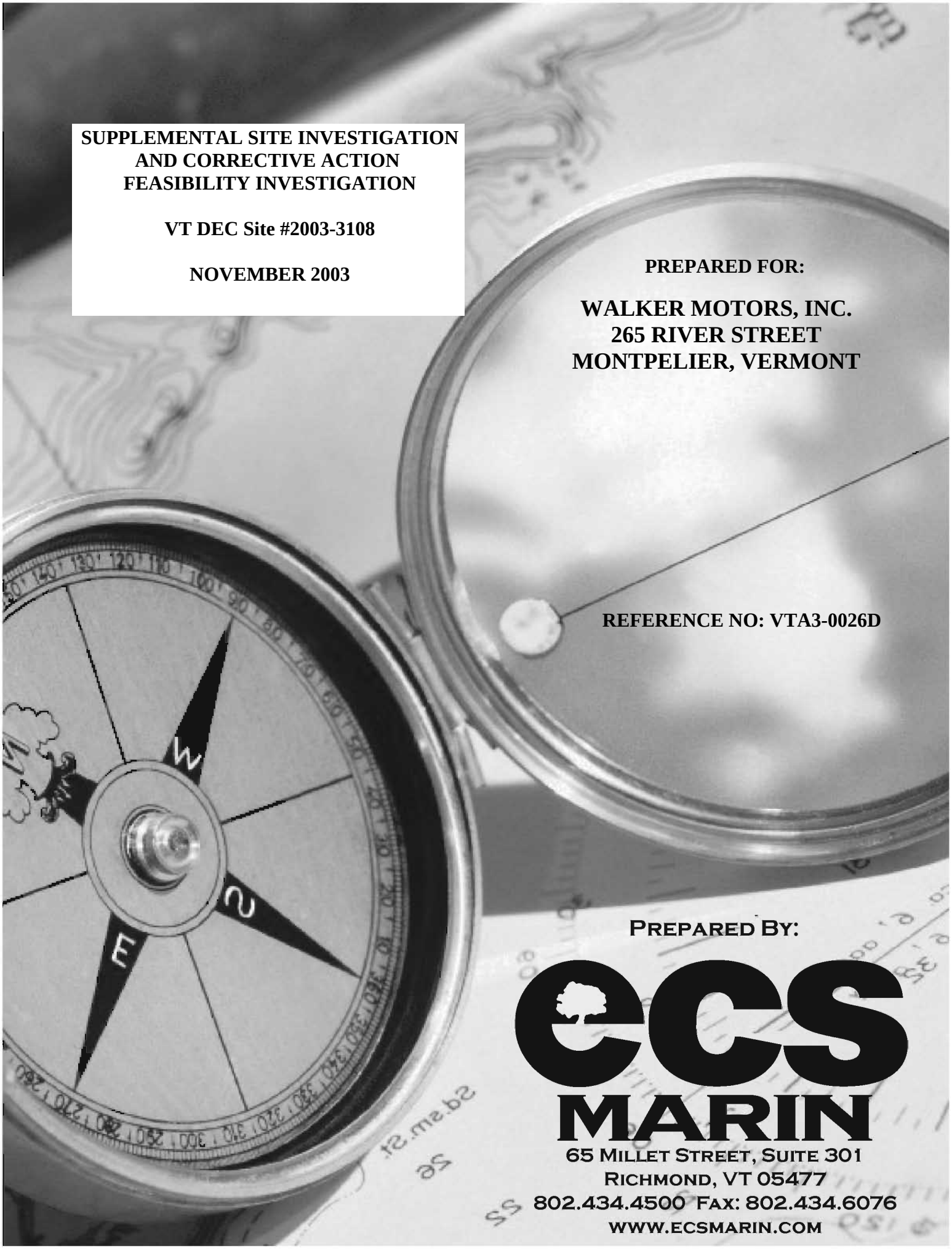

SUPPLEMENTAL SITE INVESTIGATION AND CORRECTIVE ACTION FEASIBILITY INVESTIGATION

VT DEC Site #2003-3108

NOVEMBER 2003

PREPARED FOR:

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265 RIVER STREET
MONTPELIER, VERMONT

REFERENCE NO: VTA3-0026D

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EXECUTIVE SUMMARY

ECSMarin has conducted a supplemental site investigation (SSI) and Corrective Action Feasibility Investigation (CAFI) at Walker Motors, located at 265 River Street in Montpelier, Vermont. The SSI was performed following the initial site investigation (ISI), during which #2 fuel oil free-phase floating product was encountered in two onsite monitoring wells and #2 fuel oil was observed to be infiltrating onsite stormwater catch basins and an offsite drainage swale. Petroleum contamination was first discovered during the removal of a 4,000 gallon #2 fuel oil underground storage tank (UST) adjacent to the auto body shop in April 2003. The SSI included drilling 22 additional soil borings, installing 18 monitoring wells, monitoring the free-product plume, and sampling nine new wells and a previously existing well. ECSMarin's findings related to this work are summarized as follows:

Based on the results of the investigation, ECSMarin concludes the following:

- Groundwater contamination in the surficial aquifer has been defined by the SSI. The area of free product consists of approximately 1,750 ft^2 surrounding the UST excavation area. Although a dissolved-phase plume is not observed migrating away from the source area, photoionization detector (PID) readings suggest that a thin layer of fuel oil contamination is traveling along the bedrock surface from the source area to the onsite stormwater catch basins, and eventually discharges to the swale on the east side of U.S. Route 2. The bedrock aquifer has not been explored.

- PID soil headspace readings collected from the soil borings ranged from non-detect to 355 parts per million (ppm). The highest PID reading was recorded on a soil sample collected in the unsaturated zone at MW-6, located approximately ten feet downgradient of the former #2 fuel oil UST. At the water table (8-10 feet), PID readings were 244 ppm and 318 ppm, respectively.

- Visual (oil sheen), olfactory, and PID readings were observed within two of the seven borings within the swale at the storm water outfall across U.S. Route 2. Surface water in the swale eventually discharges to the Winooski River, located approximately 750 feet from the site. Several of the onsite #2 fuel oil impacted storm water catch basins discharge to the swale located across U.S. Route 2 from the site. Oil booms were installed within one onsite catch basin (CB-3) and within the swale.

- Free-phase floating petroleum product, ranging in thickness from 0.04 to four feet, was detected in source area monitoring wells MW-1, MW-2, MW-3, MW-5, and MW-6. Recovery efforts on 30 October, 2003 removed approximately four gallons of free product from the monitoring wells.

- Vermont Groundwater Enforcement Standards (VGESs) were exceeded for five petroleum-related VOCs in the Vermont Department of Environmental Conservation (VT DEC) monitoring well. The VOC concentrations in the DEC1 well are not thought to be associated with the former fuel oil UST at the auto body shop, but rather with two gasoline USTs removed in 1988 and/or the fuel oil UST that was removed from the southern side of the dealership building on 3 October 2003.

- VGESs were also exceeded for three petroleum-related VOCs in MW-4, MW-17, and MW-19: naphthalene, 1,3,5-trimethylbenzene (1,3,5-TMB), and 1,2,4-trimethylbenzene (1,2,4-TMB).

EXECUTIVE SUMMARY

- A metal UST, reported to be an out of use septic tank, was discovered approximately 40 feet north of the former #2 fuel oil UST. VGESs were exceeded for four petroleum-related VOCs in the old septic tank (OST) sample.

- Soil samples were obtained in the source area from the unsaturated zone and the saturated zone in two borings. Total petroleum hydrocarbon (TPH) concentrations ranged from non-detect in the unsaturated zone sample in MW-6 to 5,550 milligrams per kilogram (mg/kg) in the unsaturated zone in SB-14. Soil samples collected from the swale, located east of U.S. Route 2, contained TPH concentrations ranging from 102 to 499 mg/kg.

- Surface water samples were obtained from the swale in the vicinity of the culvert, which discharges stormwater from the Walker Motors facility, east of U.S. Route 2. VOCs were detected at concentrations below Surface Water Quality Criteria (WQC) standards. No VOCs were detected in a surface water sample obtained from a second downgradient culvert.

- The horizontal groundwater flow is north and east, toward the Winooski River. The vertical groundwater flow components at the site, and the hydraulic relationship between the shallow unconfined aquifer and the bedrock aquifer, are currently unknown. Bedrock is presumed to be shallow based on geoprobe refusal between 5 and 12 feet below ground surface in some locations.

- ECSMarin performed a CAFI to evaluate remedial alternatives for the #2 fuel oil source area. The CAFI determined that due to the relatively localized extent of free-phase product in the source area, low-permeability soils, and shallow depth of contamination, excavation of the contaminated soils is the most cost-effective strategy for mitigating offsite contaminant migration at the auto body shop. The grossly contaminated soils, estimated at 500 yd^3, could be disposed of at one of two soil treatment facilities in New Hampshire. Once the contaminated soils are removed, it is expected that contaminants infiltrating the onsite stormwater catch basins will be reduced, thus further reducing offsite migration of contaminants into the swale, which eventually discharges to the Winooski River, as well as potentially infiltrating underground utilities along U.S. Route 2.

ECSMarin recommends the following:

1. Source removal by excavation will mitigate the impact to utilities and offsite migration of contamination. ECSMarin believes that the removal of grossly contaminated soils before spring-time would eliminate further flushing of contaminants and degradation to the swale area. With winter conditions approaching, it may be necessary to forego the detailed Corrective Action Plan and move forward under interim corrective measures. A detailed work plan and cost estimate should be prepared for excavation activities.

2. Semi-annual groundwater sampling events should be scheduled at this site for spring and fall. Samples should be collected from selected wells and analyzed for VOCs by EPA Method 8021B and polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270.

3. Water samples should also be collected from selected downgradient storm water catch basins (especially CB-3) and the off-site drainage swale and submitted for laboratory analysis for VOCs by EPA Method 8021B and for PAHs using EPA Method 8270. The onsite storm water catch basins and off-site drainage swale should be inspected on a regular basis and oil booms replaced

as needed. Continued monitoring is needed to document that contaminants are not discharging to the Winooski River.

4. Free-phase product monitoring and recovery should be implemented on a monthly basis until remediation activities are approved and implemented.

5. Notify the City of Montpelier, Vermont Agency of Transportation, and Vermont Railway of the off-site contamination so that proper procedures can be implemented if utility work is performed in the contaminated areas identified by the SSI.

6. Following each sampling event, a summary report should be prepared which includes water-quality analytical results, figures showing groundwater flow direction and contaminant distribution, relevant tables, and recommendations for further action.

1.0 INTRODUCTION

This report details the results of a Supplemental Site Investigation (SSI) and Corrective Action Feasibility Investigation (CAFI) performed by ECSMarin at Walker Motors, located at 265 River Street in Montpelier, Vermont (Figure 1). The SSI was performed following an initial site investigation (ISI), during which free product was encountered in two on-site monitoring wells and #2 fuel oil was observed to be infiltrating onsite stormwater catch basins and an offsite drainage swale. Petroleum contamination was first discovered during the removal of one 4,000 gallon #2 fuel oil underground storage tank (UST) adjacent to the auto body shop in April 2003.

1.1 SITE DESCRIPTION AND PHYSICAL SETTING

The site currently houses an automobile dealership. The main showroom is located near U.S. Route 2. The auto body shop is located at a higher elevation (approximately 30 feet) behind the showroom. The majority of the new cars and trucks for sale are parked northwest of the main showroom and additional vehicle parking is east of the building.

The surrounding areas are primarily commercial properties located off U.S. Routes 2 and 302. The ground surface at the property slopes to the north and northeast, toward the Winooski River. The former Grossman's Lumber building (now vacant) is located across U.S. Route 2, east and downgradient of the site.

According to the Vermont Agency of Natural Resources Internet Mapping Site of Private Wells, at least two private water supply wells are located within ½-mile of the site. Both wells are approximately 2,000 feet downgradient from the former UST location and are 348 and 445 feet in depth, respectively.

1.2 SITE HISTORY

On 23 April 2003, ECSMarin inspected the removal of a 4,000 gallon #2 fuel UST at the auto body shop. Prior to its removal, the UST was positioned under asphalt approximately 10 feet north of the auto body shop building. The UST was installed in 1963 and was registered with the State of Vermont UST Program. Calkins Oil & Excavating from Danville, Vermont, provided the excavation services and Ostrout Petroleum provided UST-cleaning services. The UST was transported offsite to All Cycle Metals located off Vermont Route 15 in Hardwick, Vermont, to be used as scrap metal. Documentation of the removal activities is summarized in the UST Closure Assessment Report for Walker Motors dated 25 April 2003.

In general, soils in the excavation area consisted of brown, damp to saturated, coarse- to medium-grained sands and gravel, from the ground surface down to about 4.5 feet below ground surface (bgs). Native glacial till soils, consisting of greenish-gray, fine sand and clay, were encountered at approximately 4.5 feet bgs. Groundwater entered the excavation from various seeps in the sidewalls of the excavation; however, no accumulation of groundwater was observed during the three hours that the excavation was open. No bedrock was encountered in the excavation; however, bedrock outcrops were noted on the northwestern portion of the site.

Oil sheening and olfactory evidence of petroleum impact were observed on the groundwater entering the excavation. The heating oil UST was found to be in poor condition upon removal, with some rusting and pitting and several holes observed at both ends of the UST. The fill, suction, return, and vent lines for the UST were in fair condition with some minor rusting, but no pitting or holes.

Photoionization detector (PID) headspace readings taken of soils in the excavation ranged from five parts per million (ppm) collected from a soil sample approximately five feet bgs in the greenish-gray fine sand and clay layer, to a high of 123 ppm collected from same general area, approximately three feet bgs in the brownish coarser sands and gravel. The average PID reading throughout the excavation was 83 ppm. All stockpiled soils originating from the excavation were backfilled into the excavation following the soil screening activities. Clean sand was imported to bring the excavated site up to grade.

On 9 June 2003, ECSMarin supervised the completion of seven soil borings and subsequent installation of two monitoring wells (MW-1 and MW-2) to initially characterize contaminant and hydrogeologic conditions at the site. Free-phase product was detected at approximately four feet bgs in MW-1 (located within the UST excavation) and eight ft bgs in MW-2 (located outside the UST excavation). Approximately 0.23 feet and one foot of product were measured in MW-1 and MW-2, respectively.

A second 4,000-gallon #2 fuel oil UST was registered with the Vermont Department of Environmental Conservation (VT DEC) and was located south of the showroom near the parts department. This second UST was installed in 1976 and was removed on 3 October 2003. Two gasoline USTs were also removed from the property, east of the showroom near the parts department, in 1988. The VT DEC installed a four-inch monitoring well in the excavation area (DEC1), but no further investigation was conducted due to a dispute about the ownership of the gasoline USTs.

The site and surrounding properties are serviced by the municipal water and sewer system. The Winooski River is located approximately 750 feet north-northeast of the site. No public supply wells are known to be within the site vicinity. Two private wells are within ½-mile of the site. The adjacent service building does not have a basement or crawlspace.

1.3 OBJECTIVES AND SCOPE OF WORK

The objectives of this SSI were to:

- Evaluate the degree and extent of petroleum contamination in soil and groundwater;
- Monitor the free-phase product present in the source area;
- Estimate the volume of contaminated soils in the source area; and,
- Identify appropriate monitoring and/or remedial actions based on the site conditions.

To accomplish these objectives, ECSMarin has:

- Supervised the advancement of 22 soil borings and subsequent installation of 18 water-table monitoring wells (MW-3 and MW-20);
- Screened subsurface soils from the soil borings for the possible presence of volatile organic compounds (VOCs) using a PID;
- Collected water and soil samples for volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH);

- Measured and recovered free product from all source-area monitoring wells;
- Surveyed all sample locations;
- Replaced absorbent booms as necessary to prevent sensitive receptor impact;
- Performed a CAFI to evaluate remediation alternatives; and,
- Prepared this summary report, which details the work performed, qualitatively assesses risks, provides conclusions, and offers recommendations for further action.

2.0 INVESTIGATIVE PROCEDURES AND RESULTS

2.1 SOIL BORING / MONITORING WELL INSTALLATION

On 26 and 27 August 2003, ECSMarin supervised the completion of 18 soil borings and subsequent installation of 14 monitoring wells (MW-3 through MW-16) to initially characterize contaminant and hydrogeologic conditions at the site (Figure 2). On 3 September 2003, ECSMarin hand-installed four wells (MW-17 through MW-20) adjacent to the swale area west of the railroad tracks on the east side of U.S. Route 2.

During drilling activities, the native soils generally consisted of olive gray fine sand and silt with some gravel and pieces of bedrock ledge. Increasing clay content and/or clay layers were observed below approximately 5 ft bgs in most borings. These conditions were encountered in all soil borings to a depth of no more than 12 feet before meeting refusal on presumed bedrock.

Monitoring wells MW-3 through MW-8 were installed in the source area of the former auto body shop UST. Groundwater was encountered between 7 and 9 feet bgs. Refusal on presumed bedrock was met in all borings between 8 and 12 feet bgs. Two additional borings were advanced to better define the extent of free product in the source area. SB-24 was advanced east of MW-8 to 6 ft bgs before meeting refusal on bedrock. SB-23 was advanced north of MW-6 and punctured the top of an old septic tank (OST), which is no longer in service. The OST is located downgradient from the source area in the grassy area north of the auto body shop. The tank, which was at six ft bgs, was full of water and no free product was observed. The size and construction of the tank are not known.

Soil borings and monitoring wells MW-9 through MW-13 were installed downgradient of the UST excavation area, along the steeply-sloped paved driveway leading to the auto body shop and adjacent to the dealership. Refusal on presumed bedrock was encountered between 5.5 and 8 feet bgs. The water table was encountered between 4 and 5 ft bgs in these downgradient borings. A sampling point (KVA) was hand-installed with the K-V Associates, Inc. push probe sampler approximately 23 feet south of catch basin #3 (CB-3) to sample groundwater.

Seven monitoring wells (MW-14 through MW-20) were installed on the east side of U.S. Route 2, in the vicinity of a swale along the railroad tracks that receives stormwater discharge from the Walker Motors site. Three monitoring wells (MW-14 through MW-16) were installed using the Geoprobe rig and four wells (MW-17 through MW-20) were installed using a hand auger. Groundwater was encountered between 2 and 4 ft bgs.

ECSMarin Drilling installed the soil borings using direct-push drilling methodology. Soil samples were collected continuously from each boring using four-foot long polyethylene sleeves. All downhole drilling and sampling equipment was decontaminated during use, as appropriate. Impacted drill cuttings, mainly generated from the source area, were stockpiled on site and fully encapsulated with polyethylene sheeting with the existing on-site soil pile generated during the ISI.

The monitoring wells were constructed with one-inch diameter polyvinyl chloride (PVC) casing and factory-slotted 0.010-inch slot screen, with the exception of the hand-installed monitoring wells that contain 0.010-inch hand-slotted screen. The tops of the screen sections were set between 3 and 5 feet above and below the presumed groundwater level, if possible. Sections of solid PVC riser were added to bring the tops of the well casings to approximately 0.5 feet bgs. Clean silica #1 filter sand was placed in the borehole annulus around each well approximately two feet above the slotted interval. A granular

bentonite seal, approximately one foot thick, was set above the sand pack and the remainder of the annular space was backfilled with native material.

Each completed monitoring well was protected by a flush-mounted steel roadbox cemented into place. The four hand-installed wells were left sticking up at least one foot above the ground surface. The wells were developed using a peristaltic pump and/or pre-cleaned bailers and dropline after installation was complete. All purge water was discharged to the ground surface.

On 10 September 2003, the monitoring wells and soil boring locations were surveyed relative to existing site features, with an azimuth accuracy of ± 1.0 feet and an elevation accuracy of ± 0.01 feet. Monitoring-well construction details are included on the soil-boring and well-construction logs in Appendix A.

2.2 SOIL-SCREENING RESULTS

Elevated PID readings were obtained from soil samples collected from all borings in the source area, except MW-7 and SB-24. The highest PID reading was 355 ppm, which was recorded on a soil sample collected in the unsaturated zone at MW-6. At the water table (8-10 feet), PID readings were 244 ppm and 318 ppm, respectively. PID readings in the other source area wells ranged from 0.4 to 346 ppm.

In downgradient monitoring wells MW-9 through MW-13, PID readings ranged from 0.0 to 2.3 ppm. A one-inch dark gray stained and odorous segment of soil was encountered at the water table (4 ft bgs) with a PID reading of 1.3 ppm in MW-9. Slightly stained and/or odorous soils were observed in MW-10 and MW-11 at the water table, with PID readings of 0.4 and 2.3 ppm, respectively.

At monitoring wells installed in the swale (MW-14 through MW-20) on the east side of U.S. Route 2, PID readings ranged from 0.0 to 300 ppm. The highest PID reading was recorded at MW-19, where black-stained soil, sheening, and a fuel oil odor were observed. MW-19 is installed south of the culvert outfall that receives stormwater from the Walker Motors site. The second highest PID reading of 64 ppm was at MW-17, also located close to the culvert outfall. Black-stained soils and sheening were also observed at this location. PID readings ranged from 0.0 to 3.6 ppm in the remaining monitoring wells in the discharge area.

An ECSMarin hydrogeologist screened soil samples from discrete intervals in each soil boring for the possible presence of VOCs, using a Thermo 580B portable PID on 26 and 27 August 2003 and Photovac Model 2020 PID on 3 September 2003. PIDs were calibrated in the field with an isobutylene standard gas to a benzene reference. Soil samples were placed into a polyethylene bag, which was then sealed, agitated, and allowed to equilibrate. The PID probe was inserted into the headspace, and the highest reading was recorded. PID screening results are included on the boring logs in Appendix A.

2.3 SOIL SAMPLING AND ANALYSIS

Soil samples were obtained from soil borings SB-11 and SB-14 in the source area to estimate the contaminant mass for the evaluation of remedial alternatives. Soil samples were obtained from the unsaturated zone and the saturated zone in two borings. SB-14 was located in the center of the former UST excavation with sample S1 collected from eight to nine feet and sample S2 collected from eleven to twelve feet. SB-11 (currently MW-6) was located just outside of the UST excavation area within the native soils with sample S1 taken from six to seven feet and sample S2 taken from nine to ten feet. Soil samples were analyzed for petroleum-related VOCs via EPA Method 8021B and for TPH via EPA Method 8015 Diesel Range Organics (DRO). No VOCs or TPH were detected in the MW-6 S1 sample.

The MW-6 S2 sample was identified as containing #2 fuel oil with a TPH concentration of 4,040 milligrams per kilogram (mg/kg), and elevated concentrations of all the 8021B parameters except methyl tert-butyl ether (MTBE). The SB-14 S1and S2 samples were identified as containing #2 fuel oil with TPH concentrations of 5,550 mg/kg and 3,800 mg/kg, respectively, and elevated concentrations of all the 8021B parameters except benzene and MTBE.

Soil samples were also obtained from the swale area between U.S. Route 2 and the railroad tracks to the east. Samples SW-1 through SW-4 were obtained from the unsaturated zone at depths ranging from one to two feet. Sample SW-1 was obtained at the culvert outfall in the boring of MW-17, sample SW-2 was obtained from the boring at MW-19, sample SW-3 was obtained from the boring at MW-20, and sample SW-4 was obtained approximately 40 feet north of MW-18. The SW-1 sample contained unidentified diesel range organics (DRO) at 115 mg/kg and elevated concentrations of naphthalene. The SW-2 sample was identified as containing #2 fuel oil at 499 mg/kg and elevated concentrations of naphthalene and trimethylbenzenes. The SW-3 and SW-4 samples contained unidentified DRO at 102 mg/kg and 291 mg/kg, respectively, and no detectable VOC concentrations.

Soil samples were analyzed for petroleum-related VOCs via EPA Method 8021B and for TPH via EPA Method 8015. Soil samples were placed in pre-weighed laboratory vials preserved with methanol for the EPA Method 8021B analysis and packed in an unpreserved eight-ounce jar for the EPA Method 8015 analysis. Trip blanks were collected to ensure that adequate quality assurance/quality control (QA/QC) standards were maintained. All field procedures were conducted in accordance with ECSMarin standard protocols. All soil samples were transported via overnight delivery under chain-of-custody in an ice-filled cooler to Spectrum Analytical, Inc. of Agawam, Massachusetts.

The State of Vermont has not established enforceable standards for soils; VT DEC currently evaluates soil data on a site-by-site basis. The values most commonly referenced by VT DEC in conducting their evaluations are the Preliminary Remedial Goals (PRGs) established by the U.S. EPA. All VOC soil concentrations were several orders of magnitude lower than the applicable PRGs (Table 1). Laboratory reports are presented in Appendix B.

2.4 GROUNDWATER CHARACTERISTICS

Based on the hydrogeologic data, the groundwater in the unconfined surficial aquifer at the site appears to flow generally north at the auto body shop then turns eastward toward the Winooski River. The average horizontal hydraulic gradient is approximately 20 percent at the auto body shop and 5 percent between the dealership and the swale. The vertical groundwater flow components at the site, and the hydraulic relationship between the shallow unconfined aquifer and the bedrock aquifer, are currently unknown.

Fluid levels were measured in the monitoring wells on 10 September 2003 to calculate the groundwater flow direction. Depth to groundwater in the on-site monitoring wells ranged from 1.47 feet (MW-14) to 11.73 feet (MW-8) below top-of-casing. Static water-table elevations were computed for each monitoring well by subtracting the measured depth-to-water readings from the surveyed top-of-casing elevations, which are relative to an arbitrary site datum of 100.00 feet. Water-level measurements and elevation calculations are presented in Table 2. A groundwater-table contour map was prepared using these data (Figure 3).

2.5 GROUNDWATER SAMPLING AND ANALYSIS

Groundwater samples were collected from nine of the newly installed monitoring wells and DEC1 well for laboratory analysis via EPA Method 8260 and EPA Method 8015 on 10 September 2003 (Figure 4).

Monitoring wells MW-1, MW-2, MW-3, MW-5, and MW-6 were not sampled due to the presence of free-phase petroleum product in the wells (see Section 2.7). Monitoring wells MW-7 and MW-8 were dry during the sampling event. Monitoring wells MW-10 and MW-12 were not sampled due to the limited number of samples specified in the scope of work.

BTEX concentrations were detected in the OST sample, located at SB-23, and the DEC1 sample, located at the formed gasoline USTs east of the dealership. The VOC concentrations in the DEC1 sample are not thought to be associated with the former fuel oil UST at the auto body shop, but rather with two gasoline USTs removed in 1988 and/or the fuel oil UST that was removed from the southern side of the dealership building on 3 October 2003. The monitoring well is located in the excavation area of the gasoline USTs and is in the presumed downgradient direction of the recently removed fuel oil UST, approximately 50 feet northwest. Vermont Groundwater Enforcement Standards[2] were exceeded for four or more petroleum-related compounds in the DEC1 and OST samples.

The total BTEX concentration in the MW-4 sample was 191.2 micrograms per liter (µg/L). MW-4 is located west and cross-gradient of the source area. Total BTEX concentrations in the MW-17 and MW-19 samples were 16.64 µg/L and 7.4 µg/L, respectively.

VGESs were exceeded for naphthalene, 1,3,5-trimethylbenzene (1,3,5-TMB), and 1,2,4-trimethylbenzene (1,2,4-TMB) in the MW-4, MW-17, and MW-19 samples. The remaining monitoring well samples did not contain detectable levels of any of the tested compounds; however, dichlorodifluoromethane (Freon 12) was detected in groundwater samples collected from MW-12, MW-17, MW-20, and DEC1 at concentrations ranging from 2.44 to 10.2 µg/L. The detected concentrations are two to three orders of magnitude below the VGES of 1,000 µg/L. Freon 12, which is no longer produced in the United States, was used as a refrigerant, paint and varnish remover, leak-detecting agent, and in the manufacture of aerosols for cosmetics, pharmaceuticals, insecticides, paints, adhesives, and cleaners. Analytical results are included in Table 3 and laboratory report forms are included in Appendix C.

TPH was detected in the samples collected from MW-4 and DEC1 at 7.53 (milligrams per liter) mg/L and 1.78 mg/L, respectively.

Prior to groundwater sample collection, the monitoring wells were purged with a peristaltic pump and/or bailer and then sampled using dedicated bailers and dropline. Purge water was discharged directly to the ground in the vicinity of each well. A trip blank and a duplicate sample were collected to ensure that adequate quality assurance/quality control (QA/QC) standards were maintained. All field procedures were conducted in accordance with ECSMarin standard protocols.

All samples were transported via overnight delivery under chain-of-custody in an ice-filled cooler to Spectrum Analytical, Inc. of Agawam, Massachusetts, where they were analyzed for the possible presence of VOCs by EPA Method 8260. Selected samples were also analyzed for TPH by EPA Method 8015 DRO.

[2] Vermont Groundwater Enforcement Standards (VGESs) for eight petroleum related VOCs are as follows: benzene - 5 µg/L; toluene — 1,000 µg/L; ethylbenzene - 700 µg/L; xylenes — 10,000 µg/L.; MTBE, a gasoline additive, - 40 µ/L; naphthalene — 20 µg/L; 1, 2, 4-trimethylbenzene — 5 µg/L; and 1, 3, 5-trimethylbenzene —4 µg/L.

Toluene was detected in the trip blank at 1.17 µg/L. According to Spectrum Analytical, the laboratory-supplied trip blank was prepared in April 2003. The septa on the sample vials have a tendency to break down over this period of time and it is apparently common for toluene to be present in the trip blank analytical results. Toluene was not detected at this concentration in the remaining samples and its presence is not considered a sample contamination issue.

Analytical results of the duplicate sample, collected from MW-4, were not all within 35 percent of the sample results. According to the analytical laboratory, this is likely due to a sheen observed in the vials collected at MW-9 leading to inconsistencies in the results. All laboratory control standards including matrix spikes, method blanks, and quality control analysis were within established laboratory acceptance limits. Table 3 includes the QA/QC analytical results and relative percent difference (RPD) calculations. The laboratory analytical reports are presented in Appendix C.

2.7 FREE PRODUCT MONITORING AND RECOVERY

ECSMarin conducted free product recovery in ISI monitoring wells MW-1 and MW-2 on 21 August 2003, before installation of the new monitoring wells. Approximately 4 feet and 1.2 feet of floating product were measured in MW-1 and MW-2, respectively, prior to purging. Approximately 1.75 gallons of free-phase petroleum product were removed from MW-1 and one gallon of product was recovered from MW-2. The recovered product was containerized onsite for eventual offsite disposal.

Free product was detected in MW-1, MW-2, MW-3, MW-5, and MW-6. Product thickness was unable to be 0.68 feet in MW-1, 0.25 feet in MW-2, 0.04 feet in MW-3, 0.78 feet in MW-5, and 1.28 feet in MW-6.

Free product monitoring and recovery were performed on 30 October 2003. Free product was detected in MW-1, MW-2, MW-3, MW-5, and MW-6. Product thickness could not be measured at MW-1 with the interface probe, but was estimated to be greater than three feet based on bailer confirmation. Thickness in MW-2 was approximately 2 feet in MW-2, 0.53 feet in MW-3, 0.67 feet in MW-5, and 1.3 feet in MW-6. A total of approximately four gallons of free product were removed from the monitoring wells, of which 1.75 gallons were removed from MW-1, 2.0 gallons were removed from MW-2, 0.008 gallons (30 milliliters) were removed from MW-3, 0.013 gallons (50 mL) were removed from MW-5, and 0.26 gallons (1 liter) were removed from MW-6.

2.8 SURFACE WATER SAMPLING AND ANALYSIS

Three surface water samples (SW-1 through SW-3) were collected along the swale located across U.S. Route 2 from the site on 10 September 2003 (Figure 1). Analytical results are summarized in Table 4. Sample SW-1 was obtained from the culvert discharge area and analyzed for VOCs via EPA Method 8021B and TPH via EPA Method 8015. The SW-1 sample contained unidentified DRO at 3.50 mg/L and elevated naphthalene and 1,2,4-trimethylbenzene concentrations. Inadequate sample volume was available at the SW-2 and SW-3 sampling points to collect sufficient sample for TPH analysis; however, samples were collected for EPA Method 8021B. No VOCs were detected in the SW-2 sample, which was collected from a second culvert outfall downgradient of SW-1. The SW-3 sample was collected between MW-17 and MW-18, upgradient of the booms installed in the swale, and contained elevated naphthalene and 1,2,4-TMB concentrations. Water Quality Criteria (WQC) standards were not exceeded in any of the three samples obtained from the swale area.

3.0 CONCEPTUAL MODEL

Groundwater contamination in the surficial aquifer has been defined by the SSI. The area of free product consists of approximately 1,750 ft^2 surrounding the UST excavation (Figure 5). There is likely contamination under the auto body shop based on the presence of free product in MW-3; however, the groundwater flow direction is away from the building (north) so it is assumed to be minor. Although a dissolved-phase plume is not observed migrating away from the source area, PID readings suggest that a thin layer of fuel oil contamination is traveling along the bedrock surface from the source area to the onsite stormwater catch basins, and eventually discharges to the swale on the east side of U.S. Route 2. Catch basin CB-3 is the most severely impacted. The bedrock aquifer has not been investigated.

