Interim Remedial Action Measure
Data Summary Report
Former Springvilla Dry Cleaners
Mohawk Shopping Center
Springfield, Oregon

Prepared for
Oregon Department of
Environmental Quality
Task Order 59-08-6

June 2, 2010
15267-03/Task 4

HARTCROWSER

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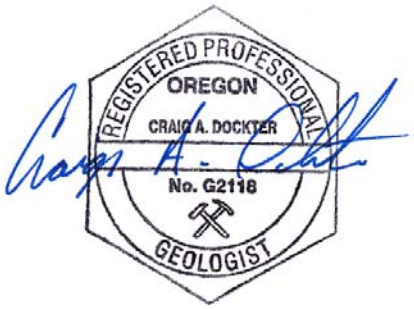
Prepared by
Hart Crowser, Inc.



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INTERIM REMEDIAL ACTION MEASURE DATA SUMMARY REPORT
FORMER SPRINGVILLA DRY CLEANERS
SPRINGFIELD, OREGON

EXECUTIVE SUMMARY

This report documents the progress of an Interim Remedial Action Measure (IRAM) at the former Springvilla Dry Cleaners site in Springfield, Oregon (Figure 1). The primary purpose of the IRAM was to expedite the cleanup of groundwater on-site, reducing the potential for off-site contaminant migration and human exposure to groundwater containing chlorinated volatile organic compound (cVOC) concentrations. These cVOCs include tetrachloroethene and trichloroethene present at concentrations above risk-based concentrations. The Oregon Department of Environmental Quality is addressing onsite cVOCs *in situ* through a combination of groundwater recirculation and slug injections.

The IRAM groundwater recirculation system involved recovering groundwater downgradient of the source area, adding electron donor amendments and re-injecting in the source area and areas of known contamination. The objective was to stimulate indigenous microbes to degrade cVOCs through reductive dechlorination in shallow and intermediate groundwater and soil between the injection and extraction wells. LactOil™ was utilized in the intermediate aquifer during January 2009 to create a stationary reductive "barrier" along the upgradient treatment zone. Recirculation treatment continued in downgradient areas and concluded in August 2009 with recirculation of Newman Zone™ in the intermediate aquifer and push-probe injections of Newman Zone into the shallow aquifer inside the former Waremart building. The site is currently undergoing monitored natural attenuation.

Recirculation system testing began August 31, 2007, and substrate addition began September 1, 2007. This report primarily reviews data and activities from May 2, 2009, through May 1, 2010. During this period, 10,500 pounds of Newman Zone was introduced into the intermediate aquifer through the recirculation system by re-injecting 188,300 gallons of extracted groundwater. Another 6,300 pounds of Newman Zone was injected via a series of push-probes into the shallow aquifer under the former Waremart building. Since the beginning of recirculation operation, a total of 13,700 pounds of CarBstrate™, 25,150 pounds of ethyl lactate, 4,950 pounds of LactOil, and 10,500 pounds of Newman Zone have been introduced by re-injecting approximately 6,780,000 gallons of extracted groundwater.

Groundwater performance monitoring suggests significant treatment progress has been achieved for both the shallow and intermediate zones. Capture of contaminants from areas outside of the recirculation treatment cell has historically biased groundwater quality data from operational extraction wells. As a result, data collected during extended pump-off cycles have been used to interpret data within the treatment cell. Based on results, recirculation system injection and extraction configurations were modified to include treatment of downgradient areas.

1.0 INTRODUCTION

This report primarily covers activities performed between May 2, 2009, and May 1, 2010, at the former Springvilla Dry Cleaners (SDC) site in Springfield, Oregon (Figure 1). Activities include operation and maintenance of the groundwater recirculation system, push-probe injections of emulsified soybean oil (ESO) into shallow groundwater under the former Waremart building, and groundwater monitoring. See Section 3.2 for a detailed description of products used. This document was prepared for the Oregon Department of Environmental Quality (DEQ) under Task 4 of Task Order 59-08-6.

1.1 Purpose

The purpose of this report is to document the tasks completed during the implementation of the current IRAM. The primary reason for current IRAM activities is to expedite the remediation of chlorinated volatile organic compounds (cVOCs) in groundwater, thereby minimizing the potential for human exposure to contaminants above DEQ's applicable Risk-Based Concentrations (RBCs).

1.2 Scope of Work

From May 2, 2009, through May 1, 2010, the following IRAM activities were performed:

- Operated IRAM recirculation system through August 26, 2009;
- Injected Remediation and Natural Attenuation Services (RNAS) buffered, non-ionic blended Newman Zone™ ESO amendment (NZESO) and ethyl lactate amendments to enhance biological degradation of cVOCs through August 26, 2009;

- Performed slug injections of ethyl lactate into MW-14 (20 gallons), DEQ-1 (20 gallons), and MW-11 (15 gallons) followed by a 55-gallon municipal water chase in each well on May 6, 2009;
- Recirculated NZESO between EX-5i and EX-6i to EX-4i from July 13, 2009, through August 12, 2009;
- Performed push-probe injections of NZESO into 16 shallow aquifer locations inside the former Waremart building from August 3 through 6, 2009;
- Converted EX-4i to an injection point on August 12, 2009, and injected NZESO through August 26, 2009;
- Performed groundwater monitoring on May 6, July 1, and October 7, 2009, and April 1, 2010; and
- Performed periodic maintenance and adjustments as necessary during recirculation system operation to maintain efficient operation.

1.3 IRAM Objective

The IRAM objective is to stimulate a biological process called *in situ* reductive dechlorination. This process converts tetrachloroethene (PCE) and trichloroethene (TCE) in the saturated zone to other dechlorination products and eventually to ethene and ethane. Biological treatment reduces cVOC contamination found in both the desorbed (groundwater) and adsorbed (soil) phases. By using this process, it is anticipated that risks through the various potential exposure pathways will be reduced.

Reasonably expected risk pathways for the SDC site include groundwater volatilization to indoor and outdoor air and construction worker direct exposure. Groundwater in the area is a municipal water source for the City of Springfield. The IRAM was designed to reduce on-site contaminant concentrations in groundwater below the DEQ RBCs for each potential risk pathway. Reducing the contaminant mass in the treatment area will help reduce off-site groundwater contamination.

1.4 Limitations

Work performed by Hart Crowser for this project and the preparation of this report was conducted in accordance with generally accepted professional practices in the same or similar localities, related to the nature of the work accomplished at the time our services were performed. This report is for specific application to the referenced project and for the exclusive use of the DEQ. No other warranty, express or implied, is made.

2.0 SITE BACKGROUND

A brief summary of the site location, setting, and historical site uses is presented in this section, followed by an overview of the regional and local geology and hydrogeology.

2.1 Site Location and Description

The former SDC was located at 1459 Mohawk Boulevard in Springfield, Oregon. The business was part of the Mohawk Shopping Center, located northeast of the intersection of Mohawk Boulevard and Centennial Boulevard (Figure 1). The site is within the SE 1/4 of the SW 1/4 of Section 25 of Township 17 South, Range 3 West, Willamette Meridian. The shopping center is comprised of multiple stand-alone buildings and occupies approximately 16 acres of commercially developed property.

SDC operated in the northeast corner of a retail building shared with multiple businesses in the southern portion of the Mohawk Shopping Center. The northeast corner of the retail building (the former SDC) was demolished to facilitate soil removal in 2004. A few small businesses west of the former SDC continue to operate in the building, although most of the building has been vacant for several years. The Mohawk Shopping Center will likely be redeveloped in the future, but there are no known plans for redevelopment at this time.

2.2 Previous Investigations and IRAM Activities

Site investigations were conducted from 1999 through 2002 to delineate the cVOC plume and identify likely source areas. Off-site investigation wells used to delineate plume extent are presented on Figure 2. During 2004, IRAM activities began with the excavation, *ex situ* treatment, and disposal of source area soils. Sodium permanganate was injected into the backfill to treat residual contaminants. A sub-slab vapor recovery system was also installed to reduce vapor intrusion into the building near the former cleaners. A more comprehensive review of previous activities, sampling, and evaluations is presented in our January 31, 2008, IRAM Data Summary Report (Hart Crowser, 2008).

2.3 Geology and Hydrogeology

Geology. Based on observations during previous exploration activities, unconsolidated alluvial deposits underlie the site to at least 100 feet below ground surface (bgs), the maximum depth of explorations completed at the Mohawk Shopping Center. The alluvial deposits consist of 9 to 11 feet of clayey

silt/silty clay overlying gravel with varying amounts of sand and silt. The gravel extended to the maximum depth of the exploration at 100 feet.

Hydrogeology. Groundwater monitoring wells were installed at two depths within the gravel unit. Shallow-depth monitoring wells were completed to approximately 25 feet bgs. The intermediate-depth monitoring wells were completed to approximately 75 feet bgs. The typical depth to the static groundwater in both shallow and intermediate groundwater is about 5 to 10 feet bgs. The inferred natural horizontal groundwater flow direction in the shallow and intermediate monitoring wells is toward the west with an approximate gradient of 0.005 to 0.006 foot/foot. Groundwater elevation data between "paired" shallow and intermediate wells consistently indicate downward gradients. Pump test results suggest a low permeable layer exists between the two zones, resulting in partial confining conditions in the intermediate zone. Additional hydrogeologic discussion is presented in the IRAM Data Summary Report (Hart Crowser, 2008).

3.0 INTERIM REMEDIAL ACTION MEASURE ACTIVITIES

The current IRAM was constructed and began operation in late August 2007 and operated through August 26, 2009. Hart Crowser acted as the general contractor and provided oversight, documentation, and sampling activities. ETEC, LLC (ETEC) of Portland, Oregon, provided the IRAM recirculation system and on-going maintenance during operation.

3.1 Recirculation System Configuration

Groundwater recirculation began on August 31, 2007, and CarBstrate™ addition began on September 1, 2007, after system leak-testing was completed. The system operated as a closed-loop groundwater recirculation system. From August 2007 through November 2008, "EX-" wells originally operated for extraction and "IN-" wells originally operated for injection. The suffix "s" denotes a shallow recirculation well and "i" denotes an intermediate recirculation well. As treatment goals have been achieved in recirculation cell areas, injection and extraction configurations for the various site wells have been modified to expand bioremediation treatment downgradient. Specific system configuration notes are presented in Table 1.

Due to differences in productivity, each shallow pump operated by drawing down groundwater until the pump is exposed, the pump turned off, and a timer reactivated the pump for another cycle. Shallow pumping rates were controlled via a gate valve. Due to higher productivity, intermediate extraction pumps

operated until they were deactivated by a high-float solenoid in the mixing tank. Intermediate pumping rates were controlled by a variable frequency drive.

Extracted groundwater was directed into a 1,000-gallon mixing tank, where amendments were added manually. This approach delivered variable concentrations of amendment to reduce biofouling, compared to a continuous metering system. A discharge pump was activated by a programmed timer and delivered the contents of the mixing tank to the injection locations. Injection delivery to individual wells was controlled through dedicated valves located on each injection line.

3.2 Recirculation System Operations and Maintenance

ETEC personnel performed most of the IRAM maintenance during the reporting period, including system maintenance and amendment additions. Hart Crowser staff assisted with substrate additions and inspections of the recirculation system during routine site visits or sampling events.

Amendment Addition. NZESO concentrate and ethyl lactate were both injected into monitoring wells at the site during the reporting period. NZESO is provided as a concentrated amendment consisting of 46 percent soybean oil, 4 percent sodium lactate, and less than 10 percent food-grade surfactants (by weight). NZESO was introduced through the recirculation system, and ethyl lactate was slug injected into selected monitoring wells on May 6, 2009, as presented in Table 1. In total, approximately 13,700 pounds of CarBstrate, 25,139 pounds of ethyl lactate, 4,950 pounds of LactOil, and 10,500 pounds of NZESO were introduced through the recirculation system during the 24 months of operation.

Operations Summary. The groundwater IRAM system operated nearly continuously from May 2, 2009, through August 26, 2009, as reported in Table 1. The system layout and well locations are presented on Figure 3. During this period, approximately 1,150,000 gallons of groundwater was recirculated at an average rate of 5.3 gallons per minute (gpm). To optimize treatment, recirculation operations were strategically modified throughout the operating period to achieve additional remediation goals.

The final ethyl lactate addition was performed on May 1, 2009, and the system recirculated groundwater to distribute the amendment across the treatment area through June 5, 2009. Recirculation system operation was then discontinued to allow groundwater conditions to stabilize prior to July 2009 annual sampling.

On July 13, 2009, after annual sampling was completed, a total of three totes (765 liters/6,300 pounds) of NZESO was added to the batch tank and recirculated between EX-6i and EX-4i until July 28, 2009.

On July 28, 2009, one tote (255 gallons/2,100 pounds) of NZESO was added to the batch tank and recirculated between EX-5i and EX-4i until August 12, 2009.

On August 12, 2009, the pump was removed from EX-4i and the well was converted to an injection location. EX-4i was then injected with one tote of NZESO concentration until August 26, 2009, after which time system operation was permanently discontinued.

On August 26, 2009, the groundwater recirculation system was demobilized from the site. The recirculation system building, all above-ground piping, electrical wiring and conduits, submersible pumps, and fencing were removed from the site. The asphalt was patched where the fencing was removed, conduits were cut flush as possible with the ground surface and capped, and access holes for the groundwater recirculation lines in the side of the building were repaired.

Maintenance Activities. No significant performance issues were encountered during the reporting period.

3.3 Shallow Emulsified Oil Probe Injections

NZESO was injected via push probe into the shallow aquifer inside the former Waremart building from August 3 through 6, 2009, as presented in Tables 2 and 3. Three totes, totaling approximately 765 gallons and 6,300 pounds of concentrate, were diluted with municipal tap water an injected through 16 push probe locations (Figure 4). Injections were performed in a manner generally consistent with Hart Crowser's *Final Shallow Emulsified Oil Injection Work Plan*, dated July 22, 2009, with two notable exceptions.

- Due to observed short circuiting of NZESO from around the probe, original location 2A was abandoned after injecting 20 gallons of NZESO out of the planned 53 gallons. A new probe (2Ab) was installed 10 feet to the south of the original probe (2Aa) and the remainder of the NZESO was successfully injected into the shallow aquifer.

- Shortly after beginning the injections, the NZESO component of the injection solution was increased from 5 percent to 10 percent. After the NZESO target mass was injected, the probe then received an equal volume of chase water to generate and "effective ESO dilution" of 5 percent. This helped to ensure

each probe would receive the targeted amount of NZESO amendment in a reasonable time-frame and to enhance final amendment distribution.

3.4 Handling of Investigation-Derived Waste

Investigation-derived waste (IDW) consisted of routinely generated decontamination water, purge water, and personnel protective equipment (PPE), as well as temporary recirculation components and disposable slug injection materials. Decontamination and purge water was re-injected through the recirculation system or stored on-site in 55-gallon drums after August 2009. PPE was disposed of as solid waste. Handling and disposal of routinely generated IDW are described in further detail in Appendix A.

Temporary recirculation components removed from the site included all above-ground piping, electrical wiring and conduits, and fencing. Above-ground piping and conduit was cut into sections and disposed of as solid waste. Electrical wiring and fencing was removed and recycled or re-used by ETEC in lieu of solid waste disposal. Disposable slug injection materials included a polyethylene drum, corrugated cardboard, and a plastic bladder containing the oil. The drum was recycled by ETEC. The cardboard was recycled, and the plastic NZESO bladders were disposed of a solid waste.

4.0 IRAM PERFORMANCE MONITORING

Performance monitoring consists of collecting field parameters and groundwater samples from the IRAM wells for chemical analyses. Monitoring procedures are summarized in the following paragraphs and detailed in Appendix A. Appendix B presents copies of the laboratory reports. An evaluation of the groundwater data is presented in Section 5.

4.1 IRAM Performance Monitoring Events

IRAM performance monitoring was designed to monitor groundwater for evidence of reductive dechlorination activity and overall reductions in site cVOC concentrations. Monitoring was performed during the recirculation system operational phase on May 6 and July 1, 2009, and after system shut-down on October 7, 2009, and April 1, 2010. Monitoring included field parameters, cVOCs, competing electron acceptors, electron donors, and breakdown products to provide insight into the extent of reductive dechlorination activity and cVOC mass destruction in the subsurface. Groundwater samples were analyzed by TestAmerica of Beaverton, Oregon, and Austin, Texas, through May 2009, and ESC Lab Sciences (ESC) of Mt. Juliet, Tennessee, thereafter.

4.2 Groundwater Level Measurements

Site-wide water levels were measured from sampled wells prior to purging and sampling. Groundwater extraction pumps were turned off for a minimum of 20 minutes to allow for equilibration. Groundwater elevations are shown in Table 4. Due to the influence of recirculation system pumping and inconsistent recharge rates across the site, a groundwater contour map was not prepared based on July 2009 monitoring. Since October 2009 and April 2010 water levels were only measured in monitored wells, a groundwater contour map was not prepared based on these monitoring rounds due to the limited data set. Figure 4 shows pre-IRAM shallow groundwater contours.

4.3 Field Parameter Measurements

Groundwater field parameters were collected using low flow sampling techniques and a flow through cell for shallow extraction wells. Prior to system demobilization, water quality for intermediate extraction wells was monitored at the sample ports. If an intermediate pump was offline for the month prior to the sampling event, the pump was activated and a minimum of four well casings of water were purged prior to field parameter measurement and sample collection. After system demobilization, all intermediate wells were monitored using low flow sampling techniques and a flow through cell. Groundwater samples were collected when the water quality parameters (i.e., pH, temperature, dissolved oxygen [DO], oxidation-reduction potential [ORP], and specific conductance) had stabilized.

Purge water was placed in the IRAM system equalization tank for reinjection into the subsurface along with the extracted groundwater through August 2009. Since system demobilization during August 2009, purge water has been accumulated in 55-gallon drums stored at the site.

4.4 Groundwater Sampling and Analysis

IRAM performance samples were collected using a peristaltic pump for all wells except operating intermediate extraction wells, which were sampled via sample ports located at the recirculation building. Groundwater was pumped directly into labeled sample containers, and placed in a cooled ice chest for field storage. Samples were analyzed for cVOCs by EPA Method 8260B; ethene, ethane, and methane by SOP Method RSK-175; and total organic carbon (TOC) by EPA Method 9060A.

5.0 GROUNDWATER DATA RESULTS AND ASSESSMENT

Several parameters were monitored to assess the effectiveness of the groundwater recirculation system in producing a favorable anaerobic environment for indigenous microbes. This section summarizes the groundwater results and assesses the field parameters and laboratory chemical analysis used to monitor the status of anaerobic conditions. Groundwater analytical results include: cVOCs; electron donors (TOC); competing electron acceptors (nitrate and sulfate); reductive dechlorination end products (ethene and ethane); and competing microbial process end products (methane) to evaluate groundwater conditions within the treatment area. Field parameters are presented in Table 5; cVOC for shallow, intermediate, and off-site wells are presented in Tables 6 through 8; and bioremediation parameters are presented in Table 9.

5.1 Groundwater Field Parameters

Field parameters were monitored to evaluate aquifer conditions and for use in assessing IRAM performance. The results and data assessment in the following paragraphs describes each field parameter and how they contribute to the reductive dechlorination processes. Parameters collected immediately prior to sampling are presented in Table 5.

pH. Anaerobic microbes prefer a pH of 6 to 8 for optimal growth. By stimulating reductive dechlorination through the addition of amendments such as dextrose, hydrochloric acid and organic acids are produced, potentially reducing pH levels. The hydrolysis of ethyl lactate produces lactic acid, which can also contribute to reduced aquifer pH. CarBstrate amendment contains high concentrations of diammonium phosphate, which can contribute to increased aquifer pH and buffering.

All site monitoring indicated that aquifer pH remained between 6 and 8 from May 2009 through April 2010 except DEQ-1 and MW-11. The pH in DEQ-1 ranged between 3.81 and 4.63. DEQ-1 received 20 gallons of ethyl lactate during May 2009, causing pH to drop in the well vicinity. A similar effect was observed in MW-11, where the pH declined from 7.23 to 5.38 during July 2009 as a result of May 2009 ethyl lactate injections.

ORP. This bioremediation approach was designed to stimulate complete reductive dechlorination, a process that occurs more effectively at an ORP below zero millivolts (mV). The reductive dechlorination operates most efficiently at an ORP between –130 to –300 mV. Several ORP readings collected from May 2009 through April 2010 are noteworthy.

- EX-1s/MW-22 has generally maintained a positive ORP except during the April 2009 off-cycle sample and after shallow oil injections in October 2009; however, ORP rebounded back to +150 mV by April 2010;
- ORP in EX-3s/MW-16 dropped from -45 mV to -138 mV following shallow oil injections inside the former Waremart building;
- DEQ-4 July 2009 (-119 mV) and April 2010 (-120 mV) readings were appreciably different from DEQ-5 May 2009 (+47 mV) reading despite being 10 feet apart;
- EX-4i/MW-21 generally maintained a positive ORP until ESO was injected into the well vicinity at the end of recirculation operation;
- Despite 26 gallons (230 pounds) of ethyl lactate injected into DEQ-1 through May 2009, ORP in the well remained positive during July 2009 (+175 mV) and April 2010 (+76 mV);
- Following LactOil recirculation in January 2009, upgradient injection wells IN-6i, IN-7i, and IN-8i maintained a negative ORP through April 2010;
- Despite the 575 pounds of amendments injected into off-site well DEQ-2 through October 2008, the ORP in the well remained positive until after ESO recirculation injection into EX-6i was completed during late July 2009; and
- Off-site wells DEQ-3, G Street, M Street, and N Street all had sharply lower readings during July 2009 and ranged between -11 mV and +39 mV.

DO. DO is a competing electron acceptor, and its presence may inhibit the anaerobic reductive dechlorination process. A DO measurement of less than 1 milligram per liter (mg/L) suggests anaerobic conditions are present in the subsurface. DO measurements collected from operating extraction wells may be inaccurate due to groundwater aeration over the exposed well screen.

In the shallow aquifer, DO was measured as high as 4.01 mg/L in MW-4, located at the downgradient perimeter of the Mohawk Shopping Center. DO was as high as 3.65 mg/L (MW-14) in onsite intermediate wells. During July and October 2009 sampling, most DO readings were near or below 1.0 mg/L on-site except MW-9, which is located outside of the treatment area. DO readings increased above 1.0 mg/L in most wells by April 2010.

Conductivity. Conductivity is a measure of groundwater's ability to carry an electrical current and is reported in micro-ohms (µMHOs). Greater conductivity suggests a greater concentration of ions and charged molecules in groundwater. The process of reductive dechlorination releases ions like chloride, iron,

manganese, and organic acids into groundwater, increasing field-measured conductivity values.

Changes in conductivity, along with other field parameters, are providing insight into subsurface flow paths at the site. In EX-3s/MW-16, conductivity increased from 488 µMHOs in July 2009 (before shallow NZESO injections) to 1,276 µMHOs in October 2009. Conductivity was noted to further increase in this well to 1,568 µMHOs in April 2010. In contrast, shallow wells EX-1s/MW-22 maintained fairly stable conductivities with only a very slight increase noted between July 2009 and October 2009, from 418 µMHOs to 467 µMHOs. In contrast, comparable conductivity increases were not observed in ethyl lactate slug injection wells DEQ-1, MW-11, and MW-14.

5.2 Groundwater Chemical Analyses

Groundwater samples were collected for laboratory analyses to evaluate the effectiveness of groundwater bioremediation. The data assessment in the following paragraphs describes each key parameter analyzed and how they confirm proper conditions and activity for reductive dechlorination.

Nitrate. Nitrate is considered a competing electron acceptor and at concentrations of more than 1.0 mg/L can inhibit the reductive dechlorination process. As a preferred electron acceptor to dechlorination, a reduction in nitrate concentrations can imply the beginning of dechlorination.

Samples were analyzed for nitrates during July 2009 and April 2010 (Table 9). Highest nitrate concentrations were detected in upgradient well MW-12 (1.6 mg/L), midgradient well DEQ-5 (2.21 mg/L), and downgradient extraction well EX-1s/MW-22 (1.9 mg/L) during July 2009. EX-1s/MW-22 was re-sampled in April 2010 following shallow oil injections and no change was observed in groundwater nitrate concentrations (1.9 mg/L) near the well. Out of the 13 shallow and intermediate locations sampled for nitrate during April 2010, only EX-1s/MW-22 continued to contain detectable concentrations of nitrate.

Sulfate. Sulfate is a competing electron acceptor to the process of complete reductive dechlorination (Table 9). A concentration in excess of 20 mg/L may inhibit the process of complete reductive dechlorination. Additionally, declines in the aquifer sulfate concentration over time can suggest that sulfate reducing conditions are gradually being established in the aquifer. These conditions are required for vinyl chloride (VC) dechlorination to ethene.

Sulfates were detected in shallow wells EX-1s/MW-22 (up to 8.6 mg/L), DEQ-2 (5.1 mg/L), DEQ-5 (20.8 mg/L). Sulfate concentrations in well EX-1s/MW-22

increased from 7.2 mg/L (December 2008 and July 2009) to 8.6 mg/L in April 2010, suggesting a gradual return toward baseline concentrations of approximately 16 mg/L. In intermediate wells, sulfate was not detected during April 2010 sampling.

TOC. TOC concentrations were monitored across the site to evaluate organic carbon distribution. Generally, TOC concentrations above 20 mg/L are considered high enough to stimulate complete cVOC dechlorination. TOC data was collected to evaluate the distribution and persistence of amendments through the various treatment zones.

July 2009 samples were collected at the conclusion of normal IRAM operation and immediately prior to shallow push probe NZESO injections and intermediate NZESO recirculation. April 2010 samples helped assess TOC persistence and distribution. TOC was detected at concentrations ranging from less than 1.0 mg/L (MW-12) to 6.9 mg/L (DEQ-4) in the shallow aquifer during July 2009. Selected shallow wells were sampled during April 2010, and TOC was detected at concentrations ranging from 6.8 mg/L in upgradient IN-4/MW-1 to 90.0 mg/L in EX-3s/MW-16.

Selected intermediate wells were also sampled for TOC during April 2010 and concentrations ranged from 2.1 mg/L in downgradient slug injection well MW-14 to 75.0 mg/L in EX-4i/ MW-21. In the upgradient LactOil biowall wells, TOC was detected in IN-6i at 30 mg/L, in IN-7i at 4.4 mg/L, and in IN-8i at 35 mg/L.

Ethene and Ethane. Ethene and ethane are the final degradation products of the reductive dechlorination process (PCE to TCE to cis-1,2-dichloroethene [c-DCE] to VC to ethene/ethane). Detection of these compounds confirm that the process of complete dechlorination is occurring at the site. High ethane to ethene ratios can also suggest hydrogenation of ethene, a process that occurs when very little cVOC mass is present in an environment containing dissolved hydrogen gas.

Partially due to elevated reporting limits (13 micrograms per liter [µg/L]), only ethane was detected in EX-2s/MW-3 (15 µg/L) out of the 6 shallow aquifer wells sampled (Tables 6 and 7). Out of the 7 intermediate aquifer wells sampled, none had detectable concentrations of ethene or ethane during April 2010.

Methane. The presence of methane indicates a highly reduced environment containing elevated concentrations of dissolved hydrogen gas. An environment rich in hydrogen gas allows methanogenic bacteria to form methane from carbon dioxide to yield energy. This is the same environment preferred for rapid,

complete reduction of cVOCs. These two processes competitively consume available hydrogen generated from organic carbon fermentation. Concentrations of methane greater than 500 µg/L suggest an environment suitable for the rapid conversion of cVOCs to ethene and ethane. Concentrations of methane less than 6,000 µg/L are considered the most efficient use of electron donor.

