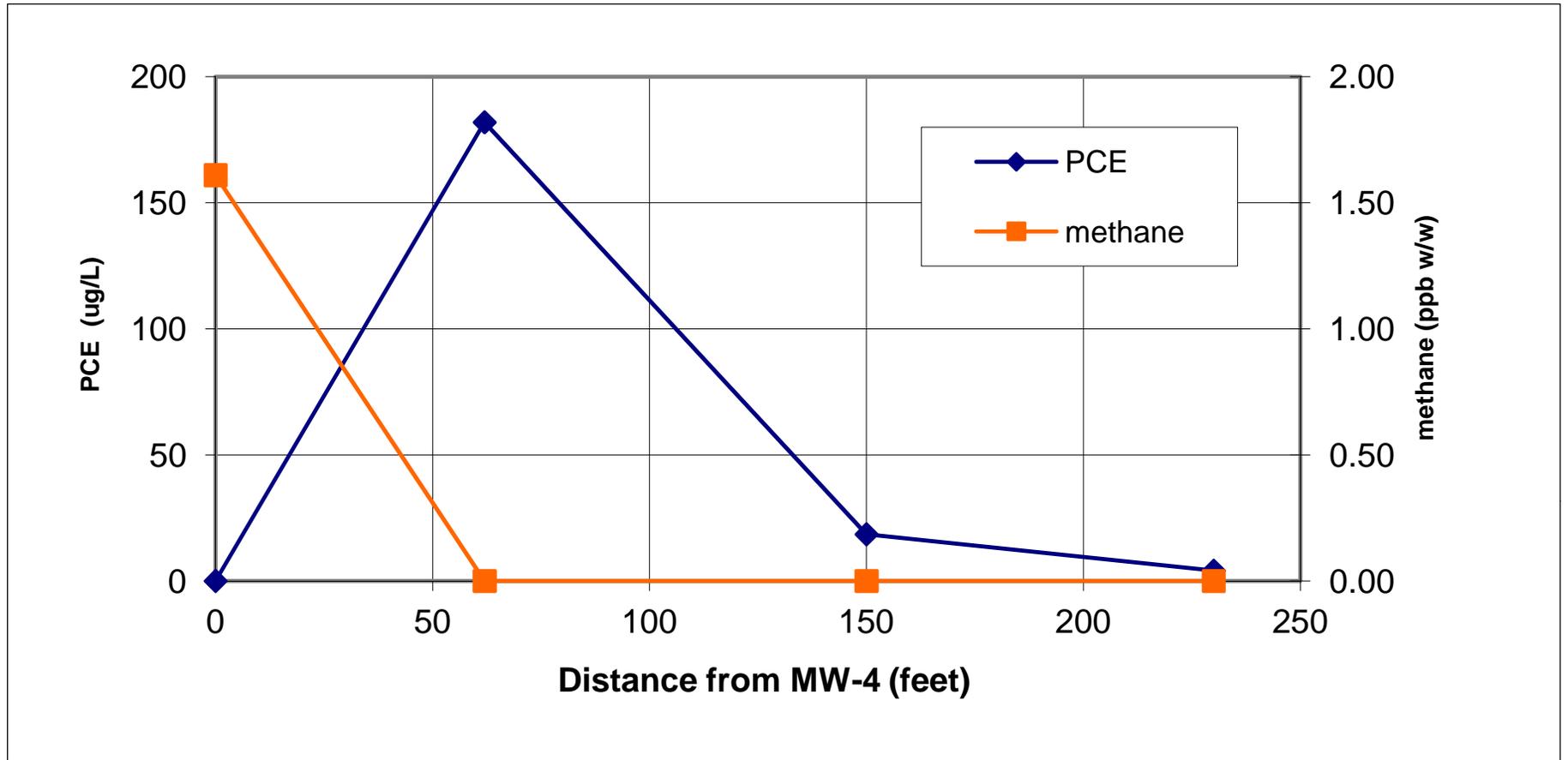
Monitoring Date: 30 October 2014



Total VOCs and Methane Vs. Distance

Capital Mercury  
Essex Jct., VT

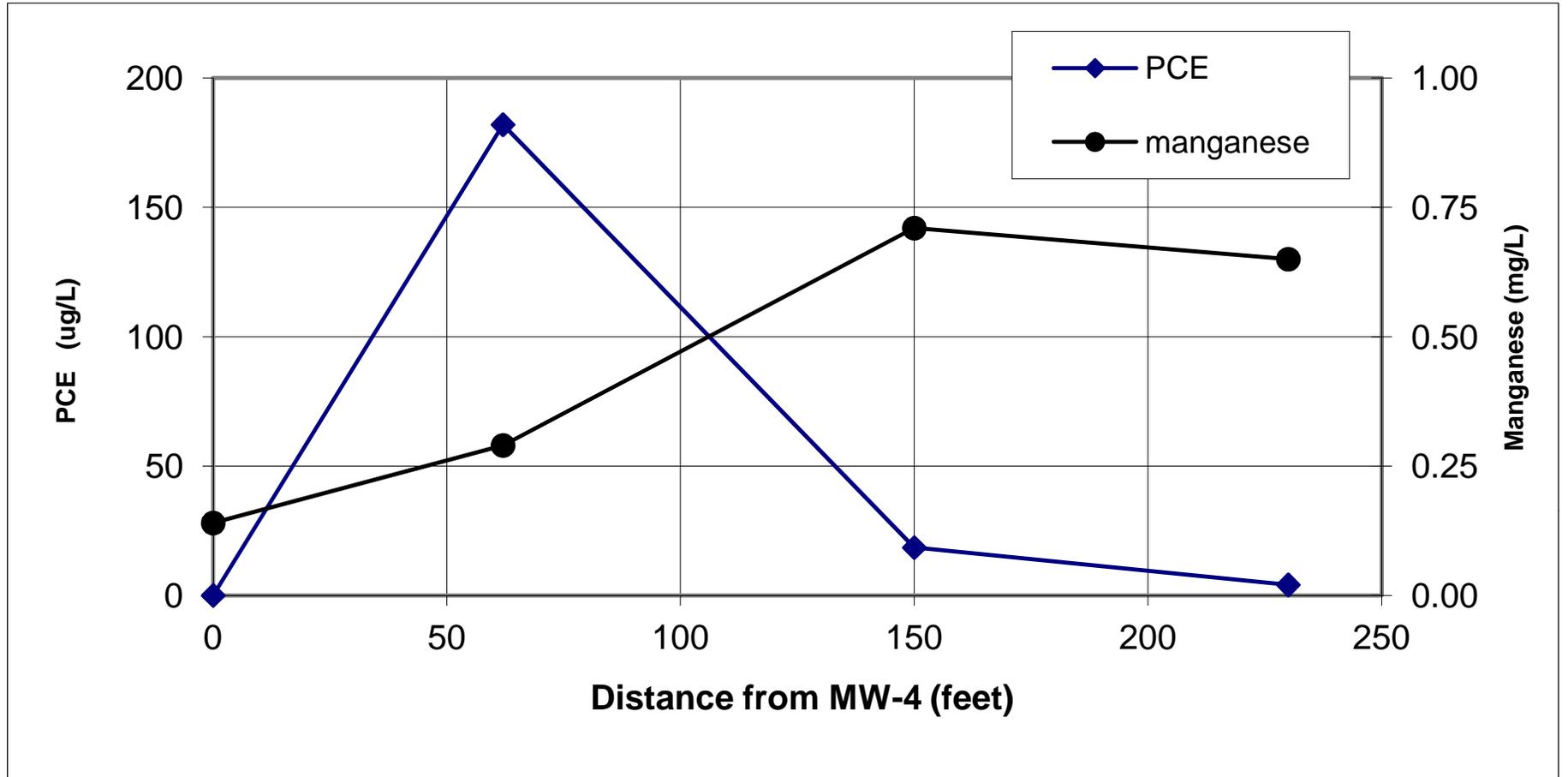