The area containing PID readings between 100 and 400 ppm has been calculated as approximately 1,750 ft^2 (40 feet by 45 feet) with the average thickness of seven feet. The resulting volume of contaminated soils is calculated at approximately 12,250 ft^3 or 500 yd^3. Using a conversion factor of 1.5, the mass of contaminated soil is estimated at 750 tons (Figure 6).

The area discussed above also corresponds with the area of free-phase product, based on the distribution of free-phase product in on-site monitoring wells. The amount of soils with TPH >4,000 mg/kg is estimated at 3,200 ft^3 or 130 yd^3, using the area of free product of 1,750 ft^2 and an average thickness of two feet. Using a conversion factor of 1.5, the mass of soil containing free-phase product is estimated at 200 tons.

4.0 CORRECTIVE ACTION FEASIBILITY INVESTIGATION

The remedial goal for the site is to remove gross #2 fuel oil contamination and to mitigate the impact and risk to the offsite drainage swale and Winooski River. The auto body shop is constructed on a concrete slab foundation; therefore, vapor infiltration is minimized. There are no water supply wells located on the site or in the immediate site vicinity. ECSMarin evaluated the following remedial alternatives for this site to determine their appropriateness for achieving the remedial goal:

- No Action (Natural Attenuation)
- Natural Attenuation with Periodic Water-Quality Monitoring
- Source Removal by Excavation
- Groundwater Recovery (Pump & Treat)
- Soil Vapor Extraction (SVE)
- Air Sparging (AS) with SVE
- Multi-Phase Extraction (MPE)
- Free-Phase Product Recovery

ECSMarin reviewed these alternatives in accordance with the following criteria:

- Effectiveness of the alternative for protecting human health and the environment, including meeting the applicable cleanup standards, and reducing the toxicity, mobility, and mass of contaminants;

- Feasibility of implementing the alternative, including the need for and availability of specialized equipment and the availability of previous study results that have been conducted using the technology;

- Timeliness of each alternative, including how quickly the alternative will achieve the required cleanup objective; and

- Relative cost of each alternative including capital and operation and maintenance costs.

The above alternatives are discussed in the following sections.

4.1 *No Action*

No action, also referred to as natural attenuation, simply allows natural processes, such as biodegradation, adsorption, dilution, dispersion, and volatilization, to reduce contaminant levels without active remediation.

4.1.1 *Advantages*

The advantages of no action are as follows:

- Low cost.

- Requires no active remediation.

- Easily implemented with no periodic operation and maintenance.

4.1.2 *Disadvantages*

The disadvantages of no action are as follows:

- Does not actively reduce contaminant levels in the surficial aquifer.
- The time frame needed to achieve remediation goals is on the order of tens to several tens of years.
- Does not eliminate or effectively mitigate offsite contaminant migration due to the continued presence of free phase product in monitoring wells in the source area and to downgradient surface waters where impacts to the swale have been documented.

4.1.3 *Evaluation*

The "no action" alternative was rejected because offsite migration has already occurred, making this alternative insufficient to protect the environment. The shallow depth to bedrock and the quantity of free product in the source area are other factors that make the no action alternative impractical.

4.2 ***Periodic Water-Quality Monitoring***

Periodic water-quality monitoring involves sampling and analysis of water from on-site monitoring wells and surface-water bodies to evaluate possible trends, contaminant migration, or the increase of significant risks to nearby sensitive receptors.

4.2.1 *Advantages*

The advantages of periodic water-quality monitoring are as follows:

- Relatively low cost.
- Requires no active remediation.
- Easily implemented.
- Provides a means for detecting significant changes in site conditions and an early warning mechanism to detect possible impacts to nearby sensitive receptors.

4.2.2 *Disadvantages*

The disadvantages of periodic water-quality monitoring are as follows:

- Does not actively reduce contaminant levels in the surficial aquifer.

- The time-frame needed to achieve remediation goals is on the order of tens to several tens of years.

- Does not eliminate or effectively mitigate offsite contaminant migration due to the continued presence of free phase product in monitoring wells in the source area and to downgradient surface waters where impacts to the swale have been documented.

4.2.3 *Evaluation*

The periodic water-quality monitoring alternative was rejected because offsite migration has already occurred, making this alternative insufficient to protect the environment. Groundwater monitoring would not result in the elimination of free-phase product in monitoring wells and nearby surface waters and sediments would remain at risk.

4.3 ***Source Removal by Excavation***

Source removal involves the physical removal and subsequent treatment or disposal of contaminated material from the area of the release. ECSMarin has estimated there is approximately 500 yd^3 or 750 tons of contaminated soil with PID readings between 100 and 400 ppm at the site. The volume of soils with TPH greater than 4,000 mg/kg is estimated at 130 yd^3 or 200 tons.

4.3.1 *Advantages*

The advantages of source removal are as follows:

- Reduces or eliminates the long-term source of residual contamination impacting groundwater at the site.

- Dewatering during soil excavation allows access to otherwise inaccessible contaminated soil in the saturated zone for removal. However, it is estimated that minimal groundwater would enter the excavation because of the low permeability of the native soils.

- Two disposal facilities have approved the contaminated soils for disposal.

- The time-frame needed to achieve source area remediation would be minimal.

4.3.2 *Disadvantages*

The disadvantages of source removal are as follows:

- Requires excavation and treatment of a large volume of contaminated soil, conservatively estimated to be 500 cubic yards.

- The large volume of soils to be removed, and the presence of free product in the soils, effectively precludes on-site polyencapsulation for reasons of practicality.

Excavated soils would thus require off-site treatment such as asphalt batching or thermal desorption.

- According to the Agency Guidelines for Petroleum Contaminated Soil and Debris, soil saturated with free-phase petroleum product is considered a hazardous waste (although PID readings are <400 ppm). If the contaminated soils are considered hazardous by the VT DEC due to the presence of free product, it would be cost-prohibitive to excavate and dispose of the soil as a hazardous waste.

- Excavation of petroleum contaminated soils beneath the auto body shop is impractical without compromising the structural integrity of the building.

- Excavation in close proximity to the auto body shop could require engineering controls to prevent undermining the building.

4.3.3 *Evaluation*

Source removal at the Walker Motors auto body shop appears to be a feasible and cost-effective remedial option at the site to remove the residual source of free-phase #2 fuel oil and heavily contaminated soil. Engineering controls would be required to prevent undermining of the building. Based on the extent of free product and the shallow depth to groundwater and presumed bedrock, excavation within the source area is considered a cost-effective alternative. The estimated excavation area has been calculated as approximately 1,750 ft^2 with the average thickness of seven feet (Figure 5). The resulting volume of contaminated soils is calculated at approximately 500 yd^3 or 750 tons.

Cost estimates were obtained from MTS and ESMI for transportation and disposal costs of contaminated soils. An estimate of cost was determined to be $35,000 for transportation and disposal costs, not including excavation, site restoration, and labor costs. The appropriate analytical samples have been obtained. The total cost estimate for this alternative is $75,000 to $100,000, assuming that the soil is not considered a hazardous waste by VT DEC.

4.4 ***Groundwater Recovery (Pump-and-Treat)***

Groundwater recovery, also known as “pump-and-treat”, involves the extraction and treatment of large quantities of contaminated groundwater from the surficial aquifer using a recovery well. Another typical objective of pump-and-treat systems is to intercept contaminated groundwater and minimize further migration of impacted groundwater beyond the source area. Extracted contaminated groundwater is typically treated by air stripping and/or activated carbon; air emissions from an air stripper require vapor abatement.

4.4.1 *Advantages*

The advantages of pump-and-treat are as follows:

- Moderate cost for system design, installation and operation; and

- Effective for dissolved-phase contaminant containment.

4.4.2 *Disadvantages*

The disadvantages of pump-and-treat are as follows:

- Does not reduce contaminant concentrations in the unsaturated soils at the source area, allowing these soils to act as on-going sources of groundwater contamination.

- The time-frame needed to achieve remediation goals is likely to be on the order of several years.

- Needs to be implemented with additional remedial technologies to achieve an effective overall site remediation and reduce contaminant concentrations in both the saturated and unsaturated soils.

4.4.3 *Evaluation*

Pump-and-treat was rejected as the sole remedial option for this site, due to its inability to address unsaturated soil contamination in the primary source area, which would result in extended remedial operation and consequently high costs. Shallow bedrock at the site would make deep well installation difficult. Clay-rich soils would likely not support an effective pumping radius.

4.5 ***Soil Vapor Extraction (SVE)***

SVE involves the removal of volatile contaminants adsorbed on the soils above the water table, under a vacuum from extraction wells screened within the unsaturated zone. Recovered vapors are destroyed on-site with a catalytic oxidizer or are treated with activated carbon prior to atmospheric discharge.

4.5.1 *Advantages*

The advantages of SVE are as follows:

- Proven technology for remediation of volatile contamination within the unsaturated soils above the water table.

- Relatively rapid time-frame for remediation of the source area and unsaturated soils above the water table.

4.5.2 *Disadvantages*

The disadvantages of SVE are as follows:

- Conditions at this site (soil type, soil permeability, depth to groundwater, contaminant type) are unfavorable for the implementation of SVE.

- Does not remediate adsorbed or dissolved-phase contamination beneath the water table.

- Needs to be implemented with additional remedial technologies to achieve an effective overall site remediation.

- Does not prevent contaminant migration through groundwater to nearby surface waters.

4.5.3 *Evaluation*

SVE was rejected as a remedial option for the site due to the low permeability of the soils and the low volatility of the #2 fuel oil.

4.6 ***Soil Vapor Extraction/Air Sparging***

SVE technology combined with air sparging (AS) is generally an effective method for reducing contaminant concentrations both in the vadose zone as well as the saturated zone. During AS, fresh air is injected beneath the water table. As the air rises toward the surface, VOCs present in dissolved, sorbed, and liquid phases are stripped into the vapor phase, and recovered in the vadose zone by SVE. Recovered vapors can be treated by carbon adsorption, catalytic oxidization, or thermal destruction prior to atmospheric discharge.

4.6.1 *Advantages*

The advantages of a combined AS/SVE system are as follows:

- Proven technology for remediating volatile contamination present above and below the water table.

- Relatively rapid time-frame for remediation of the source area and surficial aquifer.

- By increasing the oxygen content in the subsurface, naturally occurring aerobic biodegradation of contaminants can be enhanced.

4.6.2 *Disadvantages*

The disadvantages of a combined AS/SVE system are as follows:

- Soils in the source area at Walker Motors generally consist of alternating layers of fine sand and silt with increasing clay content at five feet which are not amenable to AS/SVE.

- The low volatility of #2 fuel oil is not the most suitable for AS/SVE.

- Systems need to be carefully designed to effectively capture volatilized compounds in the subsurface to avoid spreading contamination.

- These technologies alone will not prevent contaminant migration off-site to the swale and to nearby surface waters.

4.6.3 *Evaluation*

AS/SVE was rejected as a remedial option for the site due to the low permeability of the soils and the low volatility of the #2 fuel oil.

4.7 ***Single-Pump Multi-Phase Extraction***

Single-pump vacuum-enhanced product recovery (MPE), also known as dual-phase extraction, involves application of a very high vacuum to a tube inserted in a recovery well. Recovered liquid and vapors are separated at the ground surface for treatment. With appropriate site conditions, this technique combines the best aspects of vapor extraction and pump-and-treat.

Contaminated groundwater is separated from any recovered free-phase product, and then treated by air stripping and/or carbon adsorption. The treated groundwater is then discharged to a sanitary sewer system, nearby surface-water body or recharge gallery. Recovered vapors from the MPE system and air stripper are treated through a catalytic oxidizer or activated carbon prior to atmospheric discharge.

Multiphase extraction pilot testing was not conducted because, based on previous experience, the cost associated with this type of remedial activity is greater than the cost of excavation. Dual-pump MPE was rejected as a remedial option at this site due to cost as well as the apparent low permeability of the local aquifer.

4.7.1 *Advantages*

The advantages of single-pump MPE are as follows:

- Provides aeration of subsurface soils, which promotes biodegradation.
- Can preferentially remove free-product and contaminated vapors, while minimizing the volume of contaminated water requiring treatment.
- Does not require down-hole pumps, therefore minimizing installation as well as operation and maintenance costs.
- System can be operated intermittently or cycled between numerous recovery wells, expanding the area of remediation while keeping operational cost to a minimum.
- Reduces or eliminates the source of contamination and the long-term source of residual contamination impacting groundwater at the site.
- The time-frame needed to achieve remediation goals would likely be on the order of two to three years or possibly less.

4.7.2 *Disadvantages*

The disadvantages of single-pump MPE are as follows:

- System installation and maintenance costs are generally more expensive than less aggressive options.
- May require treatment of large volumes of contaminated water during seasonal high water-table conditions, resulting in increased maintenance costs.
- May need to be coupled with limited source removal to reduce off-site migration and utility impact and enhance effectiveness of MPE.

4.7.3 *Evaluation*

Single-pump MPE appears to be an effective technology for this site. Single-pump MPE would be more effective in removing free-product and contaminated vapors in the unsaturated zone than SVE or AS/SVE. Implementation of MPE in conjunction with limited source removal would minimize contaminant migration in groundwater, and would effectively lower the water table outside the immediate source area, exposing the impacted unsaturated zone to vapor extraction for removal of volatile contaminants adsorbed on the soils. The increasing clay content in the native soils below five feet in the source area may impact the effectiveness of the system, however.

Based on project experience with this type of remediation system, the estimate of cost to design, install, and operate this system was determined to be between $250,000 and $300,000, not including potential source removal enhancements.

4.8 Free-Phase Product Recovery

A free-phase product recovery system can be installed in the source area to remove the product from the monitoring wells in the source area. This would involve the use of product pump(s) in selected monitoring wells that are designed to pump free-phase product, and not groundwater.

4.8.1 *Advantages*

The advantages of product recovery are as follows:

- The cost would be low compared to other remedial alternatives.
- Product pumps would remove only the free-phase #2 fuel oil and not groundwater. Manual product removal activities with a bailer have resulted in the removal of approximately 4 gallons of fuel oil from the source area during one recovery event.

4.8.2 *Disadvantages*

The disadvantages of product recovery are as follows:

- May not be enough to effectively mitigate contaminant migration to the catch basin and swale across Route 2.

- The rate at which product enters the monitoring wells is slow within the excavation area and the native soils, which will limit the effectiveness of product recovery. On 19 November 2003, a product recovery test was conducted on two wells containing free product in the source area. MW-1 is located in the UST excavation and MW-6 is located in the native soils. MW-1 was purged of product to ½-inch in 6 minutes and MW-6 was purged of product to ½-inch in ten minutes. Each well was allowed to recharge for 1.5 hours. The product thickness changed from ½-inch to 2.5-inches in MW-1 in 32 minutes at a rate of 9.4×10^{-4} gallons per minute (gal/min). The product thickness in MW-1 remained at 2.5 inches through the remainder of the 90-minute test. In MW-6, the product thickness remained unchanged at ½-inch for the full duration of the test.

- Contaminated soils will remain in situ and continue to contaminate the groundwater.

- Most of the wells in the source area are one-inch in diameter. Several larger diameter wells (2- to 4-inch) would be needed to install pumps to be effective at removing the product.

- The source area is located in a fairly busy parking area. Protective housing and underground lines would need to be installed to allow the auto body shop to continue functioning around the system.

- Additional costs would be incurred to dispose of contaminated soils excavated during well installation and trenching and product removed from the monitoring wells.

4.8.3 *Evaluation*

Product recovery is a cost-effective remedial alternative to eliminate the free-phase product in the source area. Residual contamination would remain in the low permeability soils and would continue to contaminate the groundwater in the dissolved phase. The system would likely require pumps to be installed in several monitoring wells in the source area. The estimated cost for this type of system is on the order of $40,000 to $60,000.

5.0 CONCLUSIONS

Based on the results of the SSI and the CAFI, ECSMarin believes that active remediation is necessary to mitigate the impact of petroleum contaminants offsite and reduce the threat to the Winooski River. Based on the results of the SSI and CAFI described above, ECSMarin concludes the following:

- Groundwater contamination in the surficial aquifer has been defined by the SSI. The area of free product consists of approximately 1,750 ft^2 surrounding the UST excavation area. Although a dissolved-phase plume is not observed migrating away from the source area, PID readings suggest that a thin layer of fuel oil contamination is traveling along the bedrock surface from the source area to the onsite stormwater catch basins, and eventually discharges to the swale on the east side of U.S. Route 2. The bedrock aquifer has not been explored.

- PID soil headspace readings collected from the soil borings ranged from non-detect to 355 parts per million (ppm). The highest PID reading was recorded on a soil sample collected in the unsaturated zone at MW-6, located approximately ten feet downgradient of the former #2 fuel oil UST. At the water table (8-10 feet), PID readings were 244 ppm and 318 ppm, respectively.

- Visual (oil sheen), olfactory, and PID readings were observed within two of the seven borings within the swale at the storm water outfall across U.S. Route 2. Surface water in the swale eventually discharges to the Winooski River, located approximately 750 feet from the site. Several of the onsite #2 fuel oil impacted storm water catch basins discharge to the swale located across U.S. Route 2 from the site. Oil booms were installed within one onsite catch basin (CB-3) and within the swale.

- Free-phase floating petroleum product, ranging in thickness from 0.04 to four feet, was detected in source area monitoring wells MW-1, MW-2, MW-3, MW-5, and MW-6. Recovery efforts on 30 October, 2003 removed approximately four gallons of free product from the monitoring wells.

- Vermont Groundwater Enforcement Standards (VGESs) were exceeded for five petroleum-related VOCs in the Vermont Department of Environmental Conservation (VT DEC) monitoring well. The VOC concentrations in the DEC1 well are not thought to be associated with the former fuel oil UST at the auto body shop, but rather with two gasoline USTs removed in 1988 and/or the fuel oil UST that was removed from the southern side of the dealership building on 3 October 2003.

- VGESs were also exceeded for three petroleum-related VOCs in MW-4, MW-17, and MW-19: naphthalene, 1,3,5-trimethylbenzene (1,3,5-TMB), and 1,2,4-trimethylbenzene (1,2,4-TMB).

- A metal UST, reported to be an out of use septic tank, was discovered approximately 40 feet north of the former #2 fuel oil UST. VGESs were exceeded for four petroleum-related VOCs in the old septic tank (OST) sample.

- Soil samples were obtained in the source area from the unsaturated zone and the saturated zone in two borings. Total petroleum hydrocarbon (TPH) concentrations ranged from non-detect in the unsaturated zone sample in MW-6 to 5,550 milligrams per kilogram (mg/kg) in the unsaturated zone in SB-14. Soil samples collected from the swale, located east of U.S. Route 2, contained TPH concentrations ranging from 102 to 499 mg/kg.

- Surface water samples were obtained from the swale in the vicinity of the culvert, which discharges stormwater from the Walker Motors facility, east of U.S. Route 2. VOCs were detected at concentrations below Surface Water Quality Criteria (WQC) standards. No VOCs were detected in a surface water sample obtained from a second downgradient culvert.

- The horizontal groundwater flow is north and east, toward the Winooski River. The vertical groundwater flow components at the site, and the hydraulic relationship between the shallow unconfined aquifer and the bedrock aquifer, are currently unknown. Bedrock is presumed to be shallow based on geoprobe refusal between 5 and 12 feet below ground surface in some locations.

- ECSMarin performed a CAFI to evaluate remedial alternatives for the #2 fuel oil source area. The CAFI determined that due to the relatively localized extent of free-phase product in the source area, low-permeability soils, and shallow depth of contamination, excavation of the contaminated soils is the most cost-effective strategy for mitigating offsite contaminant migration at the auto body shop. The grossly contaminated soils, estimated at 500 yd^3, could be disposed of at one of two soil treatment facilities in New Hampshire. Once the contaminated soils are removed, it is expected that contaminants infiltrating the onsite stormwater catch basins will be reduced, thus further reducing offsite migration of contaminants into the swale, which eventually discharges to the Winooski River, as well as potentially infiltrating underground utilities along U.S. Route 2.

6.0 RECOMMENDATIONS

On the basis of the results of this investigation and the conclusions stated above, ECSMarin recommends the following:

1. Source removal by excavation will mitigate the impact to utilities and offsite migration of contamination. ECSMarin believes that the removal of grossly contaminated soils before spring-time would eliminate further flushing of contaminants and degradation to the swale area. With winter conditions approaching, it may be necessary to forego the detailed Corrective Action Plan and move forward under interim corrective measures. A detailed work plan and cost estimate should be prepared for excavation activities.

2. Semi-annual groundwater sampling events should be scheduled at this site for spring and fall. Samples should be collected from selected wells and analyzed for VOCs by EPA Method 8021B and polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270.

3. Water samples should also be collected from selected downgradient storm water catch basins (especially CB-3) and the off-site drainage swale and submitted for laboratory analysis for VOCs by EPA Method 8021B and for PAHs using EPA Method 8270. The onsite storm water catch basins and off-site drainage swale should be inspected on a regular basis and oil booms replaced as needed. Continued monitoring is needed to document that contaminants are not discharging to the Winooski River.

4. Free-phase product monitoring and recovery should be implemented on a monthly basis until remediation activities are approved and implemented.

5. Notify the City of Montpelier, Vermont Agency of Transportation, and Vermont Railway of the off-site contamination so that proper procedures can be implemented if utility work is performed in the contaminated areas identified by the SSI.

6. Following each sampling event, a summary report should be prepared which includes water-quality analytical results, figures showing groundwater flow direction and contaminant distribution, relevant tables, and recommendations for further action.

TABLES

TABLE 1
Summary of Analytical Results for Soil Samples

Walker Motors
Montpelier, VT

Sampling Dates: 26 August and 3 September 2003

Well I.D.	Benzene	Toluene	Ethyl-benzene	Xylenes	Total BTEX	MTBE	1,3,5-TMB	1,2,4-TMB	Naph-thalene	TPH-DRO
SB-6 SS1	ND<55.5	ND<55.5	ND<55.5	ND<55.5	ND	ND<55.5	ND<55.5	ND<55.5	ND<55.5	ND<34.7
SB-6 SS2	**410**	**2,430**	**3,300**	**19,510**	**25,650**	ND<351	**9,350**	**30,500**	**12,500**	**4,040**
SB-14 SS1	ND<809	**3,730**	**6,430**	**40,200**	**50,360**	ND<809	**20,800**	**69,300**	**32,200**	**5,550**
SB-14 SS2	ND<1220	**5,980**	**5,720**	**36,300**	**48,000**	ND<1220	**16,300**	**53,200**	**19,600**	**3,800**
SW-1	ND<77.9	ND<77.9	ND<77.9	ND<233.9	ND	ND<77.9	ND<77.9	ND<77.9	**121**	**115**
SW-2	ND<812	ND<812	ND<812	ND<812	ND	ND<812	**3,100**	**11,600**	**7,280**	**499**
SW-3	ND<73.2	ND<73.2	ND<73.2	ND<219.2	ND	ND<73.2	ND<73.2	ND<73.2	ND<73.2	**102**
PRGs	***1,300***	***520,000***	***20,000***	***420,000***	**--**	***160000***	***70,000***	***170,000***	***190,000***	**--**

Notes:
MTBE - methyl tert-butyl ether
BTEX - A sum of the compounds: benzene, toluene, ethylbenzene, and xylen
ND - None detected at indicated detection limi
Results given in micrograms per kilogram (ug/kg
TMB - trimethyl benzene
TPH - total petroleum hydrocarbons measured in milligrams per kilograms (mg/k
PRG - U.S. EPA Preliminary Remedial Goal for industrial soils.

TABLE 2
GROUNDWATER ELEVATION CALCULATIONS

Walker Motors
Montpelier, VT

Monitoring Date: 10 September 2003

Well I.D.	Top of Casing Elevation	Depth to Product	Depth to Water	Product Thickness	Corrected Depth to water	Water Table Elevation
MW-1	100.00	5.36	6.04	0.68	5.50	94.50
MW-2	99.54	8.90	9.15	0.25	8.95	90.59
MW-3	100.77	4.85	4.89	0.04	4.86	95.91
MW-4	99.54	-	5.35	-	-	94.19
MW-5	99.83	8.00	8.78	0.78	8.16	91.67
MW-6	99.52	9.92	11.20	1.28	10.18	89.34
MW-7	99.83	-	Dry	-	-	Dry
MW-8	99.18	-	11.73	-	-	87.45
MW-9	79.08	-	6.42	-	-	72.66
MW-10	75.93	-	4.35	-	-	71.58
MW-11	64.45	-	3.95	-	-	60.50
MW-12	63.83	-	4.85	-	-	58.98
MW-13	70.54	-	2.93	-	-	67.61
MW-14	56.91	-	1.47	-	-	55.44
MW-15	57.06	-	3.18	-	-	53.88
MW-16	56.62	-	3.03	-	-	53.59
MW-17	59.25	-	2.17	-	-	57.08
MW-18	60.11	-	3.97	-	-	56.14
MW-19	58.25	-	4.15	-	-	54.10
MW-20	58.36	-	3.21	-	-	55.15

All values reported in feet relative to arbitrary site datum of 100.00 feet.
NA = Not Available

TABLE 3
Summary of Analytical Results for Groundwater

Walker Motors
Montpelier, VT

Sampling Date: 10 September 2003

Well I.D.	Benzene	Toluene	Ethyl-benzene	Xylenes	Total BTEX	MTBE	1,3,5-TMB	1,2,4-TMB	Naph-thalene	n-Butyl benzene	sec-Butyl benzene	tert-Butyl benzene	Freon 12	Isopropyl benzene	4-Isopropyl toluene	n-Propyl benzene	Total VOCs	TPH
MW-1	FP	FP	FP	FP	--	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	--	FP
MW-2	FP	FP	FP	FP	--	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	--	FP
MW-3	FP	FP	FP	FP	--	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	--	FP
MW-4	ND<5	ND<5	**24.5**	**166.7**	**191**	ND<5	**54.7**	**173**	**265**	**12.4**	**18.6**	**7.70**	ND<10	**36.2**	**15.3**	**48.9**	**823**	**7.53**
MW-5	FP	FP	FP	FP	--	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	--	FP
MW-6	FP	FP	FP	FP	--	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	--	FP
MW-7	Dry	Dry	Dry	Dry	--	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	--	Dry
MW-8	Dry	Dry	Dry	Dry	--	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	--	Dry
MW-9	ND<1	ND<1	ND<1	ND<2	ND	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<2	ND<1	ND<1	ND<1	ND	ND<0.2
MW-10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12	ND<1	ND<1	ND<1	ND<2	ND	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	**6.89**	ND<1	ND<1	ND<1	**7**	ND<0.2
MW-13	ND<1	ND<1	ND<1	ND<2	ND	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<2	ND<1	ND<1	ND<1	ND	ND<0.2
MW-14	ND<1	ND<1	ND<1	ND<2	ND	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<2	ND<1	ND<1	ND<1	ND	NS
MW-15	ND<1	ND<1	ND<1	ND<2	ND	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<2	ND<1	ND<1	ND<1	ND	ND<0.2
MW-16	ND<1	ND<1	ND<1	ND<2	ND	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<2	ND<1	ND<1	ND<1	ND	ND<0.2
MW-17	**1.48**	**2.22**	**1.22**	**11.73**	**17**	ND<1	**4.47**	**22.8**	**30.1**	ND<1	ND<1	ND<1	**2.44**	**1.22**	ND<1	**1.59**	**79**	ND<0.2
MW-18	ND<1	ND<1	ND<1	ND<2	ND	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<2	ND<1	ND<1	ND<1	ND	NS
MW-19	ND<5	ND<5	ND<5	**7.40**	**7**	ND<5	**37.7**	**139**	**105**	**41.0**	**22.7**	**5.90**	ND<10	**6.80**	**20.4**	**17.3**	**403**	NS
MW-20	ND<1	ND<1	ND<1	ND<2	ND	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	**4.01**	ND<1	ND<1	ND<1	**4**	NS
VT DEC	**15.8**	**23.2**	**758**	**1269**	**2066**	ND<5	**121**	**1400**	**375**	**19.6**	**9.35**	ND<5	**10.2**	**52.2**	**6.40**	**131**	**4191**	**1.78**
OST	**164**	**486**	**298**	**2204**	**3152**	ND<100	**968**	**3290**	**1440**	**749**	**374**	ND<100	ND<100	**256**	**299**	**428**	**10956**	NS
Duplicate (MW-4)	ND<5	**5.40**	**28.5**	**195.7**	**230**	ND<5	**100**	**301**	**284**	**46.0**	**49.4**	**14.8**	ND<10	**50.7**	**40.5**	**80.7**	**1197**	NS
% difference	--	--	16	17	20	--	83	74	7	271	166	92	--	40	165	65	--	--
Trip Blank	ND<1	1.17	ND<1	ND<2	1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<2	ND<1	ND<1	ND<1	--	--
VGES	***5***	***1,000***	***700***	***10,000***	***--***	***40***	***4***	***5***	***20***	***--***	***--***	***--***	***1000***	***--***	***--***	***--***	***--***	***--***

Notes:
MTBE - methyl tert-butyl ether
ND - None detected at indicated detection limit.
NS - Not Sampled due to the presence of free product in MW-2, MW-6, and MW-7
Results given in micrograms per liter (µg/L).
TMB - trimethyl benzene

TABLE 4
Summary of Analytical Results for Surface Water

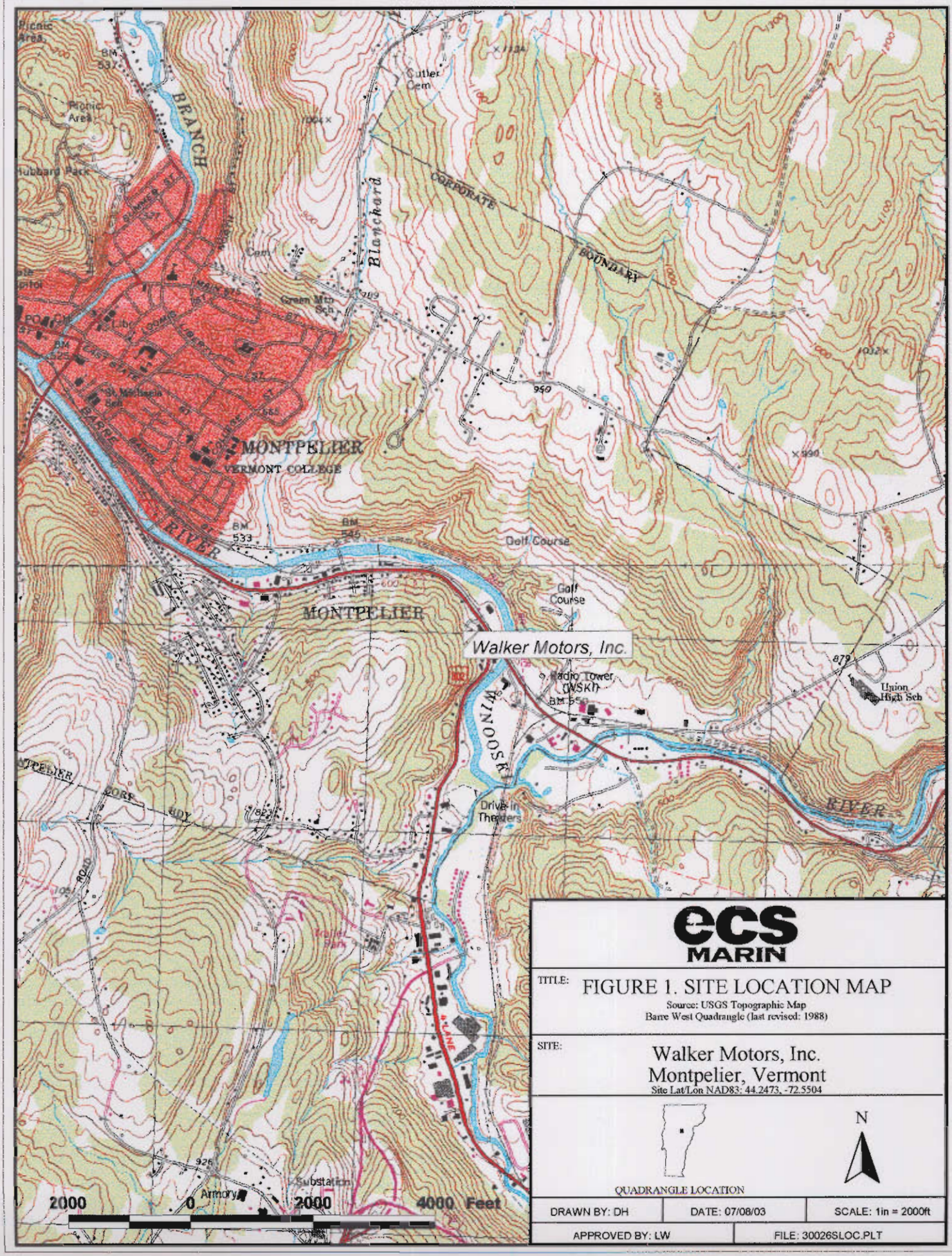
Walker Motors
Montpelier, VT

Sampling Date: 10 September 2003

Well I.D.	Benzene	Toluene	Ethyl-benzene	Xylenes	Total BTEX	MTBE	1,3,5-TMB	1,2,4-TMB	Naph-thalene	TPH
SW-1	ND<5	ND<5	ND<5	ND<10	ND	ND<5	ND<5	**15.6**	**40.5**	**3.50**
SW-2	ND<1	ND<1	ND<1	ND<2	ND	ND<1	ND<1	ND<1	ND<1	NS
SW-3	ND<5	ND<5	ND<5	ND<10	ND	ND<5	ND<5	**16.2**	**35.0**	NS
WQC	*1.2*	***6,800***	***3,100***	--	--	--	--	--	--	--

Notes:
MTBE - methyl tert-butyl ether
ND - None detected at indicated detection limit
NS - Not Sampled due to the presence of free product in MW-2, MW-6, and MW-
Results given in micrograms per liter (µg/L)
TMB - trimethyl benzene
TPH - total petroleum hydrocarbons measured in milligrams per liter (mg/l
WQC - Water Quality Criteria for the protection of human health in Class B waters.