Six shallow aquifer wells were selected for methane analysis during April 2010. Shallow concentrations ranged from 3,200 µg/L (EX-1s/MW-22) to 8,400 µg/L (EX-2s/MW-3). Methane was detected at 44.7 µg/L in shallow well DEQ-5 during May 2009. This concentration in DEQ-5 suggests it is not hydraulically connected to the shallow aquifer given its proximity to the infiltration gallery and results from shallow extraction wells through May 2009.

Seven samples collected from intermediate aquifer wells were also analyzed for methane during April 2010. Concentrations in intermediate aquifer wells ranged from 3,200 µg/L (EX-6i/MW-17) to 7,100 µg/L (EX-4i/MW-21). The analytical result from EX-6i/MW-17 may be biased low due to significant pressure discharge and eruption of groundwater observed prior to sampling.

cVOCs. Tables 6 through 8 list cVOC concentration data to date. April 2010 cVOC data for the shallow and intermediate aquifers are presented on Figures 5 and 6, respectively. Performance data for shallow wells EX-1s and EX-3s are presented on Figures 7 and 8. Performance data for intermediate wells EX-4i, EX-6i, and downgradient MW-14 are presented on Figures 9 through 11. Due to mass loss during the dechlorination process, Figures 7 through 11 present data in micromolar concentrations (µM). Micromolar data counts the cVOC molecules and compensates for the mass loss. Natural attenuation monitoring began after amendment injections were completed in August 2009.

On-site shallow groundwater cVOC concentrations declined sharply by April 2010 in all wells except MW-4, DEQ-5, and EX-1s/MW-22. MW-4 is located approximately 170 feet west of EX-1s/MW-22 and well outside of the treatment area. PCE concentrations in MW-4 were 6.5 µg/L during July 2009 and 12 µg/L during April 2010, consistent with the historical range of 1.8 µg/L to 19 µg/L detected since sampling began in February 2000.

DEQ-5 was last sampled in May 2009, before the shallow ESO injections were performed in August 2009. DEQ-5 results may not be representative of aquifer conditions as cVOC results are substantially different compared to DEQ-4, which is located approximately 10 feet north of DEQ-5. During May 2009, DEQ-5 contained PCE at 104 µg/L while both August 2007 and July 2009 results for DEQ-4 were non-detect. Based on cVOC and manganese analytical results,

DEQ-4 was influenced by prior source area permanganate injections while DEQ-5 was not.

EX-1s/MW-22 was redeveloped during January 2008 to improve extraction performance. Following redevelopment, groundwater PCE concentrations more than doubled to 1,130 µg/L in February 2008 (Figure 7). Average weekly extraction rates were generally maintained between 0.1 and 0.4 gallons per minute until October 2008. After that time, performance became much more variable. EX-2s was converted to an injection point during February 6, 2009, and EX-1s extraction performance temporarily improved during late February and into mid March 2009. April 2009 data indicated the PCE concentration declined to 143 µg/L, dechlorination products TCE and c-DCE increased, sulfate declined to non-detectable concentrations, and TOC was detected for the first time above 1.0 mg/L. Those trends reversed during the off-cycle pumping phase and PCE rebounded back to 460 µg/L in July 2009. A slight decline in PCE concentrations is noted in October 2009 (270 µg/L) following NZESO injections, but PCE increased to 580 µg/L by April 2010.

In contrast to EX-1s/MW-22, data collected from EX-3s/MW-16 shows substantial influence from the conversion of EX-2s/MW-3 to an injection well and the August 2009 shallow NZESO injections. As a result of converting EX-2s/MW-3 to an injection location, PCE declined from approximately 500 µg/L to 40 µg/L, c-DCE increased from approximately 30 µg/L to 125 µg/L, and VC concentrations increased from approximately 10 µg/L to 60 µg/L (Figure 8). However, following ESO injections, PCE, TCE, and c-DCE were all less than the detection limit in October 2009 and in April 2010, and a VC concentration of 3.3 µg/L was detected in April 2010. As shown on Figure 4, EX-3s/MW-16 is approximately 120 feet from the closest NZESO injection location.

Within the intermediate aquifer, EX-4i/MW-21 showed a more pronounced response to amendment injections into EX-6i/MW-17 than into EX-5i. As shown on Figure 9, PCE concentrations remained fairly stable (approximately 350 µg/L) with very little TCE, c-DCE, or VC detected. Within 3 months of converting EX-6i/MW-17 to an injection location, PCE declined to 21 µg/L while c-DCE increased to 1,200 µg/L and VC increased to 48 µg/L. Subsequent ESO recirculation and slug injection into EX-4i/MW-21 has resulted in non-detectable concentrations of PCE and TCE in this well with c-DCE detected only during October 2009 at 24 µg/L. VC was detected at the highest observed concentration in EX-4i/MW-21 in October 2009 (100 µg/L) but subsequently declined by April 2010 (1.8 µg/L).

As shown 0n Figure 10, cVOC concentrations in EX-6i/MW-17 showed little noticeable effect from injections into EX-5i. However, injection of ESO into

EX-6i/MW-17 had a similar effect as was noted in EX-4i/MW-21. All cVOC constituents dropped to near or below the detection limit as a result of the oil injection. While there does appear to be some level of connection between EX-4i/MW-21 and EX-6i/MW-17, a stronger connection is suggested between EX-6i/MW-17 and DEQ-2. Approximately 10 gallons (88 pounds) of ethyl lactate was injected into DEQ-2 on July 31, 2008. Within 1 week, TOC arrived for the first time at EX-6i/MW-17 (13 mg/L). With the majority of hydrolysis completed, resulting in increasing electron donor availability, PCE dropped from 222 µg/L (August 2008) to 95.0 µg/L with increasing concentrations of dechlorination products. Conversely, NZESO injection into EX-6i/MW-17 (July and August 2009) appears to have impacted DEQ-2 water quality. In addition to a sharp decline in ORP from July 2009 to April 2010, PCE and TCE were below the detection limit and concentrations of c-DCE and VC increased to 4.2 µg/L and 2.6 µg/L, respectively. April 2010 field notes also mention the appearance of "white flock" in DEQ-2, consistent with coagulated emollients typical of NZESO.

Intermediate well MW-14, located downgradient of EX-4i/MW-21 and outside of the treatment area, is a useful indicator of overall treatment progress within the intermediate zone. This well has also received periodic amendment slug injections in a effort to treat some residual mass between MW-14 and EX-4i/MW-21. As shown on Figure 11, the July 2008 and May 2009 ethyl lactate slug injections were successful in reducing PCE concentration in the vicinity of MW-14 and stimulating dechlorination. PCE dropped from 567 µg/L during July 2008 to less than 10 µg/L in May 2009, while VC increased from less than 10 µg/L to 269 µg/L during the same period. Dechlorination appeared to slow as c-DCE concentrations increased from less than 10 µg/L to 350 µg/L by July 2009, concurrent with VC declining to 12 µg/L. Following ESO recirculation, October 2009 results showed detectable PCE (230 µg/L), TCE (160 µg/L), c-DCE (87 µg/L), and VC (37 µg/L). After 7 months of normal groundwater flow, April 2010 water quality results show a characteristic decline in PCE (47 µg/L) and TCE (31 µg/L) with concurrent increases in c-DCE (160 µg/L) and VC (98 µg/L). Methane has also increased, suggesting broad intermediate aquifer dechlorination activity.

5.3 Risk-Based Concentrations

The former Springvilla site is undergoing monitored natural attenuation of residual cVOCs following IRAM treatment. To determine if any areas may continue to pose a risk to human health or the environment, the most recent groundwater analytical results were compared against potentially applicable RBCs and MCLs (DEQ, 2009 and EPA, 2010). The most recent data and RBCs are presented in Table 10. On-site, exposure is primarily related to shallow groundwater cVOCs through vapor intrusion into occupational buildings,

volatilization to outdoor air in an occupational setting, and direct contact by excavation workers. Off-site, exposure is related to intermediate groundwater and drinking water beneficial uses.

As of April 2010, the only on-site shallow groundwater sample result exceeding any RBC was from EX-1s/MW-22. This well exceeds excavation worker direct contact RBCs. As mentioned above, the analytical data from this well may not be reflective of water quality moving from under the building.

The most recent round of sampling of intermediate wells at the site perimeter and off-site, indicates that DEQ-2 exceeds the MCL for VC. MW-11 exceeds the MCL for PCE and TCE. MW-14 exceeds the MCL for all cVOC constituents, and M Street and N Street exceeded MCLs for PCE based on the most recent available data. The G Street well and N Street well were below MCLs but exceeded RBCs for PCE and TCE, respectively.

6.0 CONCLUSIONS

IRAM recirculation system performance and overall remediation progress improved substantially as a result of more aggressive substrate additions beginning February 2008. Modifying system injection and extraction locations beginning December 2008 resulted in more comprehensive amendment distribution and dechlorination progress. Ethyl lactate and NZESO, as an electron donor source, has been successful in achieving broad TOC distribution and reductive activity on-site and off-site.

The water quality data from both DEQ-5 and EX-1s/MW-22 is suspect due to inconsistencies and potentially poor connection with the broader shallow aquifer. Redevelopment of EX-1s/MW-22 during January 2008 appeared to improve water quality data reliability from this location for a time, but the on-going bioremediation treatments and fine silts surrounding the well may have blocked sufficient connection with the broader shallow aquifer.

A portion of the shallow ESO injections appears to have entered into a preferential pathway, potentially the same pathway that cVOCs used to migrate cross-gradient toward EX-3s/MW-16. A relatively high flow rate and lower injection pressure suggests that probe location 4C may have intercepted this preferential pathway. If 4C, or any probe location, effectively funneled ESO south along the original cVOC migration pathway, then both treatment performance along the south property boundary and long-term reliability of the IRAM will be enhanced.

A similar preferential flow path is noted between intermediate well DEQ-2 and EX-6i/MW-17. Ethyl lactate injections at DEQ-2 appear to have migrated rapidly toward EX-6i/MW-17 while it was operating as an extraction well. The subsequent injection of 6,300 pounds of ESO into EX-6i/MW-17 appears to have physically pushed oil into the vicinity of DEQ-2. This preferential flow path may explain cVOCs cross-gradient to the Springvilla source and historical PCE detections as high as 1,100 µg/L in DEQ-2.

MW-14 is likely to provide a useful indicator of overall on-site, intermediate aquifer treatment. Changes in water quality in the vicinity of this well have been noted in the seven months since the recirculation system was turned off and monitored natural attenuation began. IN-6i through IN-8i and MW-14 are anticipated to provide data on the intermediate aquifer treatment longevity as well as the potential for off-site migration of dechlorination products.

The cVOC concentration declines noted broadly across the site are likely affected by the NZESO injections. As the emulsion degrades and oil particles adhere to the soil matrix, cVOCs preferentially adsorb to the soil matrix and reduce the concentrations of dissolved constituents. As dechlorination continues, the more mobile VC and c-DCE are the first products likely to be detected in groundwater. Periodic groundwater monitoring will be necessary to monitor for cVOC concentration rebounds.

7.0 RECOMMENDATIONS

Based on IRAM performance through April 2010, we recommend continuing monitored natural attenuation with improvements to the monitoring network. These include redevelopment of EX-1s/MW-22 to more effectively monitor water quality along the southwest corner of the former Waremart building, as well as the installation of another shallow monitoring well approximately 60 feet north-northeast of EX-1s/MW-22.

Redevelopment of EX-1s/MW-22 should be consistent with the methodology used previously at this location due to the high silt content in the area. This approach included 3 rounds of repeated surging of the well with a stainless steel bailer, alternated with peristaltic pump removal of silts and sands at the base of the well.

This proposed new shallow monitoring well is recommended to more effectively monitor water quality under the former Waremart building at a location that is approximately mid-point along the western wall. This location can be used to

evaluate water quality and potential risks due to cVOCs and dissolved methane under the building.

At this point, sub-slab monitoring for methane under the former Waremart building is not recommended. Dissolved methane, ethane, and ethene concentrations remain fairly low, suggesting that electron donor is primarily going toward overcoming competing electron acceptors or to cVOC dechlorination. As methane saturation in shallow groundwater ranges from 20,000 to 28,000 µg/L, there is risk of sub-slab methane accumulation as groundwater concentrations of methane approach 20,000 µg/L. The highest concentration noted during April 2010 was in EX-2s/MW-3 at 8,400 µg/L. Sub-slab methane sampling should be re-evaluated for summer 2011.

8.0 REFERENCES

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EPA, 2010. Maximum Contaminant Levels for Drinking Water, http://www.epa.gov/safewater/contaminants/index.html. Accessed May 7, 2010.

Table 1 - Recirculation Operational Summary
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Date/Time	Elapsed Time (min)	Extraction Flow Rate (gpm)	Injection Total (gal)	Extraction Total (gal)	Substrate Added (pounds)		Shallow Injection Wells					Intermediate Injection Wells			Shallow Extraction Wells			Intermediate Extraction Wells			Field Comments
							IN-1s	IN-2s	IN-3s	IN-4s	IN-5s	IN-6i	IN-7i	IN-8i	EX-1s	EX-2s	EX-3s	EX-4i	EX-5i	EX-6i	
							Rate (gpm)	Rate (gpm)	Rate (gpm)	Rate (gpm)	Rate (gpm)	Rate (gpm)	Rate (gpm)	Rate (gpm)	Rate (gpm)	Rate (gpm)	Rate (gpm)	Rate (gpm)	Rate (gpm)	Rate (gpm)	
8/31/07 14:00	–	–	–	–	–		0	0	0	0	0	0	0	0	0	0	0	0	0	0	Recirculation system startup without substrate to check for leaks.
9/1/07 10:00	1,200	17.1	21,630	20,570	2,000	C	4.23	0.02	3.92	0.73	1.93	2.13	2.12	2.97	0.02	0.02	0.83	3.14	6.95	6.19	IN-2s, won't take any water, shut off injection. Only EX-5i and EX-6i running, due to silt/sand fouling other pumps.
9/6/07 12:00	7,320	7.8	57,895	57,450	300	C	0.90	0.00	0.55	0.21	1.14	2.84	1.12	1.16	0.00	0.00	0.67	0.11	3.58	3.48	EX-4i pump rotor failure, replace with EX-1s pump.
9/12/07 11:30	8,610	7.8	67,915	67,040	300	C	1.02	0.00	0.64	0.26	1.04	2.48	1.26	1.20	0.00	0.00	0.02	0.73	3.58	3.46	EX-3s was running (meter fouled). Ex-2s was fouled with sand/silt, removed and cleaned.
9/19/07 17:45	10,455	10.2	108,200	106,940	300	C	1.89	0.00	1.48	0.76	1.07	2.52	1.40	1.23	0.00	0.03	0.28	5.26	2.19	2.47	IN-4s seeping into parking lot, shut off flow.
9/28/07 12:00	12,615	10.2	128,660	128,430	300	C	2.01	0.00	1.55	0.00	1.05	2.76	1.53	1.30	0.00	0.02	0.28	4.84	2.07	2.97	EX-2s pump placed into EX-1s, 10-15 psi at all interm. Inj wells.
10/3/07 9:30	7,050	6.2	43,462	43,587	300	C	0.70	0.00	0.14	0.00	0.59	2.29	1.30	1.15	0.00	0.00	0.17	0.79	3.00	2.23	All ok.
10/10/07 13:00	10,290	5.7	58,744	58,923	300	C	0.68	0.00	0.75	0.00	0.33	2.01	1.03	0.91	0.00	0.00	0.19	0.29	3.27	1.98	All ok.
10/19/07 17:30	13,230	0.7	9,664	9,650	300	C	0.08	0.00	0.07	0.00	0.05	0.27	0.18	0.07	0.00	0.00	0.02	0.02	0.42	0.26	Booster pump failure (alarmed 10/11/07), restarted without booster.
10/23/07 15:30	5,640	4.5	25,338	25,615	300	C	0.52	0.00	0.43	0.00	0.26	1.72	0.87	0.70	0.00	0.00	0.23	0.26	2.53	1.52	Replaced booster pump, increased dwell time (14 to 20 min).
10/30/07 17:00	10,170	3.1	30,222	31,815	300	C	0.17	0.00	0.17	0.00	0.25	1.31	0.58	0.51	0.00	0.00	0.14	0.26	1.64	1.09	All ok.
11/7/07 9:30	11,070	3.4	34,985	38,020	300	C	0.18	0.00	0.16	0.00	0.27	1.34	0.67	0.55	0.00	0.00	0.13	0.36	1.34	1.60	All ok, intermediate inj wells at 8-14 psi, dwell at 15 min.
11/12/07 13:00	7,410	4.1	29,655	30,600	300	C	0.17	0.00	0.14	0.00	0.34	1.98	0.81	0.57	0.00	0.00	0.15	0.61	1.61	1.76	All ok, intermediate inj wells at 8-14 psi, dwell at 14 min.
11/21/07 12:50	12,950	4.3	51,170	56,317	300	C	0.14	0.00	0.15	0.00	0.34	1.79	1.00	0.53	0.00	0.00	0.15	0.07	2.04	2.08	All ok, intermediate inj wells at 10-15 psi, inj line at at 50 psi.
11/28/07 12:50	10,080	4.8	44,880	48,310	300	C	0.15	0.00	0.18	0.00	0.42	1.98	1.20	0.52	0.00	0.00	0.15	0.10	2.25	2.28	All ok, intermediate inj wells at 10-15 psi, put insulation on all piping.
12/6/07 15:00	11,650	4.7	50,260	54,873	300	C	0.13	0.00	0.18	0.00	0.41	1.92	1.19	0.49	0.00	0.00	0.13	0.05	2.17	2.36	All ok, intermediate inj wells at 10-15 psi, dwell time reduced by 2 min.
12/13/07 12:00	9,900	4.9	45,720	48,880	300	C	0.13	0.00	0.20	0.00	0.53	2.05	1.14	0.56	0.00	0.00	0.14	0.09	2.12	2.59	All ok, IN-4s reactivated at low flow/pressure.
12/28/07 11:00	21,540	4.9	95,480	105,820	300	C	0.16	0.00	0.33	0.06	0.09	2.07	1.11	0.61	0.00	0.00	0.18	0.01	2.12	2.60	All ok.
1/3/08 11:00	8,640	8.2	68,200	71,000	300	C	0.15	0.00	0.41	0.03	0.09	3.79	2.63	0.80	0.00	0.00	0.29	0.00	3.94	3.98	EX-4 and EX-6 down, pressures at Inj wells range from 14-21 psi, EX-4 new pump installed, EX-6 no pump available.
1/9/08 17:30	9,030	8.2	71,700	74,058	300	C	0.18	0.00	0.53	0.03	0.11	3.11	3.16	0.82	0.00	0.00	0.25	4.25	3.69	0.00	EX-4 dropped and re-started, pressures at Inj wells range from 14-22 psi, EX-6 no pump available.
1/18/08 11:00	12,570	7.7	92,400	96,387	300	C	0.22	0.00	0.51	0.26	0.15	2.63	2.69	0.89	0.16	0.00	0.24	3.93	3.33	0.00	increased injection time for shallow by 1 minute, EX-6 no pump available.
1/25/08 13:50	10,250	7.5	72,560	76,478	300	C	0.24	0.00	0.58	0.35	0.16	2.05	2.33	1.37	0.30	0.00	0.07	4.07	2.70	0.30	EX-3s stuck in silt, EX-2s pump dropped, EX-6i pump replaced.
2/1/08 14:15	10,105	11.2	111,640	113,540	300	C	0.22	0.00	0.58	0.08	0.32	5.71	2.39	1.75	0.32	1.28	0.03	3.94	2.18	3.49	6-8i are between 16-20 psi, 3s and 5s are 10 psi, 1s is 5 psi, 4s is zero psi; Ex-3s still stuck, connected injection trench to IN-2s line.
2/8/08 13:30	10,035	10.4	108,490	104,374	300	C	0.25	2.84	0.61	0.09	0.21	3.06	2.25	1.50	0.32	0.54	0.00	3.93	2.13	3.49	Injected 200 lbs of Carbstrate into DEQ-2.
2/14/08 12:00	8,550	9.8	90,640	83,853	485	EL	0.27	2.65	0.56	0.10	0.23	2.89	2.40	1.51	0.29	0.00	0.00	3.91	2.15	3.46	Raised pressure from 49 to 61 psi; EX-2s running but flow meter fouled with sand (likely running at 1.1 gpm), 5 gal EL and 10 gal water to IN-4s, remainder of EL distributed to other injection wells.
2/21/08 15:00	10,260	12.1	121,810	124,180	485	EL	0.26	2.59	0.52	0.27	0.20	3.27	2.99	1.78	0.23	1.08	0.03	4.42	2.48	3.87	Ex-3s redeveloped, the pump removed from silt/sand, and extraction re-started; raised Hz on EX-4i; increased system pressure to 68 psi; IN-6i at 15 psi, IN-7i at 25 psi, IN-8i at 28 psi now w/ new system pressure; IN-4s flow reduced due to seeping; 5 gal EL and 10 gal of water to IN-4s.
2/28/08 13:00	9,960	12.0	118,450	119,180	485	EL	0.25	1.92	0.41	0.11	0.21	3.55	3.48	1.96	0.18	0.70	0.05	5.64	2.45	2.94	EX-1, 2, 3s shut down at some point due to over volatge alarm, they were reset at started back up w/o problem; 5 gal EL and 10 gal water to IN-4s.
3/7/08 12:23	11,483	12.5	142,380	143,320	485	EL	0.26	1.79	0.44	0.12	0.23	3.57	3.52	2.47	0.29	1.02	0.13	5.63	2.47	2.96	EX-3s faulted (High Voltage), but re-started ok. All else looks good; 5 gal EL and 10 gal water to IN-4s.
3/13/08 13:00	8,677	12.2	105,050	105,450	300	C	0.41	2.19	0.32	0.17	0.40	3.16	3.19	2.26	0.28	1.00	0.00	5.40	2.53	2.95	Injected 100 lbs Carbstrate into DEQ-2; 6i at 12 psi, 7i at 18 psi, 8i at 20 psi; removed EX-3s due to bad impellers impacted by sand/silt.
3/25/08 13:00	17,280	12.2	207,020	211,320	300	C	0.34	2.24	0.25	0.16	0.33	4.09	2.47	2.10	0.32	1.09	0.00	5.46	2.64	2.73	IN-3s flow reduced due to injectate surfacing; IN-6i thru 8i at 20-24 psi; EX-3s pump rebuilt and re-installed but still high voltage alarm; Greg spoke with owner re: injectate surfacing at IN-3,4,5s due to recirc 3-way valve being closed - owner said surfacing started @ 21st or last Friday; Greg re-adjusted 3-way and slowed injection rate to shallow wells to stop surfacing.
3/29/08 15:00	5,880	12.0	69,570	70,840	300	C	0.21	3.69	0.12	0.07	0.13	3.41	2.34	1.87	0.31	1.03	0.00	5.43	2.66	2.62	Installed new pump into EX-3s, pressures running around 20 psi for intermediate injection wells.
4/6/08 13:00	11,400	5.6	NR	64,300	243	EL	NR	NR	NR	NR	NR	1.88	0.86	0.70	0.14	0.49	0.40	2.33	1.16	1.14	Appears system was shut down on 4/2/08 @ 2 pm due to power surge.
4/11/08 15:00	7,320	12.3	NR	89,980	243	EL	NR	NR	NR	NR	NR	4.62	2.18	1.54	0.31	1.06	0.14	5.43	2.72	2.63	Flow reduced at IN-1s due to seepage. Injected 100 lbs fo Carbstrate into DEQ-2.
4/18/08 14:00	10,020	13.6	134,350	136,020	243	EL	0.02	3.78	0.14	0.06	0.10	5.19	2.44	1.66	0.35	1.15	0.00	6.24	2.99	2.85	Flow increased to IN-1s slightly, EX-3i was running but flow meter fouled. Security guard stopped and took down information.
4/25/08 14:20	10,100	10.2	101,370	102,870	159	EL	0.08	2.89	0.10	0.05	0.07	3.84	1.88	1.13	0.26	0.86	0.00	4.70	2.28	2.08	Pulled EX-3s (high amp fault), reduced flow to IN-1s due to seepage.
5/2/08 15:15	10,135	11.2	110,130	113,060	300	C	0.07	3.10	0.13	0.06	0.09	3.97	2.28	1.15	0.30	0.98	0.00	5.47	2.64	1.76	Ex-6i high amp fault, replaced pump with pump we were going to place into EX-3s. EX-3s has no pump.
5/12/08 15:00	14,385	11.2	157,220	160,850	300	C	0.08	3.07	0.14	0.08	0.09	3.89	2.38	1.20	0.26	0.90	0.00	4.75	2.42	2.86	All OK, Intermediate IW pressures have dropped to 15-20 psi; EX-3S still doesn't have pump
5/16/08 14:00	5,700	11.5	63,720	65,319	300	C	0.08	3.21	0.16	0.08	0.11	3.93	2.20	1.41	0.27	1.03	0.00	4.85	2.50	2.81	Dropped a rebuilt pump into EX-3s and it ran then high amp fault. Pressures at 6i-8i are 16-24 psi. Slight seepage noticed at IN-4s (but only wet, not flowing).
5/22/08 14:30	8,670	11.3	96,610	98,121	300	C	0.07	3.37	0.16	0.09	0.12	4.52	1.63	1.18	0.27	0.96	0.00	4.88	2.43	2.78	all Ok , EX-3S pump dropped and working. IN-2S at 15 psi, 6i is 20 psi, 7i is 28 psi, and 8i is 28 psi
5/30/08 15:00	11,550	3.2	36,260	37,350	300	C	0.02	0.99	0.05	0.01	0.03	1.31	0.40	0.33	0.07	0.24	0.79	1.03	0.51	0.59	System alarm on Sunday (25th) due to high alarm in solution tank. Mixer paddle came off, and triggered high alarm. Restarted and all OK.
6/5/08 14:00	8,580	9.1	76,350	77,740	970	EL	0.05	2.46	0.14	0.03	0.10	4.14	1.07	0.91	0.19	0.84	2.16	2.74	1.39	1.75	High pressure on IN-7,8 (>30 PSI). Small leak on metering pump line, repaired. Pressure relief for IN-6,7,8 opened slightly to reduce pressure.
6/13/08 15:15	11,595	0.2	2,810	2,480	970	EL	0.00	0.09	0.00	0.00	0.00	0.09	0.03	0.03	0.00	0.02	0.05	0.06	0.03	0.04	System alarm on 6/5 at 18:30 due to high solution tank alarm. EL added manually to holding tank, solution tank gate valve closed to prevent cycling in tank.
6/20/08 15:00	10,065	10.5	106,791	105,777	970	EL	0.09	1.95	0.20	0.04	0.16	3.56	1.04	3.57	0.19	0.86	2.56	3.22	1.58	2.10	All OK, all pumps running, system pressure at 70 psi. Intermediate lws at 11-17 psi, 2s at 11 psi,
6/27/08 14:00	10,020	0.1	1,449	803	970	EL	0.00	0.03	0.00	0.00	0.00	0.05	0.02	0.04	0.00	0.01	0.02	0.02	0.01	0.02	Extraction pumps faulted (high amps) at same time. Holding tank empty. System reset and all normal. Power surge likely triped all pumps. EL added to holding tank.
7/3/08 14:00	8,640	0.3	1,920	2,350	970	EL-N1	0.00	0.03	0.00	0.00	0.00	0.08	0.05	0.05	0.00	0.02	0.07	0.09	0.04	0.06	Solution tank high alarm within hours of leaving site, reason unknown. Valve to solution tank closed to prevent alarm condition. EL direct added to shallow wells, remainder in tank.
7/8/08 18:00	7,440	2.4	18,170	18,050	0		0.02	0.29	0.03	0.02	0.03	0.71	0.72	0.63	0.04	0.18	0.61	0.77	0.33	0.50	
7/10/08 13:00	2,580	12.5	32,450	32,170	970	EL-N1	0.11	1.58	0.19	0.10	0.15	3.47	3.97	3.00	0.20	0.70	2.73	3.76	2.62	2.46	Injection pressures much lower….see field notes.
7/15/08 17:30	7,470	12.6	94,780	94,240	0		0.10	1.62	0.18	0.10	0.16	3.65	4.00	2.88	0.20	0.44	3.02	3.82	2.64	2.50	intermediate pressures range from 2-8 psi, shallow 0-4 psi
7/17/08 9:30	2,400	12.7	30,840	30,550	970	EL-N1	0.12	1.68	0.22	0.11	0.17	3.81	3.94	2.80	0.20	0.38	3.00	3.97	2.60	2.58	
7/25/08 16:15	11,925	12.8	155,140	152,730	970	EL-N1	0.13	1.82	0.22	0.12	0.17	4.18	3.62	2.75	0.19	0.38	3.05	4.03	2.54	2.61	
7/31/08 18:00	8,745	13.2	110,910	115,490	485	EL	0.13	1.92	0.22	0.12	0.19	3.85	3.58	2.67	0.19	0.38	3.16	4.23	2.67	2.58	MW Slug 1 conducted (27.5 gal EL) and 1 full EL drum added to holding tank, pressures all good, pumps all good…..see notes. Stronger anaerobic odor noticed in holding tank.