Monitoring Date: 30 October 2014



Total VOCs and Manganese Vs. Distance

Capital Mercury  
Essex Jct., VT

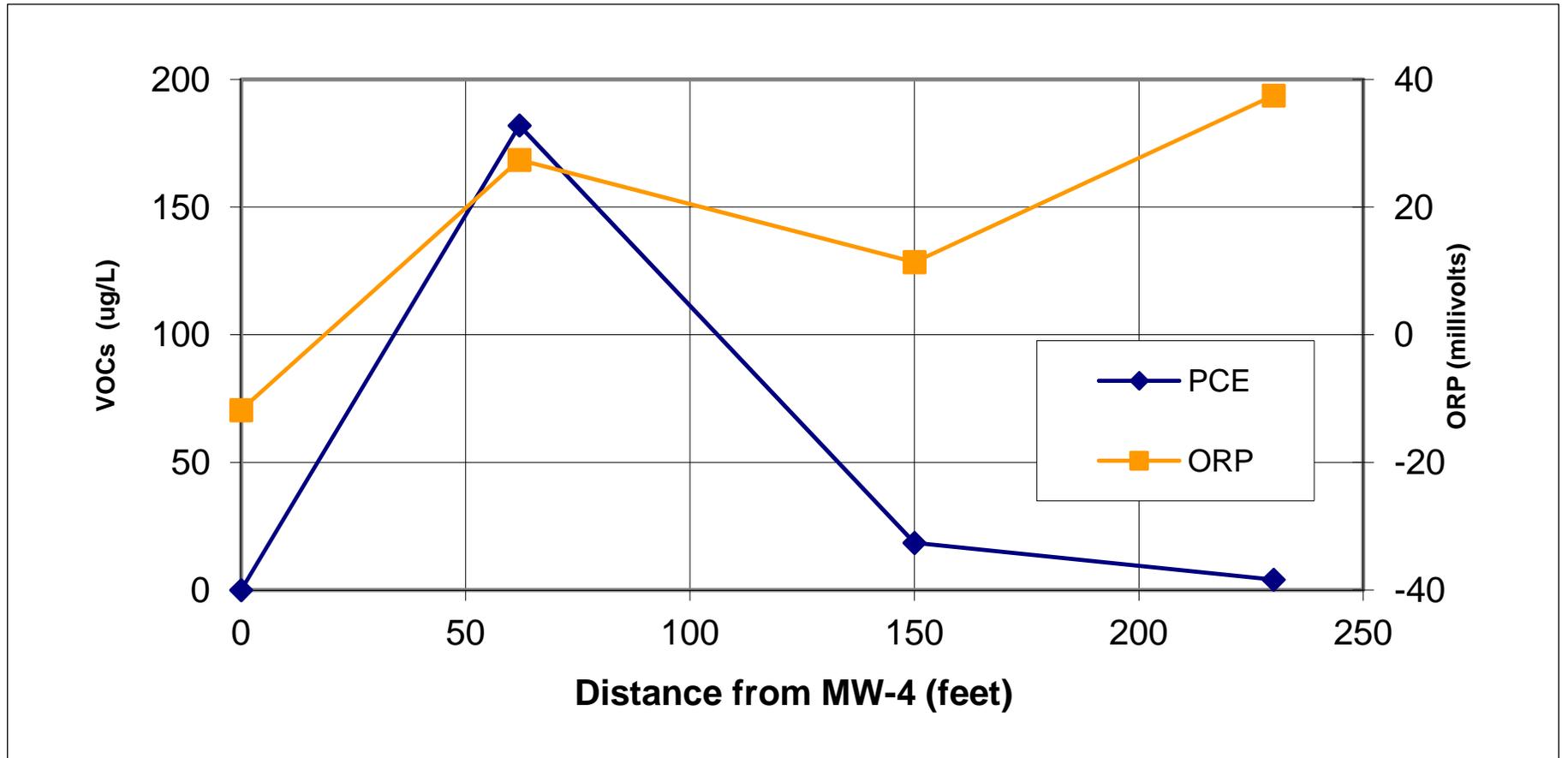
Monitoring Date: 30 October 2014



Total VOCs and Oxygen Reduction Potential Vs. Distance

Capital Mercury  
Essex Jct., VT

Monitoring Date: 30 October 2014



Total VOCs and TDS Vs. Distance

Capital Mercury  
Essex Jct., VT

Monitoring Date: 30 October 2014