FIGURES



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TITLE: FIGURE 1. SITE LOCATION MAP

Source: USGS Topographic Map
Barre West Quadrangle (last revised: 1988)

SITE: Walker Motors, Inc.
Montpelier, Vermont
Site Lat/Lon NAD83: 44.2473, -72.5504

QUADRANGLE LOCATION

N

DRAWN BY: DH	DATE: 07/08/03	SCALE: 1in = 2000ft
APPROVED BY: LW	FILE: 30026SLOC.PLT	

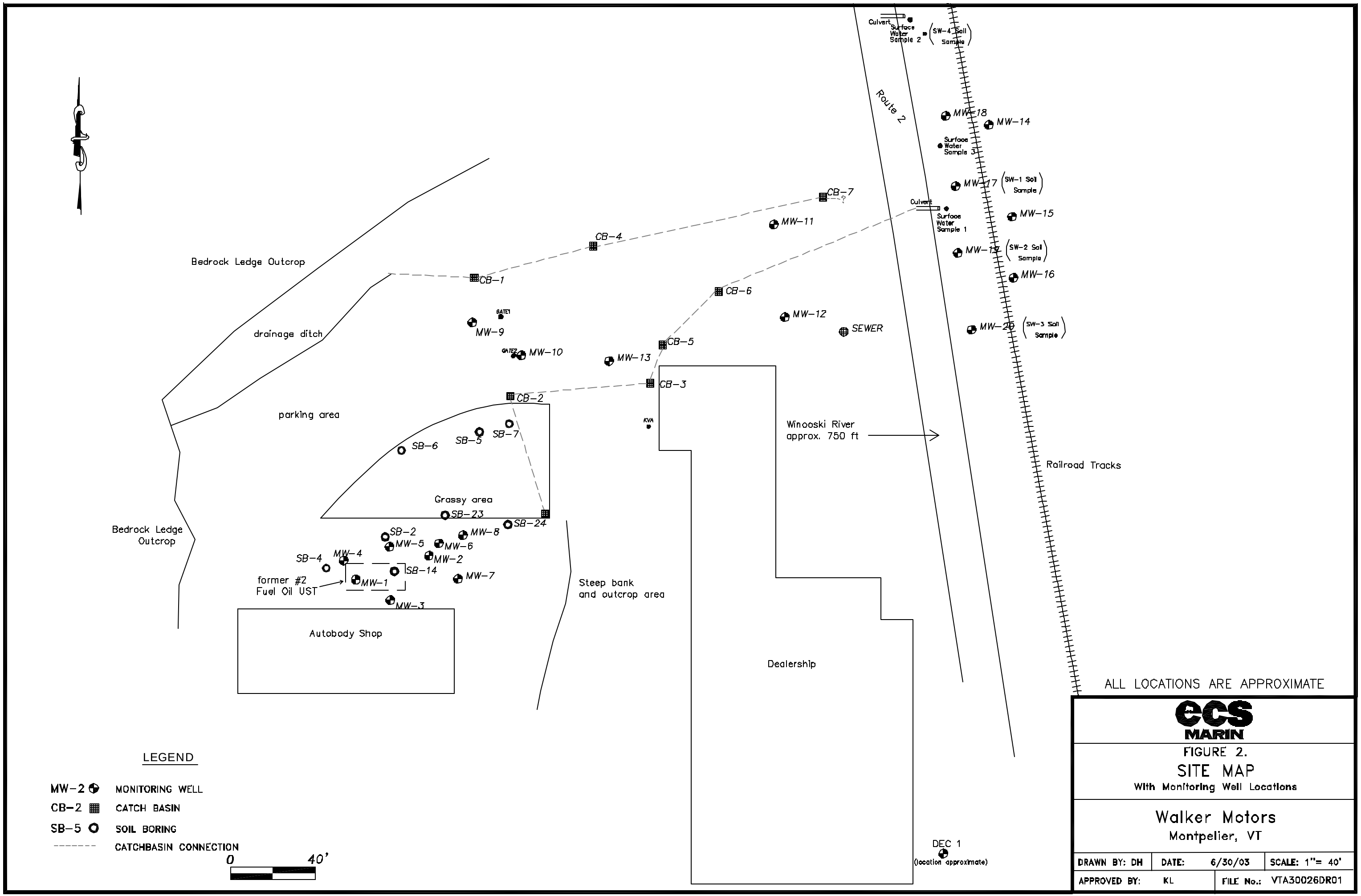

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FIGURE 2.

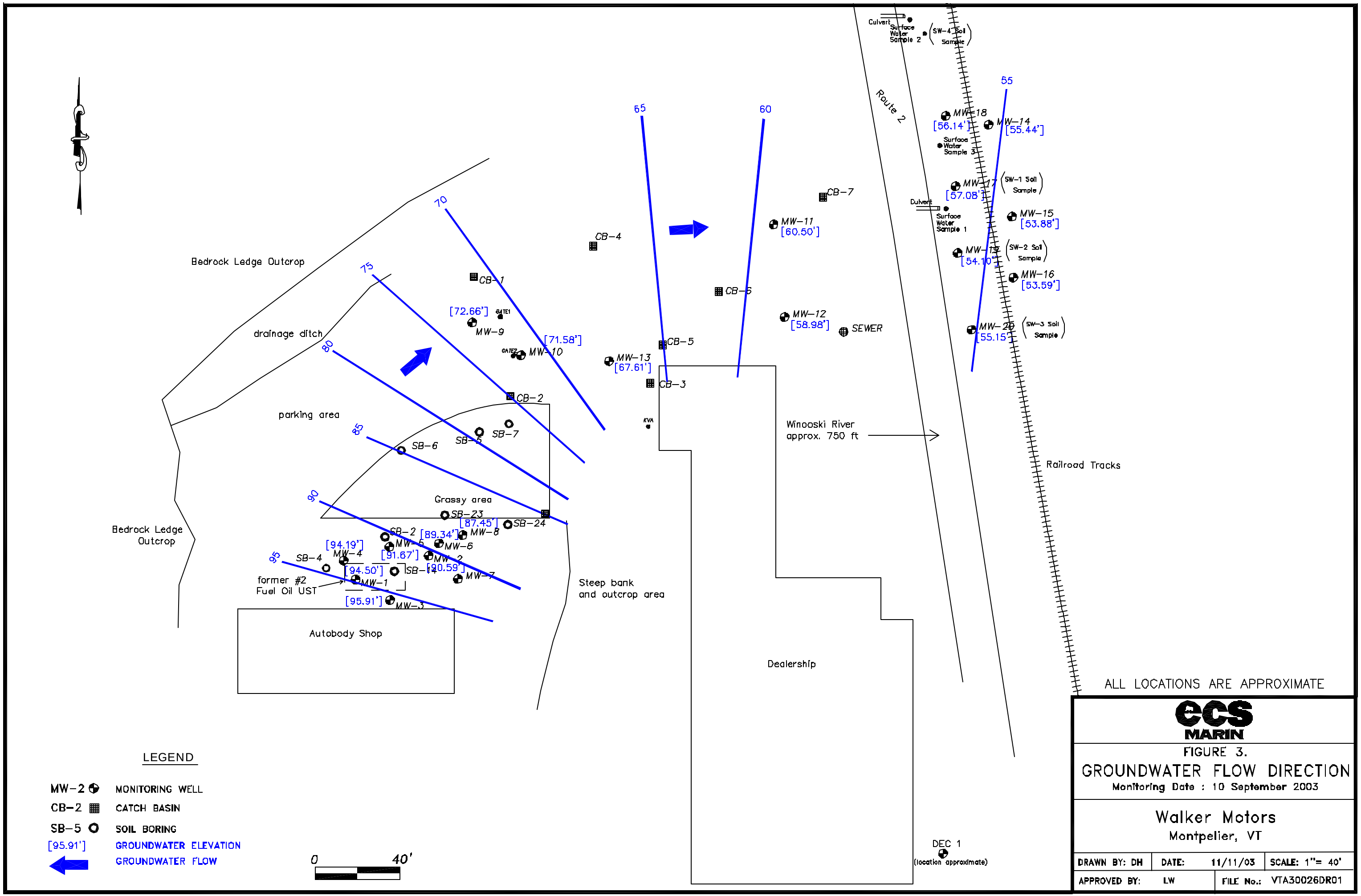
SITE MAP

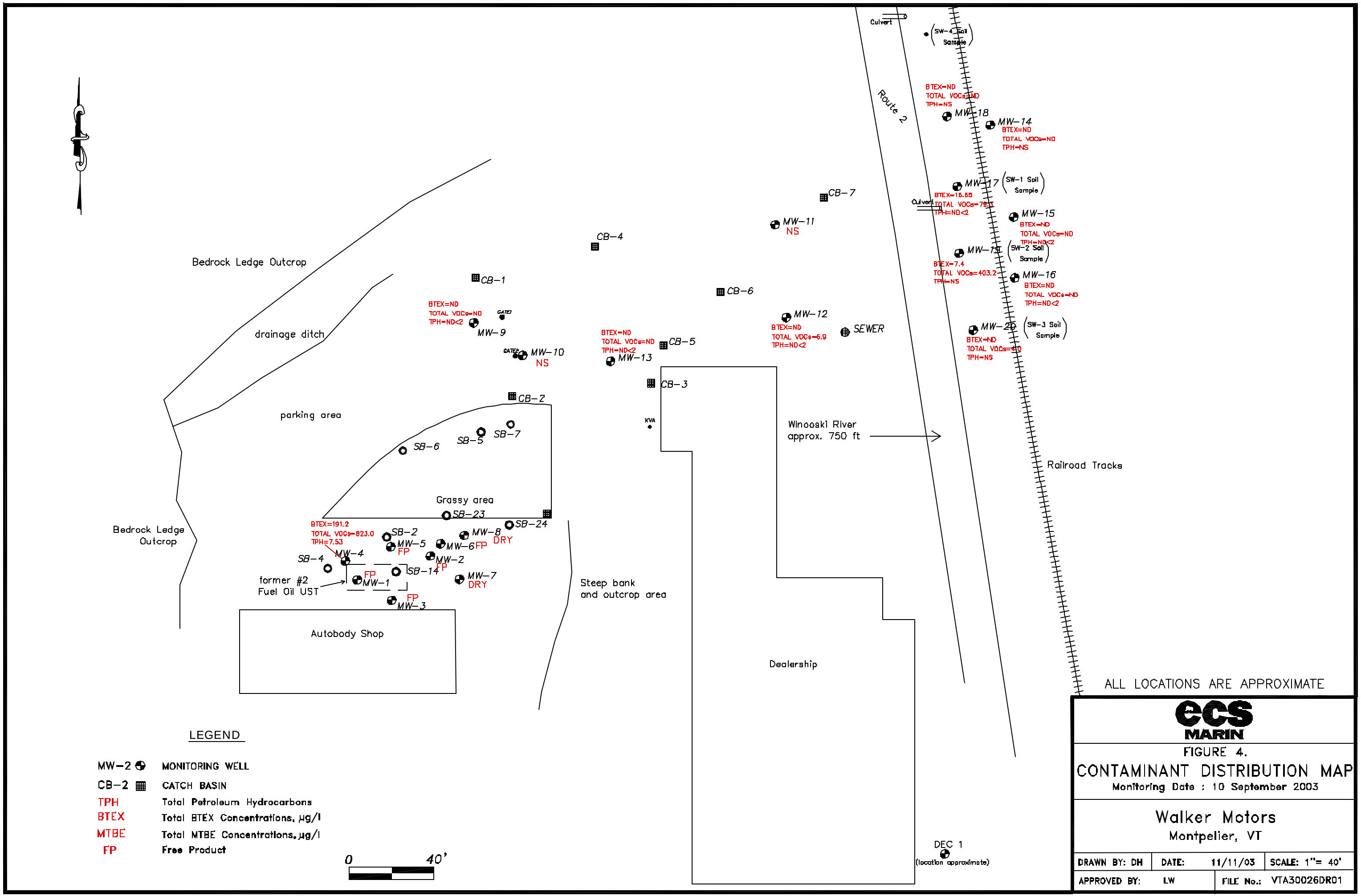
With Monitoring Well Locations

Walker Motors

Montpelier, VT

DRAWN BY: DH	DATE: 6/30/03	SCALE: 1"= 40'
APPROVED BY: KL	FILE No.: VTA30026DR01	


Bedrock Ledge Outcrop
drainage ditch
parking area
Bedrock Ledge Outcrop
Grassy area
former #2 Fuel Oil UST
Autobody Shop
Steep bank and outcrop area
Winooski River approx. 750 ft
Dealership
Route 2
Railroad Tracks
Culvert
Surface Water Sample 2
SW-4 Soil Sample
Surface Water Sample 3
SW-1 Soil Sample
Surface Water Sample 1
SW-2 Soil Sample
SW-3 Soil Sample
SEWER
DEC 1
(location approximate)
CB-1
CB-2
CB-3
CB-4
CB-5
CB-6
CB-7
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-13
MW-14
MW-15
MW-16
MW-17
MW-18
MW-19
MW-20
SB-2
SB-4
SB-5
SB-6
SB-7
SB-23
SB-24
[72.66']
[71.58']
[67.61']
[60.50']
[58.98']
[56.14']
[55.44']
[57.08']
[53.88']
[54.10']
[53.59']
[55.15']
[87.45']
[89.34']
[94.19']
[91.67']
[90.59']
[94.50']
[95.91']
55
60
65
70
75
80
85
90
95
LEGEND
MW-2 MONITORING WELL
CB-2 CATCH BASIN
SB-5 SOIL BORING
[95.91'] GROUNDWATER ELEVATION
GROUNDWATER FLOW
0
40'
ALL LOCATIONS ARE APPROXIMATE
ecs MARIN
FIGURE 3.
GROUNDWATER FLOW DIRECTION
Monitoring Date : 10 September 2003
Walker Motors
Montpelier, VT
DRAWN BY: DH
DATE: 11/11/03
SCALE: 1"= 40'
APPROVED BY: LW
FILE No.: VTA30026DR01


Culvert
SW-4 Soil Sample
Route 2
BTEX=ND
TOTAL VOCs=ND
TPH=NS
MW-18
MW-14
BTEX=ND
TOTAL VOCs=ND
TPH=NS
MW-17
SW-1 Soil Sample
BTEX=15.55
TOTAL VOCs=75.1
TPH=ND<2
Culvert
MW-15
BTEX=ND
TOTAL VOCs=ND
TPH=ND<2
MW-11
SW-2 Soil Sample
BTEX=7.4
TOTAL VOCs=403.2
TPH=NS
MW-16
BTEX=ND
TOTAL VOCs=ND
TPH=ND<2
MW-20
SW-3 Soil Sample
BTEX=ND
TOTAL VOCs=ND
TPH=NS
CB-7
MW-11
NS
CB-4
CB-6
MW-12
BTEX=ND
TOTAL VOCs=6.9
TPH=ND<2
SEWER
CB-1
BTEX=ND
TOTAL VOCs=ND
TPH=ND<2
GATE1
MW-9
BTEX=ND
TOTAL VOCs=ND
TPH=ND<2
CB-5
MW-13
GATE2
MW-10
NS
CB-3
KVA
CB-2
Bedrock Ledge Outcrop
drainage ditch
parking area
SB-5
SB-7
SB-6
Winooski River
approx. 750 ft
Railroad Tracks
Grassy area
SB-23
SB-24
Bedrock Ledge Outcrop
BTEX=191.2
TOTAL VOCs=823.0
TPH=7.53
SB-2
MW-8
DRY
MW-5
FP
MW-6
FP
MW-4
MW-2
FP
SB-4
SB-14
former #2
Fuel Oil UST
FP
MW-1
MW-7
DRY
FP
MW-3
Steep bank
and outcrop area
Autobody Shop
Dealership
DEC 1
(location approximate)
ALL LOCATIONS ARE APPROXIMATE
LEGEND
MW-2 MONITORING WELL
CB-2 CATCH BASIN
TPH Total Petroleum Hydrocarbons
BTEX Total BTEX Concentrations, µg/l
MTBE Total MTBE Concentrations, µg/l
FP Free Product
0
40'
ECS MARIN
FIGURE 4.
CONTAMINANT DISTRIBUTION MAP
Monitoring Date : 10 September 2003
Walker Motors
Montpelier, VT
DRAWN BY: DH
DATE: 11/11/03
SCALE: 1"= 40'
APPROVED BY: LW
FILE No.: VTA30026DR01

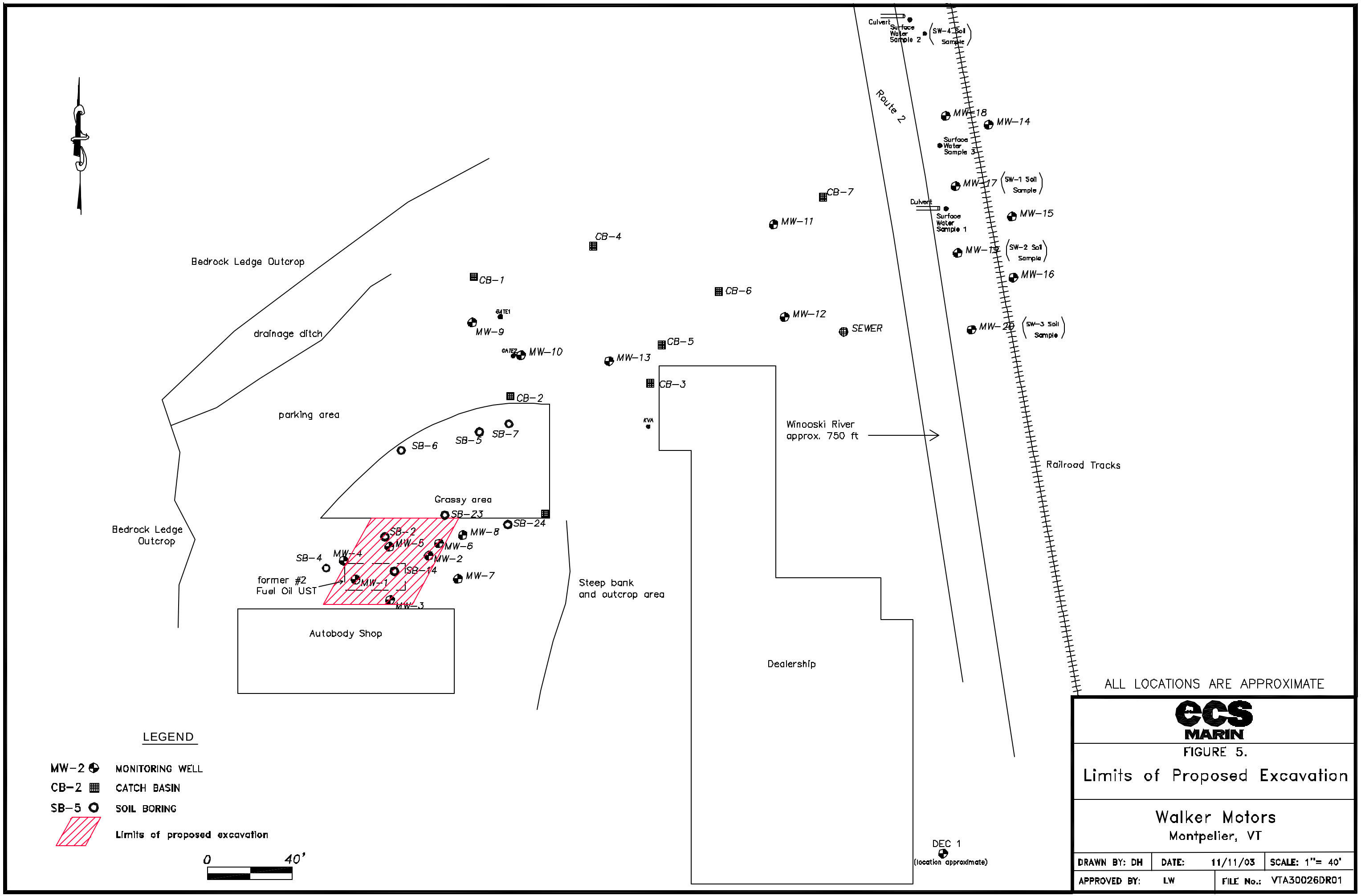


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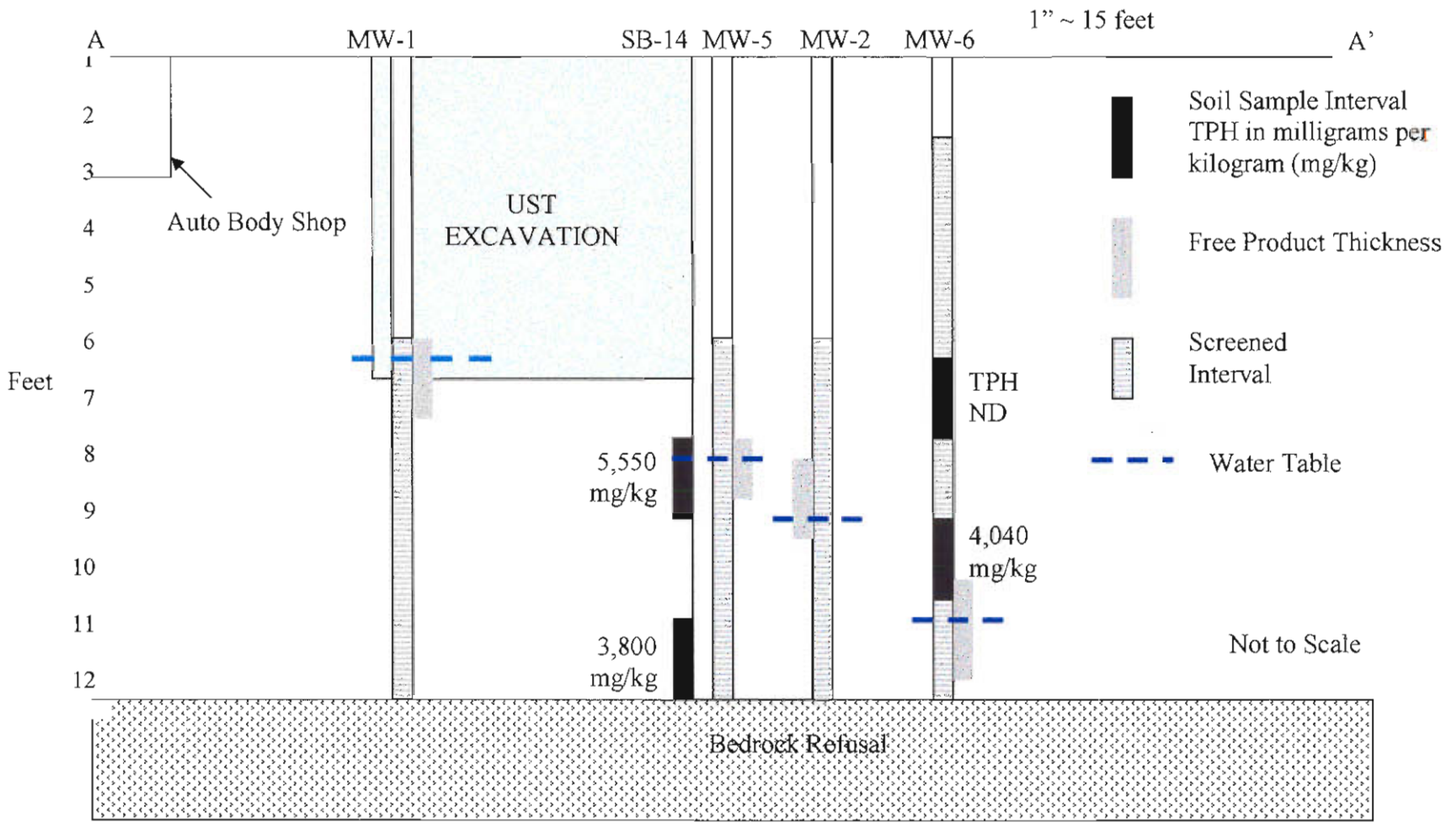
FIGURE 5.

Limits of Proposed Excavation

Walker Motors
Montpelier, VT

DRAWN BY: DH	DATE: 11/11/03	SCALE: 1"= 40'
APPROVED BY: LW	FILE No.: VTA30026DR01	

Figure 6 - Schematic Cross-Section – Walker Motors Auto Body Shop



A-A' section runs from southwest corner of the excavation area (Figure 5) to the northeast corner of the excavation area.

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APPENDIX A

SOIL BORING/MONITORING WELL CONSTRUCTION DIAGRAMS

ECS MARIN
65 MILLET STREET (802) 434-4500
RICHMOND, VERMONT 05477 (802) 434-6076 - FAX

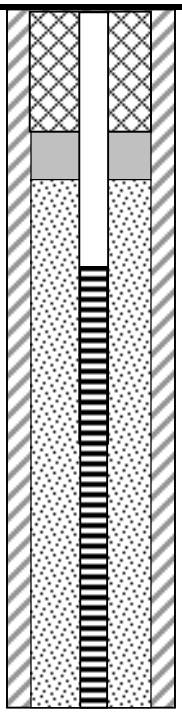
BORING / WELL IDENTIFICATION: **SB-8/MW-3**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**26 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**8 ft bgs**	*BORING DEPTH:*	**8 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 7 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**3 ft bgs**		
SCREEN TYPE/SIZE:	**0.010 slot schedule 40 PVC**			*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 3 ft bgs**	*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0		1.5	Olive gray medium to coarse SAND and gravel, large chunk of shist; penetrated a copper line with a fuel oil odor (probably piping from the tank left in the ground).	0.5
1				
2				
3				
4		4	Olive gray medium SAND, 4" fuel saturated.	346
5			Dense, silty sand and clay with some gravel grading into fine sand layers, mottled.	259
6	▼			
7		1	Same as above, sheen, wet, strong petroleum odor.	325
8				
9				
10				
11				
12			End of Sampling = 8+ feet Well set @ 8.0 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

BLOW COUNT (COHESIVE SOILS)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

BLOW COUNT (GRANULAR SOILS)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: Thermo Model 580B

ECS MARIN
65 MILLET STREET (802) 434-4500
RICHMOND, VERMONT 05477 (802) 434-6076 - FAX

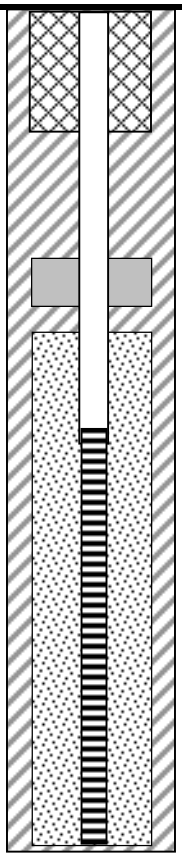
BORING / WELL IDENTIFICATION: **SB-9/MW-4**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**26 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**10 ft bgs**	*BORING DEPTH:*	**10 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 7.5 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**5 ft bgs**		
SCREEN TYPE/SIZE:	**0.010 slot schedule 40 PVC**			*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 5 ft bgs**	*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0		3	Olive gray, fine to coarse SAND with some gravel.	230
1				
2				
3			Denser at the tip of the spoon; chunk of bedrock ledge in tip of spoon.	
4		4	Olive-gray medium to fine SAND with some silt and gravel; black staining evident.	9.7
5			Approximately 1.5 feet of fine sand and silt with clay, chunks of bedrock ledge.	0.6
6				
7	▼			
8		2	Same as above, weathered bedrock ledge (slate); saturated, fuel oil sheen and strong odor.	160
9				
10				
11				
12			End of Sampling = 10 feet Well set @ 10.0 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Thermo Model 580B
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

ECS MARIN
65 MILLET STREET (802) 434-4500
RICHMOND, VERMONT 05477 (802) 434-6076 - FAX

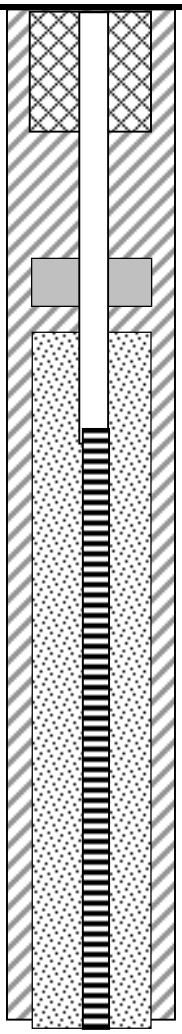
BORING / WELL IDENTIFICATION: **SB-10/MW-5**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**26 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**12 ft bgs**	*BORING DEPTH:*	**12 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 9 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**5 - 12 ft bgs**		
SCREEN TYPE/SIZE:	**0.010 slot schedule 40 PVC**			*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 5 ft bgs**	*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0		2.5	Olive gray, fine to coarse SAND with some gravel, grading into dense finer sand and gravel with some silt and chunks of bedrock ledge.	3.2
1				
2				
3				
4		4	Same as above with increasing silt content, no clay, damp	0.4
5			Approximately 1.5 feet of fine sand and silt with clay, chunks of bedrock ledge.	
6				164
7				
8	▼	4	1' same as above	330
9			Olive gray, dense, saturated, fine sand, silt, and clay with chunks of bedrock ledge; sheen, strong odor	
10				250
11			BEDROCK REFUSAL AT 12'	
12			End of Sampling = 12 feet Well set @ 12 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Thermo Model 580B
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

ECS MARIN
65 MILLET STREET (802) 434-4500
RICHMOND, VERMONT 05477 (802) 434-6076 - FAX

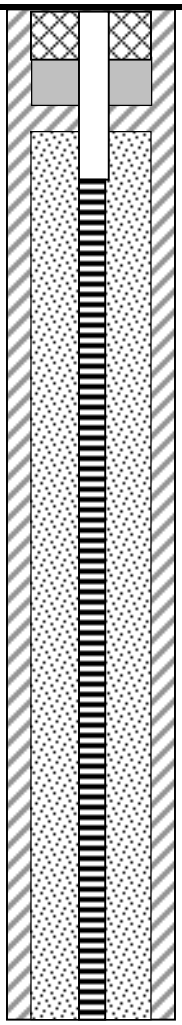
BORING / WELL IDENTIFICATION: **SB-11/MW-6**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**26 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**12 ft bgs**	*BORING DEPTH:*	**12 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 9.5 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**2-12 ft bgs**		
SCREEN TYPE/SIZE:	**0.010 slot schedule 40 PVC**			*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 2 ft bgs**	*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0		2.5	Olive gray, fine to coarse SAND with gravel, and chunks of bedrock ledge.	5.7
1				
2				
3				
4		4	Upper 0.8' same as above	355
5			Olive gray fine sand and silt with some gravel and bedrock ledge.	13
6	**S1**			
7			Increasing clay with fine sand and silt	100
8		4	Same as above, saturated, strong odor; some layers of medium to coarse sand and gravel, black staining	244
9	▼ **S2**		Olive gray, dense, saturated, fine sand, silt, and clay with chunks of bedrock ledge; sheen, strong odor	
10				318
11			BEDROCK REFUSAL AT 12'	
12			End of Sampling = 12 feet Well set @ 12 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Thermo Model 580B
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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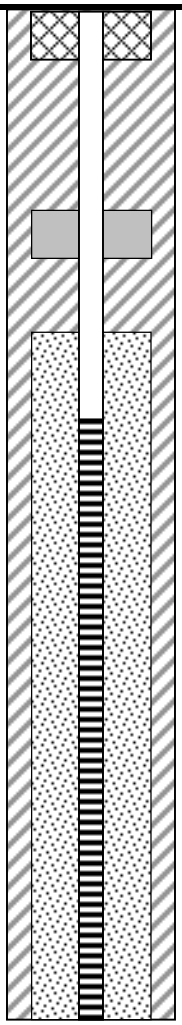
BORING / WELL IDENTIFICATION: **SB-12/MW-7**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**26 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**12 ft bgs**	*BORING DEPTH:*	**12 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 9 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**5-12 ft bgs**		
SCREEN TYPE/SIZE:	**0.010 slot schedule 40 PVC**			*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 5 ft bgs**	*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0		1.5	Olive gray, fine to coarse SAND and gravel, shist and quartz chunks in spoon.	1.2
1				
2				
3				
4		1.5	Same as above with more silt and chunks of bedrock ledge.	0.9
5				
6				
7				
8		4	Olive gray fine sand and silt grading into more clay (dense); difficult to pull rods out, bedrock ledge chunks in spoon, no odors.	0.6
9	▼			
10				0.5
11			BEDROCK REFUSAL AT 12'	
12			End of Sampling = 12 feet Well set @ 12 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Thermo Model 580B
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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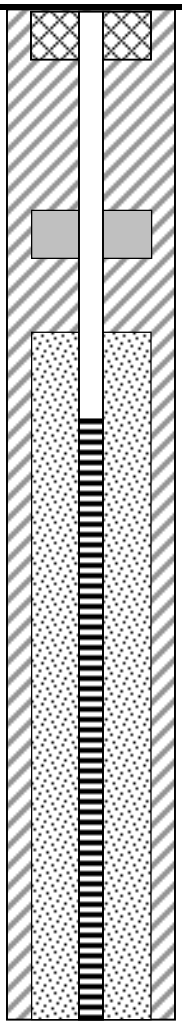
BORING / WELL IDENTIFICATION: **SB-13/MW-8**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**26 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**12 ft bgs**	*BORING DEPTH:*	**12 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 9 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**5-12 ft bgs**		
SCREEN TYPE/SIZE:	**0.010 slot schedule 40 PVC**			*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 5 ft bgs**	*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0		2.3	Light Brown, sine to coarse SAND and gravel; one large chunk of quartz.	0.0
1				
2				
3				
4		2.3	1' Same as above	0.0
5			Olive gray dense fine sand, silt and clay, damp.	2.1
6				
7	▼			
8		4	Olive gray fine sand, silt and clay; dense; saturated; fuel oil odor, some chunks of bedrock ledge.	4.4
9				
10				170
11			BEDROCK REFUSAL AT 12'	6.3
12			End of Sampling = 12 feet Well set @ 12 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Thermo Model 580B
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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BORING / WELL IDENTIFICATION: **SB-14**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**26 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:		*BORING DEPTH:*	**12 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):				*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:		*DEPTH:*			
SCREEN TYPE/SIZE:				*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:		*DEPTH:*		*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:				*ELEVATION OF RP:*	**not measured**
REMARKS:	Boring was drilled to obtain soil samples used to calculate mass of contamination. No well was installed.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)	WELL PROFILE	LEGEND
0			No sample collected from fill material in the center of the excavation.			Concrete
1						Native Material
2						Bentonite
3						Filter Sand
4		2.0	Fill material			Riser
5						Screen
6						Water Level
7						
8	**S1**		Olive gray, fine to coarse sand and gravel, odor	283		
9						
10	▼					
11	**S2**		Same as above with some silt and clay, odor, saturated.			
12			End of Sampling = 12 feet No well set.			