Please refer to notes on last page of table.

Table 1 - Recirculation Operational Summary
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Date/Time	Elapsed Time (min)	Extraction Flow Rate (gpm)	Injection Total (gal)	Extraction Total (gal)	Substrate Added (pounds)		Shallow Injection Wells					Intermediate Injection Wells			Shallow Extraction Wells			Intermediate Extraction Wells			Field Comments
							IN-1s Rate (gpm)	IN-2s Rate (gpm)	IN-3s Rate (gpm)	IN-4s Rate (gpm)	IN-5s Rate (gpm)	IN-6i Rate (gpm)	IN-7i Rate (gpm)	IN-8i Rate (gpm)	EX-1s Rate (gpm)	EX-2s Rate (gpm)	EX-3s Rate (gpm)	EX-4i Rate (gpm)	EX-5i Rate (gpm)	EX-6i Rate (gpm)	
8/6/08 12:30	8,310	13.4	121,190	111,530	485	EL	0.15	1.96	0.26	0.14	0.23	5.51	3.70	2.64	0.21	0.38	3.19	4.35	2.78	2.50	EX-5i turned off, EX-6i frequency turned down, and EX-4i frequency turned up.
8/15/08 14:00	13,050	12.3	164,990	160,510	485	EL	0.12	1.90	0.20	0.12	0.18	4.05	3.58	2.50	0.43	0.36	4.00	5.25	0.01	2.25	IN-4s seeping into parking lot, reduced flow at gate valve.
8/22/08 13:50	10,070	12.0	122,910	120,940	485	EL	0.13	2.09	0.22	0.00	0.16	4.19	3.19	2.22	0.35	0.37	3.86	5.08	0.00	2.34	Changed hertz on EX-3s from 200 to 175, and on EX-4i from 260 to 285. IN-4s not flowing, closed valve too much last week, reopend gate valve.
8/29/08 12:50	10,020	9.0	89,120	89,700	485	EL	0.00	1.50	0.11	0.02	0.09	3.39	2.02	1.77	0.24	0.56	0.05	5.68	0.00	2.42	No flow to IN-1s or 4s, opened valves 1/4 turn. EX-3s not pumping due to low Hz, increased Hz back up to 200.
9/5/08 14:25	10,175	11.4	115,840	116,120	300	C	0.08	1.77	0.12	0.02	0.10	4.98	2.14	2.17	0.27	0.39	3.41	4.98	0.00	2.37	IN-1s, 4s, and 5s gate valves opened slightly to increase flow.
9/12/08 9:00	9,755	9.9	91,370	96,290	300	C	0.07	1.13	0.08	0.05	0.09	4.90	1.37	1.65	0.19	0.37	1.59	4.97	1.02	1.73	
9/22/08 13:00	14,640	10.6	158,320	154,780	300	C	0.03	2.73	0.04	0.03	0.05	4.80	1.56	1.58	0.11	0.35	1.15	4.94	4.02	0.00	
9/25/08 12:15	4,275	11.0	48,500	47,214	300	C	0.11	2.64	0.13	0.06	0.15	4.97	1.69	1.60	0.09	0.49	1.39	5.07	4.00	0.00	
10/3/08 14:30	11,655	10.0	114,710	116,122	970	EL	0.15	0.91	0.17	0.24	0.18	5.39	1.39	1.41	0.12	0.44	0.95	4.76	3.69	0.00	added EL directly to shallow lws, system pressure fell to 45 and readjusted back to 70 psi
10/9/08 14:20	8,630	6.2	53,920	53,292	970	EL	0.07	0.69	0.09	0.13	0.09	3.13	1.07	0.97	0.07	0.30	0.59	3.33	1.87	0.01	Low pressure alarm triggered on 10/7 at 20:55. Reset alarm low pressure to 5 psi. System valves opened to remove biomass in pumps, pressure increased to 40 psi.
10/12/08 12:00	4,180	6.2	26,330	25,930	0	EL	0.05	0.51	0.06	0.09	0.06	3.01	1.51	1.00	0.10	0.44	0.61	5.06	0.00	0.00	Replaced stack kit in injection pump, fouled with biomass and some plastic pieces. Lowered injection time to intermediate wells to 14 min from 18 min since extraction limited.
10/18/08 12:00	8,640	5.9	52,580	51,095	300	C	0.01	0.37	0.03	0.04	0.03	2.71	1.83	1.07	0.08	0.41	0.37	5.05	0.00	0.00	EL was not delivered on time, so Carbstrate was used instead.
10/23/08 12:00	7,200	3.6	24,878	26,122	970	EL	0.00	0.00	0.06	0.09	0.09	1.07	1.39	0.76	0.09	0.23	0.17	3.14	0.00	0.00	
10/28/08 12:00	7,200	7.1	49,409	51,199	970	EL	0.00	0.01	0.16	0.21	0.16	3.42	1.68	1.23	0.07	0.53	0.56	5.90	0.02	0.02	
10/31/08 14:50	4,490	6.2	26,503	27,786	0		0.00	0.00	0.14	0.21	0.17	2.62	1.64	1.11	0.08	0.31	0.00	0.00	3.41	2.38	ETEC went out again to restart EX-4i, no substrate added.
11/7/08 11:30	9,880	6.0	58,390	59,310	970	EL	0.00	0.27	0.09	0.15	0.10	2.68	1.60	1.01	0.09	0.42	0.30	5.19	0.00	0.00	
11/13/08 11:30	8,640	6.0	51,030	51,840	485	EL-N1	0.00	0.13	0.12	0.19	0.14	2.71	1.55	1.07	0.06	0.44	0.20	5.29	0.00	0.00	
11/21/08 14:30	11,700	6.4	71,800	75,080	485	EL-N1	0.00	0.00	0.20	0.00	0.21	2.99	1.65	1.09	0.00	0.34	0.15	3.87	0.00	2.05	
11/26/08 12:30	7,080	7.0	46,637	49,400	485	EL-N1	0.02	0.00	0.19	0.00	0.26	3.24	1.74	1.13	0.05	0.45	0.23	4.15	0.00	2.10	
12/3/08 14:30	10,200	7.3	71,503	74,880	485	EL-N1	0.01	0.00	0.16	0.00	0.23	3.69	1.76	1.15	0.02	0.41	0.14	4.34	0.36	2.07	
12/10/08 15:30	10,140	7.8	79,340	79,140	300	C	0.00	1.64	0.14	0.00	0.28	3.33	1.44	0.99	0.02	0.39	0.21	3.26	2.42	1.51	EX-5i pump removed, and turned into injection well. Switched 7i injection line to 5i now. IN-7i not being used as injection well now.
																			INJCT		
12/26/08 11:00	22,770	7.5	168,820	170,780	600	C	0.00	1.10	0.14	0.00	0.24	3.33	0.00	0.53	0.08	0.49	0.44	4.51	2.07	1.98	Winter storms prevented site visit, so added 600 lbs C. Injection flow meter to EX-5i was fouled and cleaned….system all ok.
1/2/09 12:00	10,140	8.7	88,980	88,050	300	C	0.00	3.07	0.16	0.00	0.27	2.14	0.00	0.88	0.32	0.53	1.07	4.70	2.25	2.07	
1/8/09 16:00	8,880	8.5	76,960	75,390	1,350	LO	0.00	1.11	0.15	0.00	0.25	2.29	0.00	1.60	0.33	0.49	1.63	4.17	3.26	1.87	ETEC retrofitted IN-7i into an extraction well using old EX-5i pump. EX-5i flow meter now reading flow from IN-7i. 3 drums of LO were added into holding tank.
													EXTR								
1/9/09 9:30	1,050				0	LO	0.00	0.00	0.00	0.00	0.00		3.29		0.00	0.00	0.00	2.50	0.00	0.00	Turned Hz down on EX-4i after 9:30 am readings. Collected TOC sample from new EX well and took GW quality readings (ORP -86 mV, cond. 930 uS/cm, and pH 6.4)
1/14/09 12:00	8,400	5.5	45,930	46,490	1,350	LO	0.00	0.00	0.00	0.00	0.00	2.85	3.80	2.61	0.00	0.00	0.00	1.01	0.00	0.00	
1/21/09 13:00	10,140	5.4	53,580	54,670	1,350	LO	0.00	0.00	0.00	0.00	0.00	2.87	4.28	2.42	0.00	0.00	0.00	1.11	0.00	0.00	
1/29/09 14:00	11,580	5.8	67,510	67,210	900	LO	0.00	0.00	0.00	0.00	0.00	3.26	4.63	2.57	0.00	0.00	0.00	1.18	0.00	0.00	
													INJCT								Started LactOil inj into IN-7i through EX-5i line.
2/6/09 12:00	11,400	2.3	26,000	26,580	485	EL	0.00	0.00	0.00	0.00	0.00	—	2.28	—	0.00	**INJCT**	0.00	1.97	0.00	0.36	Competed LactOil injections and started Inj into EX-5i (1340230) and EX-2s (813820)
2/12/09 14:00	8,760	2.6	22,730	22,980	485	EL	0.04	0.00	0.01	0.14	0.29	—	—	—	0.03	0.46	0.48	1.84	1.65	0.27	Old IN-7i flow meter now EX-5i injection line and IN-2s is now EX-2s injection line. Opened gate valve to IN-1s and IN-3s (flow was nothing on arrival).
2/19/09 12:30	9,990	3.8	37,490	37,930	485	EL	0.06	0.00	0.32	0.01	0.27	—	—	—	0.05	1.69	1.48	1.98	1.40	0.29	IN-5i and EX-2s are at 6 psi, all ok, adjusted flows from EX-4i and EX-6i to pull more from 6i
2/25/09 9:30	8,460	3.9	32,150	32,630	485	EL	0.00	0.00	0.27	0.00	0.22	—	—	—	0.20	1.82	0.91	1.05	1.49	1.71	IN-5i and EX-2s at 8 psi, adjusted valves to increase pressure to 10-12 psi. Increased inj time from 20 to 25 minutes. No pressure in IN-6i. Added 15 gal EL directly to EX-2s.
3/6/09 10:00	12,990	5.2	67,770	67,140	485	EL	0.11	0.00	0.28	0.00	0.22	—	—	—	0.24	2.46	1.08	1.53	2.14	2.32	IN-5i and EX-2s are at 10-11 psi
3/13/09 13:45	10,305	4.7	48,680	47,940	485	EL	0.08	0.00	0.22	0.02	0.18		—		0.21	1.58	1.00	0.91	2.64	2.52	
												—		—						**INJCT**	
3/20/09 9:37	9,832	4.3	41,759	42,260	485	EL	0.03	0.00	0.34	0.00	0.32	—	—	—	0.00	0.00	0.00	4.30	0.95	2.61	Increased injection valving into EX-5i and EX-6i, turned up EX-4i extraction pump hertz slightly. EX-6i at 0 psi and EX-5i at 6 psi.
3/27/09 11:53	10,216	4.5	46,600	46,230	485	EL	0.03	0.00	0.30	0.00	0.27	—	—	—	0.00	0.00	0.00	4.53	1.59	2.38	EX6i- 2 psi EX-5i 5psi, valve on EX-6i opened, opened EX-4i for greater extraction.
4/2/09 12:08	8,655	4.4	38,170	38,120	485	EL	0.02	0.00	0.32	0.00	0.30	—	—	—	0.00	0.00	0.00	4.40	1.31	2.47	EX-5i at 7psi, EX-6i at 5psi, IN-5i at 8psi and small amount of surfacing around well - valved back. IN-1s valve opened.
4/7/09 12:00	7,192	4.5	33,115	32,420	0	EL	0.09	0.00	0.36	0.00	0.12	—	—	—	0.00	0.00	0.00	4.51	1.46	2.57	EX-5i at 8psi, EX-6i at 7.5 psi. Reactivated EX-1s and EX-3s for extraction.
4/17/09 13:25	14,485	4.4	65,095	64,170	485	EL	0.10	0.00	0.41	0.00	0.08	—	—	—	0.00	0.00	0.00	4.43	1.44	2.47	EX-6 at 12psi, turned up to 15 psi - EX-5 at 10 psi, turned up to 12 psi - fuse pulled on EX-1s & -3s, did not pump for last week. EX-1s/-3 reactivated.
5/1/09 10:15	19,970	5.4	109,190	107,788	485	EL	0.06	0.00	0.38	0.00	0.11	—	—	—	0.00	0.70	2.15	3.24	1.52	2.70	5i 12psi, 6i 16psi, and 2s 0 psi
5/6/09 12:35	7,340	5.8	42,715	42,261	0	EL	0.06	0.00	0.40	0.00	0.12	—	—	—	0.00	1.14	1.89	3.86	1.79	2.31	2s 3.5psi, 6i 13psi, 5i 14psi, no pressure on others; performed MW Slug 2: MW-14 accepted slowest, DEQ-1 accept well, MW-11 accept good - followed each with 55 gal tap chase.
6/5/09 13:35	43,260	5.1	224,214	221,542	1	EL	0.04	0.00	0.34	0.00	0.11	—	—	—	0.01	1.03	1.33	3.78	1.64	2.03	SYSTEM SHUTDOWN….ALL OK.
7/13/09 10:00	54,505	0.0	0	0	6,300	NZESO	—	—	—	—	—	—	—	—	0.00	—	0.00	0.00	0.00	0.00	Only EX-6i injection and EX-4i extraction operational; added three totes (260 gallons each) of oil emulsion into batch tank and let recirc.
7/28/09 9:00	21,540	4.3	95,898	93,220	2,100	NZESO	—	—	—	—	—	—	—	—	0.00	—	0.00	4.33	0.00	4.45	Holding tank water totally clear, no sulfur odor; change over operation to EX-5i/EX-4i recirculation.
8/4/09 16:23	10,523	3.9	42,097	41,407	0		—	—	—	—	—	—	—	—	0.00	—	0.00	3.93	4.00	—	All okay.
8/12/09 10:55	11,192	3.8	43,058	42,124	2,100	NZESO	—	—	—	—	—		—		0.00	—	0.00	3.76	3.85	—	
												—		—						**INJCT**	
8/26/09 10:00	20,105	0.3	7,250	6,916			—	—	—	—	—	—	—	—	0.06	—	0.28	0.36	—	—	Final oil injection into EX-4i.
Totals	**1,046,250**		**6,780,091**	**6,981,598**	**54,289**																

Please refer to notes on last page of table.

Table 1 - Recirculation Operational Summary
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Notes:
Recirculation system startup: August 31, 2007.
Substrate addition began: September 1, 2007.
min = minutes
gpm = gallons per minute
gal = gallons
NR = No reading
C = CarBstrate Added
N1 = Nutri Chlor Added (120 lbs)
EL = Ethyl Lactate Added
LO = JRW Bioremediation LactOil product.
NZESO = Newman Zone buffered, non-ionic emulsified soybean oil.
MW Slug 1 = EL injections: 10 gal to DEQ-2, 10 gal MW-14, 4.5 gal MW-11, 3 gal into DEQ-1 followed by chase tap water.
MW Slug 2 = EL injections: 20 gal to MW-14, 15 gal MW-11, and 20 gal DEQ-1 followed by chase tap water.
_ = Well no longer used for recirculation.
Shallow injection readings not collected on April 6 and April 11, 2008.
NZESO injections performed via push probe using municipal water from August 3 through 6, 2009; Substrate Added column does not reflect injection totals.
EXTR = Operation change from injection to extraction.
INJCT = Operation change from extraction to injection.

Amendment Subtotals:	
CarBstrate	13,700
EL	25,139
NZESO	10,500
LO	4,950

Table 2 - Shallow Emulsified Oil Injection Totals
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Probe	Flow Meter Readings			10% ESO Injected	Chase Injected	Effective ESO Percent
	Start ESO	End ESO	End Chase			
	Flow Volume in Gallons					
1A	16466	17015	17577	549	562	4.9%
1B	16628	17146	17625	518	479	5.2%
1C	12494	12998	13636	504	638	4.4%
1D	36524	36997	37651	473	654	4.2%
2Aa	17577	17780	17852	203	72	7.4%
2Ab	17852	18177	NA	325	410	4.4%
2B	13640	14169	14826	529	657	4.5%
2C	17628	18128	18894	500	766	3.9%
2D	37645	38185	38788	540	603	4.7%
3A	18895	19423	20221	528	798	4.0%
3B	18204	18732	19426	528	694	4.3%
3C	14827	15335	16107	508	772	4.0%
3D	38788	39316	40044	528	728	4.2%
4A	20229	20639	21287	410	648	3.9%
4B	19426	19739	20434	313	695	3.1%
4C	16110	16519	17168	409	649	3.9%
			Totals	7,365	9,825	4.3%

Notes:
ESO = RNAS Newman Zone buffered, non-ionic emulsified soybean oil concentrate containing 46 percent soybean oil and 4 percent sodium lactate (by weight).
Chase = Municipal water injection following oil injection.
Effective ESO % = Percent Newman Zone concentrate over entire injection.
NA = Chase not performed.
Probe 2A relocated due to noted short circuiting.
Injections performed via push probe inserted to 15 feet below ground surface retracted to 10 feet, and then opened using 20 gallons of high pressure water injection prior to ESO.
Injections performed between August 3 and August 6, 2009.

Table 3 - Individual Shallow Emulsified Oil Injection Probe Readings
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Probe Location	Date	Time	Totalizer (gallons)	Instantaneous Flow (gpm)	Pressure (psi)	Field Comments (begin injection, begin chase, etc.)
1B	8/3/09	11:00	0.0	1.8	15	begin inj., manual meter = 16,628
1B	8/3/09	11:53	69.7	2.2	14	
1A	8/3/09	12:00	0.0	1.4	14	begin inj., manual meter = 16,466
1A	8/3/09	12:35	61.0	1.8	10	
1B	8/3/09	12:35	127.4	1.6	12	
1B	8/3/09	13:55	263.0	1.7	12	
1A	8/3/09	13:55	211.0	1.9	10	
1D	8/3/09	14:45	0.0	1.0	10	begin inj., manual meter = 36,532
1C	8/3/09	15:07	0.0	0.7	8	begin inj., manual meter = 12,494
1B	8/3/09	15:16	371.5	1.1	8	adjust flow down
1B	8/3/09	15:17	--	0.6	3	
1A	8/3/09	15:18	329.5	1.2	8	adjust flow down
1A	8/3/09	15:19	--	0.9	5	
1D	8/3/09	15:20	27.3	1.0	9	
1C	8/3/09	15:21	10.0	0.8	10	
1B	8/3/09	16:26	425.7	0.7	3	
1A	8/3/09	16:27	383.7	0.8	3	
1D	8/3/09	16:28	91.0	0.8	5	
1C	8/3/09	16:48	65.0	0.7	9	
1B	8/3/09	17:40	481.1	0.8	4	
1A	8/3/09	17:41	435.3	0.6	1	
1D	8/3/09	17:42	122.0	1.0	5	
1C	8/3/09	17:43	157.4	0.7	4	
1B	8/3/09	18:01	500.0	0.6	4	end oil inj., manual meter = 17,146
1A	8/3/09	18:02	452.8	1.4	6	
1C	8/3/09	18:03	146.3	1.3	7	
1D	8/3/09	18:04	174.3	0.9	6	
1A	8/3/09	18:38	500.0	1.3	6	end oil inj., manual meter = 17,015
1C	8/3/09	18:42	193.0	1.8	11	
1D	8/3/09	18:43	208.0	1.3	11	
1C	8/3/09	20:08	388.1	2.1	10	
1D	8/3/09	20:09	321.0	1.1	10	
1C	8/3/09	21:00	495.0	2.3	9	end oil inj., manual meter = 12,998
1D	8/3/09	21:01	391.3	2.0	15	
1D	8/3/09	21:20	430.0	2.2	15	end oil inj., manual meter = 36,997

Please refer to notes on last page of table.

Table 3 - Individual Shallow Emulsified Oil Injection Probe Readings
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Probe Location	Date	Time	Totalizer (gallons)	Instantaneous Flow (gpm)	Pressure (psi)	Field Comments (begin injection, begin chase, etc.)
1B	8/3/09	21:30	--	1.0	8	begin chase
1A	8/3/09	21:30	--	1.0	3	begin chase
1C	8/3/09	21:30	--	1.0	3	begin chase
1D	8/3/09	21:30	--	1.0	3	begin chase
1B	8/4/09	7:50	677.3	0.0	0	faucet valves replaced at 2" main water line to get more flow
1A	8/4/09	7:51	916.4	0.4	0	
1C	8/4/09	7:52	1,102.2	0.6	0	end chase, manual meter = 13,636
1D	8/4/09	7:53	1,009.2	0.8	2	
1D	8/4/09	8:20	1,032.0	1.0	5	end chase, manual meter = 37,651
1A	8/4/09	8:55	1,003.0	1.3	10	end chase, manual meter = 17,577
1B	8/4/09	8:55	748.3	2.0	15	
1B	8/4/09	9:45	830.0	1.0	3	end chase, manual meter = 17,625
2D	8/4/09	10:15	0.0	2.0	15	begin inj., manual meter = 37,645
2B	8/4/09	10:15	0.0	0.5	9	begin inj., manual meter = 13,640
2Aa	8/4/09	10:53	0.0	1.5	9	begin inj., manual meter = 17,578
2B	8/4/09	10:57	45.5	0.8	9	
2D	8/4/09	10:58	35.8	1.2	9	
2C	8/4/09	11:13	0.0	1.0	4	begin inj., manual meter = 17,628
2D	8/4/09	11:14	46.7	0.7	5	
2B	8/4/09	11:15	58.0	0.8	6	
2Aa	8/4/09	11:16	12.5	0.0	2	
2C	8/4/09	12:05	42.3	0.5	3	
2D	8/4/09	12:06	68.5	0.7	5	
2B	8/4/09	12:07	80.2	0.7	6	
2Aa	8/4/09	12:08	25.5	0.4	8	
2C	8/4/09	14:00	116.8	1.2	8	
2D	8/4/09	14:01	109.0	0.6	7	
2B	8/4/09	14:02	127.1	0.9	8	
2A	8/4/09	14:03	49.0	0.7	8	
2C	8/4/09	14:50	205.3	2.8	10	tapped into faucet across the street (bingo building) for added flow
2D	8/4/09	14:51	150.8	0.9	10	
2B	8/4/09	14:52	182.5	1.4	10	
2Aa	8/4/09	14:53	81.5	0.7	11	

Please refer to notes on last page of table.

Table 3 - Individual Shallow Emulsified Oil Injection Probe Readings
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Probe Location	Date	Time	Totalizer (gallons)	Instantaneous Flow (gpm)	Pressure (psi)	Field Comments (begin injection, begin chase, etc.)
2C	8/4/09	16:30	436.0	3.0	9	Old butterfly valve within 2" main water line was stripped out and partially closed, this was removed for maximum flow/pressures. 2A begins short circuiting.
2D	8/4/09	16:31	291.7	3.1	11	
2B	8/4/09	16:32	352.6	3.3	10	
2Aa	8/4/09	16:33	151.8	0.0	0	end oil inj., manual meter = 17,780
2C	8/4/09	17:00	500.6	0.0	0	end oil inj., manual meter = 18,128
2D	8/4/09	17:03	422.2	5.3	11	
2B	8/4/09	17:04	454.0	3.7	11	
2B	8/4/09	17:15	502.1	0.0	0	end oil inj., manual meter = 14,169
2D	8/4/09	17:16	500.3	0.0	0	end oil inj., manual meter = 38,185
2C	8/4/09	18:00	530.8	0.8	1	begin chase
2D	8/4/09	18:02	520.9	0.8	5	begin chase
2B	8/4/09	18:03	522.8	0.8	3	begin chase
2Aa	8/4/09	18:06	154.4	0.2	1	begin chase.
2C	8/5/09	7:45	1,185.7	0.8	1	end chase, manual meter = 18,894
2D	8/5/09	7:46	1,022.5	0.6	4	end chase, manual meter = 38,788
2B	8/5/09	7:47	1,062.2	0.6	2	end chase, manual meter = 14,826
2A	8/5/09	7:48	159.4	0.0	0	end chase, manual meter = 17,852
2Ab	8/5/09	9:00	0.0	1.2	15	begin reinj.10' south of 2A.
2Ab	8/5/09	9:50	176.5	4.2	15	
2Ab	8/5/09	10:28	333.0	4.0	15	end oil inj., manual meter = 18,177
2Ab	8/5/09	10:30	333.0	4.2	15	begin chase, hose directly to probe
3B	8/5/09	11:00	0.0	0.0	0	begin inj., manual meter = 18,204
3C	8/5/09	11:03	0.0	0.0	0	begin inj., manual meter = 14,827
3D	8/5/09	11:05	0.0	0.0	0	begin inj., manual meter = 38,788
2Ab	8/5/09	11:30	639.5	5.0	15	
3B	8/5/09	11:37	29.0	1.3	15	
3C	8/5/09	11:38	18.6	2.2	15	
3D	8/5/09	11:39	45.0	2.5	15	
2Ab	8/5/09	11:50	743.0	5.0	15	end chase, no manual meter reading
3A	8/5/09	12:26	0.0	2.8	13	begin inj., manual meter = 18,895
3A	8/5/09	12:50	46.5	2.4	14	
3B	8/5/09	12:51	103.6	0.8	15	
3C	8/5/09	12:52	219.0	2.2	11	
3D	8/5/09	12:53	194.0	2.3	13	

Please refer to notes on last page of table.