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Thermo Model 580B
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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BORING / WELL IDENTIFICATION: **SB-15**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**26 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:		*BORING DEPTH:*	**5.5 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):		**Approximately 5 ft bgs**		*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:		*DEPTH:*			
SCREEN TYPE/SIZE:				*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:		*DEPTH:*		*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:				*ELEVATION OF RP:*	**not measured**
REMARKS:	No well was installed. Boring located adjacent to the storm drain receiving discharge water from the wash bay				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)	WELL PROFILE	LEGEND
0		2.5	Light brown, fine to coarse sand and gravel, dry, odor.	0.1		Concrete
1						Native Material
2						Bentonite
3				0.0		Filter Sand
4		1.0	Same as above; saturated at tip of spoon (2”); no odor	0.0		Riser
5						Screen
6			REFUSAL AT 5’			Water Level
7						
8						
9						
10						
11						
12			End of Sampling = 5 feet No well set.			

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Thermo Model 580B
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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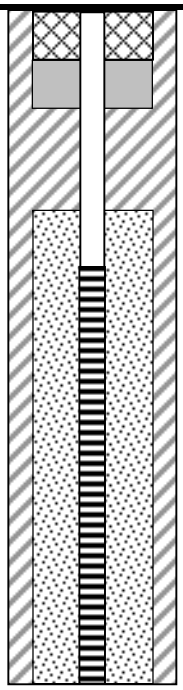
BORING / WELL IDENTIFICATION: **SB-16/MW-9**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**26 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**8 ft bgs**	*BORING DEPTH:*	**8 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 4 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**3-8 ft bgs**		
SCREEN TYPE/SIZE:	**0.010 slot schedule 40 PVC**			*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 3 ft bgs**	*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0		2.5	Light Brown, medium to coarse SAND and gravel.	0.0
1				
2				
3	▼		Bottom 0.7' consist of fine sand and gravel with some silt; no odor, damp.	0.0
4		1.4	Olive gray, medium to coarse SAND and gravel, large rock chunks, saturated, odor, one dark gray stained area app. 1" thick with fuel oil.	1.3
5				
6				
7				
8		1	Intervals of fine sand and silt with medium to coarse sand and gravel, saturated.	0.2
9			BEDROCK REFUSAL AT 8.5'	
10				
11				
12			End of Sampling = 8.5 feet Well set @ 8 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Thermo Model 580B
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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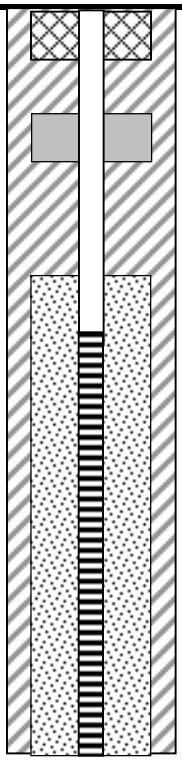
BORING / WELL IDENTIFICATION: **SB-17/MW-10**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**26 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**9 ft bgs**	*BORING DEPTH:*	**9 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 5 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**4-9 ft bgs**		
SCREEN TYPE/SIZE:	**0.010 slot schedule 40 PVC**			*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 4 ft bgs**	*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0		1.9	Light Brown, medium to coarse SAND and gravel, dry.	0.0
1				
2				
3				
4	▼	2.0	0.5' Same as above	
5			1.5' Olive gray, course to medium sand, oil staining, slight odor.	0.4
6				
7				
8		2.0	Saturated gravel and fine sand, layers of coarse sand and gravel (3" thick).	0.0
9			BEDROCK REFUSAL AT 9'	
10				
11				
12			End of Sampling = 9 feet Well set @ 9 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Thermo Model 580B
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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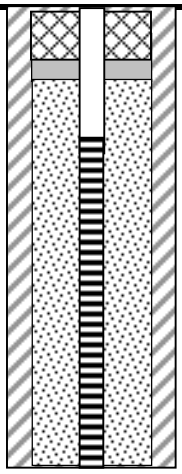
BORING / WELL IDENTIFICATION: **SB-18/MW-11**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**27 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**5.5 ft bgs**	*BORING DEPTH:*	**5.5 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 4 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**1.5 - 4 ft bgs**		
SCREEN TYPE/SIZE:	**0.010 slot schedule 40 PVC**			*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 1.5 ft bgs**	*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0		2.3	Light Brown, fine to coarse sand and gravel with chunks of bedrock ledge; damp at bottom	0.0
1				
2				
3	▼			
4		0.5	Same as above grading into fine sand and some gravel/weathered bedrock ledge, saturated, evidence of black staining, no sheen or odor.	2.3
5			Piece of metal in bottom of sample tube; filter fabric in upper sampler. Void space encountered when building the well – 2 bags of sand needed to fill space between well and hole. Bentonite placed in hole before awareness of the void space. May impact water flow to well.	
6				
7			REFUSAL AT 5.5'	
8				
9				
10				
11				
12			End of Sampling = 5.5 feet Well set @ 5.5 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

BLOW COUNT (COHESIVE SOILS)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

BLOW COUNT (GRANULAR SOILS)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: Thermo Model 580B

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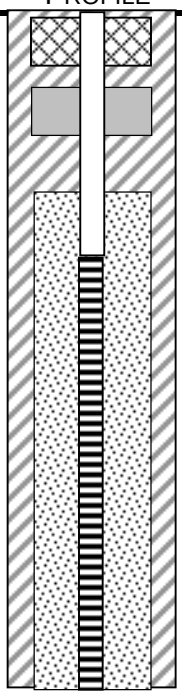
BORING / WELL IDENTIFICATION: **SB-19/MW-12**

Site Name:	**Walker Motors**
Site Location:	**Montpelier, Vermont**
Installation Date:	**27 August 2003**
Job Number:	**VTA3-0026D**

Well Depth:	**8 ft bgs**	*Boring Depth:*	**8 ft bgs**	*Marin Representative:*	**Laura Woodard**
Depth to Water (during drilling):	**Approximately 5 ft bgs**			*Drilling Company:*	**ECSMarin Agawam, MA**
Screen Diameter:	**1-inch**	*Depth:*	**3-8 ft bgs**		
Screen Type/Size:	**0.010 slot schedule 40 PVC**			*Sampling Method:*	**Geoprobe direct-push**
Riser Diameter:	**1-inch**	*Depth:*	**0 – 3 ft bgs**	*Reference Point (RP):*	**Grade**
Riser Type/Size:	**Schedule 40 PVC**			*Elevation of RP:*	**not measured**
Remarks:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

Depth (in feet)	Sample Depth (ft)	Recovery (ft)	Sample Description and Notes	PID (ppm)
0		3	6" fill material above filter fabric and below asphalt. Light Brown fine sand, silt, and clay with gravel, mottled and dense, no odor, damp.	0.0
1				
2				0.0
3				
4	▼	4	Same as above, saturated, less clay. Fine SAND and silt, light brown, chunks of bedrock ledge.	0.0
5				
6				0.0
7				
8				
9				
10				
11				
12			End of Sampling = 8 feet Well set @ 8 feet	

Well Profile



Legend: Concrete; Native Material; Bentonite; Filter Sand; Riser; Screen; Water Level

Proportions used	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

Blow count (cohesive soils)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

Blow count (granular soils)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: Thermo Model 580B

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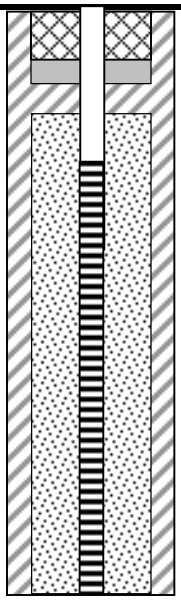
BORING / WELL IDENTIFICATION: **SB-20/MW-14**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**27 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**12 ft bgs**	*BORING DEPTH:*	**7 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 2 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**3 - 8 ft bgs**		
SCREEN TYPE/SIZE:	**0.010 slot schedule 40 PVC**			*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 3 ft bgs**	*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0		2.5	1' Light Brown, soil and root zone, fine to medium sand and gravel.	
1	▼		6" of black stained "oily" gravel – may be organic, no odor; then reddish orange gravel grading into sand. Brown and saturated at gravel.	0.6
2				
3				0.2
4		4	Medium to coarse SAND and gravel	0.0
5				
6				0.0
7			1' Brown, saturated fine sand and silt with gravel and clay layers, dense, saturated, no odor.	0.0
8			Continued to 12 feet but sample tube got stuck in the rod and no sample was obtained at this interval	
9				
10				
11				
12			End of Sampling = 12 feet Well set @ 7 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

BLOW COUNT (COHESIVE SOILS)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

BLOW COUNT (GRANULAR SOILS)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: Thermo Model 580B

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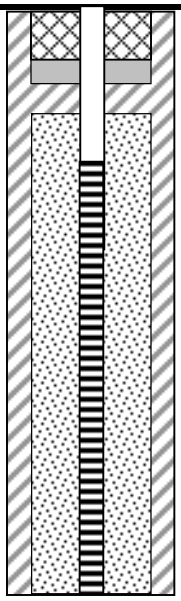
BORING / WELL IDENTIFICATION: **SB-21/MW-15**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**27 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**7 ft bgs**	*BORING DEPTH:*	**7 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 4 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**2-7 ft bgs**		
SCREEN TYPE/SIZE:	**0.010 slot schedule 40 PVC**			*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 2 ft bgs**	*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0		2.8	1' soil horizon, fine to coarse sand and gravel, black-stained gravel, no odor.	0.3
1				
2			Last 6", Light Brown, fine sand and silt, trace clay	0.0
3	▼			
4		2.7	6" Same as above Fine sand and gravel; pieces of bedrock ledge	0.0
5				
6				
7			BEDROCK REFUSAL AT 7'	
8				
9				
10				
11				
12			End of Sampling = 7 feet Well set @ 7 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

BLOW COUNT (COHESIVE SOILS)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

BLOW COUNT (GRANULAR SOILS)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: Thermo Model 580B

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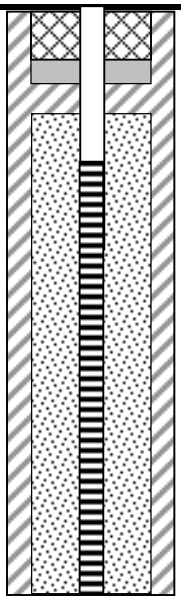
BORING / WELL IDENTIFICATION: **SB-22/MW-16**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**27 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**7 ft bgs**	*BORING DEPTH:*	**7 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 4 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**2-7 ft bgs**		
SCREEN TYPE/SIZE:	**0.010 slot schedule 40 PVC**			*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 2 ft bgs**	*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0		2.7	1' soil horizon, fine to coarse sand and gravel, black-stained above Lt. Brown silt, sand, and clay layer.	0.0
1				
2			Wet at tip of sampler, Light Brown, fine sand and silt, little clay.	0.0
3	▼			
4		2.8	Brown with gray and orange discoloration, saturated fine to coarse sand and gravel, bedrock ledge chunks.	0.0
5				
6				
7				
8				
9				
10				
11				
12			End of Sampling = 7 feet Well set @ 7 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

BLOW COUNT (COHESIVE SOILS)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

BLOW COUNT (GRANULAR SOILS)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: Thermo Model 580B

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BORING / WELL IDENTIFICATION: **SB-23**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**26 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:		*BORING DEPTH:*	**6 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):				*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:		*DEPTH:*			
SCREEN TYPE/SIZE:				*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:		*DEPTH:*		*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:				*ELEVATION OF RP:*	**not measured**
REMARKS:	Boring was installed in grassy area adjacent from MW-6 and between the septic and water lines.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)	WELL PROFILE	LEGEND
0		2	Light Brown, fine to coarse SAND and gravel, dry, no odor.	0.0		Concrete
1						Native Material
2						Bentonite
3				0.0		Filter Sand
4		0.0	No sample obtained, rods went down to 6' and then punched through a tank and fell 2'.			Riser
5			According to Wade Walker, there was an old septic tank in the vicinity. We probably punched through an unused septic tank.			Screen
6						Water Level
7			The tank was filled with water and a sample of water collected and analyzed for EPA Method 8260. The water was clear with an oily/greasy appearance. There was a petroleum odor to the water, but no sheens or globules. The hole is still open, and a rock was used to cover the hole.			
8						
9						
10						
11						
12			End of Sampling = 8 feet No well set.			

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Thermo Model 580B
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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BORING / WELL IDENTIFICATION: **SB-24**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**27 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:		*BORING DEPTH:*	**5 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):				*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:		*DEPTH:*			
SCREEN TYPE/SIZE:				*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:		*DEPTH:*		*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:				*ELEVATION OF RP:*	**not measured**
REMARKS:	Boring was to understand downgradient extent of contamination.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)	WELL PROFILE	LEGEND
0		3	Light Brown, sand and gravel.	0.0		Concrete
1						Native Material
2				0.0		Bentonite
3						Filter Sand
4		2	Light Brown, silty sand with some clay, no odor, saturated, bedrock refusal.	0.6		Riser
5						Screen
6			BEDROCK REFUSAL AT 5' MOVED 1' BUT DID NOT GET DEEPER (~6')			Water Level
7						
8						
9						
10						
11						
12			End of Sampling = 5 feet No well set.			

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Thermo Model 580B
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

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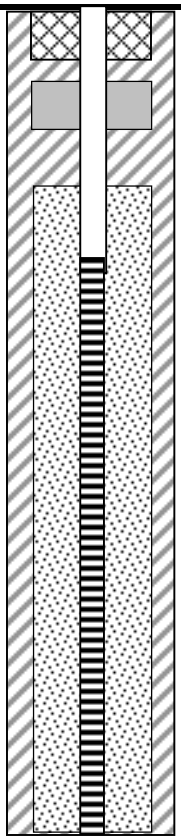
BORING / WELL IDENTIFICATION: **SB-25/MW-13**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**27 August 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**10 ft bgs**	*BORING DEPTH:*	**10 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 4 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**3-10 ft bgs**		
SCREEN TYPE/SIZE:	**0.010 slot schedule 40 PVC**			*SAMPLING METHOD:*	**Geoprobe direct-push**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 3 ft bgs**	*REFERENCE POINT (RP):*	**Grade**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Well was completed with filter sand around the screen, a bentonite seal, native material fill to grade, and finished with a flush-mounted road box and cemented into place.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0		3	2" Asphalt and fill; perched wet zone (reddish coloring) on top of bedrock chunks, damp.	0.0
1				
2				
3	Perched WT ▼			
4		4	Brown, fine to coarse SAND, trace gravel, saturated. Last 1.5, increased silt and clay, damp but not saturated – fine sand still matrix.	0.0
5				
6				
7			Sample tube got stuck in rods and not able to get it out, no sample at bedrock interface.	
8		0		
9				
10			REFUSAL AT 10'	
11				
12			End of Sampling = 10 feet Well set @ 10 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

BLOW COUNT (COHESIVE SOILS)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

BLOW COUNT (GRANULAR SOILS)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: Thermo Model 580B

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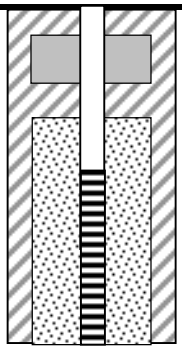
BORING / WELL IDENTIFICATION: **MW-17**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**3 September 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**3.99 ft bgs**	*BORING DEPTH:*	**4.0 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 2 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**1.5 ft bgs**		
SCREEN TYPE/SIZE:	**Hand-slotted schedule 40 PVC**			*SAMPLING METHOD:*	**Hand-Auger**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 1.5 ft bgs**	*REFERENCE POINT (RP):*	**Top of PVC**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Monitoring well located slightly southwest of the outfall.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0			Black (stained) fine to coarse sand, little gravel, some clay layers.	64
1	SW-1 ▼			
2			Saturated, sheen on water, odor.	
3				
4				
5			PID affected by moisture.	
6				
7				
8				
9				
10				
11				
12			End of Sampling = 4.0 feet Well set @ 3.99 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

PROPORTIONS USED	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

BLOW COUNT (COHESIVE SOILS)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

BLOW COUNT (GRANULAR SOILS)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: Photovac

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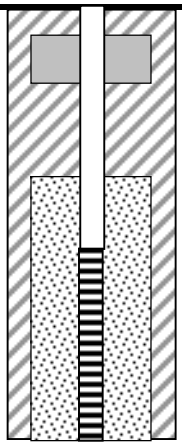
BORING / WELL IDENTIFICATION: **MW-18**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**3 September 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**5.11 ft bgs**	*BORING DEPTH:*	**5.11 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 4 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**5.11-3.0 ft bgs**		
SCREEN TYPE/SIZE:	**Hand-slotted schedule 40 PVC**			*SAMPLING METHOD:*	**Hand-Auger**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 3 ft bgs**	*REFERENCE POINT (RP):*	**Top of PVC**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Monitoring well located downgradient of the outfall.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0			Dark brown, fine to coarse sand and gravel, clay layers, no odor or sheen observed.	3.6
1				
2				0.0
3	▼			
4				0.0
5			PID affected by moisture.	
6				
7				
8				
9				
10				
11				
12			End of Sampling = 5.11 feet Well set @ 5.11 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

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

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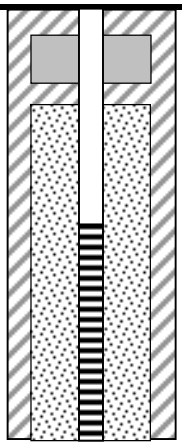
BORING / WELL IDENTIFICATION: **MW-19**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**3 September 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**5.01 ft bgs**	*BORING DEPTH:*	**5.01 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 4 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**3.5-5.0 ft bgs**		
SCREEN TYPE/SIZE:	**Hand-slotted schedule 40 PVC**			*SAMPLING METHOD:*	**Hand-Auger**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 3.5 ft bgs**	*REFERENCE POINT (RP):*	**Top of PVC**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Monitoring well located upgradient of the outfall.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0			Dark brown, fine to coarse sand and gravel, clay layers.	0.0
1	*SW-2			
2				
3	▼		Black staining on soils, odor.	300
4			Odor and sheen on water.	0.0
5			PID affected by moisture.	
6				
7				
8				
9				
10				
11				
12			End of Sampling = 5.0 feet Well set @ 5.0 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

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

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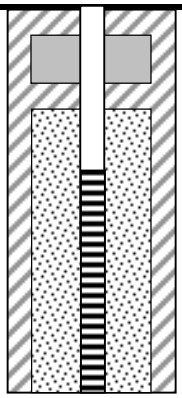
BORING / WELL IDENTIFICATION: **MW-20**

SITE NAME:	**Walker Motors**
SITE LOCATION:	**Montpelier, Vermont**
INSTALLATION DATE:	**3 September 2003**
JOB NUMBER:	**VTA3-0026D**

WELL DEPTH:	**4.60 ft bgs**	*BORING DEPTH:*	**4.60 ft bgs**	*MARIN REPRESENTATIVE:*	**Laura Woodard**
DEPTH TO WATER (DURING DRILLING):	**Approximately 2.5 ft bgs**			*DRILLING COMPANY:*	**ECSMarin Agawam, MA**
SCREEN DIAMETER:	**1-inch**	*DEPTH:*	**2.0 –4.6 ft bgs**		
SCREEN TYPE/SIZE:	**Hand-slotted schedule 40 PVC**			*SAMPLING METHOD:*	**Hand-Auger**
RISER DIAMETER:	**1-inch**	*DEPTH:*	**0 – 2.0 ft bgs**	*REFERENCE POINT (RP):*	**Top of PVC**
RISER TYPE/SIZE:	**Schedule 40 PVC**			*ELEVATION OF RP:*	**not measured**
REMARKS:	Monitoring well located upgradient of the outfall.				

DEPTH (IN FEET)	SAMPLE DEPTH (FT)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)
0			Dark brown, fine to coarse sand and gravel, silt and clay layers, no odor or sheen observed.	0.0
1	*SW-3			
2	▼			0.0
3			Same as above, saturated.	
4				0.0
5				
6				
7				
8				
9				
10				
11				
12			End of Sampling = 4.6 feet Well set @ 4.6 feet	

WELL PROFILE



LEGEND

- Concrete
- Native Material
- Bentonite
- Filter Sand
- Riser
- Screen
- Water Level

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

APPENDIX B

SOIL LABORATORY ANALYTICAL RESULTS

Report Date:
24-Sep-03 11:07

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

ECS/Marin
65 Millet Street; Suite 301
Richmond, VT 05477
Attn: Laura Woodard

Project: Walker Motors - Montpelier, VT
Project #: VTA3-0026d

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA02088-01	SW-1	Soil	03-Sep-03 10:10	05-Sep-03 13:15
SA02088-02	SW-2	Soil	03-Sep-03 12:40	05-Sep-03 13:15
SA02088-03	SW-3	Soil	03-Sep-03 13:35	05-Sep-03 13:15
SA02088-04	SW-4	Soil	03-Sep-03 14:30	05-Sep-03 13:15
SA02088-05	Trip Blank	Methanol	03-Sep-03 14:30	05-Sep-03 13:15

I attest that all information contained within this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method and meet the requirements of NELAC.
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Massachusetts Certification # M-MA138
Connecticut # PH-0777
Florida # E87600
Maine # MA138
New Hampshire # 2538
New York # 11393
Rhode Island # 98
USDA # S-51435

ACCREDITED IN ACCORDANCE WITH nelac

Authorized by:

Hanibal G. Tayeh, Ph.D.
President/Laboratory Director

RECEIVED
SEP 29 2003

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-1 SA02088-01	VTA3-0026d	Soil	03-Sep-03 10:10	05-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by GCMS		Prepared by method Volatiles						
Benzene	BRL	77.9 ug/kg dry	50	SW846 8260B	11-Sep-03	11-Sep-03	3090566	RLJ
Ethylbenzene	BRL	77.9 ug/kg dry	50	"	"	"	"	"
Methyl tert-butyl ether	BRL	77.9 ug/kg dry	50	"	"	"	"	"
Naphthalene	121	77.9 ug/kg dry	50	"	"	"	"	"
Toluene	BRL	77.9 ug/kg dry	50	"	"	"	"	"
1,2,4-Trimethylbenzene	BRL	77.9 ug/kg dry	50	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	77.9 ug/kg dry	50	"	"	"	"	"
m,p-Xylene	BRL	156 ug/kg dry	50	"	"	"	"	"
o-Xylene	BRL	77.9 ug/kg dry	50	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*95.6*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*98.6*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*87.4*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*97.4*	*70-130 %*		"	"	"	"	"
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3550B						
Fuel Oil #2	BRL	54.1 mg/kg dry	1	SW846 8015 Mod.	15-Sep-03	16-Sep-03	3090734	JD
Fuel Oil #4	BRL	54.1 mg/kg dry	1	"	"	"	"	"
Fuel Oil #6	BRL	54.1 mg/kg dry	1	"	"	"	"	"
Motor Oil	Calculated as	54.1 mg/kg dry	1	"	"	"	"	"
Aviation Fuel	BRL	54.1 mg/kg dry	1	"	"	"	"	"
Unidentified	115	54.1 mg/kg dry	1	"	"	"	"	"
Other Oil	Calculated as	54.1 mg/kg dry	1	"	"	"	"	"
Diesel Range Organics	115	54.1 mg/kg dry	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*88.6*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-1 SA02088-01	VTA3-0026d	Soil	03-Sep-03 10:10	05-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
General Chemistry Parameters								
% Solids	78.2	%	1	SM2540 G Mod.	11-Sep-03	12-Sep-03	3090621	RB

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-2 SA02088-02	VTA3-0026d	Soil	03-Sep-03 12:40	05-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by GCMS		Prepared by method Volatiles						
Benzene	BRL	812 ug/kg dry	250	SW846 8260B	11-Sep-03	11-Sep-03	3090566	RLJ
Ethylbenzene	BRL	812 ug/kg dry	250	"	"	"	"	"
Methyl tert-butyl ether	BRL	812 ug/kg dry	250	"	"	"	"	"
Naphthalene	7,280	812 ug/kg dry	250	"	"	"	"	"
Toluene	BRL	812 ug/kg dry	250	"	"	"	"	"
1,2,4-Trimethylbenzene	11,600	812 ug/kg dry	250	"	"	"	"	"
1,3,5-Trimethylbenzene	3,100	812 ug/kg dry	250	"	"	"	"	"
m,p-Xylene	BRL	1620 ug/kg dry	250	"	"	"	"	"
o-Xylene	BRL	812 ug/kg dry	250	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*98.2*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*103*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*86.8*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*97.2*	*70-130 %*		"	"	"	"	"
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3550B						
Fuel Oil #2	499	61.7 mg/kg dry	1	SW846 8015 Mod.	15-Sep-03	16-Sep-03	3090734	JD
Fuel Oil #4	BRL	61.7 mg/kg dry	1	"	"	"	"	"
Fuel Oil #6	BRL	61.7 mg/kg dry	1	"	"	"	"	"
Motor Oil	BRL	61.7 mg/kg dry	1	"	"	"	"	"
Aviation Fuel	BRL	61.7 mg/kg dry	1	"	"	"	"	"
Unidentified	BRL	61.7 mg/kg dry	1	"	"	"	"	"
Other Oil	BRL	61.7 mg/kg dry	1	"	"	"	"	"
Diesel Range Organics	499	61.7 mg/kg dry	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*88.6*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-2 SA02088-02	VTA3-0026d	Soil	03-Sep-03 12:40	05-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
General Chemistry Parameters								
% Solids	47.1	%	1	SM2540 G Mod.	11-Sep-03	12-Sep-03	3090621	RB

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-3 SA02088-03	VTA3-0026d	Soil	03-Sep-03 13:35	05-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by GCMS		Prepared by method Volatiles						
Benzene	BRL	73.2 ug/kg dry	50	SW846 8260B	11-Sep-03	11-Sep-03	3090566	RLJ
Ethylbenzene	BRL	73.2 ug/kg dry	50	"	"	"	"	"
Methyl tert-butyl ether	BRL	73.2 ug/kg dry	50	"	"	"	"	"
Naphthalene	BRL	73.2 ug/kg dry	50	"	"	"	"	"
Toluene	BRL	73.2 ug/kg dry	50	"	"	"	"	"
1,2,4-Trimethylbenzene	BRL	73.2 ug/kg dry	50	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	73.2 ug/kg dry	50	"	"	"	"	"
m,p-Xylene	BRL	146 ug/kg dry	50	"	"	"	"	"
o-Xylene	BRL	73.2 ug/kg dry	50	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*96.6*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*99.4*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*89.0*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*96.8*	*70-130 %*		"	"	"	"	"
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3550B						
Fuel Oil #2	BRL	42.3 mg/kg dry	1	SW846 8015 Mod.	15-Sep-03	16-Sep-03	3090734	JD
Fuel Oil #4	BRL	42.3 mg/kg dry	1	"	"	"	"	"
Fuel Oil #6	BRL	42.3 mg/kg dry	1	"	"	"	"	"
Motor Oil	BRL	42.3 mg/kg dry	1	"	"	"	"	"
Aviation Fuel	BRL	42.3 mg/kg dry	1	"	"	"	"	"
Unidentified	102	42.3 mg/kg dry	1	"	"	"	"	"
Other Oil	Calculated as	42.3 mg/kg dry	1	"	"	"	"	"
Diesel Range Organics	102	42.3 mg/kg dry	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*84.9*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-3 SA02088-03	VTA3-0026d	Soil	03-Sep-03 13:35	05-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
General Chemistry Parameters								
% Solids	81.2	%	1	SM2540 G Mod.	11-Sep-03	12-Sep-03	3090621	RB

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-4 SA02088-04	VTA3-0026d	Soil	03-Sep-03 14:30	05-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by GCMS		Prepared by method Volatiles						
Benzene	BRL	103 ug/kg dry	50	SW846 8260B	11-Sep-03	11-Sep-03	3090566	RLJ
Ethylbenzene	BRL	103 ug/kg dry	50	"	"	"	"	"
Methyl tert-butyl ether	BRL	103 ug/kg dry	50	"	"	"	"	"
Naphthalene	BRL	103 ug/kg dry	50	"	"	"	"	"
Toluene	BRL	103 ug/kg dry	50	"	"	"	"	"
1,2,4-Trimethylbenzene	BRL	103 ug/kg dry	50	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	103 ug/kg dry	50	"	"	"	"	"
m,p-Xylene	BRL	206 ug/kg dry	50	"	"	"	"	"
o-Xylene	BRL	103 ug/kg dry	50	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*95.8*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*99.0*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*87.8*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*96.6*	*70-130 %*		"	"	"	"	"
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3550B						
Fuel Oil #2	Calculated as	68.4 mg/kg dry	1	SW846 8015 Mod.	15-Sep-03	16-Sep-03	3090734	JD
Fuel Oil #4	BRL	68.4 mg/kg dry	1	"	"	"	"	"
Fuel Oil #6	BRL	68.4 mg/kg dry	1	"	"	"	"	"
Motor Oil	Calculated as	68.4 mg/kg dry	1	"	"	"	"	"
Aviation Fuel	BRL	68.4 mg/kg dry	1	"	"	"	"	"
Unidentified	291	68.4 mg/kg dry	1	"	"	"	"	"
Other Oil	BRL	68.4 mg/kg dry	1	"	"	"	"	"
Diesel Range Organics	291	68.4 mg/kg dry	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*78.4*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-4 SA02088-04	VTA3-0026d	Soil	03-Sep-03 14:30	05-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
General Chemistry Parameters								
% Solids	65.3	%	1	SM2540 G Mod.	11-Sep-03	12-Sep-03	3090622	RB

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip Blank SA02088-05	VTA3-0026d	Methanol	03-Sep-03 14:30	05-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by GCMS		Prepared by method		Volatiles				
Benzene	BRL	50.0 ug/kg wet	50	SW846 8260B	11-Sep-03	11-Sep-03	3090566	RLJ
Ethylbenzene	BRL	50.0 ug/kg wet	50	"	"	"	"	"
Methyl tert-butyl ether	BRL	50.0 ug/kg wet	50	"	"	"	"	"
Naphthalene	BRL	50.0 ug/kg wet	50	"	"	"	"	"
Toluene	BRL	50.0 ug/kg wet	50	"	"	"	"	"
1,2,4-Trimethylbenzene	BRL	50.0 ug/kg wet	50	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	50.0 ug/kg wet	50	"	"	"	"	"
m,p-Xylene	BRL	100 ug/kg wet	50	"	"	"	"	"
o-Xylene	BRL	50.0 ug/kg wet	50	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*94.4*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*98.0*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*87.0*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*96.4*	*70-130 %*		"	"	"	"	"

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3090566 - Volatiles										
Blank (3090566-BLK1)				Prepared & Analyzed: 11-Sep-03						
Benzene	BRL	1.00	ug/kg wet							
Ethylbenzene	BRL	1.00	ug/kg wet							
Methyl tert-butyl ether	BRL	1.00	ug/kg wet							
Naphthalene	BRL	1.00	ug/kg wet							
Toluene	BRL	1.00	ug/kg wet							
1,2,4-Trimethylbenzene	BRL	1.00	ug/kg wet							
1,3,5-Trimethylbenzene	BRL	1.00	ug/kg wet							
m,p-Xylene	BRL	2.00	ug/kg wet							
o-Xylene	BRL	1.00	ug/kg wet							
Surrogate: 4-Bromofluorobenzene	*48.6*		ug/kg wet	*50.0*		*97.2*	*70-130*			
Surrogate: Toluene-d8	*49.4*		ug/kg wet	*50.0*		*98.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.6*		ug/kg wet	*50.0*		*95.2*	*70-130*			
Surrogate: Dibromofluoromethane	*50.3*		ug/kg wet	*50.0*		*101*	*70-130*			
Matrix Spike (3090566-MS1)		**Source: SA01916-02**		Prepared & Analyzed: 11-Sep-03						
Benzene	20.3		ug/kg dry	20.0	BRL	102	70-130			
Chlorobenzene	21.0		ug/kg dry	20.0	BRL	105	70-130			
1,1-Dichloroethene	22.8		ug/kg dry	20.0	BRL	114	70-130			
Toluene	21.2		ug/kg dry	20.0	BRL	106	70-130			
Trichloroethene	22.6		ug/kg dry	20.0	BRL	113	70-130			
Surrogate: 4-Bromofluorobenzene	*45.4*		ug/kg dry	*50.0*		*90.8*	*70-130*			
Surrogate: Toluene-d8	*49.3*		ug/kg dry	*50.0*		*98.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*45.0*		ug/kg dry	*50.0*		*90.0*	*70-130*			
Surrogate: Dibromofluoromethane	*49.1*		ug/kg dry	*50.0*		*98.2*	*70-130*			
Matrix Spike Dup (3090566-MSD1)		**Source: SA01916-02**		Prepared & Analyzed: 11-Sep-03						
Benzene	19.4		ug/kg dry	20.0	BRL	97.0	70-130	5.03	30	
Chlorobenzene	20.2		ug/kg dry	20.0	BRL	101	70-130	3.88	30	
1,1-Dichloroethene	23.5		ug/kg dry	20.0	BRL	118	70-130	3.45	30	
Toluene	20.7		ug/kg dry	20.0	BRL	104	70-130	1.90	30	
Trichloroethene	22.2		ug/kg dry	20.0	BRL	111	70-130	1.79	30	
Surrogate: 4-Bromofluorobenzene	*45.6*		ug/kg dry	*50.0*		*91.2*	*70-130*			
Surrogate: Toluene-d8	*49.1*		ug/kg dry	*50.0*		*98.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.2*		ug/kg dry	*50.0*		*92.4*	*70-130*			
Surrogate: Dibromofluoromethane	*48.8*		ug/kg dry	*50.0*		*97.6*	*70-130*			

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3090734 - SW846 3550B										
Blank (3090734-BLK1)				Prepared: 15-Sep-03 Analyzed: 16-Sep-03						
Fuel Oil #2	BRL	31.8	mg/kg wet							
Fuel Oil #4	BRL	31.8	mg/kg wet							
Fuel Oil #6	BRL	31.8	mg/kg wet							
Motor Oil	BRL	31.8	mg/kg wet							
Aviation Fuel	BRL	31.8	mg/kg wet							
Unidentified	BRL	31.8	mg/kg wet							
Other Oil	BRL	31.8	mg/kg wet							
Diesel Range Organics	BRL	31.8	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*4.85*		mg/kg wet	*7.96*		*60.9*	*40-140*			
LCS (3090734-BS1)				Prepared: 15-Sep-03 Analyzed: 16-Sep-03						
Fuel Oil #2	969	21.7	mg/kg wet	1090		88.9	40-140			
Surrogate: 1-Chlorooctadecane	*3.22*		mg/kg wet	*5.44*		*59.2*	*40-140*			
Duplicate (3090734-DUP1)		**Source: SA01936-06**		Prepared: 15-Sep-03 Analyzed: 16-Sep-03						
Fuel Oil #2	BRL	29.9	mg/kg dry		BRL				50	
Fuel Oil #4	BRL	29.9	mg/kg dry		BRL				50	
Fuel Oil #6	BRL	29.9	mg/kg dry		BRL				50	
Motor Oil	BRL	29.9	mg/kg dry		BRL				50	
Aviation Fuel	BRL	29.9	mg/kg dry		BRL				50	
Unidentified	BRL	29.9	mg/kg dry		BRL				50	
Other Oil	BRL	29.9	mg/kg dry		BRL				50	
Diesel Range Organics	BRL	29.9	mg/kg dry		BRL				50	
Surrogate: 1-Chlorooctadecane	*2.08*		mg/kg dry	*3.75*		*55.5*	*40-140*			

General Chemistry Parameters - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3090621 - General Preparation										
Duplicate (3090621-DUP1)		**Source: SA02088-03**		Prepared: 11-Sep-03 Analyzed: 12-Sep-03						
% Solids	78.2		%		81.2			3.76	20	
Batch 3090622 - General Preparation										
Duplicate (3090622-DUP1)		**Source: SA02053-15**		Prepared: 11-Sep-03 Analyzed: 12-Sep-03						
% Solids	94.0		%		93.3			0.747	20	

Notes and Definitions

*TPH Calculated as

BRL Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. The RDL is generally 5 to 10 times the MDL. However, it may be nominally chosen within these guidelines to simplify data reporting. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

SA 02088 (3)

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Special Handling:
☐ Standard TAT - 7 to 10 business days
☐ Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- All samples are disposed of after 60 days unless otherwise instructed.

Page ____ of ____

Report To: ECS Marin
65 Millet St
Richmond VT 05477
Project Mgr.: Laura Woodard

Invoice To: ECS Marin
588 Silver St
Agawam MA 01001
INV#23091055
P.O. No.: _____ RQN: _____

Project No.: VTA3-0026D
Site Name: Walker Motors
Location: Montpelier VT State: VT
Sampler(s): Laura Woodard

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8=$NaHSO_4$ 9=_____ 10=_____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	# of VOA Vials	# of Amber Glass (BOZ)	# of Clear Glass	# of Plastic	8015 DRO	8021 B VT SCAN	Notes:
SA 02088-01	SW-1	9/3/03	1010	C	SO	7	3	1					
-02	SW-2		1240				3						
-03	SW-3		1335				2						
-04	SW-4		1430				3						
-05	trip		1500	X	X		1						

☒ Fax results when available to BOZ 434-6076
☐ E-mail results when available to _____
Condition upon Receipt: ☑ Iced ☐ Ambient ☐ 11 °C

Relinquished by:	Received by:	Date:	Time:
Laura L. Woodard	Joe Kozik	9/3/03	1820
UPS		9/5/03	1:15PM

Report Date:
23-Sep-03 14:23

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

ECS/Marin
65 Millet Street; Suite 301
Richmond, VT 05477
Attn: Laura Woodard

Project: Walker Motors - Montpelier, VT
Project #: VTA3-0026d

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA01777-01	MW6 S1	Soil/Sediment	26-Aug-03 11:45	29-Aug-03 12:40
SA01777-02	MW6 S2	Soil/Sediment	26-Aug-03 12:00	29-Aug-03 12:40
SA01777-03	SB14 S1	Soil/Sediment	26-Aug-03 13:40	29-Aug-03 12:40
SA01777-04	SB14 S2	Soil/Sediment	26-Aug-03 13:50	29-Aug-03 12:40
SA01777-05	Trip	Methanol	26-Aug-03 14:00	29-Aug-03 12:40
SA01777-06	OST	Ground Water	27-Aug-03 12:00	29-Aug-03 12:40

I attest that all information contained within this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method and meet the requirements of NELAC.
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Massachusetts Certification # M-MA138
Connecticut # PH-0777
Florida # E87600
Maine # MA138
New Hampshire # 2538
New York # 11393
Rhode Island # 98
USDA # S-51435

ACCREDITED IN ACCORDANCE WITH nelac

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

RECEIVED
SEP 29 2003

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW6 S1 SA01777-01	VTA3-0026d	Soil/Sediment	26-Aug-03 11:45	29-Aug-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by GCMS		Prepared by method SW846 5030 Soil MS						
Benzene	BRL	55.5 ug/kg dry	50	SW846 8260B	04-Sep-03	05-Sep-03	3090180	TIM
Ethylbenzene	BRL	55.5 ug/kg dry	50	"	"	"	"	"
Methyl tert-butyl ether	BRL	55.5 ug/kg dry	50	"	"	"	"	"
Naphthalene	BRL	55.5 ug/kg dry	50	"	"	"	"	"
Toluene	BRL	55.5 ug/kg dry	50	"	"	"	"	"
1,2,4-Trimethylbenzene	BRL	55.5 ug/kg dry	50	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	55.5 ug/kg dry	50	"	"	"	"	"
m,p-Xylene	BRL	111 ug/kg dry	50	"	"	"	"	"
o-Xylene	BRL	55.5 ug/kg dry	50	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*105*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*93.4*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*126*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*121*	*70-130 %*		"	"	"	"	"
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3550B						
Fuel Oil #2	BRL	34.7 mg/kg dry	1	SW846 8015 Mod.	08-Sep-03	11-Sep-03	3090300	JD
Fuel Oil #4	BRL	34.7 mg/kg dry	1	"	"	"	"	"
Fuel Oil #6	BRL	34.7 mg/kg dry	1	"	"	"	"	"
Motor Oil	BRL	34.7 mg/kg dry	1	"	"	"	"	"
Aviation Fuel	BRL	34.7 mg/kg dry	1	"	"	"	"	"
Unidentified	BRL	34.7 mg/kg dry	1	"	"	"	"	"
Other Oil	BRL	34.7 mg/kg dry	1	"	"	"	"	"
Diesel Range Organics	BRL	34.7 mg/kg dry	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*43.0*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW6 S1 SA01777-01	VTA3-0026d	Soil/Sediment	26-Aug-03 11:45	29-Aug-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
General Chemistry Parameters								
% Solids	80.6	%	1	SM2540 G Mod.	04-Sep-03	05-Sep-03	3090249	RB
Fractional Organic Carbon	0.0027	0.0001 N/A	1	SW846 9060	22-Sep-03	22-Sep-03	3090641	jak

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW6 S2	VTA3-0026d	Soil/Sediment	26-Aug-03 12:00	29-Aug-03
SA01777-02				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by GCMS		Prepared by method SW846 5030 Soil MS						
Benzene	410	351 ug/kg dry	500	SW846 8260B	04-Sep-03	05-Sep-03	3090180	TIM
Ethylbenzene	3,300	351 ug/kg dry	500	"	"	"	"	"
Methyl tert-butyl ether	BRL	351 ug/kg dry	500	"	"	"	"	"
Naphthalene	12,500	351 ug/kg dry	500	"	"	"	"	"
Toluene	2,430	351 ug/kg dry	500	"	"	"	"	"
1,2,4-Trimethylbenzene	30,500	351 ug/kg dry	500	"	"	"	"	"
1,3,5-Trimethylbenzene	9,350	351 ug/kg dry	500	"	"	"	"	"
m,p-Xylene	12,400	702 ug/kg dry	500	"	"	"	"	"
o-Xylene	7,110	351 ug/kg dry	500	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*106*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*97.6*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*126*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*118*	*70-130 %*		"	"	"	"	"
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3550B						
Fuel Oil #2	4,040	35.4 mg/kg dry	1	SW846 8015 Mod.	08-Sep-03	11-Sep-03	3090300	JD
Fuel Oil #4	BRL	35.4 mg/kg dry	1	"	"	"	"	"
Fuel Oil #6	BRL	35.4 mg/kg dry	1	"	"	"	"	"
Motor Oil	BRL	35.4 mg/kg dry	1	"	"	"	"	"
Aviation Fuel	BRL	35.4 mg/kg dry	1	"	"	"	"	"
Unidentified	BRL	35.4 mg/kg dry	1	"	"	"	"	"
Other Oil	BRL	35.4 mg/kg dry	1	"	"	"	"	"
Diesel Range Organics	4,040	35.4 mg/kg dry	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*81.3*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW6 S2 SA01777-02	VTA3-0026d	Soil/Sediment	26-Aug-03 12:00	29-Aug-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
General Chemistry Parameters								
% Solids	88.4	%	1	SM2540 G Mod.	04-Sep-03	05-Sep-03	3090249	RB
Fractional Organic Carbon	0.0017	0.0001 N/A	1	SW846 9060	22-Sep-03	22-Sep-03	3090641	jak

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB14 S1 SA01777-03	VTA3-0026d	Soil/Sediment	26-Aug-03 13:40	29-Aug-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by GCMS		Prepared by method SW846 5030 Soil MS						
Benzene	BRL	809 ug/kg dry	1000	SW846 8260B	04-Sep-03	05-Sep-03	3090180	TIM
Ethylbenzene	6,430	809 ug/kg dry	1000	"	"	"	"	"
Methyl tert-butyl ether	BRL	809 ug/kg dry	1000	"	"	"	"	"
Naphthalene	32,200	809 ug/kg dry	1000	"	"	"	"	"
Toluene	3,730	809 ug/kg dry	1000	"	"	"	"	"
1,2,4-Trimethylbenzene	69,300	809 ug/kg dry	1000	"	"	"	"	"
1,3,5-Trimethylbenzene	20,800	809 ug/kg dry	1000	"	"	"	"	"
m,p-Xylene	25,500	1620 ug/kg dry	1000	"	"	"	"	"
o-Xylene	14,700	809 ug/kg dry	1000	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*100*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*96.8*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*120*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*113*	*70-130 %*		"	"	"	"	"
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3550B						
Fuel Oil #2	5,550	43.6 mg/kg dry	1	SW846 8015 Mod.	08-Sep-03	11-Sep-03	3090300	JD
Fuel Oil #4	BRL	43.6 mg/kg dry	1	"	"	"	"	"
Fuel Oil #6	BRL	43.6 mg/kg dry	1	"	"	"	"	"
Motor Oil	BRL	43.6 mg/kg dry	1	"	"	"	"	"
Aviation Fuel	BRL	43.6 mg/kg dry	1	"	"	"	"	"
Unidentified	BRL	43.6 mg/kg dry	1	"	"	"	"	"
Other Oil	BRL	43.6 mg/kg dry	1	"	"	"	"	"
Diesel Range Organics	5,550	43.6 mg/kg dry	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*113*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB14 S1 SA01777-03	VTA3-0026d	Soil/Sediment	26-Aug-03 13:40	29-Aug-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
General Chemistry Parameters								
% Solids	92.8	%	1	SM2540 G Mod.	04-Sep-03	05-Sep-03	3090249	RB
Fractional Organic Carbon	0.0036	0.0001 N/A	1	SW846 9060	22-Sep-03	22-Sep-03	3090641	jak

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB14 S2 SA01777-04	VTA3-0026d	Soil/Sediment	26-Aug-03 13:50	29-Aug-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by GCMS		Prepared by method SW846 5030 Soil MS						
Benzene	BRL	1220 ug/kg dry	2000	SW846 8260B	04-Sep-03	05-Sep-03	3090180	TIM
Ethylbenzene	5,720	1220 ug/kg dry	2000	"	"	"	"	"
Methyl tert-butyl ether	BRL	1220 ug/kg dry	2000	"	"	"	"	"
Naphthalene	19,600	1220 ug/kg dry	2000	"	"	"	"	"
Toluene	5,980	1220 ug/kg dry	2000	"	"	"	"	"
1,2,4-Trimethylbenzene	53,200	1220 ug/kg dry	2000	"	"	"	"	"
1,3,5-Trimethylbenzene	16,300	1220 ug/kg dry	2000	"	"	"	"	"
m,p-Xylene	23,700	2450 ug/kg dry	2000	"	"	"	"	"
o-Xylene	12,600	1220 ug/kg dry	2000	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*106*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*98.4*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*122*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*114*	*70-130 %*		"	"	"	"	"
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3550B						
Fuel Oil #2	3,800	40.8 mg/kg dry	1	SW846 8015 Mod.	08-Sep-03	11-Sep-03	3090300	JD
Fuel Oil #4	BRL	40.8 mg/kg dry	1	"	"	"	"	"
Fuel Oil #6	BRL	40.8 mg/kg dry	1	"	"	"	"	"
Motor Oil	BRL	40.8 mg/kg dry	1	"	"	"	"	"
Aviation Fuel	BRL	40.8 mg/kg dry	1	"	"	"	"	"
Unidentified	BRL	40.8 mg/kg dry	1	"	"	"	"	"
Other Oil	BRL	40.8 mg/kg dry	1	"	"	"	"	"
Diesel Range Organics	3,800	40.8 mg/kg dry	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*73.8*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB14 S2 SA01777-04	VTA3-0026d	Soil/Sediment	26-Aug-03 13:50	29-Aug-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst*	*Flag*
General Chemistry Parameters									
% Solids	89.7	%	1	SM2540 G Mod.	04-Sep-03	05-Sep-03	3090249	RB	
Fractional Organic Carbon	0.0023	0.0001 N/A	1	SW846 9060	22-Sep-03	22-Sep-03	3090641	jak	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip SA01777-05	VTA3-0026d	Methanol	26-Aug-03 14:00	29-Aug-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst*	*Flag*
Volatile Organic Compounds									
Volatile Organic Compounds by GCMS		Prepared by method SW846 5030 Soil MS							
Benzene	BRL	50.0 ug/kg wet	50	SW846 8260B	04-Sep-03	05-Sep-03	3090180	TIM	
Ethylbenzene	BRL	50.0 ug/kg wet	50	"	"	"	"	"	
Methyl tert-butyl ether	BRL	50.0 ug/kg wet	50	"	"	"	"	"	
Naphthalene	BRL	50.0 ug/kg wet	50	"	"	"	"	"	
Toluene	BRL	50.0 ug/kg wet	50	"	"	"	"	"	
1,2,4-Trimethylbenzene	BRL	50.0 ug/kg wet	50	"	"	"	"	"	
1,3,5-Trimethylbenzene	BRL	50.0 ug/kg wet	50	"	"	"	"	"	
m,p-Xylene	BRL	100 ug/kg wet	50	"	"	"	"	"	
o-Xylene	BRL	50.0 ug/kg wet	50	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	*100*	*70-130 %*		"	"	"	"	"	
Surrogate: Toluene-d8	*92.8*	*70-130 %*		"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*110*	*70-130 %*		"	"	"	"	"	
Surrogate: Dibromofluoromethane	*108*	*70-130 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
OST	VTA3-0026d	Ground Water	27-Aug-03 12:00	29-Aug-03
SA01777-06				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Acetone	BRL	2000 ug/l	100	SW 846 8260B	04-Sep-03	05-Sep-03	3090168	TIM
Acrylonitrile	BRL	100 ug/l	100	"	"	"	"	"
Benzene	164	100 ug/l	100	"	"	"	"	"
Bromobenzene	BRL	100 ug/l	100	"	"	"	"	"
Bromoehloromethane	BRL	100 ug/l	100	"	"	"	"	"
Bromodichloromethane	BRL	100 ug/l	100	"	"	"	"	"
Bromoform	BRL	100 ug/l	100	"	"	"	"	"
Bromomethane	BRL	200 ug/l	100	"	"	"	"	"
2-Butanone (MEK)	BRL	1000 ug/l	100	"	"	"	"	"
n-Butylbenzene	749	100 ug/l	100	"	"	"	"	"
sec-Butylbenzene	374	100 ug/l	100	"	"	"	"	"
tert-Butylbenzene	BRL	100 ug/l	100	"	"	"	"	"
Carbon disulfide	BRL	500 ug/l	100	"	"	"	"	"
Carbon tetrachloride	BRL	100 ug/l	100	"	"	"	"	"
Chlorobenzene	BRL	100 ug/l	100	"	"	"	"	"
Chloroethane	BRL	200 ug/l	100	"	"	"	"	"
Chloroform	BRL	100 ug/l	100	"	"	"	"	"
Chloromethane	BRL	200 ug/l	100	"	"	"	"	"
2-Chlorotoluene	BRL	100 ug/l	100	"	"	"	"	"
4-Chlorotoluene	BRL	100 ug/l	100	"	"	"	"	"
1,2-Dibromo-3-ehloropropane	BRL	200 ug/l	100	"	"	"	"	"
Dibromoehloromethane	BRL	100 ug/l	100	"	"	"	"	"
1,2-Dibromoethane (EDB)	BRL	100 ug/l	100	"	"	"	"	"
Dibromomethane	BRL	100 ug/l	100	"	"	"	"	"
1,2-Dichlorobenzene	BRL	100 ug/l	100	"	"	"	"	"
1,3-Diehlorobenzene	BRL	100 ug/l	100	"	"	"	"	"
1,4-Dichlorobenzene	BRL	100 ug/l	100	"	"	"	"	"
Dichlorodifluoromethane (Freon12)	BRL	200 ug/l	100	"	"	"	"	"
1,1-Dichloroethane	BRL	100 ug/l	100	"	"	"	"	"
1,2-Dichloroethane	BRL	100 ug/l	100	"	"	"	"	"
1,1-Dichloroethene	BRL	100 ug/l	100	"	"	"	"	"
cis-1,2-Dichloroethene	BRL	100 ug/l	100	"	"	"	"	"
trans-1,2-Dichloroethene	BRL	100 ug/l	100	"	"	"	"	"
1,2-Dichloropropane	BRL	100 ug/l	100	"	"	"	"	"
1,3-Dichloropropane	BRL	100 ug/l	100	"	"	"	"	"
2,2-Dichloropropane	BRL	100 ug/l	100	"	"	"	"	"
1,1-Dichloropropene	BRL	100 ug/l	100	"	"	"	"	"
cis-1,3-Dichloropropene	BRL	100 ug/l	100	"	"	"	"	"
trans-1,3-Dichloropropene	BRL	100 ug/l	100	"	"	"	"	"
Ethylbenzene	298	100 ug/l	100	"	"	"	"	"
Hexachlorobutadiene	BRL	100 ug/l	100	"	"	"	"	"
2-Hexanone (MBK)	BRL	1000 ug/l	100	"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
OST	VTA3-0026d	Ground Water	27-Aug-03 12:00	29-Aug-03
SA01777-06				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Isopropylbenzene	256	100 ug/l	100	"	"	"	"	"
4-Isopropyltoluene	299	100 ug/l	100	"	"	"	"	"
Methyl tert-butyl ether	BRL	100 ug/l	100	"	"	"	"	"
4-Methyl-2-pentanone (MIBK)	BRL	1000 ug/l	100	"	"	"	"	"
Methylene chloride	BRL	1000 ug/l	100	"	"	"	"	"
Naphthalene	1,440	100 ug/l	100	"	"	"	"	"
n-Propylbenzene	428	100 ug/l	100	"	"	"	"	"
Styrene	BRL	100 ug/l	100	"	"	"	"	"
1,1,1,2-Tetrachloroethane	BRL	100 ug/l	100	"	"	"	"	"
1,1,2,2-Tetrachloroethane	BRL	100 ug/l	100	"	"	"	"	"
Tetrachloroethene	BRL	100 ug/l	100	"	"	"	"	"
Toluene	486	100 ug/l	100	"	"	"	"	"
1,2,3-Trichlorobenzene	BRL	100 ug/l	100	"	"	"	"	"
1,2,4-Trichlorobenzene	BRL	100 ug/l	100	"	"	"	"	"
1,1,1-Trichloroethane	BRL	100 ug/l	100	"	"	"	"	"
1,1,2-Trichloroethane	BRL	100 ug/l	100	"	"	"	"	"
Trichloroethene	BRL	100 ug/l	100	"	"	"	"	"
Trichlorofluoromethane (Freon 11)	BRL	100 ug/l	100	"	"	"	"	"
1,2,3-Trichloropropane	BRL	100 ug/l	100	"	"	"	"	"
1,2,4-Trimethylbenzene	3,290	100 ug/l	100	"	"	"	"	"
1,3,5-Trimethylbenzene	968	100 ug/l	100	"	"	"	"	"
Vinyl chloride	BRL	100 ug/l	100	"	"	"	"	"
m,p-Xylene	1,350	200 ug/l	100	"	"	"	"	"
o-Xylene	854	100 ug/l	100	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*112*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*99.2*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*127*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*119*	*70-130 %*		"	"	"	"	"

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3090168 - Volatiles										
Blank (3090168-BLK1)				Prepared & Analyzed: 04-Sep-03						
Acetone	BRL	20.0	ug/l							
Acrylonitrile	BRL	1.00	ug/l							
Benzene	BRL	1.00	ug/l							
Bromobenzene	BRL	1.00	ug/l							
Bromochloromethane	BRL	1.00	ug/l							
Bromodichloromethaue	BRL	1.00	ug/l							
Bromoform	BRL	1.00	ug/l							
Bromomethane	BRL	2.00	ug/l							
2-Butanone (MEK)	BRL	10.0	ug/l							
n-Butylbenzene	BRL	1.00	ug/l							
sec-Butylbenzene	BRL	1.00	ug/l							
tert-Butylbenzene	BRL	1.00	ug/l							
Carbon disulfide	BRL	5.00	ug/l							
Carbon tetrachloride	BRL	1.00	ug/l							
Chlorobenzene	BRL	1.00	ug/l							
Chloroethane	BRL	2.00	ug/l							
Chloroform	BRL	1.00	ug/l							
Chloromethane	BRL	2.00	ug/l							
2-Chlorotoluene	BRL	1.00	ug/l							
4-Chlorotoluene	BRL	1.00	ug/l							
1,2-Dibromo-3-chloropropane	BRL	2.00	ug/l							
Dibromochloromethaue	BRL	1.00	ug/l							
1,2-Dibromoethane (EDB)	BRL	1.00	ug/l							
Dibromomethaue	BRL	1.00	ug/l							
1,2-Dichlorobenzene	BRL	1.00	ug/l							
1,3-Dichlorobenzene	BRL	1.00	ug/l							
1,4-Dichlorobenzene	BRL	1.00	ug/l							
Dichlorodifluoromethane (Freon12)	BRL	2.00	ug/l							
1,1-Dichloroethane	BRL	1.00	ug/l							
1,2-Dichloroethane	BRL	1.00	ug/l							
1,1-Dichloroethene	BRL	1.00	ug/l							
cis-1,2-Dichloroethene	BRL	1.00	ug/l							
trans-1,2-Dichloroethene	BRL	1.00	ug/l							
1,2-Dichloropropane	BRL	1.00	ug/l							
1,3-Dichloropropane	BRL	1.00	ug/l							
2,2-Dichloropropane	BRL	1.00	ug/l							
1,1-Dichloropropene	BRL	1.00	ug/l							
cis-1,3-Dichloropropene	BRL	1.00	ug/l							
trans-1,3-Dichloropropene	BRL	1.00	ug/l							
Ethylbenzene	BRL	1.00	ug/l							
Hexachlorobutadiene	BRL	1.00	ug/l							
2-Hexanone (MBK)	BRL	10.0	ug/l							
Isopropylbenzene	BRL	1.00	ug/l							
4-Isopropyltoluene	BRL	1.00	ug/l							
Methyl tert-butyl ether	BRL	1.00	ug/l							
4-Methyl-2-pentanone (MIBK)	BRL	10.0	ug/l							
Methylene chloride	BRL	10.0	ug/l							
Naphthalene	BRL	1.00	ug/l							
n-Propylbenzene	BRL	1.00	ug/l							
Styrene	BRL	1.00	ug/l							
1,1,1,2-Tetrachloroethane	BRL	1.00	ug/l							
1,1,2,2-Tetrachloroethane	BRL	1.00	ug/l							
Tetrachloroethene	BRL	1.00	ug/l							
Toluene	BRL	1.00	ug/l							
1,2,3-Trichlorobenzene	BRL	1.00	ug/l							

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3090168 - Volatiles										
Blank (3090168-BLK1)				Prepared & Analyzed: 04-Sep-03						
1,2,4-Triehlorobenzene	BRL	1.00	ug/l							
1,1,1-Triehloroethane	BRL	1.00	ug/l							
1,1,2-Triehloroethane	BRL	1.00	ug/l							
Trichloroethene	BRL	1.00	ug/l							
Trichlorofluoromethane (Freon 11)	BRL	1.00	ug/l							
1,2,3-Triehloropropane	BRL	1.00	ug/l							
1,2,4-Trimethylbenzene	BRL	1.00	ug/l							
1,3,5-Trimethylbenzene	BRL	1.00	ug/l							
Vinyl ehloride	BRL	1.00	ug/l							
m,p-Xylene	BRL	2.00	ug/l							
o-Xylene	BRL	1.00	ug/l							
Surrogate: 4-Bromofluorobenzene	*51.6*		ug/l	*50.0*		*103*	*70-130*			
Surrogate: Toluene-d8	*47.6*		ug/l	*50.0*		*95.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*63.6*		ug/l	*50.0*		*127*	*70-130*			
Surrogate: Dibromofluoromethane	*56.2*		ug/l	*50.0*		*112*	*70-130*			
Matrix Spike (3090168-MS1)		**Source: SA01670-01**		Prepared & Analyzed: 04-Sep-03						
Benzene	14.8		ug/l	20.0	BRL	74.0	70-130			
Chlorobenzene	14.8		ug/l	20.0	BRL	74.0	70-130			
1,1-Diehloroethene	19.0		ug/l	20.0	BRL	95.0	70-130			
Toluene	14.7		ug/l	20.0	BRL	73.5	70-130			
Triehloroethene	17.0		ug/l	20.0	BRL	85.0	70-130			
Surrogate: 4-Bromofluorobenzene	*50.2*		ug/l	*50.0*		*100*	*70-130*			
Surrogate: Toluene-d8	*48.7*		ug/l	*50.0*		*97.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*64.6*		ug/l	*50.0*		*129*	*70-130*			
Surrogate: Dibromofluoromethane	*60.0*		ug/l	*50.0*		*120*	*70-130*			
Matrix Spike Dup (3090168-MSD1)		**Source: SA01670-01**		Prepared & Analyzed: 04-Sep-03						
Benzene	18.6		ug/l	20.0	BRL	93.0	70-130	22.8	30	
Chlorobenzene	18.6		ug/l	20.0	BRL	93.0	70-130	22.8	30	
1,1-Diehloroethene	22.8		ug/l	20.0	BRL	114	70-130	18.2	30	
Toluene	19.0		ug/l	20.0	BRL	95.0	70-130	25.5	30	
Trichloroethene	22.8		ng/l	20.0	BRL	114	70-130	29.1	30	
Surrogate: 4-Bromofluorobenzene	*50.0*		ug/l	*50.0*		*100*	*70-130*			
Surrogate: Toluene-d8	*48.4*		ug/l	*50.0*		*96.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*64.7*		ug/l	*50.0*		*129*	*70-130*			
Surrogate: Dibromofluoromethane	*59.9*		ug/l	*50.0*		*120*	*70-130*			
Batch 3090180 - SW846 5030 Soil MS										
Blank (3090180-BLK1)				Prepared: 04-Sep-03 Analyzed: 05-Sep-03						
Benzene	BRL	1.00	ug/kg wet							
Ethylbenzene	BRL	1.00	ug/kg wet							
Methyl tert-butyl ether	BRL	1.00	ug/kg wet							
Naphthalene	BRL	1.00	ug/kg wet							
Toluene	BRL	1.00	ug/kg wet							
1,2,4-Trimethylbenzene	BRL	1.00	ng/kg wet							
1,3,5-Trimethylbenzene	BRL	1.00	ng/kg wet							
m,p-Xylene	BRL	2.00	ng/kg wet							
o-Xylene	BRL	1.00	ug/kg wet							
Surrogate: 4-Bromofluorobenzene	*51.4*		ug/kg wet	*50.0*		*103*	*70-130*			
Surrogate: Toluene-d8	*48.3*		ug/kg wet	*50.0*		*96.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*60.7*		ug/kg wet	*50.0*		*121*	*70-130*			
Surrogate: Dibromofluoromethane	*56.7*		ug/kg wet	*50.0*		*113*	*70-130*			

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3090300 - SW846 3550B										
Blank (3090300-BLK1)				Prepared: 08-Sep-03 Analyzed: 11-Sep-03						
Fuel Oil #2	BRL	23.2	mg/kg wet							
Fuel Oil #4	BRL	23.2	mg/kg wet							
Fuel Oil #6	BRL	23.2	mg/kg wet							
Motor Oil	BRL	23.2	mg/kg wet							
Aviation Fuel	BRL	23.2	mg/kg wet							
Unidentified	BRL	23.2	mg/kg wet							
Other Oil	BRL	23.2	mg/kg wet							
Diesel Range Organics	BRL	23.2	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*2.75*		mg/kg wet	*5.81*		*47.3*	*40-140*			
LCS (3090300-BS1)				Prepared: 08-Sep-03 Analyzed: 11-Sep-03						
Fuel Oil #2	1020	25.2	mg/kg wet	1260		81.0	40-140			
Surrogate: 1-Chlorooctadecane	*3.46*		mg/kg wet	*6.31*		*54.8*	*40-140*			
Duplicate (3090300-DUP1)		**Source: SA01723-01**		Prepared: 08-Sep-03 Analyzed: 11-Sep-03						
Fuel Oil #2	BRL	38.7	mg/kg dry		BRL				50	
Fuel Oil #4	BRL	38.7	mg/kg dry		BRL				50	
Fuel Oil #6	BRL	38.7	mg/kg dry		BRL				50	
Motor Oil	BRL	38.7	mg/kg dry		BRL				50	
Aviation Fuel	BRL	38.7	mg/kg dry		BRL				50	
Unidentified	BRL	38.7	mg/kg dry		BRL				50	
Other Oil	BRL	38.7	mg/kg dry		BRL				50	
Diesel Range Organics	BRL	38.7	mg/kg dry		BRL				50	
Surrogate: 1-Chlorooctadecane	*2.31*		mg/kg dry	*4.85*		*47.6*	*40-140*			

General Chemistry Parameters - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3090249 - General Preparation										
Duplicate (3090249-DUP1)		**Source: SA01777-04**		Prepared: 04-Sep-03 Analyzed: 05-Sep-03						
% Solids	88.5		%		89.7			1.35	20	
Batch 3090641 - General Preparation										
Blank (3090641-BLK1)				Prepared & Analyzed: 22-Sep-03						
Fractional Organic Carbon	BRL	100	N/A							
Blank (3090641-BLK2)				Prepared & Analyzed: 22-Sep-03						
Fractional Organic Carbon	BRL	100	N/A							
Duplicate (3090641-DUP1)		**Source: SA01777-01**		Prepared & Analyzed: 22-Sep-03						
Fractional Organic Carbon	BRL	100	N/A		0.0027				30	
Reference (3090641-SRM1)				Prepared & Analyzed: 22-Sep-03						
Fractional Organic Carbon	1060	100	N/A	1000		106	80-120			
Reference (3090641-SRM2)				Prepared & Analyzed: 22-Sep-03						
Fractional Organic Carbon	1030	100	N/A	1000		103	80-120			
Reference (3090641-SRM3)				Prepared & Analyzed: 22-Sep-03						
Fractional Organic Carbon	1070	100	N/A	1000		107	80-120			
Reference (3090641-SRM4)				Prepared & Analyzed: 22-Sep-03						
Fractional Organic Carbon	1050	100	N/A	1000		105	80-120			

Notes and Definitions

BRL Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. The RDL is generally 5 to 10 times the MDL. However, it may be nominally chosen within these guidelines to simplify data reporting. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

SA01777 (7)

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- [x] Standard TAT - 7 to 10 business days
- [ ] Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- All samples are disposed of after 60 days unless otherwise instructed.