Table 3 - Individual Shallow Emulsified Oil Injection Probe Readings
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Probe Location	Date	Time	Totalizer (gallons)	Instantaneous Flow (gpm)	Pressure (psi)	Field Comments (begin injection, begin chase, etc.)
3A	8/5/09	13:40	150.0	2.2	13	
3B	8/5/09	13:41	138.2	0.8	15	3B: use control rods to clear out probe and increase flow
3C	8/5/09	13:42	299.5	1.7	11	
3D	8/5/09	13:43	305.1	2.7	11	
3A	8/5/09	14:40	345.5	4.3	10	
3B	8/5/09	14:41	182.8	2.4	15	
3C	8/5/09	14:42	421.6	2.4	10	
3D	8/5/09	14:43	464.5	2.6	10	
3C	8/5/09	15:18	524.4	0.0	0	end oil inj., manual meter = 15,335
3D	8/5/09	15:19	546.0	0.0	0	end oil inj., manual meter = 39,316
3A	8/5/09	16:03	542.6	0.0	0	end oil inj., manual meter = 19,423
3B	8/5/09	16:30	536.1	0.0	0	end oil inj., manual meter = 18,732
3A	8/5/09	16:50	563.0	0.8	3	begin chase
3B	8/5/09	16:51	558.2	0.8	10	begin chase
3C	8/5/09	16:52	547.0	0.8	7	begin chase
3D	8/5/09	16:53	569.0	0.8	0	begin chase
3A	8/6/09	7:00	1,276.5	0.8	3	end chase, manual meter = 20,221
3B	8/6/09	7:01	1,169.6	0.8	15	end chase, manual meter = 19,426
3C	8/6/09	7:02	1,282.1	1.0	8	end chase, manual meter = 16,107
3D	8/6/09	7:03	1,294.1	1.0	0	end chase, manual meter = 40,044
4A	8/6/09	8:52	0.0	2.0	15	begin inj., manual meter = 20,229
4C	8/6/09	8:53	0.0	1.5	15	begin inj., manual meter = 16,110
4B	8/6/09	9:20	0.0	1.7	15	begin inj., manual meter = 19,426
4A	8/6/09	9:43	170.0	3.8	13	
4B	8/6/09	9:44	53.0	2.4	15	
4C	8/6/09	9:45	241.2	4.9	10	
4A	8/6/09	10:30	356.0	3.3	10	
4B	8/6/09	10:31	177.9	3.5	15	
4C	8/6/09	10:32	358.2	1.3	5	
4A	8/6/09	11:20	438.2	0.0	0	end oil inj., manual meter = 20,639
4B	8/6/09	11:20	326.3	0.0	0	end oil inj., manual meter = 19,739
4C	8/6/09	11:20	440.2	0.0	0	end oil inj., manual meter = 16,519
4A	8/6/09	11:30	440.5	3.9	15	begin chase
4B	8/6/09	11:31	331.3	2.7	15	begin chase
4C	8/6/09	11:32	448.0	4.7	15	begin chase

Please refer to notes on last page of table.

Table 3 - Individual Shallow Emulsified Oil Injection Probe Readings
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Probe Location	Date	Time	Totalizer (gallons)	Instantaneous Flow (gpm)	Pressure (psi)	Field Comments (begin injection, begin chase, etc.)
4A	8/6/09	12:40	691.0	3.3	10	
4B	8/6/09	12:41	490.1	2.0	10	
4C	8/6/09	12:42	859.0	5.7	10	
4C	8/6/09	13:29	1,147.6	0.0	0	end chase, manual meter = 17,168
4A	8/6/09	14:05	1,104.1	0.0	0	end chase, manual meter = 21,287
4B	8/6/09	16:00	1,050.0	0.0	0	end chase, manual meter = 20,434

Notes:
Injection equipment, including flow meters and pressure gauges, provided by RNAS.
Probe Locations presented on Figure 4 of this report.
Chase = Municipal water injection following oil injection.
Oil = RNAS Newman Zone buffered, non-ionic emulsified soybean oil concentrate diluted to 10 percent with municipal water.
-- = Reading not taken.

Table 4 - Groundwater Elevations
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	TOC (Feet, MSL)	Date Measured	Depth to Water (Feet below TOC)	Groundwater Elevation (Feet, MSL)
Shallow-Depth Wells				
MW-1 (IN-4s) (27.70)	462.73	21-Aug-02	10.67	452.06
		24-Jun-03	9.88	452.85
		5-Jan-04	4.82	457.91
		12-Apr-04	7.45	455.28
		12-Oct-04	8.05	454.68
		14-Jan-05	6.73	456.00
		20-Apr-05	5.60	457.13
		18-Jul-05	8.71	454.02
		13-Oct-05	9.03	453.70
		20-Oct-05	8.98	453.75
		21-Oct-05	8.93	453.80
		16-Jan-06	4.54	458.19
		11-Jul-06	8.11	454.62
		23-Jan-07	5.89	456.84
		29-Aug-07	12.59	450.14
		1-Apr-10	3.88	458.85
MW-2 (24.73)	462.95	21-Aug-02	11.30	451.65
		24-Jun-03	10.58	452.37
		5-Jan-04	5.50	457.45
		12-Apr-04	8.03	454.92
		12-Oct-04	8.65	454.30
		14-Jan-05	7.35	455.60
		20-Apr-05	6.21	456.74
		13-Oct-05	9.75	453.20
		20-Oct-05	9.72	453.23
		21-Oct-05	9.67	453.28
		16-Jan-06	5.11	457.84
		10-Jul-06	8.83	454.12
		22-Jan-07	6.27	456.68
		30-Aug-07	10.06	452.89
		8-Jul-08	8.39	454.56
		1-Jul-09	8.08	454.87
MW-3 (EX-2s) (24.47)	463.03	21-Aug-02	12.22	450.81
		24-Jun-03	11.50	451.53
		5-Jan-04	6.47	456.56
		12-Apr-04	8.67	454.36
		12-Oct-04	9.27	453.76
		14-Jan-05	8.02	455.01
		20-Apr-05	7.38	455.65
		13-Oct-05	10.53	452.50
		20-Oct-05	10.22	452.81
		21-Oct-05	10.34	452.69
		21-Nov-05	9.08	453.95
		16-Jan-06	6.28	456.75
		10-Jul-06	9.48	453.55
		22-Jan-07	7.75	455.28

Please refer to notes on last page of table.

Table 4 - Groundwater Elevations
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	TOC (Feet, MSL)	Date Measured	Depth to Water (Feet below TOC)	Groundwater Elevation (Feet, MSL)
Shallow-Depth Wells (cont.)				
MW-3 (EX-2s) (cont.)		29-Aug-07	10.70	452.33
		8-Jul-08	8.96	454.07
		7-Apr-09	6.83	456.20
		1-Apr-10	5.94	457.09
MW-4 (24.45)	459.54	21-Aug-02	10.46	449.08
		24-Jun-03	9.68	449.86
		5-Jan-04	4.48	455.06
		12-Apr-04	7.00	452.54
		12-Oct-04	8.00	451.54
		13-Jan-05	6.19	453.35
		25-Feb-05	6.14	453.40
		20-Apr-05	5.78	453.76
		13-Oct-05	9.38	450.16
		20-Oct-05	8.83	450.71
		21-Oct-05	9.34	450.20
		21-Nov-05	7.35	452.19
		16-Jan-06	4.13	455.41
		10-Jul-06	8.08	451.46
		23-Jan-07	5.44	454.10
		30-Aug-07	9.13	450.41
		8-Jul-08	7.00	452.54
		1-Jul-09	6.76	452.78
		1-Apr-10	4.06	455.48
MW-5 (24.23)	460.06	21-Aug-02	9.54	450.52
		24-Jun-03	9.01	451.05
		5-Jan-04	4.26	455.80
		12-Apr-04	6.36	453.70
		12-Oct-04	7.36	452.70
		13-Jan-05	5.58	454.48
		25-Feb-05	5.73	454.33
		20-Apr-05	5.31	454.75
		13-Oct-05	8.49	451.57
		16-Jan-06	4.09	455.97
		10-Jul-06	6.67	453.39
		23-Jan-07	5.67	454.39
		30-Aug-07	8.23	451.83
		8-Jul-08	6.60	453.46
		1-Jul-09	6.18	453.88
MW-6 (24.57)	463.64	21-Aug-02	12.01	451.63
		24-Jun-03	11.19	452.45
		5-Jan-04	6.33	457.31
		12-Apr-04	8.88	454.76
		12-Oct-04	8.80	454.84
		14-Jan-05	7.49	456.15
		20-Apr-05	6.95	456.69

Please refer to notes on last page of table.

Table 4 - Groundwater Elevations
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	TOC (Feet, MSL)	Date Measured	Depth to Water (Feet below TOC)	Groundwater Elevation (Feet, MSL)
Shallow-Depth Wells (cont.)				
MW-6 (cont.)		13-Oct-05	10.64	453.00
		16-Jan-06	5.93	457.71
		10-Jul-06	9.82	453.82
		23-Jan-07	8.05	455.59
		30-Aug-07	10.92	452.72
		8-Jul-08	9.10	454.54
		1-Jul-09	8.96	454.68
MW-8 (26.77)	463.39	21-Aug-02	11.44	451.95
		24-Jun-03	10.75	452.64
		5-Jan-04	5.61	457.78
		12-Apr-04	8.28	455.11
		12-Oct-04	8.88	454.51
		14-Jan-05	7.55	455.84
		20-Apr-05	6.40	456.99
		13-Oct-05	9.92	453.47
		20-Oct-05	9.90	453.49
		21-Oct-05	9.83	453.56
		16-Jan-06	5.33	458.06
		10-Jul-06	8.97	454.42
		23-Jan-07	6.69	456.70
		30-Aug-07	10.31	453.08
		8-Jul-08	8.55	454.84
MW-10 (24.86)	461.01	21-Aug-02	10.57	450.44
		25-Jun-03	9.92	451.09
		6-Jan-04	4.89	456.12
		12-Apr-04	7.60	453.41
		12-Oct-04	8.52	452.49
		14-Jan-05	6.88	454.13
		25-Feb-05	6.76	454.25
		20-Apr-05	5.83	455.18
		18-Jul-05	9.29	451.72
		13-Oct-05	9.63	451.38
		20-Oct-05	9.46	451.55
		21-Oct-05	9.63	451.38
		16-Jan-06	4.60	456.41
		10-Jul-06	8.67	452.34
		22-Jan-07	5.65	455.36
		30-Aug-07	9.47	451.54
		8-Jul-08	7.91	453.10
		1-Jul-09	7.65	453.36
MW-12 (24.38)	462.36	21-Aug-02	9.91	452.45
		25-Jun-03	9.28	453.08
		6-Jan-04	4.17	458.19
		12-Apr-04	6.87	455.49
		12-Oct-04	7.25	455.11

Please refer to notes on last page of table.

Table 4 - Groundwater Elevations
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	TOC (Feet, MSL)	Date Measured	Depth to Water (Feet below TOC)	Groundwater Elevation (Feet, MSL)
Shallow-Depth Wells (cont.)				
MW-12 (cont.)		14-Jan-05	6.00	456.36
		20-Apr-05	4.96	457.40
		13-Oct-05	8.38	453.98
		20-Oct-05	8.39	453.97
		21-Oct-05	8.28	454.08
		16-Jan-06	3.90	458.46
		10-Jul-06	7.45	454.91
		23-Jan-07	6.17	456.19
		30-Aug-07	8.71	453.65
		8-Jul-08	7.13	455.23
		1-Jul-09	6.75	455.61
MW-16 (EX-3s) (29.62)	461.36	21-Aug-02	10.61	450.75
		24-Jun-03	10.03	451.33
		5-Jan-04	4.18	457.18
		12-Apr-04	7.09	454.27
		12-Oct-04	7.56	453.80
		14-Jan-05	6.30	455.06
		20-Apr-05	5.86	455.50
		29-Aug-07	8.66	452.70
		18-Jul-05	9.06	452.30
		13-Oct-05	9.20	452.16
		16-Jan-06	5.91	455.45
		10-Jul-06	7.77	453.59
		23-Jan-07	5.99	455.37
		29-Aug-07	8.66	452.70
		8-Jul-08	6.69	454.67
		7-Apr-09	4.67	456.69
		1-Jul-09	5.99	455.37
		7-Oct-09	8.11	453.25
		1-Apr-10	3.95	457.41
MW-18 (24.58)	462.71	21-Aug-02	10.30	452.41
		24-Jun-03	9.63	453.08
		5-Jan-04	4.32	458.39
		12-Apr-04	7.01	455.70
		12-Oct-04	7.38	455.33
		14-Jan-05	6.15	456.56
		20-Apr-05	5.28	457.43
		13-Oct-05	8.35	454.36
		20-Oct-05	8.29	454.42
		21-Oct-05	8.27	454.44
		16-Jan-06	4.04	458.67
		10-Jul-06	7.42	455.29
		23-Jan-07	5.75	456.96
		30-Aug-07	8.63	454.08
		8-Jul-08	7.12	455.59

Please refer to notes on last page of table.

Table 4 - Groundwater Elevations
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	TOC (Feet, MSL)	Date Measured	Depth to Water (Feet below TOC)	Groundwater Elevation (Feet, MSL)
Shallow-Depth Wells (cont.)				
MW-22 (EX-1s) 24.86	462.88	21-Aug-02	14.73	-14.73
		24-Jun-03	11.36	-11.36
		5-Jan-04	7.30	-7.30
		12-Apr-04	8.83	-8.83
		12-Oct-04	9.51	-9.51
		13-Jan-05	8.30	-8.30
		20-Apr-05	7.49	-7.49
		18-Jul-05	10.42	-10.42
		13-Oct-05	10.77	-10.77
		20-Oct-05	10.64	-10.64
		21-Oct-05	10.53	-10.53
		21-Nov-05	9.27	-9.27
		16-Jan-06	6.33	-6.33
		11-Jul-06	9.62	-9.62
		23-Jan-07	8.35	-8.35
		29-Aug-07	10.44	-10.44
		8-Jul-08	8.90	-8.90
		7-Apr-09	8.05	-8.05
		1-Jul-09	9.40	-9.40
		7-Oct-09	8.59	-8.59
		1-Apr-10	6.12	-6.12
DEQ-4 (19.00)	463.81	28-Oct-04	9.00	454.81
		13-Jan-05	7.87	455.94
		20-Apr-05	7.12	456.69
		18-Jul-05	10.4	453.41
		13-Oct-05	10.57	453.24
		21-Nov-05	9.13	454.68
		16-Jan-06	6.02	457.79
		10-Jul-06	9.62	454.19
		23-Jan-07	6.93	456.88
		29-Aug-07	10.77	453.04
	464.81*	1-Jul-09	9.97	454.84*
		1-Apr-10	6.27	458.54
DEQ-5 (14.00)	463.73	28-Oct-04	8.46	455.27
		13-Jan-05	7.80	455.93
		20-Apr-05	7.49	456.24
		18-Jul-05	9.60	454.13
		13-Oct-05	10.38	453.35
		16-Jan-06	7.62	456.11
		10-Jul-06	9.33	454.40
		22-Jan-07	6.14	457.59
		30-Aug-07	10.73	453.00
		6-May-09	5.92	457.81
IN-5s	NA	1-Apr-10	4.88	

Please refer to notes on last page of table.

Table 4 - Groundwater Elevations
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	TOC (Feet, MSL)	Date Measured	Depth to Water (Feet below TOC)	Groundwater Elevation (Feet, MSL)
Intermediate-Depth Wells				
EX-5i**	461.36	29-Aug-07	12.59	-12.59
		8-Jul-08	10.53	-10.53
		1-Apr-10	7.10	-7.10
MW-7 (68.66)	463.90	21-Aug-02	15.30	448.60
		24-Jun-03	14.59	449.31
		5-Jan-04	8.58	455.32
		12-Apr-04	11.67	452.23
		12-Oct-04	12.89	451.01
		14-Jan-05	10.37	453.53
		20-Apr-05	10.13	453.77
		13-Oct-05	14.23	449.67
		16-Jan-06	8.25	455.65
		10-Jul-06	12.96	450.94
		23-Jan-07	9.62	454.28
		30-Aug-07	13.95	449.95
		8-Jul-08	8.10	455.80
		1-Jul-09	11.51	452.39
MW-9 (71.33)	463.73	21-Aug-02	14.28	449.45
		24-Jun-03	13.66	450.07
		5-Jan-04	7.66	456.07
		12-Apr-04	10.72	453.01
		12-Oct-04	12.00	451.73
		14-Jan-05	9.67	454.06
		20-Apr-05	9.10	454.63
		18-Jul-05	13.06	450.67
		13-Oct-05	13.03	450.70
		16-Jan-06	7.31	456.42
		11-Jul-06	11.58	452.15
		23-Jan-07	8.75	454.98
		29-Aug-07	13.23	450.50
		8-Jul-08	10.90	452.83
		1-Jul-09	10.58	453.15
MW-11 (70.37)	460.56	21-Aug-02	12.80	447.76
		25-Jun-03	12.09	448.47
		6-Jan-04	6.17	454.39
		12-Apr-04	9.15	451.41
		12-Oct-04	10.50	450.06
		14-Jan-05	8.10	452.46
		25-Feb-05	8.10	452.46
		20-Apr-05	7.74	452.82
		18-Jul-05	11.83	448.73
		13-Oct-05	11.78	448.78
		16-Jan-06	6.75	453.81
		10-Jul-06	10.77	449.79
		22-Jan-07	7.43	453.13
		30-Aug-07	11.59	448.97

Please refer to notes on last page of table.

Table 4 - Groundwater Elevations
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	TOC (Feet, MSL)	Date Measured	Depth to Water (Feet below TOC)	Groundwater Elevation (Feet, MSL)
Intermediate-Depth Wells (cont.)				
MW-11 (cont.)		8-Jul-08	9.42	451.14
		1-Jul-09	8.91	451.65
MW-14 (59.07)	459.53	21-Aug-02	12.36	447.17
		24-Jun-03	11.35	448.18
		5-Jan-04	5.13	454.40
		12-Apr-04	8.09	451.44
		12-Oct-04	9.72	449.81
		14-Jan-05	6.97	452.56
		25-Feb-05	7.05	452.48
		20-Apr-05	6.83	452.70
		13-Oct-05	11.17	448.36
		21-Oct-05	11.20	448.33
		16-Jan-06	4.68	454.85
		10-Jul-06	9.37	450.16
		22-Jan-07	6.49	453.04
		30-Aug-07	10.55	448.98
		8-Jul-08	8.30	451.23
		6-May-09	5.81	453.72
		1-Jul-09	7.91	451.62
		7-Oct-09	8.07	451.46
		1-Apr-10	4.68	454.85
MW-17 (EX-6i) (69.67)	461.38	21-Aug-02	14.08	447.30
		24-Jun-03	12.77	448.61
		5-Jan-04	6.16	455.22
		12-Apr-04	9.71	451.67
		12-Oct-04	11.24	450.14
		14-Jan-05	8.15	453.23
		25-Feb-05	8.19	453.19
		20-Apr-05	8.21	453.17
		18-Jul-05	12.99	448.39
		13-Oct-05	12.89	448.49
		21-Oct-05	12.91	448.47
		16-Jan-06	5.91	455.47
		10-Jul-06	10.45	450.93
		23-Jan-07	7.41	453.97
		29-Aug-07	11.12	450.26
		8-Jul-08	8.69	452.69
		1-Apr-10	5.78	452.69
MW-21 (EX-4i) (70.64)	463.25	21-Aug-02	15.98	447.27
		24-Jun-03	15.04	448.21
		5-Jan-04	8.72	454.53
		12-Apr-04	11.87	451.38
		12-Oct-04	13.26	449.99
		14-Jan-05	10.68	452.57
		25-Feb-05	10.69	452.56

Please refer to notes on last page of table.

Table 4 - Groundwater Elevations
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	TOC (Feet, MSL)	Date Measured	Depth to Water (Feet below TOC)	Groundwater Elevation (Feet, MSL)
Intermediate-Depth Wells (cont.)				
MW-21 (EX-4i) (cont.)		20-Apr-05	10.49	452.76
		18-Jul-05	15.03	448.22
		13-Oct-05	14.90	448.35
		21-Oct-05	14.97	448.28
		16-Jan-06	8.32	454.93
		11-Jul-06	13.03	450.22
		23-Jan-07	9.63	453.62
		29-Aug-07	13.59	449.66
		8-Jul-08	11.27	451.98
		1-Jul-09	10.98	452.27
		7-Oct-09	10.83	452.42
		1-Apr-10	7.73	455.52
DEQ-1 (89.49)	462.02	21-Aug-02	15.36	446.66
		25-Jun-03	13.94	448.08
		6-Jan-04	7.74	454.28
		12-Apr-04	10.82	451.20
		12-Oct-04	12.30	449.72
		13-Jan-05	9.80	452.22
		25-Feb-05	9.70	452.32
		20-Apr-05	9.46	452.56
		13-Oct-05	13.68	448.34
		16-Jan-06	7.30	454.72
		10-Jul-06	12.68	449.34
		22-Jan-07	8.84	453.18
		30-Aug-07	13.44	448.58
		8-Jul-08	11.00	451.02
		1-Jul-09	10.02	452.00
		1-Apr-10	7.34	454.68
DEQ-2 (69.84)	460.89	21-Aug-02	13.68	447.21
		24-Jun-03	12.90	447.99
		5-Jan-04	5.78	455.11
		12-Apr-04	9.73	451.16
		12-Oct-04	11.49	449.40
		13-Jan-05	8.45	452.44
		20-Apr-05	8.77	452.12
		18-Jul-05	13.60	447.29
		13-Oct-05	13.52	447.37
		16-Jan-06	5.63	455.26
		10-Jul-06	10.36	450.53
		23-Jan-07	6.59	454.30
		30-Aug-07	12.00	448.89
		8-Jul-08	8.33	452.56
		1-Jul-09	8.99	451.90
		1-Apr-10	6.59	454.30
DEQ-3 (118.5)	455.01	21-Aug-02	20.61	434.40

Please refer to notes on last page of table.

Table 4 - Groundwater Elevations
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	TOC (Feet, MSL)	Date Measured	Depth to Water (Feet below TOC)	Groundwater Elevation (Feet, MSL)
Intermediate-Depth Wells (cont.)				
DEQ-3 (cont.)		24-Jun-03	14.85	440.16
		5-Jan-04	6.51	448.50
		12-Apr-04	9.00	446.01
		12-Oct-04	10.79	444.22
		13-Jan-05	8.33	446.68
		20-Apr-05	8.36	446.65
		18-Jul-05	17.54	437.47
		13-Oct-05	13.36	441.65
		16-Jan-06	7.28	447.73
		11-Jul-06	18.58	436.43
		22-Jan-07	10.54	444.47
		30-Aug-07	24.5	430.51
		1-Jul-09	22.98	432.03
IN-6i	NA	1-Jul-09	9.48	
		1-Apr-10	6.90	
IN-7i	NA	1-Jul-09	9.70	
		1-Apr-10	6.26	
IN-8i	NA	1-Jul-09	8.81	
		1-Apr-10	5.68	

Notes:
TOC = Top of casing elevation (in feet above mean sea level [MSL]).
(27.7) = Well depth (in feet below ground surface [BGS]).
NM = Water levels not measured.
* = DEQ-4 top of casing extended to retro-fit as injection well. New casing elevation estimated.
** = EX-5i top of casing elevation estimated.
Off-site domestic well (1460 G Street, 1441 M Street, and 1350 N Street) water levels were not monitored.

Table 5 - Groundwater Field Parameters
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	Temperature (°C)	pH	Electrical Conductivity (µMHOs)	Oxidative - Reductive Potential (mV)	Dissolved Oxygen (mg/L)
Shallow-Depth Wells						
MW-1 (IN-4s)	12-Oct-04	--	--	--	--	--
	14-Jan-05	12.6	7.38	187	166	3.81
	21-Apr-05	16.8	6.82	202	121	0.38
	18-Jul-05	18.6	6.32	202	204	0.51
	13-Oct-05	18.3	6.87	218	77	1.05
	17-Jan-06	17.7	6.83	216	196	1.33
	11-Jul-06	17.5	6.82	271	125	0.58
	23-Jan-07	17.7	6.67	295	410	0.98
	29-Aug-07	20.9	6.97	84	68	-0.10
	1-Apr-10	16.1	6.67	209	-46	1.37
MW-2	10-Jul-06	17.0	6.54	307	135	1.92
	22-Jan-07	16.5	6.69	330	553	2.49
	30-Aug-07	20.0	6.76	88	476	-0.40
	8-Jul-08	17.6	6.60	371	131	0.64
	1-Jul-09	17.4	6.68	308	-45	1.03
MW-3 (EX-2s)	24-Jun-03	18.3	6.47	313	335	0.74
	5-Jan-04	17.3	6.68	313	2	0.95
	12-Apr-04	17.3	6.46	300	210	0.79
	12-Oct-04	17.3	6.40	300	189	0.86
	14-Jan-05	12.5	6.90	235	184	3.70
	21-Apr-05	16.7	6.57	312	120	0.57
	14-Oct-05	19.3	6.64	338	97	2.40
	21-Nov-05	18.2	6.79	350	172	9.85
	16-Jan-06	17.6	6.62	333	211	0.73
	10-Jul-06	17.9	6.62	384	156	1.03
	22-Jan-07	17.3	6.45	416	533	1.11
	29-Aug-07	20.1	6.93	130	56	-0.31
	3-Oct-07	18.0	7.00	350	78	--
	7-Nov-07	17.0	7.40	230	90	--
	6-Dec-07	18.1	7.13	131	152	2.60
	9-Jan-08	16.7	7.06	250	128	0.73
	14-Feb-08	17.3	7.64	219	52	0.61
	12-Mar-08	17.7	7.12	274	16	1.04
	10-Apr-08	16.5	7.18	281	86	0.96
	12-May-08	16.6	7.48	296	96	1.07
	9-Jul-08	17.5	6.87	289	132	1.35
	15-Aug-08*	NS	7.50	138	17	0.85
	5-Sep-08*	NS	7.70	318	-46	1.3
	10-Sep-08	18.9	6.80	416	124	1.77
	2-Dec-08	17.1	7.33	322	--**	0.94
	7-Apr-09	16.1	6.80	731	-93	1.73
	1-Apr-10	16.2	6.89	644	-79	3.78
MW-4	24-Jun-03	18.3	6.47	313	335	0.74

Please refer to notes on last page of table.

Table 5 - Groundwater Field Parameters
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	Temperature (°C)	pH	Electrical Conductivity (µMHOs)	Oxidative - Reductive Potential (mV)	Dissolved Oxygen (mg/L)
Shallow-Depth Wells (cont.)						
MW-4 (cont.)	12-Apr-04	16.8	6.80	254	169	0.97
	12-Apr-04	16.8	6.80	254	169	0.97
	12-Oct-04	17.0	7.01	256	160	0.99
	13-Jan-05	14.1	6.97	242	138	3.49
	25-Feb-05	16.9	6.74	260	139	1.74
	20-Apr-05	17.1	6.73	267	107	0.71
	14-Oct-05	17.7	7.08	243	92	2.98
	21-Nov-05	16.8	6.40	265	184	9.85
	16-Jan-06	17.0	6.74	264	209	1.47
	10-Jul-06	16.9	6.86	301	138	1.29
	23-Jan-07	15.6	6.76	324	413	0.95
	30-Aug-07	18.8	6.87	83	422	-0.35
	8-Jul-08	18.9	6.82	241	180	1.31
	1-Jul-09	17.3	6.85	233	-20	0.91
	1-Apr-10	15.8	7.02	233	-20	4.01
MW-5	24-Jun-03	17.1	6.07	204	394	0.92
	5-Jan-04	16.0	6.36	198	252	2.22
	12-Apr-04	16.0	6.43	184	210	0.35
	12-Oct-04	15.9	7.11	174	180	0.70
	13-Jan-05	14.3	7.43	190	184	3.11
	25-Feb-05	16.3	6.71	246	154	0.52
	20-Apr-05	16.4	6.55	248	99	0.46
	8-Jul-08	17.2	6.34	260	175	0.62
	1-Jul-09	17.2	6.36	303	36	1.15
MW-6	8-Jul-08	18.9	6.50	289	155	0.70
	1-Jul-09	18.2	6.51	292	-15	0.93
MW-10	25-Jun-03	16.2	7.01	310	96	0.21
	6-Jan-04	15.5	6.99	319	141	1.17
	13-Apr-04	16.0	7.11	284	175	0.39
	12-Oct-04	15.8	7.29	300	181	0.81
	14-Jan-05	14.1	7.21	316	142	4.01
	25-Feb-05	16.5	6.95	337	135	0.98
	21-Apr-05	16.1	7.00	342	55	0.23
	14-Oct-05	16.5	7.13	344	86	2.10
	16-Jan-06	16.4	6.99	380	200	0.31
	10-Jul-06	16.7	7.04	406	98	0.34
	22-Jan-07	16.3	6.75	433	475	0.58
	30-Aug-07	17.8	7.19	107	409	-0.05
	8-Jul-08	19.1	7.12	335	106	0.58
	1-Jul-09	17.9	6.88	300	16	1.13
MW-12	8-Jul-08	17.5	6.76	173	179	2.27
	1-Jul-09	18.1	6.88	155	47	2.66

Please refer to notes on last page of table.