Report To: Ecsmarin
73 Millet St, suite 301
Richmond, VT 05477

Project Mgr.: Laura Woodard

Invoice To: ECS
588 Silver Street
Agawam, MA 01001
INV#2309 0268

P.O. No.: _____ RQN: _____

Project No.: Walker Motors
Site Name: VTA3-0026d
Location: Montpelier State: VT
Sampler(s): LW

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8=$NaHSO_4$ 9=_____ 10=_____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative (2 vOAs only)	# of VOA Vials	# of Amber Glass 8oz	# of Clear Glass	# of Plastic	8015 TPH-DRO	8010 LIB-VT Scan	FOC	8260	Notes:
SA01777-01	MW6 S1	8/26/03	1145	C	SO	7	3	1			X	X	X		
-02	MW6 S2		1200												
-03	SB14 S1		1340												
-04	SB14 S2		1350												
-05	trip		1400	X	X		1								
-06	OST	8/27/03	1200	G	GW	2	2							X	

- [ ] Fax results when available to (_____) _____
- [x] E-mail results when available to lwoodard@ecsmarin.com
Condition upon Receipt: [✓] Iced [ ] Ambient [ ] 13 °C

Relinquished by:	Received by:	Date:	Time:
Laura L Woodard		8/28/03	1000
UPS	Jack Kozak	8-29-03	12:40 PM

APPENDIX C

WATER LABORATORY ANALYTICAL RESULTS

Report Date:
25-Sep-03 12:13

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

ECS/Marin
65 Millet Street; Suite 301
Richmond, VT 05477
Attn: Laura Woodard

Project: Walker Motors - Montpelier, VT
Project #: VTA3-0026D-00-07

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA02435-01	MW-4	Ground Water	10-Sep-03 17:40	12-Sep-03 11:41
SA02435-02	MW-9	Ground Water	10-Sep-03 17:47	12-Sep-03 11:41
SA02435-03	MW-12	Ground Water	10-Sep-03 18:00	12-Sep-03 11:41
SA02435-04	MW-13	Ground Water	10-Sep-03 17:35	12-Sep-03 11:41
SA02435-05	MW-15	Ground Water	10-Sep-03 18:35	12-Sep-03 11:41
SA02435-06	MW-16	Ground Water	10-Sep-03 18:43	12-Sep-03 11:41
SA02435-07	MW-17	Ground Water	10-Sep-03 18:30	12-Sep-03 11:41
SA02435-08	VTDEC	Ground Water	10-Sep-03 18:05	12-Sep-03 11:41
SA02435-09	DUP	Ground Water	10-Sep-03 17:45	12-Sep-03 11:41
SA02435-10	TRIP	Ground Water	10-Apr-03 17:00	12-Sep-03 11:41
SA02435-11	MW-14	Ground Water	10-Sep-03 18:25	12-Sep-03 11:41
SA02435-12	MW-18	Ground Water	10-Sep-03 18:55	12-Sep-03 11:41
SA02435-13	MW-19	Ground Water	10-Sep-03 18:20	12-Sep-03 11:41
SA02435-14	MW-20	Ground Water	10-Sep-03 18:40	12-Sep-03 11:41
SA02435-15	SW-1	Surface Water	10-Sep-03 18:50	12-Sep-03 11:41
SA02435-16	SW-2	Surface Water	10-Sep-03 19:10	12-Sep-03 11:41
SA02435-17	SW-3	Surface Water	10-Sep-03 19:30	12-Sep-03 11:41

I attest that all information contained within this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method and meet the requirements of NELAC.
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Connecticut # PH-0777
Florida # E87600
Maine # MA138
New Hampshire # 2538
New York # 11393
Rhode Island # 98
USDA # S-51435

ACCREDITED IN ACCORDANCE WITH nelac

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

RECEIVED
OCT 01 2003

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-4	VTA3-0026D-00-07	Ground Water	10-Sep-03 17:40	12-Sep-03
SA02435-01				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Acetone	BRL	100 ug/l	10	SW 846 8260B	19-Sep-03	19-Sep-03	3091089	kw
Acrylonitrile	BRL	5.00 ug/l	10	"	"	"	"	"
Benzene	BRL	5.00 ug/l	10	"	"	"	"	"
Bromobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
Bromochloromethane	BRL	5.00 ug/l	10	"	"	"	"	"
Bromodichloromethane	BRL	5.00 ug/l	10	"	"	"	"	"
Bromoform	BRL	5.00 ug/l	10	"	"	"	"	"
Bromomethane	BRL	10.0 ug/l	10	"	"	"	"	"
2-Butanone (MEK)	BRL	50.0 ug/l	10	"	"	"	"	"
n-Butylbenzene	12.4	5.00 ug/l	10	"	"	"	"	"
sec-Butylbenzene	18.6	5.00 ug/l	10	"	"	"	"	"
tert-Butylbenzene	7.70	5.00 ug/l	10	"	"	"	"	"
Carbon disulfide	BRL	25.0 ug/l	10	"	"	"	"	"
Carbon tetrachloride	BRL	5.00 ug/l	10	"	"	"	"	"
Chlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
Chloroethane	BRL	10.0 ug/l	10	"	"	"	"	"
Chloroform	BRL	5.00 ug/l	10	"	"	"	"	"
Chloromethane	BRL	10.0 ug/l	10	"	"	"	"	"
2-Chlorotoluene	BRL	5.00 ug/l	10	"	"	"	"	"
4-Chlorotoluene	BRL	5.00 ug/l	10	"	"	"	"	"
1,2-Dibromo-3-chloropropane	BRL	10.0 ug/l	10	"	"	"	"	"
Dibromochloromethane	BRL	5.00 ug/l	10	"	"	"	"	"
1,2-Dibromoethane (EDB)	BRL	5.00 ug/l	10	"	"	"	"	"
Dibromomethane	BRL	5.00 ug/l	10	"	"	"	"	"
1,2-Dichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
1,3-Dichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
1,4-Dichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
Dichlorodifluoromethane (Freon12)	BRL	10.0 ug/l	10	"	"	"	"	"
1,1-Dichloroethane	BRL	5.00 ug/l	10	"	"	"	"	"
1,2-Dichloroethane	BRL	5.00 ug/l	10	"	"	"	"	"
1,1-Dichloroethene	BRL	5.00 ug/l	10	"	"	"	"	"
cis-1,2-Dichloroethene	BRL	5.00 ug/l	10	"	"	"	"	"
trans-1,2-Dichloroethene	BRL	5.00 ug/l	10	"	"	"	"	"
1,2-Dichloropropane	BRL	5.00 ug/l	10	"	"	"	"	"
1,3-Dichloropropane	BRL	5.00 ug/l	10	"	"	"	"	"
2,2-Dichloropropane	BRL	5.00 ug/l	10	"	"	"	"	"
1,1-Dichloropropene	BRL	5.00 ug/l	10	"	"	"	"	"
cis-1,3-Dichloropropene	BRL	5.00 ug/l	10	"	"	"	"	"
trans-1,3-Diehloropropene	BRL	5.00 ug/l	10	"	"	"	"	"
Ethylbenzene	24.5	5.00 ug/l	10	"	"	"	"	"
Hexachlorobutadiene	BRL	5.00 ug/l	10	"	"	"	"	"
2-Hexanone (MBK)	BRL	50.0 ug/l	10	"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-4 SA02435-01	VTA3-0026D-00-07	Ground Water	10-Sep-03 17:40	12-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Isopropylbenzene	36.2	5.00 ug/l	10	"	"	"	"	"
4-Isopropyltoluene	15.3	5.00 ug/l	10	"	"	"	"	"
Methyl tert-butyl ether	BRL	5.00 ug/l	10	"	"	"	"	"
4-Methyl-2-pentanone (MIBK)	BRL	50.0 ug/l	10	"	"	"	"	"
Methylene chloride	BRL	50.0 ug/l	10	"	"	"	"	"
Naphthalene	265	5.00 ug/l	10	"	"	"	"	"
n-Propylbenzene	48.9	5.00 ug/l	10	"	"	"	"	"
Styrene	BRL	5.00 ug/l	10	"	"	"	"	"
1,1,1,2-Tetrachloroethane	BRL	5.00 ug/l	10	"	"	"	"	"
1,1,2,2-Tetrachloroethane	BRL	5.00 ug/l	10	"	"	"	"	"
Tetrachloroethene	BRL	5.00 ug/l	10	"	"	"	"	"
Toluene	BRL	5.00 ug/l	10	"	"	"	"	"
1,2,3-Trichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
1,2,4-Trichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
1,1,1-Trichloroethane	BRL	5.00 ug/l	10	"	"	"	"	"
1,1,2-Trichloroethane	BRL	5.00 ug/l	10	"	"	"	"	"
Trichloroethene	BRL	5.00 ug/l	10	"	"	"	"	"
Trichlorofluoromethane (Freon 11)	BRL	5.00 ug/l	10	"	"	"	"	"
1,2,3-Trichloropropane	BRL	5.00 ug/l	10	"	"	"	"	"
1,2,4-Trimethylbenzene	173	5.00 ug/l	10	"	"	"	"	"
1,3,5-Trimethylbenzene	54.7	5.00 ug/l	10	"	"	"	"	"
Vinyl chloride	BRL	5.00 ug/l	10	"	"	"	"	"
m,p-Xylene	27.7	10.0 ug/l	10	"	"	"	"	"
o-Xylene	139	5.00 ug/l	10	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*97.4*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*102*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*108*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*110*	*70-130 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-4 SA02435-01	VTA3-0026D-00-07	Ground Water	10-Sep-03 17:40	12-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3510C						
Fuel Oil #2	BRL	0.200 mg/l	1	SW846 8015 Mod.	22-Sep-03	23-Sep-03	3091170	JD
Fuel Oil #4	BRL	0.200 mg/l	1	"	"	"	"	"
Fuel Oil #6	BRL	0.200 mg/l	1	"	"	"	"	"
Motor Oil	BRL	0.200 mg/l	1	"	"	"	"	"
Aviation Fuel	BRL	0.200 mg/l	1	"	"	"	"	"
Unidentified	7.53	0.200 mg/l	1	"	"	"	"	"
Other Oil	Calculated as	0.200 mg/l	1	"	"	"	"	"
Diesel Range Organics	7.53	0.200 mg/l	1	"	"	"	"	"
Surrogote: 1-Chlorooctadecane	*114*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9	VTA3-0026D-00-07	Ground Water	10-Sep-03 17:47	12-Sep-03
SA02435-02				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Acetone	BRL	20.0 ug/l	1	SW 846 8260B	19-Sep-03	19-Sep-03	3091089	kw
Acrylonitrile	BRL	1.00 ug/l	1	"	"	"	"	"
Benzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromoehloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromodiehloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromoform	BRL	1.00 ug/l	1	"	"	"	"	"
Bromomethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Butanone (MEK)	BRL	10.0 ug/l	1	"	"	"	"	"
n-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
see-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
tert-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Carbon disulfide	BRL	5.00 ug/l	1	"	"	"	"	"
Carbon tetrachloride	BRL	1.00 ug/l	1	"	"	"	"	"
Chlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Chloroethane	BRL	2.00 ug/l	1	"	"	"	"	"
Chloroform	BRL	1.00 ug/l	1	"	"	"	"	"
Chloromethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromo-3-chloropropane	BRL	2.00 ug/l	1	"	"	"	"	"
Dibromoehloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromoethane (EDB)	BRL	1.00 ug/l	1	"	"	"	"	"
Dibromomethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Diehlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,4-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Diehlorodifluoromethane (Freon12)	BRL	2.00 ug/l	1	"	"	"	"	"
1,1-Diehloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,2-Diehloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,2-Diehloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Diehloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
2,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
eis-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
Ethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Hexachlorobutadiene	BRL	1.00 ug/l	1	"	"	"	"	"
2-Hexanone (MBK)	BRL	10.0 ug/l	1	"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9	VTA3-0026D-00-07	Ground Water	10-Sep-03 17:47	12-Sep-03
SA02435-02				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Isopropylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Isopropyltoluene	BRL	1.00 ug/l	1	"	"	"	"	"
Methyl tert-butyl ether	BRL	1.00 ug/l	1	"	"	"	"	"
4-Methyl-2-pentanone (MIBK)	BRL	10.0 ug/l	1	"	"	"	"	"
Methylene chloride	BRL	10.0 ug/l	1	"	"	"	"	"
Naphthalene	BRL	1.00 ug/l	1	"	"	"	"	"
n-Propylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Styrene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1,2-Tetraehloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Tetrachloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Toluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Triehloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Triehlorofluoromethane (Freon 11)	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Trichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Vinyl ehloride	BRL	1.00 ug/l	1	"	"	"	"	"
m,p-Xylene	BRL	2.00 ug/l	1	"	"	"	"	"
o-Xylene	BRL	1.00 ug/l	1	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*94.6*	*70-130 %*		"	"	"	"	"
Surrogote: Toluene-d8	*102*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*104*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*107*	*70-130 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9	VTA3-0026D-00-07	Ground Water	10-Sep-03 17:47	12-Sep-03
SA02435-02				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3510C						
Fuel Oil #2	BRL	0.200 mg/l	1	SW846 8015 Mod.	22-Sep-03	23-Sep-03	3091170	JD
Fuel Oil #4	BRL	0.200 mg/l	1	"	"	"	"	"
Fuel Oil #6	BRL	0.200 mg/l	1	"	"	"	"	"
Motor Oil	BRL	0.200 mg/l	1	"	"	"	"	"
Aviation Fuel	BRL	0.200 mg/l	1	"	"	"	"	"
Unidentified	BRL	0.200 mg/l	1	"	"	"	"	"
Other Oil	BRL	0.200 mg/l	1	"	"	"	"	"
Diesel Range Organics	BRL	0.200 mg/l	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*53.9*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-12	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:00	12-Sep-03
SA02435-03				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Acetone	BRL	20.0 ug/l	1	SW 846 8260B	19-Sep-03	19-Sep-03	3091089	kw
Acrylonitrile	BRL	1.00 ug/l	1	"	"	"	"	"
Benzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromodichloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromoform	BRL	1.00 ug/l	1	"	"	"	"	"
Bromomethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Butanone (MEK)	BRL	10.0 ug/l	1	"	"	"	"	"
n-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
sec-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
tert-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Carbon disulfide	BRL	5.00 ug/l	1	"	"	"	"	"
Carbon tetrachloride	BRL	1.00 ug/l	1	"	"	"	"	"
Chlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Chloroethane	BRL	2.00 ug/l	1	"	"	"	"	"
Chloroform	BRL	1.00 ug/l	1	"	"	"	"	"
Chloromethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromo-3-chloropropane	BRL	2.00 ug/l	1	"	"	"	"	"
Dibromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromoethane (EDB)	BRL	1.00 ug/l	1	"	"	"	"	"
Dibromomethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,4-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Dichlorodifluoromethane (Freon12)	6.89	2.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
2,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
Ethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Hexachlorobutadiene	BRL	1.00 ug/l	1	"	"	"	"	"
2-Hexanone (MBK)	BRL	10.0 ug/l	1	"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-12 SA02435-03	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:00	12-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Isopropylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Isopropyltoluene	BRL	1.00 ug/l	1	"	"	"	"	"
Methyl tert-butyl ether	BRL	1.00 ug/l	1	"	"	"	"	"
4-Methyl-2-pentanone (MIBK)	BRL	10.0 ug/l	1	"	"	"	"	"
Methylene chloride	BRL	10.0 ug/l	1	"	"	"	"	"
Naphthalene	BRL	1.00 ug/l	1	"	"	"	"	"
n-Propylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Styrene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Tetrachloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Toluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Trichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Trichlorofluoromethane (Freon 11)	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Trichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Vinyl chloride	BRL	1.00 ug/l	1	"	"	"	"	"
m,p-Xylene	BRL	2.00 ug/l	1	"	"	"	"	"
o-Xylene	BRL	1.00 ug/l	1	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*96.0*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*100*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*103*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*107*	*70-130 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-12	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:00	12-Sep-03
SA02435-03				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst*	*Flag*
Extractable Petroleum Hydrocarbons									
Diesel Range Organics		Prepared by method SW846 3510C							
Fuel Oil #2	BRL	0.200 mg/l	1	SW846 8015 Mod.	22-Sep-03	23-Sep-03	3091170	JD	
Fuel Oil #4	BRL	0.200 mg/l	1	"	"	"	"	"	
Fuel Oil #6	BRL	0.200 mg/l	1	"	"	"	"	"	
Motor Oil	BRL	0.200 mg/l	1	"	"	"	"	"	
Aviation Fuel	BRL	0.200 mg/l	1	"	"	"	"	"	
Unidentified	BRL	0.200 mg/l	1	"	"	"	"	"	
Other Oil	BRL	0.200 mg/l	1	"	"	"	"	"	
Diesel Range Organics	BRL	0.200 mg/l	1	"	"	"	"	"	
Surrogate: 1-Chlorooctadecane	*48.8*	*40-140 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-13	VTA3-0026D-00-07	Ground Water	10-Sep-03 17:35	12-Sep-03
SA02435-04				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method		Volatiles				
Acetone	BRL	20.0 ug/l	1	SW 846 8260B	19-Sep-03	19-Sep-03	3091089	kw
Acrylonitrile	BRL	1.00 ug/l	1	"	"	"	"	"
Benzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromodichloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromoform	BRL	1.00 ug/l	1	"	"	"	"	"
Bromomethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Butanone (MEK)	BRL	10.0 ug/l	1	"	"	"	"	"
n-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
sec-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
tert-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Carbon disulfide	BRL	5.00 ug/l	1	"	"	"	"	"
Carbon tetrachloride	BRL	1.00 ug/l	1	"	"	"	"	"
Chlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Chloroethane	BRL	2.00 ug/l	1	"	"	"	"	"
Chloroform	BRL	1.00 ug/l	1	"	"	"	"	"
Chloromethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromo-3-chloropropane	BRL	2.00 ug/l	1	"	"	"	"	"
Dibromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromoethane (EDB)	BRL	1.00 ug/l	1	"	"	"	"	"
Dibromomethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,4-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Dichlorodifluoromethane (Freon12)	BRL	2.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
2,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
Ethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Hexachlorobutadiene	BRL	1.00 ug/l	1	"	"	"	"	"
2-Hexanone (MBK)	BRL	10.0 ug/l	1	"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-13	VTA3-0026D-00-07	Ground Water	10-Sep-03 17:35	12-Sep-03
SA02435-04				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Isopropylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Isopropyltoluene	BRL	1.00 ug/l	1	"	"	"	"	"
Methyl tert-butyl ether	BRL	2.00 ug/l	1	"	"	"	"	"
4-Methyl-2-pentanone (MIBK)	BRL	10.0 ug/l	1	"	"	"	"	"
Methylene chloride	BRL	10.0 ug/l	1	"	"	"	"	"
Naphthalene	BRL	1.00 ug/l	1	"	"	"	"	"
n-Propylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Styrene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Tetrachloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Toluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Trichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Trichlorofluoromethane (Freon 11)	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Trichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Vinyl chloride	BRL	1.00 ug/l	1	"	"	"	"	"
m,p-Xylene	BRL	2.00 ug/l	1	"	"	"	"	"
o-Xylene	BRL	1.00 ug/l	1	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*96.6*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*101*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*109*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*110*	*70-130 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-13	VTA3-0026D-00-07	Ground Water	10-Sep-03 17:35	12-Sep-03
SA02435-04				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3510C						
Fuel Oil #2	BRL	0.200 mg/l	1	SW846 8015 Mod.	22-Sep-03	23-Sep-03	3091170	JD
Fuel Oil #4	BRL	0.200 mg/l	1	"	"	"	"	"
Fuel Oil #6	BRL	0.200 mg/l	1	"	"	"	"	"
Motor Oil	BRL	0.200 mg/l	1	"	"	"	"	"
Aviation Fuel	BRL	0.200 mg/l	1	"	"	"	"	"
Unidentified	BRL	0.200 mg/l	1	"	"	"	"	"
Other Oil	BRL	0.200 mg/l	1	"	"	"	"	"
Diesel Range Organics	BRL	0.200 mg/l	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*51.4*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-15	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:35	12-Sep-03
SA02435-05				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Acetone	BRL	20.0 ug/l	1	SW 846 8260B	19-Sep-03	19-Sep-03	3091089	kw
Acrylonitrile	BRL	1.00 ug/l	1	"	"	"	"	"
Benzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromodichloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromoform	BRL	1.00 ug/l	1	"	"	"	"	"
Bromomethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Butanone (MEK)	BRL	10.0 ug/l	1	"	"	"	"	"
n-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
sec-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
tert-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Carbon disulfide	BRL	5.00 ug/l	1	"	"	"	"	"
Carbon tetrachloride	BRL	1.00 ug/l	1	"	"	"	"	"
Chlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Chloroethane	BRL	2.00 ug/l	1	"	"	"	"	"
Chloroform	BRL	1.00 ug/l	1	"	"	"	"	"
Chloromethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromo-3-chloropropane	BRL	2.00 ug/l	1	"	"	"	"	"
Dibromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromoethane (EDB)	BRL	1.00 ug/l	1	"	"	"	"	"
Dibromomethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,4-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Dichlorodifluoromethane (Freon12)	BRL	2.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
2,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
Ethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Hexachlorobutadiene	BRL	1.00 ug/l	1	"	"	"	"	"
2-Hexanone (MBK)	BRL	10.0 ug/l	1	"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-15	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:35	12-Sep-03
SA02435-05				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method		Volatiles				
Isopropylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Isopropyltoluene	BRL	1.00 ug/l	1	"	"	"	"	"
Methyl tert-butyl ether	BRL	1.00 ug/l	1	"	"	"	"	"
4-Methyl-2-pentanone (MIBK)	BRL	10.0 ug/l	1	"	"	"	"	"
Methylene chloride	BRL	10.0 ug/l	1	"	"	"	"	"
Naphthalene	BRL	1.00 ug/l	1	"	"	"	"	"
n-Propylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Styrene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Tetrachloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Toluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Trichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Trichlorofluoromethane (Freon 11)	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Trichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Vinyl chloride	BRL	1.00 ug/l	1	"	"	"	"	"
m,p-Xylene	BRL	2.00 ug/l	1	"	"	"	"	"
o-Xylene	BRL	1.00 ug/l	1	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*97.6*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*102*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*107*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*110*	*70-130 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-15 SA02435-05	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:35	12-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3510C						
Fuel Oil #2	BRL	0.200 mg/l	1	SW846 8015 Mod.	22-Sep-03	23-Sep-03	3091170	JD
Fuel Oil #4	BRL	0.200 mg/l	1	"	"	"	"	"
Fuel Oil #6	BRL	0.200 mg/l	1	"	"	"	"	"
Motor Oil	BRL	0.200 mg/l	1	"	"	"	"	"
Aviation Fuel	BRL	0.200 mg/l	1	"	"	"	"	"
Unidentified	BRL	0.200 mg/l	1	"	"	"	"	"
Other Oil	BRL	0.200 mg/l	1	"	"	"	"	"
Diesel Range Organics	BRL	0.200 mg/l	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*50.3*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-16	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:43	12-Sep-03
SA02435-06				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Acetone	BRL	20.0 ug/l	1	SW 846 8260B	19-Sep-03	19-Sep-03	3091089	kw
Acrylonitrile	BRL	1.00 ug/l	1	"	"	"	"	"
Benzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromodichloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromoform	BRL	1.00 ug/l	1	"	"	"	"	"
Bromomethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Butanone (MEK)	BRL	10.0 ug/l	1	"	"	"	"	"
n-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
sec-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
tert-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Carbon disulfide	BRL	5.00 ug/l	1	"	"	"	"	"
Carbon tetrachloride	BRL	1.00 ug/l	1	"	"	"	"	"
Chlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Chloroethane	BRL	2.00 ug/l	1	"	"	"	"	"
Chloroform	BRL	1.00 ug/l	1	"	"	"	"	"
Chloromethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromo-3-chloropropane	BRL	2.00 ug/l	1	"	"	"	"	"
Dibromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromoethane (EDB)	BRL	1.00 ug/l	1	"	"	"	"	"
Dibromomethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,4-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Dichlorodifluoromethane (Freon12)	BRL	2.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
2,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
Ethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Hexachlorobutadiene	BRL	1.00 ug/l	1	"	"	"	"	"
2-Hexanone (MBK)	BRL	10.0 ug/l	1	"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-16	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:43	12-Sep-03
SA02435-06				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst*	*Flag*
Volatile Organic Compounds									
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles							
Isopropylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
4-Isopropyltoluene	BRL	1.00 ug/l	1	"	"	"	"	"	
Methyl tert-butyl ether	BRL	1.00 ug/l	1	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	BRL	10.0 ug/l	1	"	"	"	"	"	
Methylene chloride	BRL	10.0 ug/l	1	"	"	"	"	"	
Naphthalene	BRL	1.00 ug/l	1	"	"	"	"	"	
n-Propylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
Styrene	BRL	1.00 ug/l	1	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"	
Tetrachloroethene	BRL	1.00 ug/l	1	"	"	"	"	"	
Toluene	BRL	1.00 ug/l	1	"	"	"	"	"	
1,2,3-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
1,2,4-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
1,1,1-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"	
1,1,2-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"	
Trichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"	
Trichlorofluoromethane (Freon 11)	BRL	1.00 ug/l	1	"	"	"	"	"	
1,2,3-Trichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"	
1,2,4-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
1,3,5-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
Vinyl chloride	BRL	1.00 ug/l	1	"	"	"	"	"	
m,p-Xylene	BRL	2.00 ug/l	1	"	"	"	"	"	
o-Xylene	BRL	1.00 ug/l	1	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	*95.6*	*70-130 %*		"	"	"	"	"	
Surrogate: Toluene-d8	*101*	*70-130 %*		"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*104*	*70-130 %*		"	"	"	"	"	
Surrogate: Dibromofluoromethane	*109*	*70-130 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-16	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:43	12-Sep-03
SA02435-06				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3510C						
Fuel Oil #2	BRL	0.200 mg/l	1	SW846 8015 Mod.	22-Sep-03	23-Sep-03	3091170	JD
Fuel Oil #4	BRL	0.200 mg/l	1	"	"	"	"	"
Fuel Oil #6	BRL	0.200 mg/l	1	"	"	"	"	"
Motor Oil	BRL	0.200 mg/l	1	"	"	"	"	"
Aviation Fuel	BRL	0.200 mg/l	1	"	"	"	"	"
Unidentified	BRL	0.200 mg/l	1	"	"	"	"	"
Other Oil	BRL	0.200 mg/l	1	"	"	"	"	"
Diesel Range Organics	BRL	0.200 mg/l	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*48.8*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-17	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:30	12-Sep-03
SA02435-07				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Acetone	BRL	20.0 ug/l	1	SW 846 8260B	19-Sep-03	19-Sep-03	3091089	kw
Acrylonitrile	BRL	1.00 ug/l	1	"	"	"	"	"
Benzene	1.48	1.00 ug/l	1	"	"	"	"	"
Bromobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromoehloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromodichloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromoform	BRL	1.00 ug/l	1	"	"	"	"	"
Bromomethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Butanone (MEK)	BRL	10.0 ug/l	1	"	"	"	"	"
n-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
sec-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
tert-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Carbon disulfide	BRL	5.00 ug/l	1	"	"	"	"	"
Carbon tetrachloride	BRL	1.00 ug/l	1	"	"	"	"	"
Chlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Chloroethane	BRL	2.00 ug/l	1	"	"	"	"	"
Chloroform	BRL	1.00 ug/l	1	"	"	"	"	"
Chloromethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromo-3-chloropropane	BRL	2.00 ug/l	1	"	"	"	"	"
Dibromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromoethane (EDB)	BRL	1.00 ug/l	1	"	"	"	"	"
Dibromomethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,4-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Dichlorodifluoromethane (Freon12)	2.44	2.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
2,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
Ethylbenzene	1.22	1.00 ug/l	1	"	"	"	"	"
Hexaehlorobutadiene	BRL	1.00 ug/l	1	"	"	"	"	"
2-Hexanone (MBK)	BRL	10.0 ug/l	1	"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-17	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:30	12-Sep-03
SA02435-07				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Isopropylbenzene	1.22	1.00 ug/l	1	"	"	"	"	"
4-Isopropyltoluene	BRL	1.00 ug/l	1	"	"	"	"	"
Methyl tert-butyl ether	BRL	1.00 ug/l	1	"	"	"	"	"
4-Methyl-2-pentanone (MIBK)	BRL	10.0 ug/l	1	"	"	"	"	"
Methylene ehloride	BRL	10.0 ug/l	1	"	"	"	"	"
Naphthalene	30.1	1.00 ug/l	1	"	"	"	"	"
n-Propylbenzene	1.59	1.00 ug/l	1	"	"	"	"	"
Styrene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Tetrachloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Toluene	2.22	1.00 ug/l	1	"	"	"	"	"
1,2,3-Triehlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Triehlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2-Triehloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Trichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Trichlorofluoromethane (Freon 11)	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Trichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trimethylbenzene	22.8	1.00 ug/l	1	"	"	"	"	"
1,3,5-Trimethylbenzene	4.47	1.00 ug/l	1	"	"	"	"	"
Vinyl chloride	BRL	1.00 ug/l	1	"	"	"	"	"
m,p-Xylene	4.64	2.00 ug/l	1	"	"	"	"	"
o-Xylene	7.09	1.00 ug/l	1	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*97.2*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*102*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*105*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*109*	*70-130 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-17	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:30	12-Sep-03
SA02435-07				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3510C						
Fuel Oil #2	BRL	0.200 mg/l	1	SW846 8015 Mod.	22-Sep-03	23-Sep-03	3091170	JD
Fuel Oil #4	BRL	0.200 mg/l	1	"	"	"	"	"
Fuel Oil #6	BRL	0.200 mg/l	1	"	"	"	"	"
Motor Oil	BRL	0.200 mg/l	1	"	"	"	"	"
Aviation Fuel	BRL	0.200 mg/l	1	"	"	"	"	"
Unidentified	BRL	0.200 mg/l	1	"	"	"	"	"
Other Oil	BRL	0.200 mg/l	1	"	"	"	"	"
Diesel Range Organics	BRL	0.200 mg/l	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*59.4*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
VTDEC	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:05	12-Sep-03
SA02435-08				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method		Volatiles				
Acetone	BRL	100 ug/l	5	SW 846 8260B	19-Sep-03	19-Sep-03	3091089	kw
Acrylonitrile	BRL	5.00 ug/l	5	"	"	"	"	"
Benzene	15.8	5.00 ug/l	5	"	"	"	"	"
Bromobenzene	BRL	5.00 ug/l	5	"	"	"	"	"
Bromochloromethane	BRL	5.00 ug/l	5	"	"	"	"	"
Bromodichloromethane	BRL	5.00 ug/l	5	"	"	"	"	"
Bromoform	BRL	5.00 ug/l	5	"	"	"	"	"
Bromomethane	BRL	10.0 ug/l	5	"	"	"	"	"
2-Butanone (MEK)	BRL	50.0 ug/l	5	"	"	"	"	"
n-Butylbenzene	19.6	5.00 ug/l	5	"	"	"	"	"
sec-Butylbenzene	9.35	5.00 ug/l	5	"	"	"	"	"
tert-Butylbenzene	BRL	5.00 ug/l	5	"	"	"	"	"
Carbon disulfide	BRL	25.0 ug/l	5	"	"	"	"	"
Carbon tetrachloride	BRL	5.00 ug/l	5	"	"	"	"	"
Chlorobenzene	BRL	5.00 ug/l	5	"	"	"	"	"
Chloroethane	BRL	10.0 ug/l	5	"	"	"	"	"
Chloroform	BRL	5.00 ug/l	5	"	"	"	"	"
Chloromethane	BRL	10.0 ug/l	5	"	"	"	"	"
2-Chlorotoluene	BRL	5.00 ug/l	5	"	"	"	"	"
4-Chlorotoluene	BRL	5.00 ug/l	5	"	"	"	"	"
1,2-Dibromo-3-chloropropane	BRL	10.0 ug/l	5	"	"	"	"	"
Dibromochloromethane	BRL	5.00 ug/l	5	"	"	"	"	"
1,2-Dibromoethane (EDB)	BRL	5.00 ug/l	5	"	"	"	"	"
Dibromomethane	BRL	5.00 ug/l	5	"	"	"	"	"
1,2-Dichlorobenzene	BRL	5.00 ug/l	5	"	"	"	"	"
1,3-Dichlorobenzene	BRL	5.00 ug/l	5	"	"	"	"	"
1,4-Dichlorobenzene	BRL	5.00 ug/l	5	"	"	"	"	"
Dichlorodifluoromethane (Freon12)	10.2	10.0 ug/l	5	"	"	"	"	"
1,1-Dichloroethane	BRL	5.00 ug/l	5	"	"	"	"	"
1,2-Dichloroethane	BRL	5.00 ug/l	5	"	"	"	"	"
1,1-Dichloroethene	BRL	5.00 ug/l	5	"	"	"	"	"
cis-1,2-Dichloroethene	BRL	5.00 ug/l	5	"	"	"	"	"
trans-1,2-Dichloroethene	BRL	5.00 ug/l	5	"	"	"	"	"
1,2-Dichloropropane	BRL	5.00 ug/l	5	"	"	"	"	"
1,3-Dichloropropane	BRL	5.00 ug/l	5	"	"	"	"	"
2,2-Dichloropropane	BRL	5.00 ug/l	5	"	"	"	"	"
1,1-Dichloropropene	BRL	5.00 ug/l	5	"	"	"	"	"
cis-1,3-Dichloropropene	BRL	5.00 ug/l	5	"	"	"	"	"
trans-1,3-Dichloropropene	BRL	5.00 ug/l	5	"	"	"	"	"
Ethylbenzene	758	5.00 ug/l	5	"	"	"	"	"
Hexachlorobutadiene	BRL	5.00 ug/l	5	"	"	"	"	"
2-Hexanone (MBK)	BRL	50.0 ug/l	5	"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
VTDEC	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:05	12-Sep-03
SA02435-08				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Isopropylbenzene	52.2	5.00 ug/l	5	"	"	"	"	"
4-Isopropyltoluene	6.40	5.00 ug/l	5	"	"	"	"	"
Methyl tert-butyl ether	BRL	5.00 ug/l	5	"	"	"	"	"
4-Methyl-2-pentanone (MIBK)	BRL	50.0 ug/l	5	"	"	"	"	"
Methylene chloride	BRL	50.0 ug/l	5	"	"	"	"	"
Naphthalene	375	5.00 ug/l	5	"	"	"	"	"
n-Propylbenzene	131	5.00 ug/l	5	"	"	"	"	"
Styrene	BRL	5.00 ug/l	5	"	"	"	"	"
1,1,1,2-Tetrachloroethane	BRL	5.00 ug/l	5	"	"	"	"	"
1,1,2,2-Tetrachloroethane	BRL	5.00 ug/l	5	"	"	"	"	"
Tetrachloroethene	BRL	5.00 ug/l	5	"	"	"	"	"
Toluene	23.2	5.00 ug/l	5	"	"	"	"	"
1,2,3-Trichlorobenzene	BRL	5.00 ug/l	5	"	"	"	"	"
1,2,4-Trichlorobenzene	BRL	5.00 ug/l	5	"	"	"	"	"
1,1,1-Trichloroethane	BRL	5.00 ug/l	5	"	"	"	"	"
1,1,2-Trichloroethane	BRL	5.00 ug/l	5	"	"	"	"	"
Trichloroethene	BRL	5.00 ug/l	5	"	"	"	"	"
Trichlorofluoromethane (Freon 11)	BRL	5.00 ug/l	5	"	"	"	"	"
1,2,3-Trichloropropane	BRL	5.00 ug/l	5	"	"	"	"	"
1,2,4-Trimethylbenzene	1,400	5.00 ug/l	5	"	"	"	"	"
1,3,5-Trimethylbenzene	121	5.00 ug/l	5	"	"	"	"	"
Vinyl chloride	BRL	5.00 ug/l	5	"	"	"	"	"
m,p-Xylene	1,210	10.0 ug/l	5	"	"	"	"	"
o-Xylene	59.0	5.00 ug/l	5	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*97.4*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*102*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*101*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*105*	*70-130 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
VTDEC	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:05	12-Sep-03
SA02435-08				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Extractable Petroleum Hydrocarbons								
Diesel Range Organics		Prepared by method SW846 3510C						
Fuel Oil #2	BRL	0.200 mg/l	1	SW846 8015 Mod.	22-Sep-03	23-Sep-03	3091170	JD
Fuel Oil #4	BRL	0.200 mg/l	1	"	"	"	"	"
Fuel Oil #6	BRL	0.200 mg/l	1	"	"	"	"	"
Motor Oil	BRL	0.200 mg/l	1	"	"	"	"	"
Aviation Fuel	BRL	0.200 mg/l	1	"	"	"	"	"
Unidentified	1.78	0.200 mg/l	1	"	"	"	"	"
Other Oil	Calculated as	0.200 mg/l	1	"	"	"	"	"
Diesel Range Organics	1.78	0.200 mg/l	1	"	"	"	"	"
Surrogate: 1-Chlorooctadecane	*51.2*	*40-140 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
DUP	VTA3-0026D-00-07	Ground Water	10-Sep-03 17:45	12-Sep-03
SA02435-09				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Acetone	BRL	100 ug/l	10	SW 846 8260B	19-Sep-03	19-Sep-03	3091089	kw
Acrylonitrile	BRL	5.00 ug/l	10	"	"	"	"	"
Benzene	BRL	5.00 ug/l	10	"	"	"	"	"
Bromobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
Bromochloromethane	BRL	5.00 ug/l	10	"	"	"	"	"
Bromodichloromethane	BRL	5.00 ug/l	10	"	"	"	"	"
Bromoform	BRL	5.00 ug/l	10	"	"	"	"	"
Bromomethane	BRL	10.0 ug/l	10	"	"	"	"	"
2-Butanone (MEK)	BRL	50.0 ug/l	10	"	"	"	"	"
n-Butylbenzene	46.0	5.00 ug/l	10	"	"	"	"	"
sec-Butylbenzene	49.4	5.00 ug/l	10	"	"	"	"	"
tert-Butylbenzene	14.8	5.00 ug/l	10	"	"	"	"	"
Carbon disulfide	BRL	25.0 ug/l	10	"	"	"	"	"
Carbon tetrachloride	BRL	5.00 ug/l	10	"	"	"	"	"
Chlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
Chloroethane	BRL	10.0 ug/l	10	"	"	"	"	"
Chloroform	BRL	5.00 ug/l	10	"	"	"	"	"
Chloromethane	BRL	10.0 ug/l	10	"	"	"	"	"
2-Chlorotoluene	BRL	5.00 ug/l	10	"	"	"	"	"
4-Chlorotoluene	BRL	5.00 ug/l	10	"	"	"	"	"
1,2-Dibromo-3-chloropropane	BRL	10.0 ug/l	10	"	"	"	"	"
Dibromochloromethane	BRL	5.00 ug/l	10	"	"	"	"	"
1,2-Dibromoethane (EDB)	BRL	5.00 ug/l	10	"	"	"	"	"
Dibromomethane	BRL	5.00 ug/l	10	"	"	"	"	"
1,2-Dichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
1,3-Dichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
1,4-Dichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
Dichlorodifluoromethane (Freon12)	BRL	10.0 ug/l	10	"	"	"	"	"
1,1-Dichloroethane	BRL	5.00 ug/l	10	"	"	"	"	"
1,2-Dichloroethane	BRL	5.00 ug/l	10	"	"	"	"	"
1,1-Dichloroethene	BRL	5.00 ug/l	10	"	"	"	"	"
cis-1,2-Dichloroethene	BRL	5.00 ug/l	10	"	"	"	"	"
trans-1,2-Dichloroethene	BRL	5.00 ug/l	10	"	"	"	"	"
1,2-Dichloropropane	BRL	5.00 ug/l	10	"	"	"	"	"
1,3-Dichloropropane	BRL	5.00 ug/l	10	"	"	"	"	"
2,2-Dichloropropane	BRL	5.00 ug/l	10	"	"	"	"	"
1,1-Dichloropropene	BRL	5.00 ug/l	10	"	"	"	"	"
cis-1,3-Dichloropropene	BRL	5.00 ug/l	10	"	"	"	"	"
trans-1,3-Dichloropropene	BRL	5.00 ug/l	10	"	"	"	"	"
Ethylbenzene	28.5	5.00 ug/l	10	"	"	"	"	"
Hexachlorobutadiene	BRL	5.00 ug/l	10	"	"	"	"	"
2-Hexanone (MBK)	BRL	50.0 ug/l	10	"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
DUP SA02435-09	VTA3-0026D-00-07	Ground Water	10-Sep-03 17:45	12-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Isopropylbenzene	50.7	5.00 ug/l	10	"	"	"	"	"
4-Isopropyltoluene	40.5	5.00 ug/l	10	"	"	"	"	"
Methyl tert-butyl ether	BRL	5.00 ug/l	10	"	"	"	"	"
4-Methyl-2-pentanone (MIBK)	BRL	50.0 ug/l	10	"	"	"	"	"
Methylene chloride	BRL	50.0 ug/l	10	"	"	"	"	"
Naphthalene	284	5.00 ug/l	10	"	"	"	"	"
n-Propylbenzene	80.7	5.00 ug/l	10	"	"	"	"	"
Styrene	BRL	5.00 ug/l	10	"	"	"	"	"
1,1,1,2-Tetrachloroethane	BRL	5.00 ug/l	10	"	"	"	"	"
1,1,2,2-Tetrachloroethane	BRL	5.00 ug/l	10	"	"	"	"	"
Tetrachloroethene	BRL	5.00 ug/l	10	"	"	"	"	"
Toluene	5.40	5.00 ug/l	10	"	"	"	"	"
1,2,3-Trichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
1,2,4-Trichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"
1,1,1-Trichloroethane	BRL	5.00 ug/l	10	"	"	"	"	"
1,1,2-Trichloroethane	BRL	5.00 ug/l	10	"	"	"	"	"
Trichloroethene	BRL	5.00 ug/l	10	"	"	"	"	"
Trichlorofluoromethane (Freon 11)	BRL	5.00 ug/l	10	"	"	"	"	"
1,2,3-Trichloropropane	BRL	5.00 ug/l	10	"	"	"	"	"
1,2,4-Trimethylbenzene	301	5.00 ug/l	10	"	"	"	"	"
1,3,5-Trimethylbenzene	100	5.00 ug/l	10	"	"	"	"	"
Vinyl chloride	BRL	5.00 ug/l	10	"	"	"	"	"
m,p-Xylene	32.7	10.0 ug/l	10	"	"	"	"	"
o-Xylene	163	5.00 ug/l	10	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*99.6*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*102*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*107*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*110*	*70-130 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TRIP	VTA3-0026D-00-07	Ground Water	10-Apr-03 17:00	12-Sep-03
SA02435-10				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst*	*Flag*
Volatile Organic Compounds									
Volatile Organic Compounds by EPA 8260		Prepared by method		Volatiles					I-02
Acetone	BRL	20.0 ug/l	1	SW 846 8260B	19-Sep-03	19-Sep-03	3091178	kw	
Acrylonitrile	BRL	1.00 ug/l	1	"	"	"	"	"	
Benzene	BRL	1.00 ug/l	1	"	"	"	"	"	
Bromobenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
Bromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"	
Bromodichloromethane	BRL	1.00 ug/l	1	"	"	"	"	"	
Bromoform	BRL	1.00 ug/l	1	"	"	"	"	"	
Bromomethane	BRL	2.00 ug/l	1	"	"	"	"	"	
2-Butanone (MEK)	BRL	10.0 ug/l	1	"	"	"	"	"	
n-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
sec-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
tert-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
Carbon disulfide	BRL	5.00 ug/l	1	"	"	"	"	"	
Carbon tetrachloride	BRL	1.00 ug/l	1	"	"	"	"	"	
Chlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
Chloroethane	BRL	2.00 ug/l	1	"	"	"	"	"	
Chloroform	BRL	1.00 ug/l	1	"	"	"	"	"	
Chloromethane	BRL	2.00 ug/l	1	"	"	"	"	"	
2-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"	
4-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	BRL	2.00 ug/l	1	"	"	"	"	"	
Dibromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"	
1,2-Dibromoethane (EDB)	BRL	1.00 ug/l	1	"	"	"	"	"	
Dibromomethane	BRL	1.00 ug/l	1	"	"	"	"	"	
1,2-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
1,3-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
1,4-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
Dichlorodifluoromethane (Freon12)	BRL	2.00 ug/l	1	"	"	"	"	"	
1,1-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"	
1,2-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"	
1,1-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"	
cis-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"	
trans-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"	
1,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"	
1,3-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"	
2,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"	
1,1-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"	
cis-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"	
trans-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"	
Ethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
Hexachlorobutadiene	BRL	1.00 ug/l	1	"	"	"	"	"	
2-Hexanone (MBK)	BRL	10.0 ug/l	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TRIP	VTA3-0026D-00-07	Ground Water	10-Apr-03 17:00	12-Sep-03
SA02435-10				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst*	*Flag*
Volatile Organic Compounds									
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles							I-02
Isopropylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
4-Isopropyltoluene	BRL	1.00 ug/l	1	"	"	"	"	"	
Methyl tert-butyl ether	BRL	1.00 ug/l	1	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	BRL	10.0 ug/l	1	"	"	"	"	"	
Methylene chloride	BRL	10.0 ug/l	1	"	"	"	"	"	
Naphthalene	BRL	1.00 ug/l	1	"	"	"	"	"	
n-Propylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
Styrene	BRL	1.00 ug/l	1	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"	
Tetrachloroethene	BRL	1.00 ug/l	1	"	"	"	"	"	
Toluene	1.17	1.00 ug/l	1	"	"	"	"	"	
1,2,3-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
1,2,4-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
1,1,1-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"	
1,1,2-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"	
Trichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"	
Trichlorofluoromethane (Freon 11)	BRL	1.00 ug/l	1	"	"	"	"	"	
1,2,3-Trichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"	
1,2,4-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
1,3,5-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"	
Vinyl chloride	BRL	1.00 ug/l	1	"	"	"	"	"	
m,p-Xylene	BRL	2.00 ug/l	1	"	"	"	"	"	
o-Xylene	BRL	1.00 ug/l	1	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	*95.4*	*70-130 %*		"	"	"	"	"	
Surrogate: Toluene-d8	*99.8*	*70-130 %*		"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*105*	*70-130 %*		"	"	"	"	"	
Surrogate: Dibromofluoromethane	*106*	*70-130 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-14	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:25	12-Sep-03
SA02435-11				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Acetone	BRL	20.0 ug/l	1	SW 846 8260B	19-Sep-03	19-Sep-03	3091089	kw
Acrylonitrile	BRL	1.00 ug/l	1	"	"	"	"	"
Benzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromodichloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromoform	BRL	1.00 ug/l	1	"	"	"	"	"
Bromomethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Butanone (MEK)	BRL	10.0 ug/l	1	"	"	"	"	"
n-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
sec-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
tert-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Carbon disulfide	BRL	5.00 ug/l	1	"	"	"	"	"
Carbon tetrachloride	BRL	1.00 ug/l	1	"	"	"	"	"
Chlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Chloroethane	BRL	2.00 ug/l	1	"	"	"	"	"
Chloroform	BRL	1.00 ug/l	1	"	"	"	"	"
Chloromethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromo-3-chloropropane	BRL	2.00 ug/l	1	"	"	"	"	"
Dibromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromoethane (EDB)	BRL	1.00 ug/l	1	"	"	"	"	"
Dibromomethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,4-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Dichlorodifluoromethane (Freon12)	BRL	2.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
2,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
Ethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Hexachlorobutadiene	BRL	1.00 ug/l	1	"	"	"	"	"
2-Hexanone (MBK)	BRL	10.0 ug/l	1	"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-14	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:25	12-Sep-03
SA02435-11				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Isopropylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Isopropyltoluene	BRL	1.00 ug/l	1	"	"	"	"	"
Methyl tert-butyl ether	BRL	1.00 ug/l	1	"	"	"	"	"
4-Methyl-2-pentanone (MIBK)	BRL	10.0 ug/l	1	"	"	"	"	"
Methylene ehloride	BRL	10.0 ug/l	1	"	"	"	"	"
Naphthalene	BRL	1.00 ug/l	1	"	"	"	"	"
n-Propylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Styrene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Tetraehloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Toluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Triehlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Triehlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1-Triehloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2-Triehloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Triehloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Trichlorofluoromethane (Freon 11)	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Triehloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Vinyl chloride	BRL	1.00 ug/l	1	"	"	"	"	"
m,p-Xylene	BRL	2.00 ug/l	1	"	"	"	"	"
o-Xylene	BRL	1.00 ug/l	1	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*97.8*	*70-130 %*		"	"	"	"	"
Surrogote: Toluene-d8	*99.6*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*98.8*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*104*	*70-130 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-18	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:55	12-Sep-03
SA02435-12				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method		Volatiles				
Acetone	BRL	20.0 ug/l	1	SW 846 8260B	19-Sep-03	19-Sep-03	3091089	kw
Acrylonitrile	BRL	1.00 ug/l	1	"	"	"	"	"
Benzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromodichloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromoform	BRL	1.00 ug/l	1	"	"	"	"	"
Bromomethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Butanone (MEK)	BRL	10.0 ug/l	1	"	"	"	"	"
n-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
sec-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
tert-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Carbon disulfide	BRL	5.00 ug/l	1	"	"	"	"	"
Carbon tetrachloride	BRL	1.00 ug/l	1	"	"	"	"	"
Chlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Chloroethane	BRL	2.00 ug/l	1	"	"	"	"	"
Chloroform	BRL	1.00 ug/l	1	"	"	"	"	"
Chloromethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromo-3-chloropropane	BRL	2.00 ug/l	1	"	"	"	"	"
Dibromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromoethane (EDB)	BRL	1.00 ug/l	1	"	"	"	"	"
Dibromomethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,4-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Dichlorodifluoromethane (Freon12)	BRL	2.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
2,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
Ethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Hexachlorobutadiene	BRL	1.00 ug/l	1	"	"	"	"	"
2-Hexanone (MBK)	BRL	10.0 ug/l	1	"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-18	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:55	12-Sep-03
SA02435-12				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Isopropylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Isopropyltoluene	BRL	1.00 ug/l	1	"	"	"	"	"
Methyl tert-butyl ether	BRL	1.00 ug/l	1	"	"	"	"	"
4-Methyl-2-pentanone (MIBK)	BRL	10.0 ug/l	1	"	"	"	"	"
Methylene chloride	BRL	10.0 ug/l	1	"	"	"	"	"
Naphthalene	BRL	1.00 ug/l	1	"	"	"	"	"
n-Propylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Styrene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Tetrachloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Toluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Trichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Trichlorofluoromethane (Freon 11)	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Trichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trimethylbenzene	BRL	1.50 ug/l	1	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Vinyl chloride	BRL	1.00 ug/l	1	"	"	"	"	"
m,p-Xylene	BRL	2.00 ug/l	1	"	"	"	"	"
o-Xylene	BRL	1.50 ug/l	1	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*94.2*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*98.8*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*96.8*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*104*	*70-130 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-19	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:20	12-Sep-03
SA02435-13				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst*	*Flag*
Volatile Organic Compounds									
Volatile Organic Compounds by EPA 8260		Prepared by method		Volatiles					R-05
Acetone	BRL	100 ug/l	10	SW 846 8260B	19-Sep-03	19-Sep-03	3091089	kw	
Acrylonitrile	BRL	5.00 ug/l	10	"	"	"	"	"	
Benzene	BRL	5.00 ug/l	10	"	"	"	"	"	
Bromobenzene	BRL	5.00 ug/l	10	"	"	"	"	"	
Bromochloromethane	BRL	5.00 ug/l	10	"	"	"	"	"	
Bromodichloromethane	BRL	5.00 ug/l	10	"	"	"	"	"	
Bromoform	BRL	5.00 ug/l	10	"	"	"	"	"	
Bromomethane	BRL	10.0 ug/l	10	"	"	"	"	"	
2-Butanone (MEK)	BRL	50.0 ug/l	10	"	"	"	"	"	
n-Butylbenzene	41.0	5.00 ug/l	10	"	"	"	"	"	
sec-Butylbenzene	22.7	5.00 ug/l	10	"	"	"	"	"	
tert-Butylbenzene	5.90	5.00 ug/l	10	"	"	"	"	"	
Carbon disulfide	BRL	25.0 ug/l	10	"	"	"	"	"	
Carbon tetrachloride	BRL	5.00 ug/l	10	"	"	"	"	"	
Chlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"	
Chloroethane	BRL	10.0 ug/l	10	"	"	"	"	"	
Chloroform	BRL	5.00 ug/l	10	"	"	"	"	"	
Chloromethane	BRL	10.0 ug/l	10	"	"	"	"	"	
2-Chlorotoluene	BRL	5.00 ug/l	10	"	"	"	"	"	
4-Chlorotoluene	BRL	5.00 ug/l	10	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	BRL	10.0 ug/l	10	"	"	"	"	"	
Dibromoehloromethane	BRL	5.00 ug/l	10	"	"	"	"	"	
1,2-Dibromoethane (EDB)	BRL	5.00 ug/l	10	"	"	"	"	"	
Dibromomethane	BRL	5.00 ug/l	10	"	"	"	"	"	
1,2-Dichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"	
1,3-Dichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"	
1,4-Diehlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"	
Dichlorodifluoromethane (Freon12)	BRL	10.0 ug/l	10	"	"	"	"	"	
1,1-Dichloroethane	BRL	5.00 ug/l	10	"	"	"	"	"	
1,2-Dichloroethane	BRL	5.00 ug/l	10	"	"	"	"	"	
1,1-Diehloroethene	BRL	5.00 ug/l	10	"	"	"	"	"	
cis-1,2-Dichloroethene	BRL	5.00 ug/l	10	"	"	"	"	"	
trans-1,2-Dichloroethene	BRL	5.00 ug/l	10	"	"	"	"	"	
1,2-Dichloropropane	BRL	5.00 ug/l	10	"	"	"	"	"	
1,3-Dichloropropane	BRL	5.00 ug/l	10	"	"	"	"	"	
2,2-Diehloropropane	BRL	5.00 ug/l	10	"	"	"	"	"	
1,1-Dichloropropene	BRL	5.00 ug/l	10	"	"	"	"	"	
cis-1,3-Dichloropropene	BRL	5.00 ug/l	10	"	"	"	"	"	
trans-1,3-Dichloropropene	BRL	5.00 ug/l	10	"	"	"	"	"	
Ethylbenzene	BRL	5.00 ug/l	10	"	"	"	"	"	
Hexachlorobutadiene	BRL	5.00 ug/l	10	"	"	"	"	"	
2-Hexanone (MBK)	BRL	50.0 ug/l	10	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-19	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:20	12-Sep-03
SA02435-13				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst*	*Flag*
Volatile Organic Compounds									
Volatile Organic Compounds by EPA 8260		Prepared by method		Volatiles					R-05
Isopropylbenzene	6.80	5.00 ug/l	10	"	"	"	"	"	
4-Isopropyltoluene	20.4	5.00 ug/l	10	"	"	"	"	"	
Methyl tert-butyl ether	BRL	5.00 ug/l	10	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	BRL	50.0 ug/l	10	"	"	"	"	"	
Methylene chloride	BRL	50.0 ug/l	10	"	"	"	"	"	
Naphthalene	105	5.00 ug/l	10	"	"	"	"	"	
n-Propylbenzene	17.3	5.00 ug/l	10	"	"	"	"	"	
Styrene	BRL	5.00 ug/l	10	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	BRL	5.00 ug/l	10	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	BRL	5.00 ug/l	10	"	"	"	"	"	
Tetrachloroethene	BRL	5.00 ug/l	10	"	"	"	"	"	
Toluene	BRL	5.00 ug/l	10	"	"	"	"	"	
1,2,3-Trichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"	
1,2,4-Trichlorobenzene	BRL	5.00 ug/l	10	"	"	"	"	"	
1,1,1-Trichloroethane	BRL	5.00 ug/l	10	"	"	"	"	"	
1,1,2-Trichloroethane	BRL	5.00 ug/l	10	"	"	"	"	"	
Trichloroethene	BRL	5.00 ug/l	10	"	"	"	"	"	
Trichlorofluoromethane (Freon 11)	BRL	5.00 ug/l	10	"	"	"	"	"	
1,2,3-Trichloropropane	BRL	5.00 ug/l	10	"	"	"	"	"	
1,2,4-Trimethylbenzene	139	5.00 ug/l	10	"	"	"	"	"	
1,3,5-Trimethylbenzene	37.7	5.00 ug/l	10	"	"	"	"	"	
Vinyl chloride	BRL	5.00 ug/l	10	"	"	"	"	"	
m,p-Xylene	BRL	10.0 ug/l	10	"	"	"	"	"	
o-Xylene	7.40	5.00 ug/l	10	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	*97.0*	*70-130 %*		"	"	"	"	"	
Surrogate: Toluene-d8	*100*	*70-130 %*		"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*102*	*70-130 %*		"	"	"	"	"	
Surrogate: Dibromofluoromethane	*107*	*70-130 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-20	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:40	12-Sep-03
SA02435-14				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method		Volatiles				
Acetone	BRL	20.0 ug/l	1	SW 846 8260B	19-Sep-03	19-Sep-03	3091089	kw
Acrylonitrile	BRL	1.00 ug/l	1	"	"	"	"	"
Benzene	BRL	1.00 ug/l	1	"	"	"	"	"
Bromobenzeue	BRL	1.00 ug/l	1	"	"	"	"	"
Bromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromodichloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
Bromoform	BRL	1.00 ug/l	1	"	"	"	"	"
Bromomethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Butanone (MEK)	BRL	10.0 ug/l	1	"	"	"	"	"
n-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
sec-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
tert-Butylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Carbon disulfide	BRL	5.00 ug/l	1	"	"	"	"	"
Carbon tetrachloride	BRL	1.00 ug/l	1	"	"	"	"	"
Chlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Chloroethane	BRL	2.00 ug/l	1	"	"	"	"	"
Chloroform	BRL	1.00 ug/l	1	"	"	"	"	"
Chloromethane	BRL	2.00 ug/l	1	"	"	"	"	"
2-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Chlorotoluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromo-3-ehloropropane	BRL	2.00 ug/l	1	"	"	"	"	"
Dibromochloromethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dibromoethane (EDB)	BRL	1.00 ug/l	1	"	"	"	"	"
Dibromomethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,4-Dichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Dichlorodifluoromethane (Freon12)	4.01	2.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Diehloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,2-Dichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,3-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
2,2-Dichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
cis-1,3-Diehloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
trans-1,3-Dichloropropene	BRL	1.00 ug/l	1	"	"	"	"	"
Ethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Hexachlorobutadiene	BRL	1.00 ug/l	1	"	"	"	"	"
2-Hexanone (MBK)	BRL	10.0 ug/l	1	"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-20 SA02435-14	VTA3-0026D-00-07	Ground Water	10-Sep-03 18:40	12-Sep-03