Table 5 - Groundwater Field Parameters
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	Temperature (°C)	pH	Electrical Conductivity (µMHOs)	Oxidative - Reductive Potential (mV)	Dissolved Oxygen (mg/L)
Shallow-Depth Wells (cont.)						
MW-16 (EX-3s)	24-Jun-03	18.5	7.20	314	340	0.48
	5-Jan-04	16.9	7.44	276	219	1.25
	12-Apr-04	17.7	7.23	298	174	0.32
	12-Oct-04	17.7	6.99	310	151	0.59
	14-Jan-05	11.9	7.35	246	182	4.20
	21-Apr-05	17.8	7.90	296	118	0.33
	18-Jul-05	18.7	6.96	327	212	0.45
	14-Oct-05	18.3	7.28	305	81	1.38
	16-Jan-06	17.5	7.42	263	203	0.51
	10-Jul-06	18.4	7.27	367	166	0.16
	23-Jan-07	17.8	6.85	352	406	0.48
	29-Aug-07	-	7.66	149	54	-0.09
	3-Oct-07	17.0	7.50	300	35	--
	7-Nov-07	17.0	8.00	210	38	--
	6-Dec-07	17.5	7.95	103	128	3.60
	9-Jan-08	16.9	7.91	194	120	1.88
	14-Feb-08	16.6	7.01	191	109	1.51
	12-Mar-08	17.4	7.24	247	22	0.73
	10-Apr-08	16.3	7.04	237	103	0.89
	12-May-08	16.1	6.87	226	133	1.32
	9-Jul-08	17.6	6.93	291	112	0.68
	15-Aug-08*	--	7.70	334	-2	0.85
	5-Sep-08*	--	7.70	354	-43	1.8
	10-Sep-08	18.8	6.79	371	96.3	0.89
	2-Dec-08	17.5	7.29	376	--**	1.17
	7-Apr-09	17.6	7.09	599	-95.3	0.92
	1-Jul-09	18.5	6.94	488	-44.9	0.58
	7-Oct-09	19.3	6.78	1,276	-138	0.22
	1-Apr-10	16.8	6.99	1,568	-110	2.56
MW-22 (EX-1s)	24-Jun-03	17.1	6.60	384	274	2.36
	5-Jan-04	15.5	6.90	299	210	2.29
	12-Apr-04	16.8	6.86	315	153	0.80
	12-Oct-04	16.7	6.95	307	140	0.77
	13-Jan-05	12.3	6.96	366	176	2.92
	21-Apr-05	16.1	6.62	424	105	0.69
	18-Jul-05	16.9	6.53	476	142	0.47
	13-Oct-05	17.1	6.63	433	108	3.98
	21-Nov-05	16.4	6.12	514	181	10.61
	17-Jan-06	16.4	6.76	367	191	1.07
	11-Jul-06	16.3	6.67	498	154	1.52
	23-Jan-07	15.2	6.52	454	438	1.24
	29-Aug-07	16.1	7.20	180	181	0.40
	3-Oct-07	16.0	7.50	190	72	--
	7-Nov-07	16.0	8.00	260	129	--

Please refer to notes on last page of table.

Table 5 - Groundwater Field Parameters
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	Temperature (°C)	pH	Electrical Conductivity (µMHOs)	Oxidative - Reductive Potential (mV)	Dissolved Oxygen (mg/L)
Shallow-Depth Wells (cont.)						
MW-22 (EX-1s) (cont.)	6-Dec-07	16.3	7.34	125	120	3.30
	9-Jan-08	15.7	7.46	191	51	0.70
	14-Feb-08	16.2	7.51	202	86	1.38
	12-Mar-08	16.4	7.01	241	44	0.95
	10-Apr-08	15.1	7.24	235	63	1.03
	12-May-08	15.3	8.00	253	18	1.36
	9-Jul-08	16.4	6.89	294	148	1.61
	15-Aug-08*	--	7.35	402	51	3.3
	5-Sep-08*	--	7.32	425	-2	2.0
	10-Sep-08	17.0	7.01	393	68	0.97
	2-Dec-08	17.5	7.09	420	--**	1.17
	7-Apr-09	15.1	7.04	338	-43.9	0.88
	1-Jul-09	16.4	7.17	418	59.8	1.20
	7-Oct-09	16.3	6.80	467	-58.3	0.19
	1-Apr-10	14.4	7.03	354	150	2.99
DEQ-4	28-Oct-04	14.8	7.10	355	137	2.99
	13-Jan-05	13.8	8.64	180	-270	3.39
	21-Apr-05	14.4	8.02	279	111	1.14
	19-Jul-05	15.9	8.38	290	166	0.52
	13-Oct-05	16.0	6.72	320	70	0.52
	21-Nov-05	14.4	8.01	435	147	11.83
	17-Jan-06	15.7	8.24	443	175	2.82
	10-Jul-06	15.4	7.51	834	69	10.50
	23-Jan-07	15.2	7.03	1,257	649	2.21
	29-Aug-07	19.5	7.30	630	591	-0.29
	1-Jul-09	16.4	7.11	1,187	-119	0.74
	1-Apr-10	15.0	7.09	1,196	-120	1.92
DEQ-5	28-Oct-04	15.2	6.90	370	100	2.01
	13-Jan-05	13.8	7.65	160	69	5.56
	21-Apr-05	14.5	7.81	140	120	1.56
	19-Jul-05	15.2	7.89	149	149	3.19
	13-Oct-05	16.0	7.16	151	74	2.63
	17-Jan-06	14.9	7.11	156	206	5.95
	10-Jul-06	14.8	7.09	219	175	5.87
	6-May-09	13.8	7.17	176	47.2	2.42
IN-5s	1-Apr-10	16.0	6.70	311	-60	1.66
Intermediate-Depth Wells						
EX-5i	29-Aug-07	20.0	7.51	98	121	-0.31
	3-Oct-07	16.0	7.7	330	30	--
	7-Nov-07	16.0	7.9	220	84	--
	6-Dec-07	15.9	8.04	212	-57	2.53
	9-Jan-08	10.3	7.96	140	-75.6	3.04

Please refer to notes on last page of table.

Table 5 - Groundwater Field Parameters
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	Temperature (°C)	pH	Electrical Conductivity (µMHOs)	Oxidative - Reductive Potential (mV)	Dissolved Oxygen (mg/L)
Intermediate-Depth Wells (cont.)						
EX-5i (cont.)	14-Feb-08	16.2	7.99	246	-74.9	0.21
	12-Mar-08	16.2	7.33	309	-38.3	0.29
	10-Apr-08	14.1	7.47	304	-14.7	2.99
	12-May-08	13.5	7.51	297	122.2	2.97
	5-Jun-08	15.8	8.52	320	-20.9	3.08
	9-Jul-08	17.6	7.26	354	-13.2	1.80
	6-Aug-08*	--	7.35	440	-245.9	0.24
	10-Sep-08	17.5	7.22	477	51.3	0.78
	6-Oct-08	17.0	7.45	379	29.7	3.35
	12-Nov-08	15.0	7.77	418	194.9	4.30
	2-Dec-08	14.1	7.15	461	--**	2.22
	1-Apr-10	16.9	7.23	328	-96	2.92
MW-7	8-Jul-08	19.2	7.30	272	145	0.62
	1-Jul-09	19.4	7.19	281	-51	0.96
MW-9	18-Jul-05	18.7	6.96	261	228	0.68
	13-Oct-05	17.1	6.92	244	101	1.84
	17-Jan-06	16.3	7.45	249	206	0.61
	11-Jul-06	17.7	7.42	307	123	0.67
	23-Jan-07	16.9	7.05	335	403	0.33
	29-Aug-07	20.5	7.42	90	57	1.25
	1-Jul-09	18.8	7.15	258	20	1.61
MW-11	25-Jun-03	16.0	7.44	339	178	0.18
	6-Jan-04	14.5	7.43	332	145	0.84
	13-Apr-04	15.5	7.28	343	169	0.40
	12-Oct-04	15.7	7.10	333	143	0.88
	14-Jan-05	13.5	7.66	275	150	8.01
	25-Feb-05	15.6	7.31	355	154	1.16
	21-Apr-05	15.6	7.27	360	66	0.26
	18-Jul-05	16.6	7.08	381	160	0.52
	8-Jul-08	18.0	7.23	388	104	0.82
	1-Jul-09	18.6	5.38	133	90	0.81
MW-14	24-Jun-03	17.4	7.31	207	270	1.39
	5-Jan-04	15.0	7.54	192	183	0.61
	12-Apr-04	17.0	7.18	201	147	0.51
	12-Oct-04	16.9	6.98	258	166	0.61
	14-Jan-05	11.9	7.45	171	172	6.61
	25-Feb-05	16.6	7.46	206	142	1.49
	20-Apr-05	17.3	7.42	213	77	0.31
	14-Oct-05	16.9	7.58	227	92	1.26
	16-Jan-06	16.4	7.43	232	201	0.68
	10-Jul-06	17.5	7.39	283	123	0.39
	22-Jan-07	16.3	7.02	313	459	0.56

Please refer to notes on last page of table.

Table 5 - Groundwater Field Parameters
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	Temperature (°C)	pH	Electrical Conductivity (µMHOs)	Oxidative - Reductive Potential (mV)	Dissolved Oxygen (mg/L)
Intermediate-Depth Wells (cont.)						
MW-14 (cont.)	30-Aug-07	19.1	7.34	87	399	-0.18
	8-Jul-08	17.7	7.20	229	167	0.68
	6-May-09	15.8	7.33	222	-16.3	1.24
	1-Jul-09	18.4	6.80	271	-15.7	1.03
	7-Oct-09	17.5	7.35	269	-115	0.42
	1-Apr-10	16.0	7.31	283	-68	3.65
MW-17 (EX-6i)	24-Jun-03	18.1	7.25	297	349	0.25
	5-Jan-04	15.5	7.50	206	212	0.69
	12-Apr-04	17.3	7.03	266	187	0.45
	12-Oct-04	17.5	7.18	305	175	0.64
	14-Jan-05	11.5	7.40	168	189	4.96
	25-Feb-05	16.9	7.42	244	167	1.02
	20-Apr-05	17.6	7.24	277	67	0.31
	18-Jul-05	19.1	7.09	298	208	0.52
	14-Oct-05	18.0	7.16	303	88	1.13
	16-Jan-06	16.5	7.45	290	206	0.44
	10-Jul-06	18.0	7.38	338	150	0.30
	23-Jan-07	17.3	6.98	368	390	0.30
	29-Aug-07	-	7.6	129	-23	-0.03
	3-Oct-07	17.0	7.9	320	42	--
	7-Nov-07	15.0	7.9	220	57	--
	6-Dec-07	16.5	8.20	229	89	3.50
	9-Jan-08	16.5	8.20	230	79	1.07
	14-Feb-08	16.3	8.17	235	-51	0.19
	12-Mar-08	16.4	7.51	301	-45	0.24
	10-Apr-08	13.8	7.55	298	-12	2.14
	12-May-08	13.7	7.57	315	122	2.41
	5-Jun-08	16.1	8.06	336	23	2.82
	9-Jul-08	18.5	7.47	351	-13	1.68
	6-Aug-08*	--	7.86	412	-132.6	0.11
	15-Aug-08*	--	7.90	420	-131	1.2
	5-Sep-08*	--	7.90	444	-213	1.6
	10-Sep-08	18.2	7.26	444	-44.3	1.16
	6-Oct-08	18.0	7.65	469	-9.7	2.00
	12-Nov-08	13.7	7.58	406	161.2	4.08
	2-Dec-08	13.1	7.62	396	--**	3.33
	10-Mar-09	16.9	7.73	430	-83	5.16
	1-Apr-10	17.4	6.60	2,003	-106	1.62
MW-21 (EX-4i)	24-Jun-03	17.8	7.23	246	257	2.75
	5-Jan-04	15.4	7.54	258	205	1.13
	12-Apr-04	17.1	7.31	252	163	0.39
	12-Oct-04	17.4	7.39	280	166	0.50
	14-Jan-05	11.3	7.59	149	179	4.60

Please refer to notes on last page of table.

Table 5 - Groundwater Field Parameters
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	Temperature (°C)	pH	Electrical Conductivity (µMHOs)	Oxidative - Reductive Potential (mV)	Dissolved Oxygen (mg/L)
Intermediate-Depth Wells (cont.)						
MW-21 (EX-4i) (cont.)	25-Feb-05	16.5	7.44	267	118	0.93
	20-Apr-05	17.5	7.42	277	57	0.31
	18-Jul-05	17.3	7.42	281	146	0.44
	14-Oct-05	16.6	7.36	279	94	1.34
	16-Jan-06	16.5	7.44	302	195	0.63
	11-Jul-06	17.2	7.40	338	123	0.88
	23-Jan-07	16.0	7.04	376	414	0.32
	29-Aug-07	--	7.60	122	31	0.04
	3-Oct-07	17.0	7.70	300	27	--
	7-Nov-07	13.0	7.80	260	97	--
	6-Dec-07	10.3	8.05	203	109	4.30
	9-Jan-08	13.7	8.12	235	132	3.10
	14-Feb-08	15.9	8.01	233	49	0.51
	12-Mar-08	16.2	7.36	279	111	0.40
	10-Apr-08	14.3	7.56	272	63	3.75
	12-May-08	16.5	7.53	279	111	3.33
	9-Jul-08	19.0	7.42	304	119	1.95
	15-Aug-08*	--	7.8	335	115	1.50
	5-Sep-08*	--	7.9	338	-103	1.40
	10-Sep-08	17.5	7.35	335	43	0.55
	2-Dec-08	15.0	7.7	290	--**	3.30
	18-Feb-09	15.2	7.91	400	117	--
	10-Mar-09	13.3	7.80	281	60	5.70
	7-Apr-09	16.5	7.56	290	-4	1.04
	6-May-09	15.8	7.65	277	15.2	2.30
	1-Jul-09	16.6	7.17	276	16.2	0.68
	7-Oct-09	16.8	6.52	579	-95.8	0.24
	1-Apr-10	15.1	6.72	1,309	-65	2.16
DEQ-1	25-Jun-03	16.1	7.08	329	142	0.20
	6-Jan-04	14.3	7.01	285	93	2.66
	13-Apr-04	15.5	6.94	298	164	0.70
	12-Oct-04	16.9	7.15	237	151	0.90
	13-Jan-05	13.5	7.52	204	141	5.79
	25-Feb-05	16.0	6.79	323	55	1.42
	20-Apr-05	16.4	6.70	331	8	0.43
	14-Oct-05	16.2	7.00	330	95	2.20
	16-Jan-06	15.9	6.72	339	193	1.40
	10-Jul-06	16.6	6.85	386	56	1.22
	22-Jan-07	16.1	6.41	451	498	0.94
	30-Aug-07	18.4	6.82	112	449	-0.11
	8-Jul-08	17.8	6.78	333	147	0.70
	1-Jul-09	17.9	3.81	204	175	1.00
	1-Apr-10	16.4	4.63	224	76	1.85

Please refer to notes on last page of table.

Table 5 - Groundwater Field Parameters
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	Temperature (°C)	pH	Electrical Conductivity (µMHOs)	Oxidative - Reductive Potential (mV)	Dissolved Oxygen (mg/L)
Intermediate-Depth Wells (cont.)						
IN-6i	1-Jul-09	18.6	6.27	1,024	-87	0.61
	1-Apr-10	16.3	6.48	634	-64	1.04
IN-7i	9-Jan-09	--	6.40	930	-86	--
	30-Jan-09	15.2	6.75	700	88	--
	1-Jul-09	19.8	6.58	609	-95	0.69
	1-Apr-10	16.6	6.83	422	-79	1.19
IN-8i	1-Jul-09	20.4	6.47	1,350	-106	0.62
	1-Apr-10	16.3	6.75	844	-92	1.48
Off-Site Investigation Wells						
DEQ-2	24-Jun-03	17.9	7.14	224	366	0.39
	5-Jan-04	15.8	7.26	218	205	2.57
	12-Apr-04	16.8	7.07	242	195	1.35
	12-Oct-04	16.5	7.06	241	190	1.06
	13-Jan-05	12.2	7.08	146	177	4.93
	20-Apr-05	17.0	7.26	215	3	1.72
	18-Jul-05	18.4	6.94	264	190	1.19
	14-Oct-05	18.5	7.26	251	85	1.63
	16-Jan-06	16.8	6.89	180	217	3.95
	10-Jul-06	17.6	6.83	254	163	1.52
	23-Jan-07	17.0	6.59	230	398	4.51
	30-Aug-07	20.3	6.96	73	416	-0.45
	8-Jul-08	16.2	6.67	149	93	2.01
	1-Jul-09	18.1	6.77	145	46	0.64
	1-Apr-10	17.3	6.66	153	-71	1.73
DEQ-3	24-Jun-03	15.9	7.67	143	303	6.68
	5-Jan-04	13.7	8.03	134	182	3.38
	12-Apr-04	14.9	7.04	137	190	0.46
	12-Oct-04	15.4	6.91	135	200	0.86
	13-Jan-05	14.7	7.05	146	205	1.70
	20-Apr-05	15.3	7.77	139	-16	0.41
	18-Jul-05	17.3	7.47	155	209	0.52
	14-Oct-05	15.4	7.37	148	69	0.87
	16-Jan-06	14.2	7.96	154	201	0.57
	11-Jul-06	15.9	7.92	194	158	0.76
	22-Jan-07	14.9	7.09	251	496	0.34
	30-Aug-07	18.3	7.5	57	384	-0.10
	8-Jul-08	17.3	7.76	157	117	0.62
	1-Jul-09	17.0	8.63	69	-10	7.31
Off-Site Domestic Wells						
1460 G Street	11-Jul-06	19.9	7.91	201	106	9.62
	1-Jul-09	21.7	7.73	257	39	5.65

Please refer to notes on last page of table.

Table 5 - Groundwater Field Parameters
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	Temperature (°C)	pH	Electrical Conductivity (µMHOs)	Oxidative - Reductive Potential (mV)	Dissolved Oxygen (mg/L)
Off-Site Domestic Wells (cont.)						
1441 M Street	11-Jul-06	14.9	7.42	382	78	4.01
	22-Jan-07	14.9	7.09	251	496	0.34
	1-Jul-09	16.5	7.95	395	25	4.71
1350 N Street	11-Jul-06	17.0	7.01	311	191	5.66
	1-Jul-09	20.2	7.86	300	32	4.05

Notes:
* = Field parameters collected by ETEC from sample ports for intermediate wells and at holding tank for shallow wells.
** = December 2008 Oxidative-Reductive Potential values not reported due to sensor malfunction.
Field parameters measured by hand-held meters in the field.
°C = degrees centigrade.
µMHOs = micro-ohms.
mV = millivolts.
mg/L = milligrams per liter.
-- = Data not collected.

Table 6 - Groundwater Chemical Results - VOCs in Shallow Wells
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	PCE	TCE	c-DCE	VC	Total CEs	Methane	Ethane	Ethene
		Concentration (ug/L)							
MW-1 (IN-4s)	4-Oct-99	140	6.4	2.8	--	149	--	--	--
	7-Feb-00	120	2.8	1.1	--	124	--	--	--
	2-May-00	160	4.8	2.1	--	167	--	--	--
	19-Apr-01	140	3.5	1.2	--	145	--	--	--
	18-Jul-01	79	3.3	1.4	--	84	--	--	--
	21-Aug-02	40	2.0	<1.0	--	42	--	--	--
	14-Jan-05	36	1.1	<1.0	<1.0	37	--	--	--
	21-Apr-05	30	<1.0	<1.0	--	30	--	--	--
	18-Jul-05	31	<1.0	<1.0	<1.0	31	--	--	--
	13-Oct-05	28	1.1	<1.0	--	29	--	--	--
	17-Jan-06	18	<1.0	<1.0	<1.0	18	--	--	--
	10-Jul-06	22	<1.0	<1.0	<1.0	22	--	--	--
	23-Jan-07	11	<1.0	<1.0	--	11	--	--	--
	29-Aug-07	14	<1.0	<1.0	<1.0	14	<1.2	<10	<10
	1-Apr-10	<1.0	<1.0	<1.0	<1.0 J	<1.0	7,700	<13	<13
MW-2	13-Oct-05	16	<1.0	<1.0	--	16	--	--	--
	16-Jan-06	11	<1.0	<1.0	<1.0	11	--	--	--
	10-Jul-06	11	<1.0	<1.0	<1.0	11	--	--	--
	22-Jan-07	3.0	<1.0	<1.0	--	3.0	--	--	--
	30-Aug-07	5.9	<1.0	<1.0	<1.0	5.9	--	--	--
	8-Jul-08	1.46	<0.5	2.4	<0.5	3.9	--	--	--
	1-Jul-09	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--
MW-3 (EX-2s)	4-Oct-99	620	11.0	<1.0	--	631	--	--	--
	7-Feb-00	420	1.9	<1.0	--	422	--	--	--
	2-May-00	570	3.4	<1.0	--	573	--	--	--
	19-Apr-01	420	2.5	<1.0	--	423	--	--	--
	18-Jul-01	610	<10	<10	--	610	--	--	--
	22-Aug-02	690	9.0	<1.0	--	699	--	--	--
	24-Jun-03	380	2.9	<1.0	--	383	--	--	--
	5-Jan-04	330	2.6	<1.0	--	333	--	--	--
	12-Apr-04	302	2.3	<2.0	--	304	--	--	--
	12-Oct-04	310	2.3	<1.0	<1.0	312	--	--	--
	14-Jan-05	290	2.3	<1.0	<1.0	292	--	--	--
	21-Apr-05	320	2.8	<1.0	--	323	--	--	--
	13-Oct-05	380	<1.0	<1.0	--	380	--	--	--
	21-Nov-05	300	2.7	<1.0	--	303	--	--	--
	16-Jan-06	350	<10	<10	<10	350	--	--	--
	10-Jul-06	260	<10	<10	<10	260	--	--	--
	22-Jan-07	290	<10	<10	--	290	--	--	--
	29-Aug-07	246	2.18	<2.0	<2.0	248	<1.2	<10	<10
	3-Oct-07	227	3.16	<2.0	<2.0	230	--	--	--
	7-Nov-07	204	<2.5	<2.5	<2.5	204	--	--	--
	6-Dec-07	255	3.80	<2.5	<2.5	259	--	--	--
	9-Jan-08	267	<5.0	<5.0	<5.0	267	--	--	--
	14-Feb-08	664	11.8	<2.5	<2.5	676	--	--	--
	12-Mar-08	602	<20	<20	<20	602	11	<0.5	<0.5
	10-Apr-08	584	<20	<20	<20	584	32 J	<0.5	<0.5 J

Please refer to notes on last page of table.

Table 6 - Groundwater Chemical Results - VOCs in Shallow Wells
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	PCE	TCE	c-DCE	VC	Total CEs	Methane	Ethane	Ethene
		Concentration (ug/L)							
MW-3 (EX-2s) (cont.)	12-May-08	593	16.0	10.8	<2.5	620	--	--	--
	9-Jul-08	494	13.8	13.2	<10	521	--	--	--
	10-Sep-08	310	<5.00	<5.00	<5.00	310	6,200	<0.5	<0.5
	2-Dec-08	428	13.2	18	<2.50	459	14,700	<0.5	<0.5
	7-Apr-09	<5.00	<5.00	<5.00	7.25	7.3	16,200 J	<0.5	<0.5 J
	1-Apr-10	<1.0	<1.0	<1.0	<1.0 J	<1.0	8,400	15	<13
MW-4	7-Feb-00	19	<1.0	<1.0	--	19	--	--	--
	2-May-00	19	<1.0	<1.0	--	19	--	--	--
	19-Apr-01	8.5	<1.0	<1.0	--	8.5	--	--	--
	18-Jul-01	15	<0.5	<0.5	--	15	--	--	--
	24-Jun-03	10	<1.0	<1.0	--	10	--	--	--
	5-Jan-04	3.9	<1.0	<1.0	--	3.9	--	--	--
	12-Apr-04	9	<1.0	<1.0	--	9.0	--	--	--
	12-Oct-04	3.7	<1.0	<1.0	<1.0	3.7	--	--	--
	25-Feb-05	8.4	<1.0	<1.0	--	8.4	--	--	--
	20-Apr-05	7.7	<1.0	<1.0	--	7.7	--	--	--
	13-Oct-05	< 5.0	<1.0	<1.0	--	< 5.0	--	--	--
	21-Nov-05	1.8	<1.0	<1.0	--	1.8	--	--	--
	16-Jan-06	3.1	<1.0	<1.0	<1.0	3.1	--	--	--
	10-Jul-06	3.3	<1.0	<1.0	<1.0	3.3	--	--	--
	23-Jan-07	3.2	<1.0	<1.0	--	3.2	--	--	--
	30-Aug-07	1.78	<1.0	<1.0	<1.0	1.8	--	--	--
	8-Jul-08	2.63	<0.5	<0.5	<0.5	2.6	--	--	--
	1-Jul-09	6.5	<1.0	<1.0	<1.0	6.5	--	--	--
	4-Apr-10	12	<1.0	<1.0	<1.0 J	12	--	--	--
MW-5	7-Feb-00	3.0	<1.0	<1.0	--	3.0	--	--	--
	2-May-00	3.2	<1.0	<1.0	--	3.2	--	--	--
	19-Apr-01	<1.0	<1.0	<1.0	--	<1.0	--	--	--
	18-Jul-01	8.6	<0.5	<0.5	--	8.6	--	--	--
	21-Aug-02	<1.0	9.4	<1.0	--	9.4	--	--	--
	24-Jun-03	<1.0	<1.0	<1.0	--	<1.0	--	--	--
	5-Jan-04	<1.0	<1.0	<1.0	--	<1.0	--	--	--
	12-Apr-04	<1.0	<1.0	<1.0	--	<1.0	--	--	--
	12-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--
	25-Feb-05	2.2	<1.0	<1.0	<1.0	2.2	--	--	--
	20-Apr-05	1.6	<1.0	<1.0	--	1.6	--	--	--
	8-Jul-08	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	1-Jul-09	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--
MW-6	18-Jul-01	9.9	<0.5	<0.5	--	9.9	--	--	--
	21-Aug-02	<1.0	<1.0	<1.0	--	<1.0	--	--	--
	8-Jul-08	0.89	<0.5	<0.5	<0.5	0.89	--	--	--
	1-Jul-09	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--
MW-10	18-Jul-01	65	2.0	<1.0	--	67	--	--	--
	21-Aug-02	16	3.5	1.2	--	21	--	--	--
	24-Jun-03	<1.0	<1.0	<1.0	--	<1.0	--	--	--
	6-Jan-04	2.7	<1.0	<1.0	--	2.7	--	--	--

Please refer to notes on last page of table.