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by EPA 8260		Prepared by method Volatiles						
Isopropylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
4-Isopropyltoluene	BRL	1.00 ug/l	1	"	"	"	"	"
Methyl tert-butyl ether	BRL	1.00 ug/l	1	"	"	"	"	"
4-Methyl-2-pentanone (MIBK)	BRL	10.0 ug/l	1	"	"	"	"	"
Methylene chloride	BRL	10.0 ug/l	1	"	"	"	"	"
Naphthalene	BRL	1.00 ug/l	1	"	"	"	"	"
n-Propylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Styrene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2,2-Tetrachloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Tetrachloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Toluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trichlorobenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,1-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
1,1,2-Trichloroethane	BRL	1.00 ug/l	1	"	"	"	"	"
Trichloroethene	BRL	1.00 ug/l	1	"	"	"	"	"
Trichlorofluoromethane (Freon 11)	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,3-Trichloropropane	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Vinyl chloride	BRL	1.00 ug/l	1	"	"	"	"	"
m,p-Xylene	BRL	2.00 ug/l	1	"	"	"	"	"
o-Xylene	BRL	1.00 ug/l	1	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*95.4*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*99.4*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*98.6*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*103*	*70-130 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-1	VTA3-0026D-00-07	Surface Water	10-Sep-03 18:50	12-Sep-03
SA02435-15				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst*	*Flag*
Volatile Organic Compounds									
Volatile Organic Compounds by GCMS		Prepared by method		Volatiles					R-04
Benzene	BRL	5.00 ug/l	5	SW846 8260B	22-Sep-03	22-Sep-03	3091197	kw	
Ethylbenzene	BRL	5.00 ug/l	5	"	"	"	"	"	
Methyl tert-butyl ether	BRL	5.00 ug/l	5	"	"	"	"	"	
Naphthalene	40.5	5.00 ug/l	5	"	"	"	"	"	
Toluene	BRL	5.00 ug/l	5	"	"	"	"	"	
1,2,4-Trimethylbenzene	15.6	5.00 ug/l	5	"	"	"	"	"	
1,3,5-Trimethylbenzene	BRL	5.00 ug/l	5	"	"	"	"	"	
m,p-Xylene	BRL	10.0 ug/l	5	"	"	"	"	"	
o-Xylene	BRL	5.00 ug/l	5	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	*94.4*	*70-130 %*		"	"	"	"	"	
Surrogate: Toluene-d8	*101*	*70-130 %*		"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*98.6*	*70-130 %*		"	"	"	"	"	
Surrogate: Dibromofluoromethane	*105*	*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons									
Diesel Range Organics		Prepared by method		SW846 3510C					
Fuel Oil #2	BRL	0.200 mg/l	1	SW846 8015 Mod.	22-Sep-03	23-Sep-03	3091170	JD	
Fuel Oil #4	BRL	0.200 mg/l	1	"	"	"	"	"	
Fuel Oil #6	BRL	0.200 mg/l	1	"	"	"	"	"	
Motor Oil	BRL	0.200 mg/l	1	"	"	"	"	"	
Aviation Fuel	BRL	0.200 mg/l	1	"	"	"	"	"	
Unidentified	3.50	0.200 mg/l	1	"	"	"	"	"	
Other Oil	Calculated as	0.200 mg/l	1	"	"	"	"	"	
Diesel Range Organics	3.50	0.200 mg/l	1	"	"	"	"	"	
Surrogate: 1-Chlorooctadecane	*101*	*40-140 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-2	VTA3-0026D-00-07	Surface Water	10-Sep-03 19:10	12-Sep-03
SA02435-16				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by GCMS		Prepared by method		Volatiles				
Benzene	BRL	1.00 ug/l	1	SW846 8260B	19-Sep-03	19-Sep-03	3091082	tim
Ethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
Methyl tert-butyl ether	BRL	1.00 ug/l	1	"	"	"	"	"
Naphthalene	BRL	1.00 ug/l	1	"	"	"	"	"
Toluene	BRL	1.00 ug/l	1	"	"	"	"	"
1,2,4-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	1.00 ug/l	1	"	"	"	"	"
m,p-Xylene	BRL	2.00 ug/l	1	"	"	"	"	"
o-Xylene	BRL	1.00 ug/l	1	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*95.2*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*96.8*	*70-130 %*		"	"	"	"	"
Surrogote: 1,2-Dichloroethane-d4	*102*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*98.8*	*70-130 %*		"	"	"	"	"

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-3	VTA3-0026D-00-07	Surface Water	10-Sep-03 19:30	12-Sep-03
SA02435-17				

Analyte(s)	*Result*	**RDL/Units*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Analyst Flag*
Volatile Organic Compounds								
Volatile Organic Compounds by GCMS		Prepared by method Volatiles						
Benzene	BRL	5.00 ug/l	5	SW846 8260B	19-Sep-03	19-Sep-03	3091082	tim
Ethylbenzene	BRL	5.00 ug/l	5	"	"	"	"	"
Methyl tert-butyl ether	BRL	5.00 ug/l	5	"	"	"	"	"
Naphthalene	35.0	5.00 ug/l	5	"	"	"	"	"
Toluene	BRL	5.00 ug/l	5	"	"	"	"	"
1,2,4-Trimethylbenzene	16.2	5.00 ug/l	5	"	"	"	"	"
1,3,5-Trimethylbenzene	BRL	5.00 ug/l	5	"	"	"	"	"
m,p-Xylene	BRL	10.0 ug/l	5	"	"	"	"	"
o-Xylene	BRL	5.00 ug/l	5	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	*93.2*	*70-130 %*		"	"	"	"	"
Surrogate: Toluene-d8	*97.6*	*70-130 %*		"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	*108*	*70-130 %*		"	"	"	"	"
Surrogate: Dibromofluoromethane	*103*	*70-130 %*		"	"	"	"	"

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3091082 - Volatiles										
Blank (3091082-BLK1)				Prepared & Analyzed: 19-Sep-03						
Benzene	BRL	1.00	ug/l							
Ethylbenzene	BRL	1.00	ug/l							
Methyl tert-butyl ether	BRL	1.00	ug/l							
Naphthalene	BRL	1.00	ug/l							
Toluene	BRL	1.00	ug/l							
1,2,4-Trimethylbenzene	BRL	1.00	ug/l							
1,3,5-Trimethylbenzene	BRL	1.00	ug/l							
m,p-Xylene	BRL	2.00	ug/l							
o-Xylene	BRL	1.00	ug/l							
Surrogate: 4-Bromofluorobenzene	*49.3*		ug/l	*50.0*		*98.6*	*70-130*			
Surrogate: Taluene-d8	*50.6*		ug/l	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*61.4*		ug/l	*50.0*		*123*	*70-130*			
Surrogate: Dibromofluoromethane	*53.2*		ug/l	*50.0*		*106*	*70-130*			
Matrix Spike (3091082-MS1)		**Source: SA02312-01**		Prepared & Analyzed: 19-Sep-03						
Benzene	18.1		ug/l	20.0	BRL	90.5	70-130			
Chlorobenzene	18.0		ug/l	20.0	BRL	90.0	70-130			
1,1-Dichloroethene	18.8		ug/l	20.0	BRL	94.0	70-130			
Toluene	19.0		ug/l	20.0	1.43	87.8	70-130			
Trichloroethene	16.5		ug/l	20.0	BRL	82.5	70-130			
Surrogate: 4-Bromofluorobenzene	*44.6*		ug/l	*50.0*		*89.2*	*70-130*			
Surrogate: Toluene-d8	*49.6*		ug/l	*50.0*		*99.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*54.3*		ug/l	*50.0*		*109*	*70-130*			
Surrogate: Dibromofluoromethane	*50.7*		ug/l	*50.0*		*101*	*70-130*			
Matrix Spike Dup (3091082-MSD1)		**Source: SA02312-01**		Prepared: 19-Sep-03 Analyzed: 20-Sep-03						
Benzene	18.0		ug/l	20.0	BRL	90.0	70-130	0.554	30	
Chlorobenzene	18.0		ug/l	20.0	BRL	90.0	70-130	0.00	30	
1,1-Dichloroethene	19.7		ug/l	20.0	BRL	98.5	70-130	4.68	30	
Toluene	18.6		ug/l	20.0	1.43	85.8	70-130	2.30	30	
Trichloroethene	16.3		ug/l	20.0	BRL	81.5	70-130	1.22	30	
Surrogate: 4-Bromofluorobenzene	*42.7*		ug/l	*50.0*		*85.4*	*70-130*			
Surrogate: Toluene-d8	*48.1*		ug/l	*50.0*		*96.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.0*		ug/l	*50.0*		*110*	*70-130*			
Surrogate: Dibramofluoromethane	*51.0*		ug/l	*50.0*		*102*	*70-130*			
Batch 3091089 - Volatiles										
Blank (3091089-BLK1)				Prepared & Analyzed: 19-Sep-03						
Acetone	BRL	20.0	ug/l							
Aerylonitrile	BRL	1.00	ug/l							
Benzene	BRL	1.00	ug/l							
Bromobenzene	BRL	1.00	ug/l							
Bromochloromethane	BRL	1.00	ug/l							
Bromodichloromethane	BRL	1.00	ug/l							
Bromoform	BRL	1.00	ug/l							
Bromomethane	BRL	2.00	ug/l							
2-Butanone (MEK)	BRL	10.0	ug/l							
n-Butylbenzene	BRL	1.00	ug/l							
sec-Butylbenzene	BRL	1.00	ug/l							
tert-Butylbenzene	BRL	1.00	ug/l							
Carbon disulfide	BRL	5.00	ug/l							
Carbon tetrachloride	BRL	1.00	ug/l							
Chlorobenzene	BRL	1.00	ug/l							
Chloroethane	BRL	2.00	ug/l							
Chloroform	BRL	1.00	ug/l							

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3091089 - Volatiles										
Blank (3091089-BLK1)				Prepared & Analyzed: 19-Sep-03						
Chloromethane	BRL	2.00	ug/l							
2-Chlorotoluene	BRL	1.00	ug/l							
4-Chlorotoluene	BRL	1.00	ug/l							
1,2-Dibromo-3-chloropropane	BRL	2.00	ug/l							
Dibromochloromethane	BRL	1.00	ug/l							
1,2-Dibromoethane (EDB)	BRL	1.00	ug/l							
Dibromomethane	BRL	1.00	ug/l							
1,2-Dichlorobenzene	BRL	1.00	ug/l							
1,3-Dichlorobenzene	BRL	1.00	ug/l							
1,4-Dichlorobenzene	BRL	1.00	ug/l							
Diehlorodifluoromethane (Freon12)	BRL	2.00	ug/l							
1,1-Dichloroethane	BRL	1.00	ug/l							
1,2-Dichloroethane	BRL	1.00	ug/l							
1,1-Dichloroethene	BRL	1.00	ug/l							
cis-1,2-Dichloroethene	BRL	1.00	ug/l							
trans-1,2-Dichloroethene	BRL	1.00	ug/l							
1,2-Dichloropropane	BRL	1.00	ug/l							
1,3-Dichloropropane	BRL	1.00	ug/l							
2,2-Dichloropropane	BRL	1.00	ug/l							
1,1-Dichloropropene	BRL	1.00	ug/l							
cis-1,3-Dichloropropene	BRL	1.00	ug/l							
trans-1,3-Dichloropropene	BRL	1.00	ug/l							
Ethylbenzene	BRL	1.00	ug/l							
Hexachlorobutadiene	BRL	1.00	ug/l							
2-Hexanone (MBK)	BRL	10.0	ug/l							
Isopropylbenzene	BRL	1.00	ug/l							
4-Isopropyltoluene	BRL	1.00	ug/l							
Methyl tert-butyl ether	BRL	1.00	ug/l							
4-Methyl-2-pentanone (MIBK)	BRL	10.0	ug/l							
Methylene chloride	BRL	10.0	ug/l							
Naphthalene	BRL	1.00	ug/l							
n-Propylbenzene	BRL	1.00	ug/l							
Styrene	BRL	1.00	ug/l							
1,1,1,2-Tetrachloroethane	BRL	1.00	ug/l							
1,1,2,2-Tetrachloroethane	BRL	1.00	ug/l							
Tetrachloroethene	BRL	1.00	ug/l							
Toluene	BRL	1.00	ug/l							
1,2,3-Trichlorobenzene	BRL	1.00	ug/l							
1,2,4-Trichlorobenzene	BRL	1.00	ug/l							
1,1,1-Trichloroethane	BRL	1.00	ug/l							
1,1,2-Trichloroethane	BRL	1.00	ug/l							
Trichloroethene	BRL	1.00	ug/l							
Trichlorofluoromethane (Freon 11)	BRL	1.00	ug/l							
1,2,3-Trichloropropane	BRL	1.00	ug/l							
1,2,4-Trimethylbenzene	BRL	1.00	ug/l							
1,3,5-Trimethylbenzene	BRL	1.00	ug/l							
Vinyl chloride	BRL	1.00	ug/l							
m,p-Xylene	BRL	2.00	ug/l							
o-Xylene	BRL	1.00	ug/l							
Surrogate: 4-Bromofluorobenzene	*48.3*		ug/l	*50.0*		*96.6*	*70-130*			
Surrogate: Toluene-d8	*50.3*		ug/l	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*51.6*		ug/l	*50.0*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*53.9*		ug/l	*50.0*		*108*	*70-130*			
Matrix Spike (3091089-MS1)		**Source: SA02435-06**		Prepared & Analyzed: 19-Sep-03						

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3091089 - Volatiles										
Matrix Spike (3091089-MS1)		**Source: SA02435-06**		Prepared & Analyzed: 19-Sep-03						
Benzene	16.6		ug/l	20.0	BRL	83.0	70-130			
Chlorobenzene	17.0		ug/l	20.0	BRL	85.0	70-130			
1,1-Dichloroethene	17.2		ug/l	20.0	BRL	86.0	70-130			
Toluene	17.1		ug/l	20.0	BRL	85.5	70-130			
Trichloroethene	17.7		ug/l	20.0	BRL	88.5	70-130			
Surrogate: 4-Bromofluorobenzene	*46.4*		ug/l	*50.0*		*92.8*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/l	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.7*		ug/l	*50.0*		*105*	*70-130*			
Surrogate: Dibromofluoromethane	*53.9*		ug/l	*50.0*		*108*	*70-130*			
Matrix Spike Dup (3091089-MSD1)		**Source: SA02435-06**		Prepared & Analyzed: 19-Sep-03						
Benzene	16.9		ug/l	20.0	BRL	84.5	70-130	1.79	30	
Chlorobenzene	17.2		ug/l	20.0	BRL	86.0	70-130	1.17	30	
1,1-Dichloroethene	17.2		ug/l	20.0	BRL	86.0	70-130	0.00	30	
Toluene	16.9		ug/l	20.0	BRL	84.5	70-130	1.18	30	
Trichloroethene	17.5		ug/l	20.0	BRL	87.5	70-130	1.14	30	
Surrogate: 4-Bromofluorobenzene	*46.4*		ug/l	*50.0*		*92.8*	*70-130*			
Surrogate: Toluene-d8	*50.1*		ug/l	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*51.7*		ug/l	*50.0*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*54.0*		ug/l	*50.0*		*108*	*70-130*			
Batch 3091178 - Volatiles										
Blank (3091178-BLK1)				Prepared & Analyzed: 22-Sep-03						
Acetone	BRL	20.0	ug/l							
Acrylonitrile	BRL	1.00	ug/l							
Benzene	BRL	1.00	ug/l							
Bromobenzene	BRL	1.00	ug/l							
Bromochloromethane	BRL	1.00	ug/l							
Bromodichloromethane	BRL	1.00	ug/l							
Bromoform	BRL	1.00	ug/l							
Bromomethane	BRL	2.00	ug/l							
2-Butanone (MEK)	BRL	10.0	ug/l							
n-Butylbenzene	BRL	1.00	ug/l							
sec-Butylbenzene	BRL	1.00	ug/l							
tert-Butylbenzene	BRL	1.00	ug/l							
Carbon disulfide	BRL	5.00	ug/l							
Carbon tetrachloride	BRL	1.00	ug/l							
Chlorobenzene	BRL	1.00	ug/l							
Chloroethane	BRL	2.00	ug/l							
Chloroform	BRL	1.00	ug/l							
Chloromethane	BRL	2.00	ug/l							
2-Chlorotoluene	BRL	1.00	ug/l							
4-Chlorotoluene	BRL	1.00	ug/l							
1,2-Dibromo-3-chloropropane	BRL	2.00	ug/l							
Dibromoehloromethane	BRL	1.00	ug/l							
1,2-Dibromoethane (EDB)	BRL	1.00	ug/l							
Dibromomethane	BRL	1.00	ug/l							
1,2-Diehlorobenzene	BRL	1.00	ug/l							
1,3-Dichlorobenzene	BRL	1.00	ug/l							
1,4-Dichlorobenzene	BRL	1.00	ug/l							
Dichlorodifluoromethane (Freon12)	BRL	2.00	ug/l							
1,1-Dichloroethane	BRL	1.00	ug/l							
1,2-Dichloroethane	BRL	1.00	ug/l							
1,1-Dichloroethene	BRL	1.00	ug/l							
cis-1,2-Dichloroethene	BRL	1.00	ug/l							

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3091178 - Volatiles										
Blank (3091178-BLK1)				Prepared & Analyzed: 22-Sep-03						
trans-1,2-Dichloroethene	BRL	1.00	ug/l							
1,2-Dichloropropane	BRL	1.00	ug/l							
1,3-Dichloropropane	BRL	1.00	ug/l							
2,2-Dichloropropane	BRL	1.00	ug/l							
1,1-Dichloropropene	BRL	1.00	ug/l							
cis-1,3-Dichloropropene	BRL	1.00	ug/l							
trans-1,3-Dichloropropene	BRL	1.00	ug/l							
Ethylbenzene	BRL	1.00	ug/l							
Hexachlorobutadiene	BRL	1.00	ug/l							
2-Hexanone (MBK)	BRL	10.0	ug/l							
Isopropylbenzene	BRL	1.00	ug/l							
4-Isopropyltoluene	BRL	1.00	ug/l							
Methyl tert-butyl ether	BRL	1.00	ug/l							
4-Methyl-2-pentanone (MIBK)	BRL	10.0	ug/l							
Methylene chloride	BRL	10.0	ug/l							
Naphthalene	BRL	1.00	ug/l							
n-Propylbenzene	BRL	1.00	ug/l							
Styrene	BRL	1.00	ug/l							
1,1,1,2-Tetrachloroethane	BRL	1.00	ug/l							
1,1,2,2-Tetrachloroethane	BRL	1.00	ug/l							
Tetrachloroethene	BRL	1.00	ug/l							
Toluene	BRL	1.00	ug/l							
1,2,3-Trichlorobenzene	BRL	1.00	ug/l							
1,2,4-Trichlorobenzene	BRL	1.00	ug/l							
1,1,1-Trichloroethane	BRL	1.00	ug/l							
1,1,2-Trichloroethane	BRL	1.00	ug/l							
Trichloroethene	BRL	1.00	ug/l							
Trichlorofluoromethane (Freon 11)	BRL	1.00	ug/l							
1,2,3-Trichloropropane	BRL	1.00	ug/l							
1,2,4-Trimethylbenzene	BRL	1.00	ug/l							
1,3,5-Trimethylbenzene	BRL	1.00	ug/l							
Vinyl chloride	BRL	1.00	ug/l							
m,p-Xylene	BRL	2.00	ug/l							
o-Xylene	BRL	1.00	ug/l							
Surrogate: 4-Bromofluorobenzene	*48.1*		ug/l	*50.0*		*96.2*	*70-130*			
Surrogate: Toluene-d8	*51.3*		ug/l	*50.0*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*48.5*		ug/l	*50.0*		*97.0*	*70-130*			
Surrogate: Dibromofluoromethane	*51.8*		ug/l	*50.0*		*104*	*70-130*			
Duplicate (3091178-DUP1)		**Source: SA02435-10**		Prepared & Analyzed: 22-Sep-03						
Acetone	BRL	20.0	ug/l		BRL				30	
Acrylonitrile	BRL	1.00	ug/l		BRL				30	
Benzene	BRL	1.00	ug/l		BRL				30	
Bromobenzene	BRL	1.00	ug/l		BRL				30	
Bromochloromethane	BRL	1.00	ug/l		BRL				30	
Bromodichloromethane	BRL	1.00	ug/l		BRL				30	
Bromoform	BRL	1.00	ug/l		BRL				30	
Bromomethane	BRL	2.00	ug/l		BRL				30	
2-Butanone (MEK)	BRL	10.0	ug/l		BRL				30	
n-Butylbenzene	BRL	1.00	ug/l		BRL				30	
sec-Butylbenzene	BRL	1.00	ug/l		BRL				30	
tert-Butylbenzene	BRL	1.00	ug/l		BRL				30	
Carbon disulfide	BRL	5.00	ug/l		BRL				30	
Carbon tetrachloride	BRL	1.00	ug/l		BRL				30	
Chlorobenzene	BRL	1.00	ug/l		BRL				30	

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3091178 - Volatiles										
Duplicate (3091178-DUP1)		**Source: SA02435-10**		Prepared & Analyzed: 22-Sep-03						
Chloroethane	BRL	2.00	ug/l		BRL				30	
Chloroform	BRL	1.00	ug/l		BRL				30	
Chloromethane	BRL	2.00	ug/l		BRL				30	
2-Chlorotoluene	BRL	1.00	ug/l		BRL				30	
4-Chlorotoluene	BRL	1.00	ug/l		BRL				30	
1,2-Dibromo-3-chloropropane	BRL	2.00	ug/l		BRL				30	
Dibromoehloromethane	BRL	1.00	ug/l		BRL				30	
1,2-Dibromoethane (EDB)	BRL	1.00	ug/l		BRL				30	
Dibromomethane	BRL	1.00	ug/l		BRL				30	
1,2-Dichlorobenzene	BRL	1.00	ug/l		BRL				30	
1,3-Dichlorobenzene	BRL	1.00	ug/l		BRL				30	
1,4-Dichlorobenzene	BRL	1.00	ug/l		BRL				30	
Dichlorodifluoromethane (Freon12)	BRL	2.00	ug/l		BRL				30	
1,1-Dichloroethane	BRL	1.00	ug/l		BRL				30	
1,2-Dichloroethane	BRL	1.00	ug/l		BRL				30	
1,1-Dichloroethene	BRL	1.00	ug/l		BRL				30	
cis-1,2-Dichloroethene	BRL	1.00	ug/l		BRL				30	
trans-1,2-Dichloroethene	BRL	1.00	ug/l		BRL				30	
1,2-Dichloropropane	BRL	1.00	ug/l		BRL				30	
1,3-Dichloropropane	BRL	1.00	ug/l		BRL				30	
2,2-Dichloropropane	BRL	1.00	ug/l		BRL				30	
1,1-Dichloropropene	BRL	1.00	ug/l		BRL				30	
cis-1,3-Dichloropropene	BRL	1.00	ug/l		BRL				30	
trans-1,3-Dichloropropene	BRL	1.00	ug/l		BRL				30	
Ethylbenzene	BRL	1.00	ug/l		BRL				30	
Hexachlorobutadiene	BRL	1.00	ug/l		BRL				30	
2-Hexanone (MBK)	BRL	10.0	ug/l		BRL				30	
Isopropylbenzene	BRL	1.00	ug/l		BRL				30	
4-Isopropyltoluene	BRL	1.00	ug/l		BRL				30	
Methyl tert-butyl ether	BRL	1.00	ug/l		BRL				30	
4-Methyl-2-pentanone (MIBK)	BRL	10.0	ug/l		BRL				30	
Methylene chloride	BRL	10.0	ug/l		1.83			5.32	30	
Naphthalene	BRL	1.00	ug/l		BRL				30	
n-Propylbenzene	BRL	1.00	ug/l		BRL				30	
Styrene	BRL	1.00	ug/l		BRL				30	
1,1,1,2-Tetrachloroethane	BRL	1.00	ug/l		BRL				30	
1,1,2,2-Tetrachloroethane	BRL	1.00	ug/l		BRL				30	
Tetrachloroethene	BRL	1.00	ug/l		BRL				30	
Toluene	1.42	1.00	ug/l		1.17			19.3	30	
1,2,3-Trichlorobenzene	BRL	1.00	ug/l		BRL				30	
1,2,4-Trichlorobenzene	BRL	1.00	ug/l		BRL				30	
1,1,1-Trichloroethane	BRL	1.00	ug/l		BRL				30	
1,1,2-Trichloroethane	BRL	1.00	ug/l		BRL				30	
Trichloroethene	BRL	1.00	ug/l		BRL				30	
Trichlorofluoromethane (Freon 11)	BRL	1.00	ug/l		BRL				30	
1,2,3-Trichloropropane	BRL	1.00	ug/l		BRL				30	
1,2,4-Trimethylbenzene	BRL	1.00	ug/l		BRL				30	
1,3,5-Trimethylbenzene	BRL	1.00	ug/l		BRL				30	
Vinyl chloride	BRL	1.00	ug/l		BRL				30	
m,p-Xylene	BRL	2.00	ug/l		BRL				30	
o-Xylene	BRL	1.00	ug/l		BRL				30	
Surrogate: 4-Bromofluorobenzene	*48.3*		ug/l	*50.0*		*96.6*	*70-130*			
Surrogate: Toluene-d8	*50.0*		ug/l	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*50.7*		ug/l	*50.0*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*53.6*		ug/l	*50.0*		*107*	*70-130*			

This laboratory report is not valid without an authorized signature on the cover page.

*Reportable Detection Limit BRL = Below Reporting Limit

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3091178 - Volatiles										
Matrix Spike (3091178-MS1)		**Source: SA02520-06**		Prepared & Analyzed: 22-Sep-03						
Benzene	20.3		ug/l	20.0	BRL	102	70-130			
Chlorobenzene	19.4		ug/l	20.0	BRL	97.0	70-130			
1,1-Dichloroethene	22.5		ug/l	20.0	BRL	112	70-130			
Toluene	20.8		ug/l	20.0	BRL	104	70-130			
Trichloroethene	22.2		ug/l	20.0	0.590	108	70-130			
Surrogate: 4-Bromofluorobenzene	*46.1*		ug/l	*50.0*		*92.2*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/l	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*51.6*		ug/l	*50.0*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*53.5*		ug/l	*50.0*		*107*	*70-130*			
Matrix Spike Dup (3091178-MSD1)		**Source: SA02520-06**		Prepared & Analyzed: 22-Sep-03						
Benzene	20.6		ug/l	20.0	BRL	103	70-130	0.976	30	
Chlorobenzene	19.5		ug/l	20.0	BRL	97.5	70-130	0.514	30	
1,1-Dichloroethene	21.2		ug/l	20.0	BRL	106	70-130	5.50	30	
Toluene	21.2		ug/l	20.0	BRL	106	70-130	1.90	30	
Trichloroethene	22.4		ug/l	20.0	0.590	109	70-130	0.922	30	
Surrogate: 4-Bromofluorobenzene	*46.3*		ug/l	*50.0*		*92.6*	*70-130*			
Surrogate: Toluene-d8	*51.1*		ug/l	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*54.0*		ug/l	*50.0*		*108*	*70-130*			
Surrogate: Dibromofluoromethane	*55.7*		ug/l	*50.0*		*111*	*70-130*			
Batch 3091197 - Volatiles										
Blank (3091197-BLK1)				Prepared & Analyzed: 22-Sep-03						
Benzene	BRL	1.00	ug/l							
Ethylbenzene	BRL	1.00	ug/l							
Methyl tert-butyl ether	BRL	1.00	ug/l							
Naphthalene	BRL	1.00	ug/l							
Toluene	BRL	1.00	ug/l							
1,2,4-Trimethylbenzene	BRL	1.00	ug/l							
1,3,5-Trimethylbenzene	BRL	1.00	ug/l							
m,p-Xylene	BRL	2.00	ug/l							
o-Xylene	BRL	1.00	ug/l							
Surrogate: 4-Bromofluorobenzene	*46.7*		ug/l	*50.0*		*93.4*	*70-130*			
Surrogate: Toluene-d8	*50.2*		ug/l	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.2*		ug/l	*50.0*		*106*	*70-130*			
Surrogate: Dibromofluoromethane	*55.1*		ug/l	*50.0*		*110*	*70-130*			
Matrix Spike (3091197-MS1)		**Source: SA02506-01**		Prepared & Analyzed: 22-Sep-03						
Benzene	19.4		ug/l	20.0	BRL	97.0	70-130			
Chlorobenzene	17.8		ug/l	20.0	BRL	89.0	70-130			
1,1-Dichloroethene	21.5		ug/l	20.0	BRL	108	70-130			
Toluene	19.0		ug/l	20.0	BRL	95.0	70-130			
Trichloroethene	20.6		ug/l	20.0	BRL	103	70-130			
Surrogate: 4-Bromofluorobenzene	*45.3*		ug/l	*50.0*		*90.6*	*70-130*			
Surrogate: Taluene-d8	*49.8*		ug/l	*50.0*		*99.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.8*		ug/l	*50.0*		*99.6*	*70-130*			
Surrogate: Dibromofluoromethane	*52.3*		ug/l	*50.0*		*105*	*70-130*			
Matrix Spike Dup (3091197-MSD1)		**Source: SA02506-01**		Prepared & Analyzed: 22-Sep-03						
Benzene	21.7		ug/l	20.0	BRL	108	70-130	10.7	30	
Chlorobenzene	20.7		ug/l	20.0	BRL	104	70-130	15.5	30	
1,1-Dichloroethene	24.4		ug/l	20.0	BRL	122	70-130	12.2	30	
Toluene	22.0		ug/l	20.0	BRL	110	70-130	14.6	30	
Trichloroethene	22.7		ug/l	20.0	BRL	114	70-130	10.1	30	
Surrogate: 4-Bromofluorobenzene	*44.6*		ug/l	*50.0*		*89.2*	*70-130*			
Surrogate: Toluene-d8	*49.4*		ug/l	*50.0*		*98.8*	*70-130*			

This laboratory report is not valid without an authorized signature on the cover page.

*Reportable Detection Limit BRL = Below Reporting Limit

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3091197 - Volatiles										
Matrix Spike Dup (3091197-MSD1)		**Source: SA02506-01**		Prepared & Analyzed: 22-Sep-03						
Surrogate: 1,2-Dichloroethane-d4	*49.6*		ug/l	*50.0*		*99.2*	*70-130*			
Surrogate: Dibromofluoromethane	*52.4*		ug/l	*50.0*		*105*	*70-130*			

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 3091170 - SW846 3510C										
Blank (3091170-BLK1)				Prepared: 22-Sep-03 Analyzed: 23-Sep-03						
Fuel Oil #2	BRL	0.200	mg/l							
Fuel Oil #4	BRL	0.200	mg/l							
Fuel Oil #6	BRL	0.200	mg/l							
Motor Oil	BRL	0.200	mg/l							
Aviation Fuel	BRL	0.200	mg/l							
Unidentified	BRL	0.200	mg/l							
Other Oil	BRL	0.200	mg/l							
Diesel Range Organics	BRL	0.200	mg/l							
Surrogate: 1-Chlorooctadecane	*0.0228*		mg/l	*0.0500*		*45.6*	*40-140*			
LCS (3091170-BS1)				Prepared: 22-Sep-03 Analyzed: 23-Sep-03						
Fuel Oil #2	9.47	0.200	mg/l	10.0		94.7	40-140			
Surrogate: 1-Chlorooctadecane	*0.0328*		mg/l	*0.0500*		*65.6*	*40-140*			

Notes and Definitions

*TPH	Calculated as
I-02	This result was analyzed outside of the EPA recommended holding time.
R-04	The Reporting Limits for this analysis are elevated due to sample foaming.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. The RDL is generally 5 to 10 times the MDL. However, it may be nominally chosen within these guidelines to simplify data reporting. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

SA02435 .6

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HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 2

Special Handling:
☒ Standard TAT - 7 to 10 business days
☐ Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- All samples are disposed of after 60 days unless otherwise instructed.

Report To: ECS Marin
65 Millet St
Richmond, VT 05477

Project Mgr.: Laura Woodard

Invoice To: ECS Marin
588 Silver Street
Agawam, MA 01001
23090868

P.O. No.: _____ RQN: _____

Project No.: VTA3-0026D-00-07
Site Name: Walker Motors
Location: Montpelier State: VT
Sampler(s): HL/LW

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8= $NaHSO_4$ 9=_____ 10=_____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	# of VOA Vials	# of Amber Glass (1L)	# of Clear Glass	# of Plastic	8015TPH-DRO	8260B	Notes:
SA02435-01	MW-4	9/10/03	1740	G	GW	2/-	2	1			X	X	
-02	MW-9		1747								X	X	
-03	MW-12		1800								X	X	
-04	MW-13		1735								X	X	
-05	MW-15		1835								X	X	
-06	MW-16		1843								X	X	
-07	MW-17		1830								X	X	
-08	VTDEC		1805								X	X	
-09	Dup.		1745			2						X	
TO	Trip	4/10	1700			2						X	

☒ Fax results when available to (802) 434-6076
☐ E-mail results when available to _____
Condition upon Receipt: ☒ Iced ☐ Ambient ☐ 8 °C

Relinquished by:	Received by:	Date:	Time:
Laura L Woodard		9/11/03	0908
UPS	Sino McQueen	9/12/03	1141

SA02435

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CHAIN OF CUSTODY RECORD

Page 2 of 2

Special Handling:
- [x] Standard TAT - 7 to 10 business days
- [ ] Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
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Report To: ECS Marin
65 Millet St
Richmond, VT 05477

Project Mgr.: Laura Woodard

Invoice To: ECS Marin
588 Silver Street
Agawam, MA 01001

P.O. No.: _____ RQN: _____

Project No.: VTA3-0026D-00-07
Site Name: Walker Motors
Location: Montpelier State: VT
Sampler(s): HL/LW

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8= $NaHSO_4$ 9=_____ 10=_____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	# of VOA Vials	# of Amber Glass (14)	# of Clear Glass	# of Plastic	8260B	8021BNT SCAN	8015 TPH-DRO	Notes:
SA02435-11	MW-14	9/10/03	1825	G	GW	2	2				X			
-12	MW-18		1855			2					X			
-13	MW-19		1820			2					X			
-14	MW-20		1840			2					X			
-15	SW-1		1850		SW	~~2~~		1				X	X	
-16	SW-2		1910			2						X		
-17	SW-3		1930			2						X		

[x] Fax results when available to (802) 434-6076
[ ] E-mail results when available to _____
Condition upon Receipt: [x] Iced [ ] Ambient [ ] 8 °C

Relinquished by:	Received by:	Date:	Time:
Laura L. Woodard		9/11/03	0908
UPS	Simon McLaren	9/12/03	1140