Table 6 - Groundwater Chemical Results - VOCs in Shallow Wells
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	PCE	TCE	c-DCE	VC	Total CEs	Methane	Ethane	Ethene
		Concentration (ug/L)							
MW-10 (cont.)	12-Apr-04	<1.0	<1.0	<1.0	--	<1.0	--	--	--
	12-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--
	25-Feb-05	2.5	1.2	<1.0	<1.0	3.7	--	--	--
	21-Apr-05	2.2	1.1	<1.0	--	3.3	--	--	--
	13-Oct-05	2.2	1.2	<1.0	--	3.4	--	--	--
	16-Jan-06	2.2	1.2	<1.0	<1.0	3.4	--	--	--
	10-Jul-06	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--
	22-Jan-07	<1.0	<1.0	<1.0	--	<1.0	--	--	--
	30-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--
	8-Jul-08	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	1-Jul-09	<1.0	<1.0	<1.0	<1.0	0.0	--	--	--
MW-12	18-Jul-01	<1.0	<1.0	<1.0	--	<1.0	--	--	--
	21-Aug-02	<1.0	<1.0	<1.0	--	<1.0	--	--	--
	8-Jul-08	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	1-Jul-09	<1.0	<1.0	<1.0	<1.0	0.0	--	--	--
MW-16 (EX-3s)	18-Jul-01	1,500	31.0	<25	--	1,531	--	--	--
	24-Jun-03	1,100	38.0	8.1	--	1,146	--	--	--
	5-Jan-04	1,800	42.0	10	--	1,852	--	--	--
	12-Apr-04	1,250	39.7	<10	--	1,290	--	--	--
	12-Oct-04	1,200	48.0	5.9	<1.0	1,254	--	--	--
	14-Jan-05	1,500	47.0	6.8	<1.0	1,554	--	--	--
	21-Apr-05	1,300	44.0	<10	--	1,344	--	--	--
	18-Jul-05	1,100	49.0	<10	<10	1,149	--	--	--
	13-Oct-05	1,500	71.0	8.1	--	1,579	--	--	--
	16-Jan-06	1,500	<100	<100	<100	1,500	--	--	--
	10-Jul-06	1,200	<100	<100	<100	1,200	--	--	--
	23-Jan-07	1,500	56.0	<50	--	1,556	--	--	--
	29-Aug-07	814	64.1	14.8	<10	893	<1.2	<10	<10
	3-Oct-07	637	20.5	6.5	<5	664	--	--	--
	7-Nov-07	793	17.0	<10	<10	810	--	--	--
	6-Dec-07	782	16.6	<5.0	<5.0	799	--	--	--
	9-Jan-08	767	15.0	<5.0	<5.0	782	--	--	--
	14-Feb-08	743	18.2	7.65	<2.5	769	--	--	--
	12-Mar-08	972	<20	<20	<20	972	1.6	<0.5	<0.5
	10-Apr-08	647	<20	<20	<20	647	3.9 J	<0.5	<0.5
	12-May-08	588	16.2	<10	<10	604	--	--	--
	9-Jul-08	487	12.0	21.0	<10	520	--	--	--
	10-Sep-08	626	27.8	39.2	<10	693	2,500	<0.5	0.35 J
	2-Dec-08	492	16.2	25.3	10.7	544	9,430	<0.5	<0.5
	7-Apr-09	41.2	10.5	104	65.9	222	5,890 J	13.8	<0.5 J
	1-Jul-09	33	14	150	52	249	880	<52	<52
	7-Oct-09	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--
	1-Apr-10	<1.0	<1.0	<1.0	3.3 J	3.3	7,000	<13	<13
MW-22 (EX-1s)	18-Jul-01	1,300	<25	<25	--	1,300	--	--	--
	24-Jun-03	300	1.2	<1.0	--	301	--	--	--
	5-Jan-04	420	2.1	<1.0	--	422	--	--	--
	12-Apr-04	364	<5.0	<5.0	--	364	--	--	--

Please refer to notes on last page of table.

Table 6 - Groundwater Chemical Results - VOCs in Shallow Wells
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	PCE	TCE	c-DCE	VC	Total CEs	Methane	Ethane	Ethene
		Concentration (ug/L)							
MW-22 (EX-1s) (cont.)	12-Oct-04	240	<1.0	<1.0	<1.0	240	--	--	--
	13-Jan-05	260	1.2	<1.0	<1.0	261	--	--	--
	21-Apr-05	230	1.0	<1.0	--	231	--	--	--
	18-Jul-05	160	<5.0	<5.0	<5.0	160	--	--	--
	13-Oct-05	250	1.1	<1.0	--	251	--	--	--
	21-Nov-05	92	<1.0	<1.0	--	92	--	--	--
	17-Jan-06	450	<10	<10	<10	450	--	--	--
	11-Jul-06	140	<10	<10	<10	140	--	--	--
	23-Jan-07	360	<10	<10	--	360	--	--	--
	29-Aug-07	139	<1.0	<1.0	<1.0	139	<1.2	<10	<10
	3-Oct-07	77	<1.0	<1.0	<1.0	77	--	--	--
	7-Nov-07	167	1.08	<1.0	<1.0	168	--	--	--
	6-Dec-07	239	<2.5	<2.5	<2.5	239	--	--	--
	9-Jan-08	509	<5.0	<5.0	<5.0	509	--	--	--
	14-Feb-08	1,130	5.20	<5.0	<5.0	1,135	--	--	--
	12-Mar-08	1,150	<20	<20	<20	1,150	0.25 J	<0.5	<0.5
	10-Apr-08	1,300	<50	<50	<50	1,300	0.24 J	<0.5	<0.5
	12-May-08	1,240	13.3	10.2	<1.0	1,264	--	--	--
	9-Jul-08	747	20.8	37.6	<10.0	805	--	--	--
	10-Sep-08	813	18.4	70.6	<10.0	902	2,800	<0.5	<0.5
	2-Dec-08	493	13.6	80.4	<5.0	587	10,800	<0.5	<0.5
	7-Apr-09	143	584	378	<10	1,105	12,000 J	<0.5	<0.5 J
	1-Jul-09	460	56	220	1.60	738	4,100	<130	<130
	7-Oct-09	270	34	40	<1.0	344	--	--	--
	1-Apr-10	580	29	66	3.1 J	678	3,200	<13	<13
IN-5s	1-Apr-10	<1.0	<1.0	<1.0	<1.0 J	<1.0	5,600	<13	<13
DEQ-4	28-Oct-04 *	7,800	43.0	<1.0	<1.0	7,843	--	--	--
	13-Jan-05 *	4,500	26.0	<1.0	<1.0	4,526	--	--	--
	21-Apr-05	3,300	<25.0	<25.0	--	3,300	--	--	--
	19-Jul-05	3,100	<20.0	<20.0	--	3,100	--	--	--
	13-Oct-05 *	1,600	13.0	<1.0	--	1,613	--	--	--
	21-Nov-05 *	5,200	10.0	<1.0	--	5,210	--	--	--
	17-Jan-06	5,700	<100	<100	<100	5,700	--	--	--
	11-Jul-06	780	<200	<200	<200	780	--	--	--
	23-Jan-07	<1.0	<1.0	<1.0	--	<1.0	--	--	--
	29-Aug-07	<10.0	<10.0	<10.0	<10	<10.0	1.38	<10	<10
	1-Jul-09	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--
	1-Apr-10	<1.0	<1.0	<1.0	<1.0 J	<1.0	6,200	<13	<13
DEQ-5	28-Oct-04 *	170	1.0	<1.0	<1.0	171	--	--	--
	13-Jan-05	190	1.2	<1.0	<1.0	191	--	--	--
	21-Apr-05	100	1.9	1.5	--	103	--	--	--
	19-Jul-05	140	<1.0	<1.0	--	140	--	--	--
	13-Oct-05 **	150	1.0	<1.0	--	154	--	--	--
	17-Jan-06	210	<10	<10	<10	210	--	--	--
	11-Jul-06	130	<10	<10	<10	130	--	--	--
	6-May-09	104	<10	<10	<10	104	44.7	<0.5	<0.5

Please refer to notes on last page of table.

Table 6 - Groundwater Chemical Results - VOCs in Shallow Wells
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Notes:
Chlorinated Volatile Organic Compounds per EPA Method 8260B.
Ethene, Ethane, and Methane by GC/FID headspace method.
µg/L = micrograms per liter.
ppb = parts per billion.
PCE = Tetrachloroethene.
TCE = Trichloroethene.
c-DCE = *cis*-1,2-Dichloroethene.
VC = Vinyl Chloride.
CE= Chlorinated ethenes.
Shaded values represent detected concentrations of listed analyte.
* = Chloroform detected in sample.
** = Chloroform and 4-Isopropyltoluene detected in sample.
-- = Not analyzed.
J = Estimated value.
< = Concentration less than the posted method reporting limit.

Table 7 - Groundwater Chemical Results - VOCs in Intermediate Wells
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	PCE	TCE	c-DCE	VC	Total CEs	Methane	Ethane	Ethene
		Concentration (ug/L)							
EX-5i	29-Aug-07	31.2	1.0	<1.0	<1.0	32	<1.2	<10	<10
	3-Oct-07	296	67.6	24.1	< 10	388	--	--	--
	7-Nov-07	324	25.4	29.2	<2.5	379	--	--	--
	6-Dec-07	302	28.2	49.2	<2.5	379	--	--	--
	9-Jan-08	255	46	30.8	<5.9	332	--	--	--
	14-Feb-08	364	19.7	66.0	<2.5	450	--	--	--
	12-Mar-08	210	75.1	76.2	15.4	377	2,400	<0.5	<0.5
	10-Apr-08	4.60	104	207	46.7	362	3,700 J	<0.5	<0.5
	12-May-08	233	26.2	50.5	24.2	334	3,600	<0.5	0.87
	5-Jun-08	276	19.3	35.4	21.6	352	3,300	<0.5	<0.5
	9-Jul-08	231	31.2	37.9	33.1	333	--	--	--
	6-Aug-08	68.6	83.4 J	102	33.9	205	--	--	--
	10-Sep-08	201	83.4	77.8	38.0	400	9,400	<0.5	4.5
	6-Oct-08	128	37.8	63.0	17.1	246	--	--	--
	12-Nov-08	<0.5	<0.5	20.6	10.0	31	--	--	--
	2-Dec-08	<0.5	<0.5	4.00	5.13	9.13	9,420	<0.5	85.5
	1-Apr-10	<1.0	<1.0	<1.0	<1.0 J	<1.0	6,500	<13	<13
IN-6i	1-Jul-09	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--
	1-Apr-10	<1.0	<1.0	<1.0	<1.0	<1.0	5,500	<13	<13
IN-7i	1-Jul-09	<1.0	<1.0	2.4	<1.0	2.4	--	--	--
	1-Apr-10	<1.0	<1.0	1.4	2.1	3.5	4,300	<13	<13
IN-8i	1-Jul-09	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--
	1-Apr-10	<1.0	<1.0	<1.0	<1.0	<1.0	7,000	<13	<13
MW-7	18-Jul-01	83	2.9	1.7	--	88	--	--	--
	21-Aug-02	63	2.3	1.2	--	67	--	--	--
	8-Jul-08	38.2	0.96	1.41	1.12	41.7	--	--	--
	1-Jul-09	36	1.2	6.1	<1.0	43.3	--	--	--
MW-9	18-Jul-01	49	2.1	1.1	--	52	--	--	--
	22-Aug-02	24	1.9	1.0	--	27	--	--	--
	18-Jul-05	12	<1.0	<1.0	<1.0	12	--	--	--
	13-Oct-05	13	100	<1.0	--	113	--	--	--
	17-Jan-06	12	1.1	<1.0	<1.0	13	--	--	--
	11-Jul-06	11	1.1	<1.0	<1.0	12	--	--	--
	23-Jan-07	9.2	<1.0	<1.0	--	9.2	--	--	--
	29-Aug-07	6.53	1.16	<1.0	<1.0	7.7	<1.2	<10	<10
	1-Jul-09	6.4	<1.0	<1.0	<1.0	6.4	--	--	--
MW-11	18-Jul-01	77.0	2.5	< 0.5	--	80	--	--	--
	21-Aug-02	66.0	2.2	<1.0	--	68	--	--	--
	24-Jun-03	100	2.1	<1.0	--	102	--	--	--
	6-Jan-04	110	1.9	<1.0	--	112	--	--	--
	12-Apr-04	125	1.9	<1.0	--	127	--	--	--
	12-Oct-04	32	1.1	<1.0	<1.0	33	--	--	--
	25-Feb-05	150	2.2	<1.0	<1.0	152	--	--	--
	21-Apr-05	140	1.9	<1.0	--	142	--	--	--
	18-Jul-05	120	1.8	<1.0	<1.0	122	--	--	--

Please refer to notes on last page of table.

Table 7 - Groundwater Chemical Results - VOCs in Intermediate Wells
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	PCE	TCE	c-DCE	VC	Total CEs	Methane	Ethane	Ethene
		Concentration (ug/L)							
MW-11 (cont.)	8-Jul-08	117	1.55	<0.5	<0.5	119	--	--	--
	1-Jul-09	5.4	9.7	<1.0	<1.0	15.1	--	--	--
MW-14	18-Jul-01	1,200	9.5	< 2.5	--	1210	--	--	--
	22-Aug-02	800	7.2	1.0	--	808	--	--	--
	24-Jun-03	720	2.1	1.0	--	723	--	--	--
	5-Jan-04	760	9.4	1.1	--	771	--	--	--
	12-Apr-04	781	7.5	<5.0	--	788	--	--	--
	12-Oct-04	690	7.4	<1.0	<1.0	697	--	--	--
	25-Feb-05	930	7.6	<1.0	<1.0	938	--	--	--
	20-Apr-05	770	<10	<10	--	770	--	--	--
	13-Oct-05	780	7.80	<1.0	--	1568	--	--	--
	16-Jan-06	950	<50	<50	<50	950	--	--	--
	10-Jul-06	720	<50	<50	<50	720	--	--	--
	22-Jan-07	720	<50	<50	--	720	--	--	--
	30-Aug-07	745	<10	<10	<10	745	--	--	--
	8-Jul-08	567	<10	<10	<10	567	--	--	--
	6-May-09	<10	<10	<10	269	269	--	--	--
	1-Jul-09	<1.0	<1.0	350	12	362	460	<13	<13
	7-Oct-09	230	160	87	37	514	--	--	--
	1-Apr-10	47	31	160	98	336	5,600	<13	<13
MW-17 (EX-6i)	18-Jul-01	1,200	11.0	<0.5	--	1211.0	--	--	--
	22-Aug-02	490	7.7	2.1	--	499.8	--	--	--
	24-Jun-03	350	6.2	2.4	--	358.6	--	--	--
	5-Jan-04	660	12.0	4.1	--	676.1	--	--	--
	12-Apr-04	335	6.7	2.6	--	344.3	--	--	--
	12-Oct-04	680	12.0	4.0	<1.0	696.0	--	--	--
	25-Feb-05	470	7.8	2.8	<1.0	480.6	--	--	--
	20-Apr-05	270	<10	<10	--	270.0	--	--	--
	18-Jul-05	260	5.5	<5.0	<5.0	265.5	--	--	--
	13-Oct-05	230	4.9	1.6	--	236.5	--	--	--
	16-Jan-06	250	<10	<10	<10	250	--	--	--
	10-Jul-06	230	<10	<10	<10	230	--	--	--
	23-Jan-07	200	<10	<10	--	200.0	--	--	--
	29-Aug-07	146	3.5	<1.0	<1.0	149.5	<1.2	<10	<10
	3-Oct-07	276	4.4	<2.0	<2.0	280	--	--	--
	7-Nov-07	211	6.9	<2.5	<2.5	218	--	--	--
	6-Dec-07	211	8.76	3.74	<1.0	224	--	--	--
	9-Jan-08	108	19.5	5.00	<5.0	133	--	--	--
	14-Feb-08	228	12.7	20.0	<1.0	261	--	--	--
	12-Mar-08	237	12.2	29.6	<5.0	279	2,300	<0.5	<0.5
	10-Apr-08	219	16.8	35.2	<10	271	2,100 J	<0.5	<0.5
	12-May-08	203	14.0	40.0	9.50	267	2,700	<0.5	<0.5
	5-Jun-08	198	11.4	37.2	10.2	257	3,100	<0.5	<0.5
	9-Jul-08	179	10.7	40.0	12.6	242	--	--	--
	6-Aug-08	222	35.0 J	47.2	13.0	282	--	--	--
	10-Sep-08	95.0	34.8	58.8	14.4	203	5,100	<0.5	0.45 J
	6-Oct-08	40.1	9.58	73.9	35.2	159	--	--	--

Please refer to notes on last page of table.

Table 7 - Groundwater Chemical Results - VOCs in Intermediate Wells
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	PCE	TCE	c-DCE	VC	Total CEs	Methane	Ethane	Ethene
		Concentration (ug/L)							
MW-17 (EX-6i) (cont.)	12-Nov-08	<5.0	10.2	528	25.2	563	--	--	--
	2-Dec-08	87.3	67.8	56.3	16.9	228	8,000	<0.5	1.56
	10-Mar-09	66.7	31.4	74.8	22.3	195	--	--	--
	1-Apr-10	<1.0	<1.0	<1.0	<1.0 J	<1.0	3,200	<13	<13
MW-21 (EX-4i)	18-Jul-01	2,000	17.0	1.1	--	2018	--	--	--
	22-Aug-02	1,100	11.0	1.1	--	1112.1	--	--	--
	24-Jun-03	860	9.0	1.0	--	870.0	--	--	--
	5-Jan-04	680	7.9	1.0	--	688.9	--	--	--
	12-Apr-04	701	7.7	<5.0	--	708.7	--	--	--
	12-Oct-04	1,600	15.0	1.3	<1.0	1616.3	--	--	--
	25-Feb-05	890	8.7	<1.0	<1.0	898.7	--	--	--
	20-Apr-05	790	<10.0	<10.0	--	790.0	--	--	--
	18-Jul-05	770	<10.0	<10.0	<5.0	770.0	--	--	--
	13-Oct-05	870	9.6	<1.0	--	880.0	--	--	--
	16-Jan-06	770	<50	<50	<50	770.0	--	--	--
	11-Jul-06	730	<50	<50	<50	730.0	--	--	--
	23-Jan-07	600	<50	<50	--	600.0	--	--	--
	29-Aug-07	604	7.0	<5.0	<5.0	611.0	<1.2	<10	<10
	3-Oct-07	913	10.6	<10.0	<10.0	924	--	--	--
	7-Nov-07	501	5.30	<5.0	<5.0	506	--	--	--
	6-Dec-07	852	9.70	<5.0	<5.0	862	--	--	--
	9-Jan-08	519	8.25	<5.0	<5.0	527	--	--	--
	14-Feb-08	473	7.40	7.65	<2.5	488	--	--	--
	12-Mar-08	455	<20	<20	<20	455	290	<0.5	<0.5
	10-Apr-08	519	10.3	<10	<10	529	460 J	<0.5	<0.5
	12-May-08	483	7.40	6.70	<5.0	497	--	--	--
	9-Jul-08	413	<10	<10	<10	413	--	--	--
	10-Sep-08	368	10.1	23.2	5.80	407	1,800	<0.5	0.59
	2-Dec-08	313	10.5	13.4	4.30	341	2,170	<0.5	<0.5
	18-Feb-09	335	10.0	13.7	<5.0	359	--	--	--
	10-Mar-09	374	10.8	16.5	5.00	406	--	--	--
	7-Apr-09	347	12.0	14.1	<10	373.1	3,440 J	<0.5	<0.5 J
	6-May-09	282	11.9	14.8	<10	308.7	--	--	--
	1-Jul-09	21	7.3	1,200	48	1,276	--	--	--
	7-Oct-09	<1.0	<1.0	24	100	124	--	--	--
	1-Apr-10	<1.0	<1.0	<1.0	1.8 J	1.8	7,100	<13	<13
DEQ-1	22-Aug-02	150	2.1	<1.0	--	152	--	--	--
	24-Jun-03	140	1.6	<1.0	--	142	--	--	--
	6-Jan-04	85	1.1	<1.0	--	86	--	--	--
	12-Apr-04	119	1.2	<1.0	--	120	--	--	--
	12-Oct-04	25	<1.0	<1.0	<1.0	25	--	--	--
	25-Feb-05	150	1.4	<1.0	<1.0	151	--	--	--
	20-Apr-05	110	1.2	<1.0	--	111	--	--	--
	13-Oct-05	130	1.5	<1.0	--	132	--	--	--
	16-Jan-06	110	<10	<10	<10	110	--	--	--
	10-Jul-06	140	<10	<10	<10	140	--	--	--
	22-Jan-07	92	<10	<10	--	92	--	--	--

Please refer to notes on last page of table.

Table 7 - Groundwater Chemical Results - VOCs in Intermediate Wells
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	PCE	TCE	c-DCE	VC	Total CEs	Methane	Ethane	Ethene
		Concentration (ug/L)							
DEQ-1 (cont.)	30-Aug-07	128	1.2	<1.0	<1.0	129	--	--	--
	8-Jul-08	146	1.38	1.91	<0.5	149	--	--	--
	1-Jul-09	4.8	<1.0	12	<1.0	17	--	--	--
	1-Apr-10	8.2	<1.0	34	<1.0	42	--	--	--

Notes:
Volatile Organic Compounds per EPA Method 8260B.
Ethene, Ethane, and Methane by GC/FID headspace method.
µg/L = micrograms per liter.
PCE = Tetrachloroethene.
TCE = Trichloroethene.
c-DCE = *cis*-1,2-Dichloroethene.
VC = Vinyl Chloride
CE = Chlorinated ethenes.
Shaded values represent detected concentrations of listed analyte.
-- = Not analyzed.
J = Estimated value.
< = Concentration less than the posted method reporting limit.

Table 8 - Groundwater Chemical Results - VOCs in Off-Site Wells
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	PCE	TCE	c-DCE	VC	Total CEs	MTBE
		Concentration (ug/L)					
Off-Site Investigation Wells							
DEQ-2	22-Aug-02	1,100	10.0	1.6	--	1,112	--
	24-Jun-03	690	8.0	1.6	--	700	--
	5-Jan-04	520	7.6	1.3	--	529	--
	12-Apr-04	478	6.3	<5.0	--	484	--
	12-Oct-04	420	<1.0	<1.0	<1.0	420	--
	13-Jan-05	190	2.6	<1.0	<1.0	193	--
	20-Apr-05	380	5.3	1.1	--	386	--
	18-Jul-05	350	<10	<10	<10	350	--
	13-Oct-05	350	6.5	1.2	--	358	--
	16-Jan-06	150	<10	<10	<10	150	--
	10-Jul-06	100	<10	<10	<10	100	--
	23-Jan-07	79	<10	<10	--	79	--
	30-Aug-07	164	4.1	1.1	<1.0	169	--
	9-Jul-08	42.3	1.62	1.48	<2.0	45	<2.0
	1-Jul-09	<1.0	1.3	2.1	<1.0	3.4	--
	1-Apr-10	<1.0	<1.0	4.2	2.6 J	6.8	<1.0
DEQ-3	22-Aug-02	<1.0	<1.0	<1.0	--	0	--
	24-Jun-03	<1.0	<1.0	<1.0	--	0	--
	5-Jan-04	<1.0	<1.0	<1.0	--	0	--
	12-Apr-04	<1.0	<1.0	<1.0	--	0	--
	12-Oct-04	<1.0	<1.0	<1.0	<1.0	0	--
	13-Jan-05	<1.0	<1.0	<1.0	<1.0	0	--
	20-Apr-05	<1.0	<1.0	<1.0	--	0	--
	18-Jul-05	<1.0	<1.0	<1.0	<1.0	0	--
	13-Oct-05	<1.0	<1.0	<1.0	--	0	--
	16-Jan-06	<1.0	<1.0	<1.0	<1.0	0	--
	11-Jul-06	<1.0	<1.0	<1.0	<1.0	0	--
	22-Jan-07	<1.0	<1.0	<1.0	--	0	--
	30-Aug-07	<1.0	<1.0	<1.0	<1.0	0	--
	8-Jul-08	<0.5	<0.5	<0.5	<0.5	0	<1.0
	1-Jul-09	<1.0	<1.0	<1.0	<1.0	0	--
Off-Site Domestic Wells							
1460 G Street	6-Nov-03	6.7	<1.0	--	--	6.7	<1.0
	11-Jul-06	6.3	<1.0	<1.0	<1.0	6.3	<1.0
	22-Jan-07	3.7	<1.0	<1.0	--	3.7	<1.0
	30-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1-Jul-09	2.6	<1.0	<1.0	<1.0	2.6	<1.0
1441 M Street	7-Nov-03	9.1	1.5	--	--	10.6	110
	11-Jul-06 *	11	1.5	<1.0	<1.0	12.5	79
	22-Jan-07 *	9.1	1.1	<1.0	--	10.2	62
	29-Aug-07	8.5	1.20	<1.0	<1.0	9.7	62.4
	8-Jul-08	6.73	0.98	<0.5	<0.5	7.71	56.3
	1-Jul-09	5.7	<1.0	<1.0	<1.0	5.7	45

Please refer to notes on last page of table.

Table 8 - Groundwater Chemical Results - VOCs in Off-Site Wells
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	PCE	TCE	c-DCE	VC	Total CEs	MTBE
		Concentration (ug/L)					
1350 N Street	6-Nov-03	6.2	<1.0	--	--	6.2	1.0
	11-Jul-06 *	22.0	<1.0	<1.0	<1.0	22.0	6.0
	22-Jan-07 *	26.0	<1.0	<1.0	--	26.0	9.4
	29-Aug-07	1.40	<1.0	<1.0	<1.0	1.4	<1.0
	8-Jul-08	23.2	0.84	0.92	0.85	25.8	10.9
	1-Jul-09	34	1.2	<1.0	<1.0	35.2	18

Notes:
VOCs = Volatile Organic Compounds per EPA Method 8260B.
µg/L = micrograms per liter.
PCE = Tetrachloroethene.
TCE = Trichloroethene.
c-DCE = *cis*-1,2-Dichloroethene.
VC = Vinyl chloride.
CE = Chlorinated Ethenes
MTBE = Methyl tert-butyl ether
* = Chloroform detected in sample.
-- = Not analyzed.

Table 9 - Groundwater Chemical Results - Degradation Parameters
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	Total Organic Carbon (mg/L)	Competing Electron Acceptors (mg/L)					
			Total Manganese	Dissolved Manganese	Total Iron	Dissolved Iron	Nitrate	Sulfate
Shallow-Depth Wells								
MW-1 (IN-4s)	14-Jan-05	<0.8	0.52	0.60	1.6	0.62	2.51	8.04
	21-Apr-05	<0.8	0.39	0.0068	0.3	<0.028	2.50	--
	18-Jul-05	--	0.10	0.022	0.084	1.2	2.40	8.00
	13-Oct-05	--	--	0.0080	<0.1	--	2.10	9.80
	17-Jan-06	--	<0.00020	0.19	<0.1	<0.2	2.44	9.75
	11-Jul-06	--	0.13	0.0054	0.16	<0.1	1.98	9.78
	23-Jan-07	--	0.060	<0.005	0.06	<0.1	2.20	9.23
	29-Aug-07	<1.0	0.100	0.0086	0.30	<0.01	1.67 H	9.40
	1-Apr-10	6.8	--	--	--	--	<0.10	<5.0
MW-2	1-Jul-09	2.2	--	--	--	--	0.79	7.40
MW-3 (EX-2s)	14-Jan-05	<0.8	0.32	0.030	0.050	0.068	6.22	5.12
	21-Apr-05	<0.8	2.0	0.016	1.0	<0.028	8.00	--
	29-Aug-07	<1.0	--	--	--	--	7.13	5.66
	3-Oct-07	<1.0	--	--	--	--	6.68	5.83
	7-Nov-07	<1.0	--	--	--	--	6.99	5.84
	6-Dec-07	<1.0	--	--	--	--	6.09	6.05
	9-Jan-08	<1.0	--	--	--	--	6.58	6.28
	14-Feb-08	<1.0	--	--	--	--	2.90 H	5.77
	12-Mar-08	<1.0	--	--	--	--	2.71	5.68
	10-Apr-08	<1.0	--	--	--	--	2.39	5.67
	12-May-08	<1.0	--	--	--	--	2.17	5.65
	9-Jul-08	<1.0	--	--	--	--	2.48	5.47
	10-Sep-08	8.96	--	--	--	--	4.94	5.47
	2-Dec-08	0.28 J	--	--	--	--	2.45	5.47
	7-Apr-09	117	--	--	--	--	--	--
	1-Apr-10	9.7	--	--	--	--	<0.10	<5.0
MW-12	1-Jul-09	<1.0	--	--	--	--	1.6	<5.0
MW-16 (EX-3s)	14-Jan-05	0.8	4.0	0.27	0.94	0.15	0.361	7.57
	21-Apr-05	<0.8	2.0	0.12	0.086	<0.028	0.50	--
	29-Aug-07	<1.0	--	--	--	--	0.33	7.92
	3-Oct-07	<1.0	--	--	--	--	0.99	7.95
	7-Nov-07	<1.0	--	--	--	--	0.81	8.07
	6-Dec-07	<1.0	--	--	--	--	0.85	7.87
	9-Jan-08	<1.0	--	--	--	--	0.79	7.89
	14-Feb-08	<1.0	--	--	--	--	2.387 H	7.52
	12-Mar-08	<1.0	--	--	--	--	0.85	7.64
	10-Apr-08	<1.0	--	--	--	--	1.71	7.20
	12-May-08	1.03	--	--	--	--	4.05	6.96
	9-Jul-08	<1.0	--	--	--	--	0.93	6.42
	10-Sep-08	<1.0	--	--	--	--	0.51	6.27
	2-Dec-08	0.34 J	--	--	--	--	0.68	5.71
	7-Apr-09	93.7	--	--	--	--	--	--
	1-Jul-09	3.7 B	--	--	--	--	<0.10	<5.0

Please refer to notes on last page of table.

Table 9 - Groundwater Chemical Results - Degradation Parameters
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	Total Organic Carbon (mg/L)	Competing Electron Acceptors (mg/L)					
			Total Manganese	Dissolved Manganese	Total Iron	Dissolved Iron	Nitrate	Sulfate
Shallow-Depth Wells (cont.)								
(EX-3s, cont.)	1-Apr-10	90.0	--	--	--	--	<0.10	<5.0
MW-22 (EX-1s)	13-Jan-05	<0.8	6.6	0.35	2.0	0.11	4.35	16.9
	21-Apr-05	<0.8	6.3	0.12	0.63	<0.028	8.0	--
	18-Jul-05	--	4.9	0.68	0.19	<0.028	8.0	20.0
	13-Oct-05	--	--	0.43	<0.1	--	7.0	14.0
	21-Nov-05	--	--	--	--	--	--	--
	17-Jan-06	--	<0.1	0.49	<0.1	<0.2	6.52	12.6
	11-Jul-06	--	0.82	0.41	<0.1	<0.1	7.57	16.1
	29-Aug-07	1.06	7.0	0.61	6.6	<0.01	8.73	16.4
	3-Oct-07	2.78	--	--	--	--	1.41	5.69
	7-Nov-07	1.07	--	--	--	--	6.99	8.69
	6-Dec-07	<1.0	--	--	--	--	4.32	6.68
	9-Jan-08	1.38	--	--	--	--	2.88	6.95
	14-Feb-08	<1.0	--	--	--	--	3.57 H	8.27
	12-Mar-08	<1.0	--	--	--	--	3.38	8.76
	10-Apr-08	<1.0	--	--	--	--	3.24	8.05
	12-May-08	<1.0	--	--	--	--	2.97	7.62
	9-Jul-08	<1.0	--	--	--	--	3.11	7.17
	10-Sep-08	<1.0	--	--	--	--	1.75	6.78
	2-Dec-08	0.25 J	--	--	--	--	2.73	7.20
	7-Apr-09	14.4	--	--	--	--	--	--
	1-Jul-09	2.4	--	--	--	--	1.9 H	7.2
	1-Apr-10	3.6	--	--	--	--	1.9	8.6
IN-5s	1-Apr-10	8.8	--	--	--	--	<0.10	<5.0
DEQ-2	7-Jul-09	<1.0	--	--	--	--	<0.1	5.1
DEQ-4	28-Oct-04	2.5	0.24	--	--	--	--	--
	13-Jan-05	3.9	0.13	0.046	0.15	<0.028	0.267	< 2.00
	21-Apr-05	1.8	0.092	0.35	0.092	0.036	0.70	--
	19-Jul-05	--	0.29	0.13	0.13	<0.028	1.5	22.0
	13-Oct-05	--	--	0.12	<0.1	--	1.0	22.0
	21-Nov-05	--	--	--	--	--	--	--
	17-Jan-06	--	0.15	0.10	<0.1	<0.2	1.3	17.2
	11-Jul-06	--	0.24	0.26	0.38	<0.1	0.917	21.5
	23-Jan-07	--	180	140	<0.1	<0.1	2.14	16.3
	29-Aug-07	14.0	8.7	560	<0.1	0.16	<1,000	<10,000
	1-Jul-09	6.9	--	--	--	--	<0.10	<5.0
	1-Apr-10	9.3 B	--	--	--	--	<0.10	<5.0
DEQ-5	28-Oct-04	2.9	0.26	--	--	--	--	--
	13-Jan-05	1.0	0.24	0.11	0.78	0.48	<0.040	19.0
	21-Apr-05	1.0	0.48	0.37	6.7	0.53	0.50	--
	19-Jul-05	--	0.061	0.028	0.83	0.033	2.0	7.20
	13-Oct-05	--	--	0.0050	0.80	--	0.60	5.20

Please refer to notes on last page of table.

Table 9 - Groundwater Chemical Results - Degradation Parameters
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	Total Organic Carbon (mg/L)	Competing Electron Acceptors (mg/L)					
			Total Manganese	Dissolved Manganese	Total Iron	Dissolved Iron	Nitrate	Sulfate
Shallow-Depth Wells (cont.)								
DEQ-5 (cont.)	17-Jan-06	--	<0.1	<0.1	1.1	<0.2	0.83	4.44
	11-Jul-06	--	0.0096	0.0062	0.28	<0.1	2.8	17.8
	6-May-09	<1.0	--	--	--	--	2.21	20.8
Intermediate-Depth Wells								
EX-5i	29-Aug-07	<1.0	--	--	--	--	0.37	10.4
	3-Oct-07	3.58	--	--	--	--	<0.1	6.11
	7-Nov-07	<1.0	--	--	--	--	<0.1	6.85
	8-Dec-07	<1.0	--	--	--	--	<0.1	5.85
	9-Jan-08	<1.0	--	--	--	--	<0.1	6.49
	14-Feb-08	<1.0	--	--	--	--	<0.1 H	4.39
	12-Mar-08	2.01	--	--	--	--	<0.1	4.07
	12-Mar-08	2.01	--	--	--	--	<0.1	4.07
	10-Apr-08	3.55	--	--	--	--	<0.1	1.42
	12-May-08	1.09	--	--	--	--	<0.1	3.52
	5-Jun-08	1.08	--	--	--	--	<0.1	3.75
	9-Jul-08	19	--	--	--	--	--	2.92
	6-Aug-08	25	--	--	--	--	--	1.10
	10-Sep-08	<1.0	--	--	--	--	--	2.48
	6-Oct-08	9.73	--	--	--	--	--	2.17
	12-Nov-08	2.1	--	--	--	--	--	<1.0
	2-Dec-08	3.8	--	--	--	--	--	2.09
	1-Apr-10	3.3	--	--	--	--	<0.10	<5.0
IN-6i	1-Apr-10	30 B	--	--	--	--	<0.10	<5.0
IN-7i	9-Jan-09	932	--	--	--	--	--	--
	30-Jan-09	10	--	--	--	--	--	--
	1-Apr-10	4.4	--	--	--	--	<0.10	<5.0
IN-8i	1-Apr-10	35 B	--	--	--	--	<0.10	<5.0
MW-9	18-Jul-05	--	15.0	0.15	7.9	<0.028	0.40	8.3
	13-Oct-05	--	--	0.16	0.90	--	0.30	8.1
	17-Jan-06	--	<0.1	<0.1	0.15	<0.2	0.33	7.6
	11-Jul-06	--	0.56	0.16	0.23	<0.1	0.41	8.6
	23-Jan-07	--	0.46	0.15	0.13	<0.1	0.52	7.1
	26-Aug-07	<1.0	0.17	0.14	0.019	<0.01	0.38	7.4
MW-14	6-May-09	--	--	--	--	--	<0.10	<1.0
	1-Jul-09	25	--	--	--	--	<0.10	<5.0
	1-Apr-10	2.1	--	--	--	--	<0.10	<5.0
MW-17 (EX-6i)	29-Aug-07	<1.0	--	--	--	--	0.45	7.3
	3-Oct-07	<1.0	--	--	--	--	0.33	7.2
	7-Nov-07	<1.0	--	--	--	--	0.26	7.12
	6-Dec-07	<1.0	--	--	--	--	0.28	6.77
	9-Jan-08	<1.0	--	--	--	--	0.13	7.01

Please refer to notes on last page of table.

Table 9 - Groundwater Chemical Results - Degradation Parameters
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

Well	Sample Date	Total Organic Carbon (mg/L)	Competing Electron Acceptors (mg/L)					
			Total Manganese	Dissolved Manganese	Total Iron	Dissolved Iron	Nitrate	Sulfate
Intermediate-Depth Wells (cont.)								
MW-17 (EX-6i) (cont.)	14-Feb-08	<1.0	--	--	--	--	0.12 H	5.86
	12-Mar-08	<1.0	--	--	--	--	0.37	5.67
	10-Apr-08	<1.0	--	--	--	--	0.10	4.98
	12-May-08	<1.0	--	--	--	--	<0.1	4.49
	5-Jun-08	<1.0	--	--	--	--	<0.1	4.29
	9-Jul-08	<1.0	--	--	--	--	0.10	4.66
	6-Aug-08	13	--	--	--	--	--	4.65
	10-Sep-08	<1.0	--	--	--	--	--	3.26
	6-Oct-08	2.37	--	--	--	--	--	1.73
	12-Nov-08	1.20	--	--	--	--	--	2.08
	2-Dec-08	4.9	--	--	--	--	--	2.09
	10-Mar-09	11.3	--	--	--	--	--	--
	1-Apr-10	50 B	--	--	--	--	<0.10	<5.0
MW-21 (EX-4i)	29-Aug-07	<1.0	--	--	--	--	0.65	6.2
	3-Oct-07	<1.0	--	--	--	--	0.51	6.21
	7-Nov-07	<1.0	--	--	--	--	0.86	6.74
	6-Dec-07	<1.0	--	--	--	--	0.48	6.37
	9-Jan-08	<1.0	--	--	--	--	0.69	6.24
	14-Feb-08	<1.0	--	--	--	--	0.57 H	5.65
	12-Mar-08	<1.0	--	--	--	--	0.53	5.64
	10-Apr-08	<1.0	--	--	--	--	0.78	6.46
	12-May-08	<1.0	--	--	--	--	0.51	5.32
	9-Jul-08	<1.0	--	--	--	--	0.55	5.30
	10-Sep-08	<1.0	--	--	--	--	0.43	4.88
	2-Dec-08	<1.0	--	--	--	--	0.39	4.62
	18-Feb-09	<1.0	--	--	--	--	--	--
	10-Mar-09	<1.0	--	--	--	--	--	--
	7-Apr-09	<1.0	--	--	--	--	--	--
	6-May-09	<1.0	--	--	--	--	--	--
	1-Apr-10	75 B	--	--	--	--	<0.10	<5.0

Notes:
Total Alkalinity per EPA Method 310.1.
Bromide per EPA Method 300.0B.
Total Organic Carbon per EPA Method 415.1.
Metals per EPA Method 6010B.
Anions per EPA Method 300.0.
Shaded values represent detected concentrations of listed analyte.
-- = Not analyzed.
mg/L = milligrams per liter.
J = analyte detected below quantitation limits
H = Sample analysis performed past the method-specified holding time per client's approval.
B = Analyte detected in associated laboratory blank.

Table 10 - RBCs and Recent Groundwater cVOC Sampling Results
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon

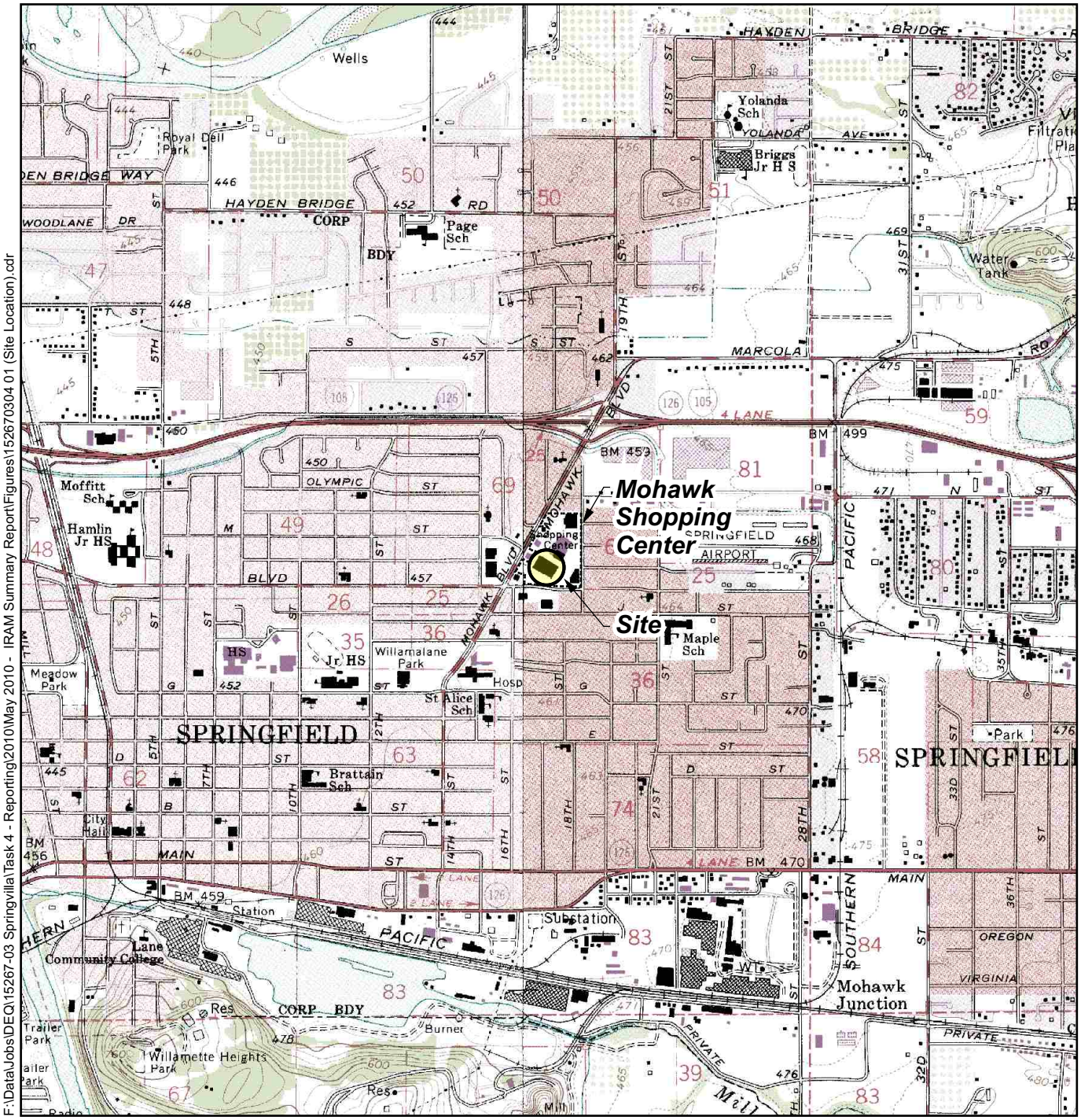
Well	Most Recent Sampling Date	PCE	TCE	c-DCE	VC
		(Concentrations in µg/L)			
On-Site Shallow Aquifer Occupational Exposure					
DEQ-4	1-Apr-10	<1.0	<1.0	<1.0	<1.0
DEQ-5	6-May-09	104	<10	<10	<10
IN-5s	1-Apr-10	<1.0	<1.0	<1.0	<1.0
MW-1 (IN-4s)	1-Apr-10	<1.0	<1.0	<1.0	<1.0
MW-2	1-Jul-09	<1.0	<1.0	<1.0	<1.0
MW-3 (EX-2s)	1-Apr-10	<1.0	<1.0	<1.0	<1.0
MW-4	4-Apr-10	12	<1.0	<1.0	<1.0
MW-5	1-Jul-09	<1.0	<1.0	<1.0	<1.0
MW-6	1-Jul-09	<1.0	<1.0	<1.0	<1.0
MW-8	NS	NS	NS	NS	NS
MW-10	1-Jul-09	<1.0	<1.0	<1.0	<1.0
MW-12	1-Jul-09	<1.0	<1.0	<1.0	<1.0
MW-18	NS	NS	NS	NS	NS
MW-22 (EX-1s)	1-Apr-10	**580**	29	66	3.1
RBC - Vapor Intrusion Into Buildings		1,400	150	>S	910
RBC - Volatilization to Outdoor Air		9,200	870	>S	6,800
RBC - Excavation Worker Direct Contact		**240**	160	120,000	1,200
Off-Site Intermediate Aquifer Residential Exposure					
DEQ-2	1-Apr-10	<1.0	<1.0	4.2	**2.6**
DEQ-3	1-Jul-09	<1.0	<1.0	<1.0	<1.0
G Street	1-Jul-09	**2.6**	<1.0	<1.0	<1.0
M Street	1-Jul-09	**5.7**	<1.0	<1.0	<1.0
MW-11	1-Jul-09	**5.4**	**9.7**	<1.0	<1.0
MW-14	1-Apr-10	**47**	**31**	**160**	**98**
N Street	1-Jul-09	**34**	**1.2**	<1.0	<1.0
Federal MCL - Drinking Water		**5**	**5**	**70**	**2**
RBC - Residential Drinking Water		**0.093**	**0.039**	**360**	**0.025**

Notes:
cVOCs = Chlorinated Volatile Organic Compounds.
Analysis by EPA Method 8260B.
Shaded values represent detected concentrations of listed analyte.
NS = Not sampled within the last 2 years.
Bold concentrations exceed one or more risk standards.
PCE = Tetrachloroethene; TCE = Trichloroethene; c-DCE = *cis*-1,2-Dichloroethene; VC = Vinyl Chloride.
Oregon DEQs Risk-Based Concentrations (RBCs) for Individual Chemicals, September 15, 2009.
EPA's current Maximum Contaminant Level (MCL) for drinking water, May 2009.
>S = RBC above saturation level for that constituant.

Site Location Map

Former Springvilla Dry Cleaners

Mohawk Shopping Center, Springfield, Oregon



F:\Data\Jobs\DEQ\15267-03 Springvilla\Task 4 - Reporting\2010\May 2010 - IRAM Summary Report\Figures\1526703O4 01 (Site Location).cdr

Note: Base map prepared from the USGS 7.5-minute quadrangles of Eugene East and Springfield, OR, photorevised 1986.

0 2,000 4,000

Scale in Feet
Contour Interval 20 Feet

N

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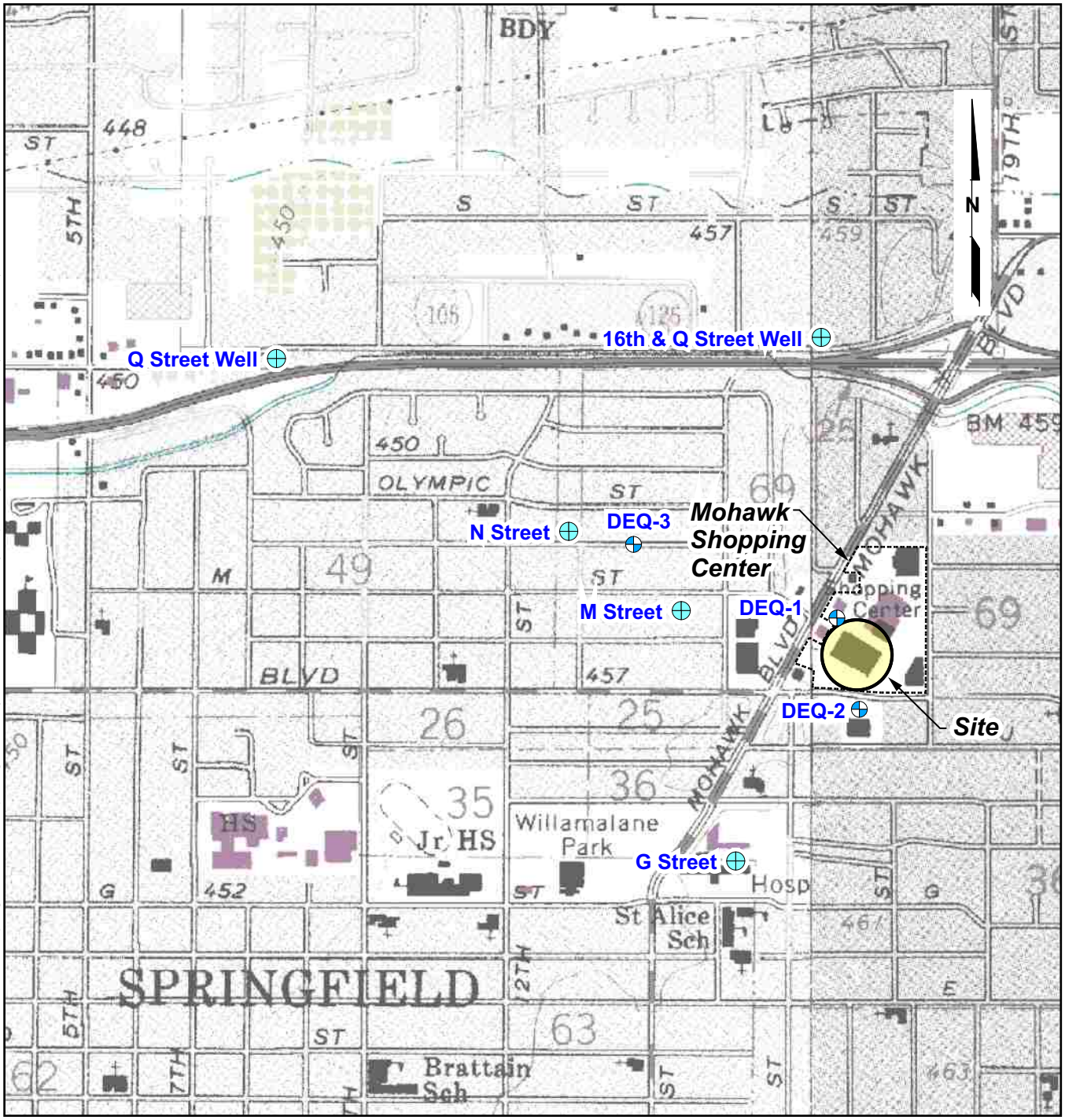
15267-03/Task 4 *6/10*

Figure 1

Off-Site Wells
Former Springvilla Dry Cleaners
Mohawk Shopping Center, Springfield, Oregon



F:\Data\Jobs\DEQ\15267-03 Springvilla\Task 4 - Reporting\2010\May 2010 - IRAM Summary Report\Figures\1526703O4 02 (Off-Site Wells).cdr

Note: Base map prepared from the USGS 7.5-minute quadrangles of Eugene East and Springfield, OR, photorevised 1986.

0 1,000 2,000

Scale in Feet
Contour Interval 20 Feet

N Street ⊕ SUB Production Well Location and Identification

DEQ-2 ⊕ Monitoring Well Location and Number

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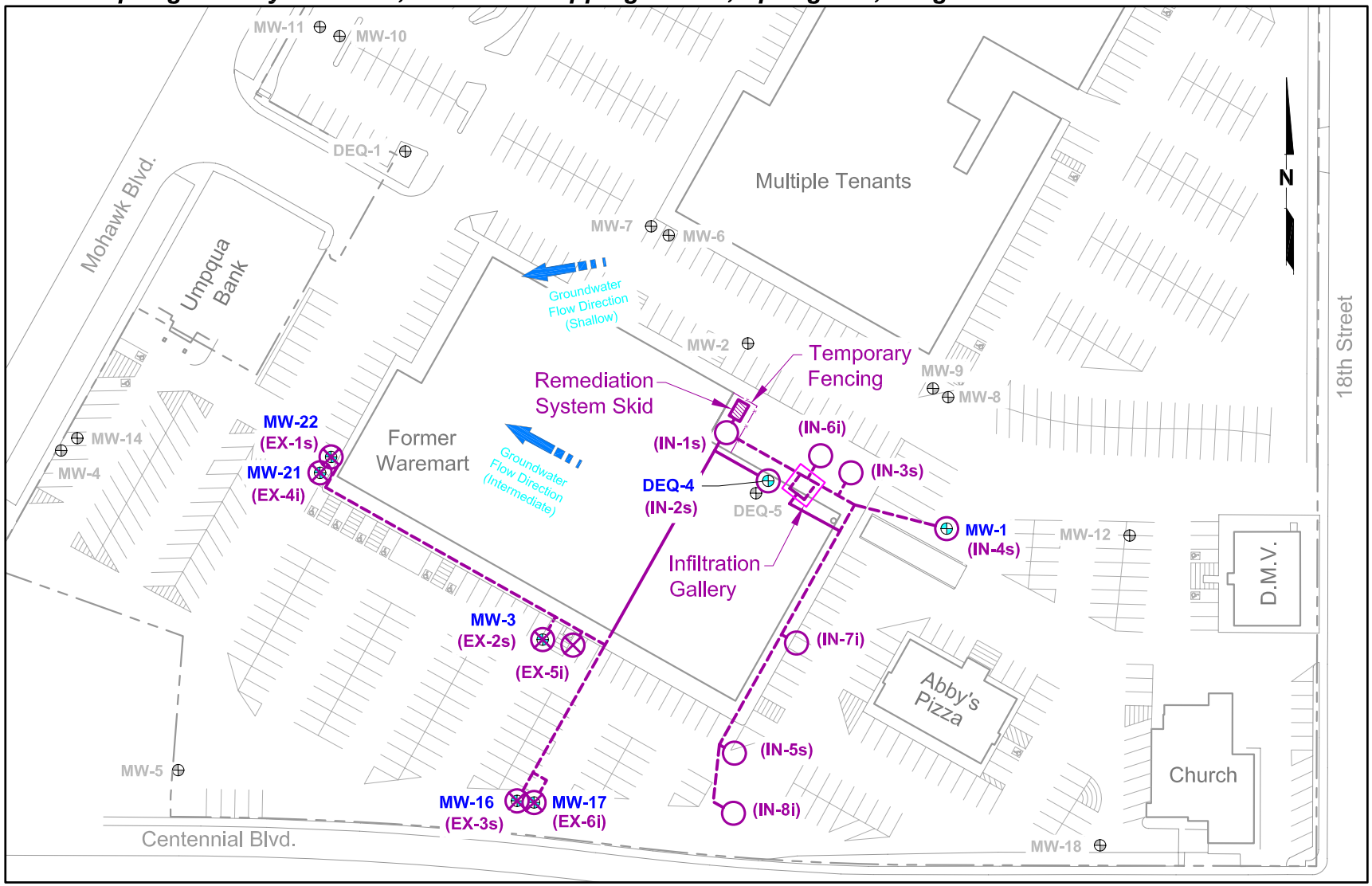
15267-03/Task 4 *6/10*

Figure 2

Groundwater Recirculation System Layout
Former Springvilla Dry Cleaners, Mohawk Shopping Center, Springfield, Oregon

F:\Data\Jobs\DEQ\15267-03 Springvilla\Task 4 - Reporting\2010\May 2010 - IRAM Summary Report\Figures\152670304 03 (Recirculation).dwg



Note: Base map prepared from a plan provided by Maul Foster & Alongi (from a Groundwater Assessment Report, dated November 21, 2001).

MW-16 ⊕ Monitoring Well Location and Number

(IN-4s) ○ Injection Location and Number

(EX-2s) ⊗ Extraction Location and Number

Underground Recirculation System Piping

Aboveground Recirculation System Piping

0 100 200

Approximate Scale in Feet

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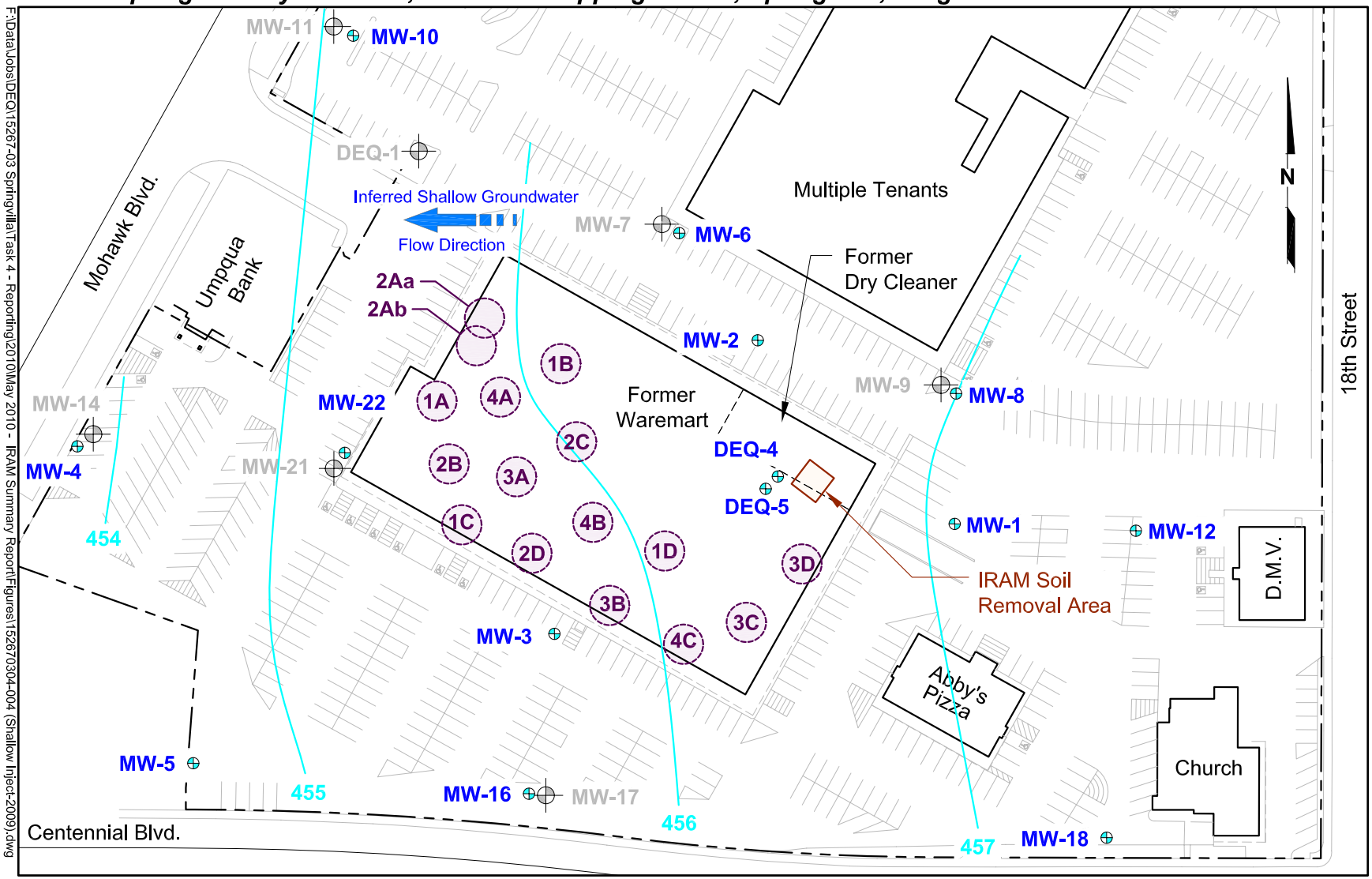
15267-03/Task 4 6/10

Figure 3

Shallow Emulsified Oil Injection Locations

Former Springvilla Dry Cleaners, Mohawk Shopping Center, Springfield, Oregon



F:\Data\Jobs\DEQ\15267-03 Springvilla\Task 4 - Reporting\2010\May 2010 - IRAM Summary Report\Figures\152670304-004 (Shallow Inject-2009).dwg

Note: Base map prepared from a plan provided by Maul Foster & Alongi (from a Groundwater Assessment Report, dated November 21, 2001).

MW-2 — Shallow Monitoring Well Location and Number (Screen Depth 25-30 Feet bgs)

MW-7 — Intermediate Monitoring Well Location and Number (Screen Depth 60-90 Feet bgs)

456 — Groundwater Elevation Countour in Feet Above MSL (April 2005)

1A — Emulsified Oil Injection Push Probe Group and Estimated Distribution

0 100 200

Approximate Scale in Feet

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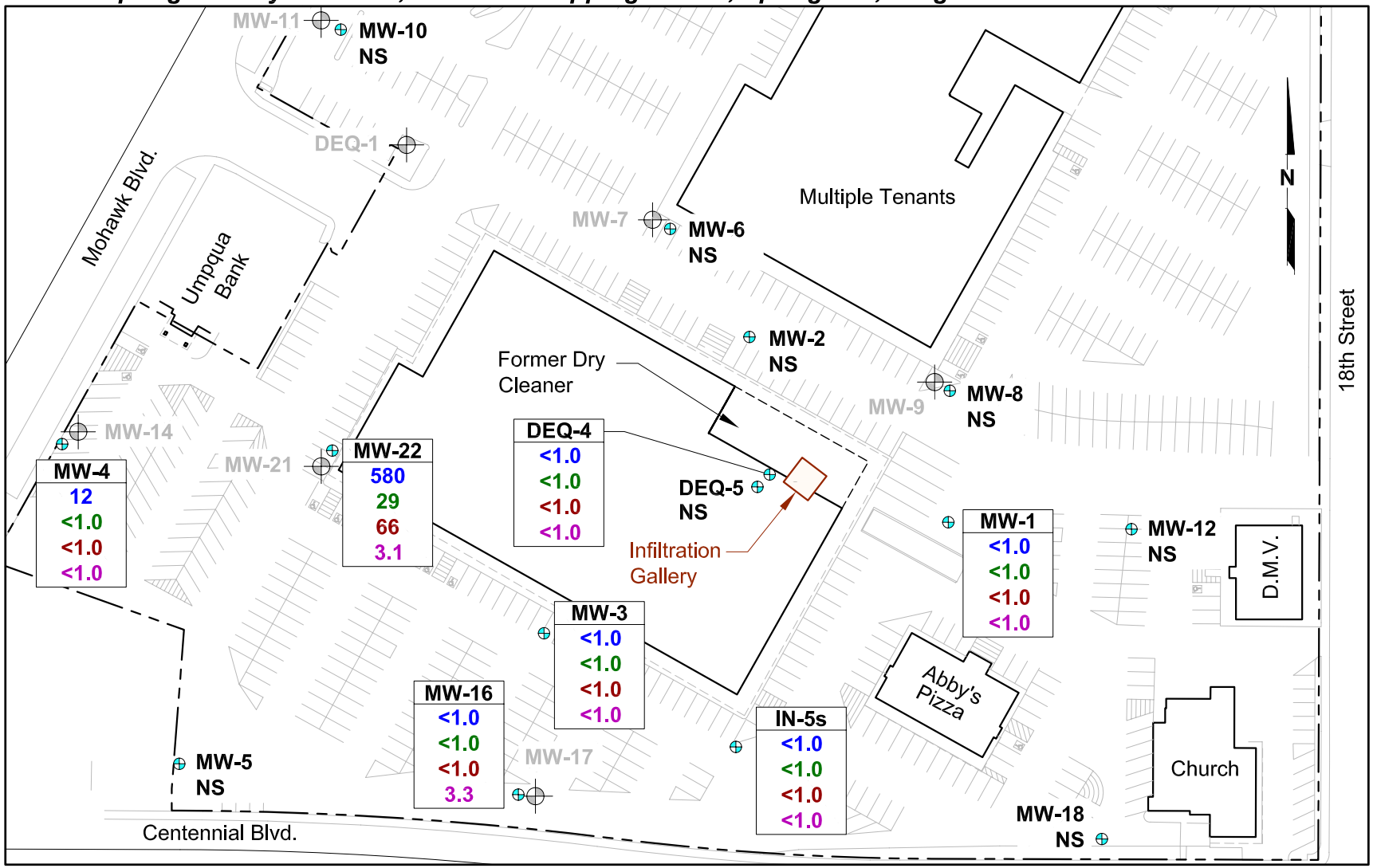
Figure 4

On-Site Shallow Groundwater Chemical Results - April 2010

Former Springvilla Dry Cleaners, Mohawk Shopping Center, Springfield, Oregon

F:\Data\Jobs\DEQ\15267-03 Springvilla\Task 4 - Reporting\2010\May 2010 - IRAM Summary Report\Figures\152670304 07 (On-site Shallow Chem 4-10).dwg



Note: Base map prepared from a plan provided by Maul Foster & Alongi (from a Groundwater Assessment Report, dated November 21, 2001).

MW-7 — Intermediate Monitoring Well Location and Number (Screen Depth 60-90 Feet bgs)

MW-22 (580 / 29 / 66 / 3.1) — Shallow Monitoring Well Location and Number (Screen Depth 25-30 Feet bgs)

Tetrachloroethene (PCE) Concentration in µg/L

Trichloroethene (TCE) Concentration in µg/L

cis-1,2-Dichloroethene (c-DCE) Concentration in µg/L

Vinyl Chloride (VC) Concentration in µg/L

NS = Not Sampled

< = Analyte Not Detected Above Method Reporting Limit

0 100 200

Approximate Scale in Feet

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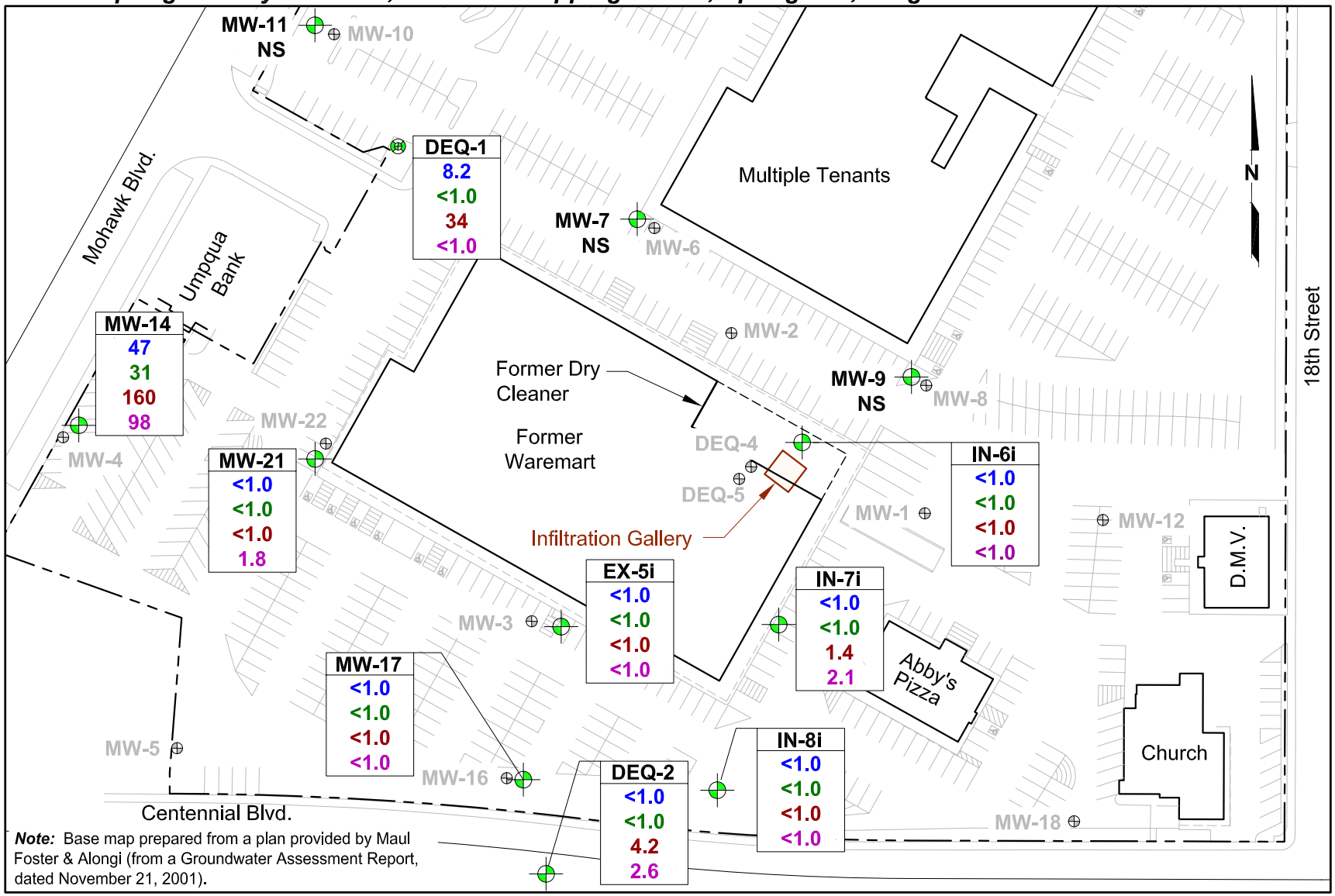
15267-03/Task 4 6/10

Figure 5

On-Site Intermediate Groundwater Chemical Results - April 2010

Former Springvilla Dry Cleaners, Mohawk Shopping Center, Springfield, Oregon

F:\Data\Jobs\DEQ\15267-03 Springvilla\Task 4 - Reporting\2010\May 2010 - IRAM Summary Report\Figures\15267030304-011 (On-Site Int. Chem 4.10).dwg



Note: Base map prepared from a plan provided by Maul Foster & Alongi (from a Groundwater Assessment Report, dated November 21, 2001).

MW-1 ⊕ Shallow Monitoring Well Location and Number (Screen Depth 25-30 Feet bgs)

DEQ-1 ⊕ Deep Monitoring Well Location and Number (Screen Depth 80-90 Feet bgs)

MW-14
47
31
160
98

⊕ Intermediate Monitoring Well Location and Number (Screen Depth 60-70 Feet bgs)
Tetrachloroethene (PCE) Concentration in µg/L
Trichloroethene (TCE) Concentration in µg/L
cis-1,2-Dichloroethene (c-DCE) Concentration in µg/L
Vinyl Chloride (VC) Concentration in µg/L

0 100 200
Approximate Scale in Feet

NS = Not Sampled
< = Analyte Not Detected Above Method Reporting Limit

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15267-03/Task 4 6/10

Figure 6

Concentrations in Shallow Well EX-1s (MW-22)

Former Springvilla Dry Cleaners

Mohawk Shopping Center, Springfiend, Oregon

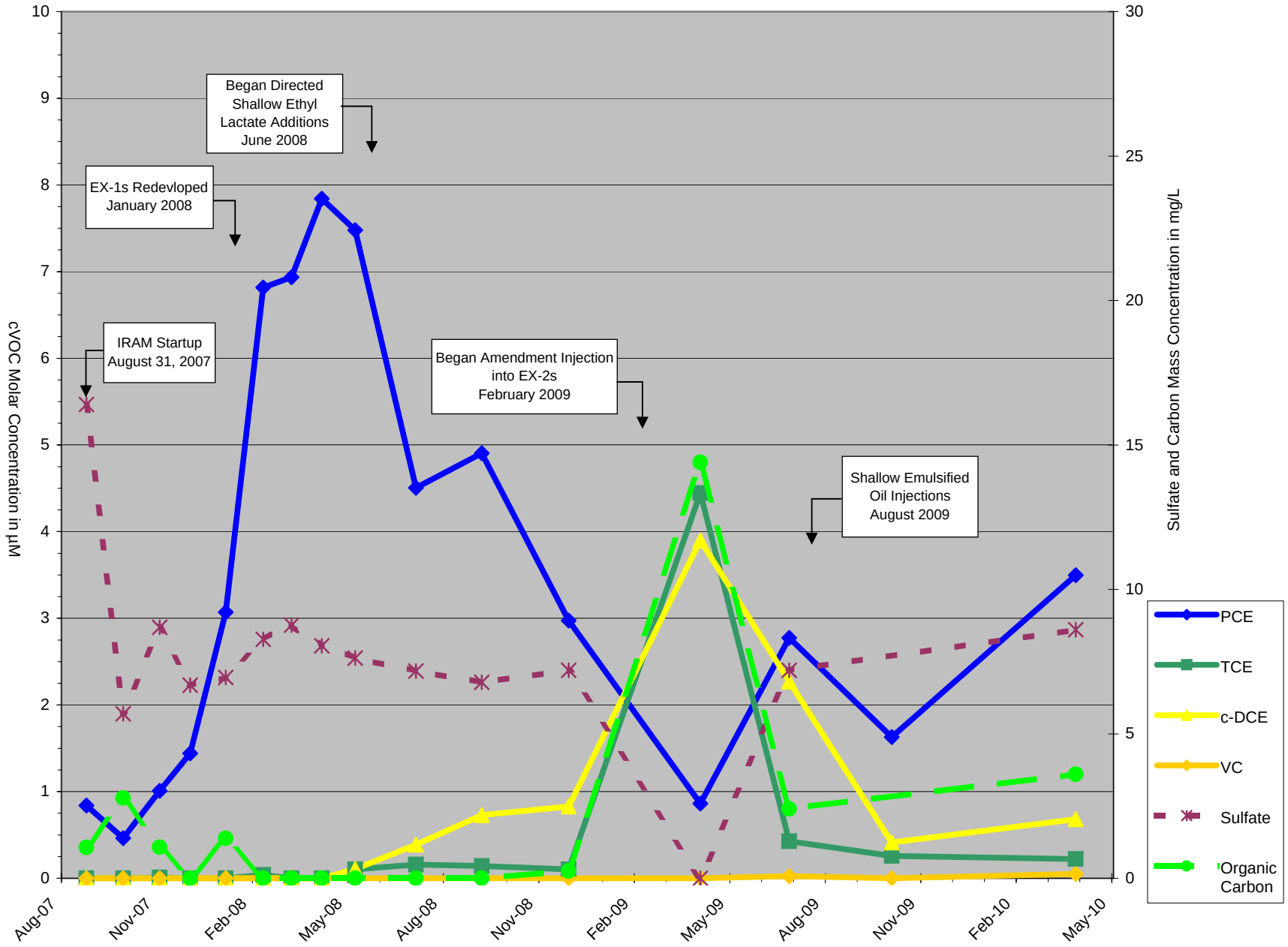

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Figure 7

Concentrations in Shallow Well EX-3s (MW-16)

Former Springvilla Dry Cleaners

Mohawk Shopping Center, Springfiend, Oregon

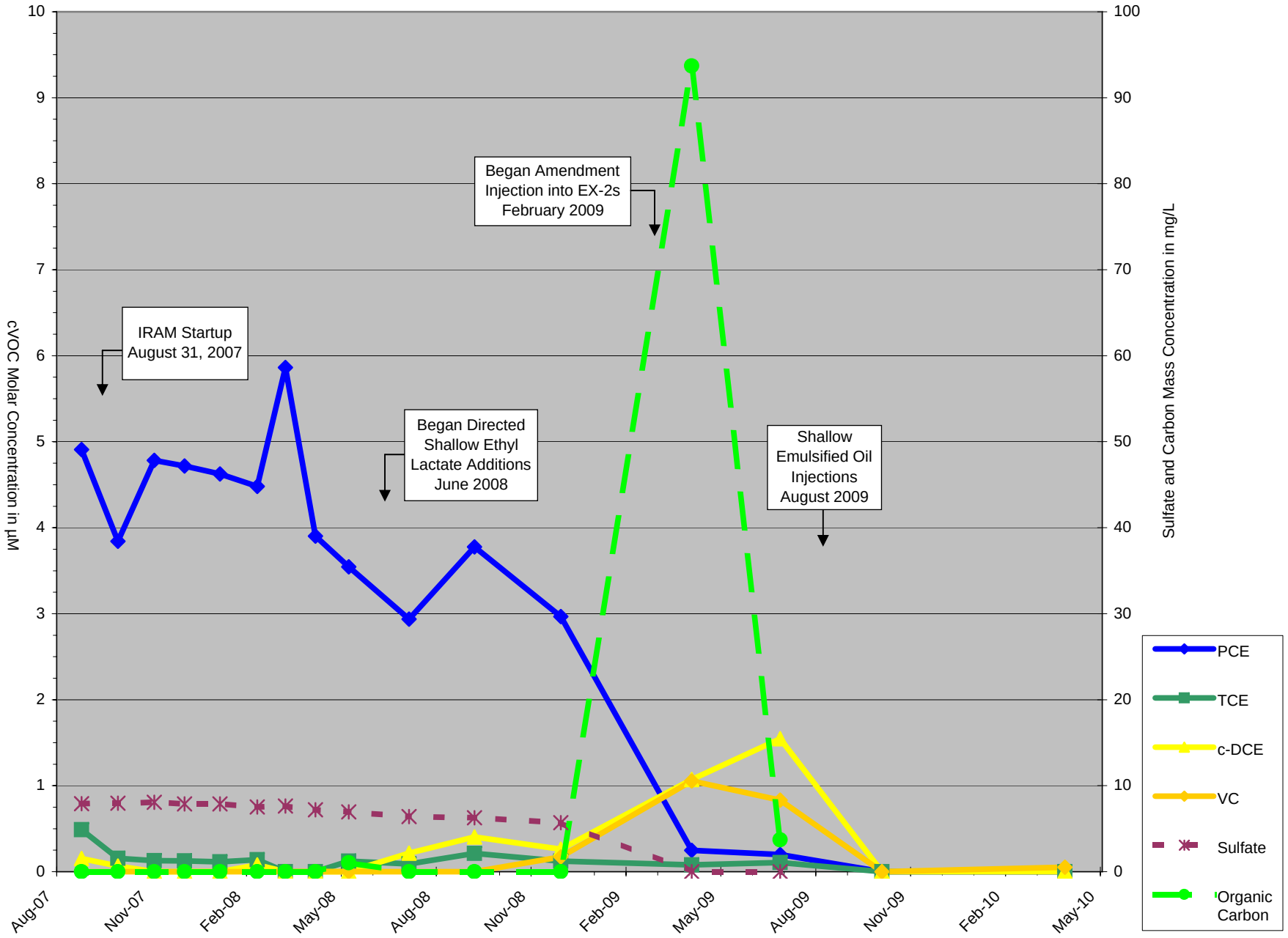

Figure 8
15267-03/Task 4
6/10

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Concentrations in Intermediate Well EX-4i (MW-21)

Former Springvilla Dry Cleaners

Mohawk Shopping Center, Springfiend, Oregon

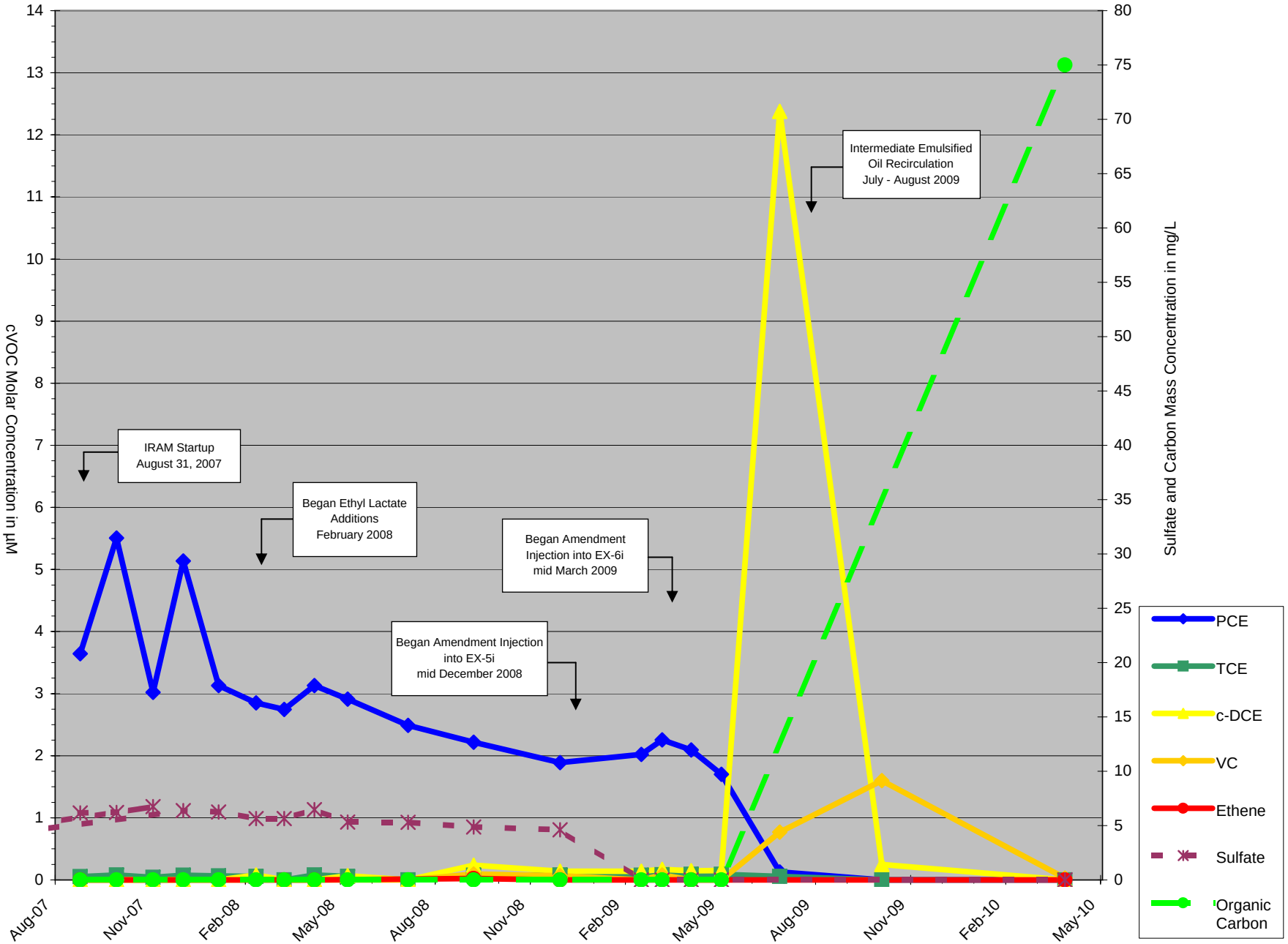

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Figure 9

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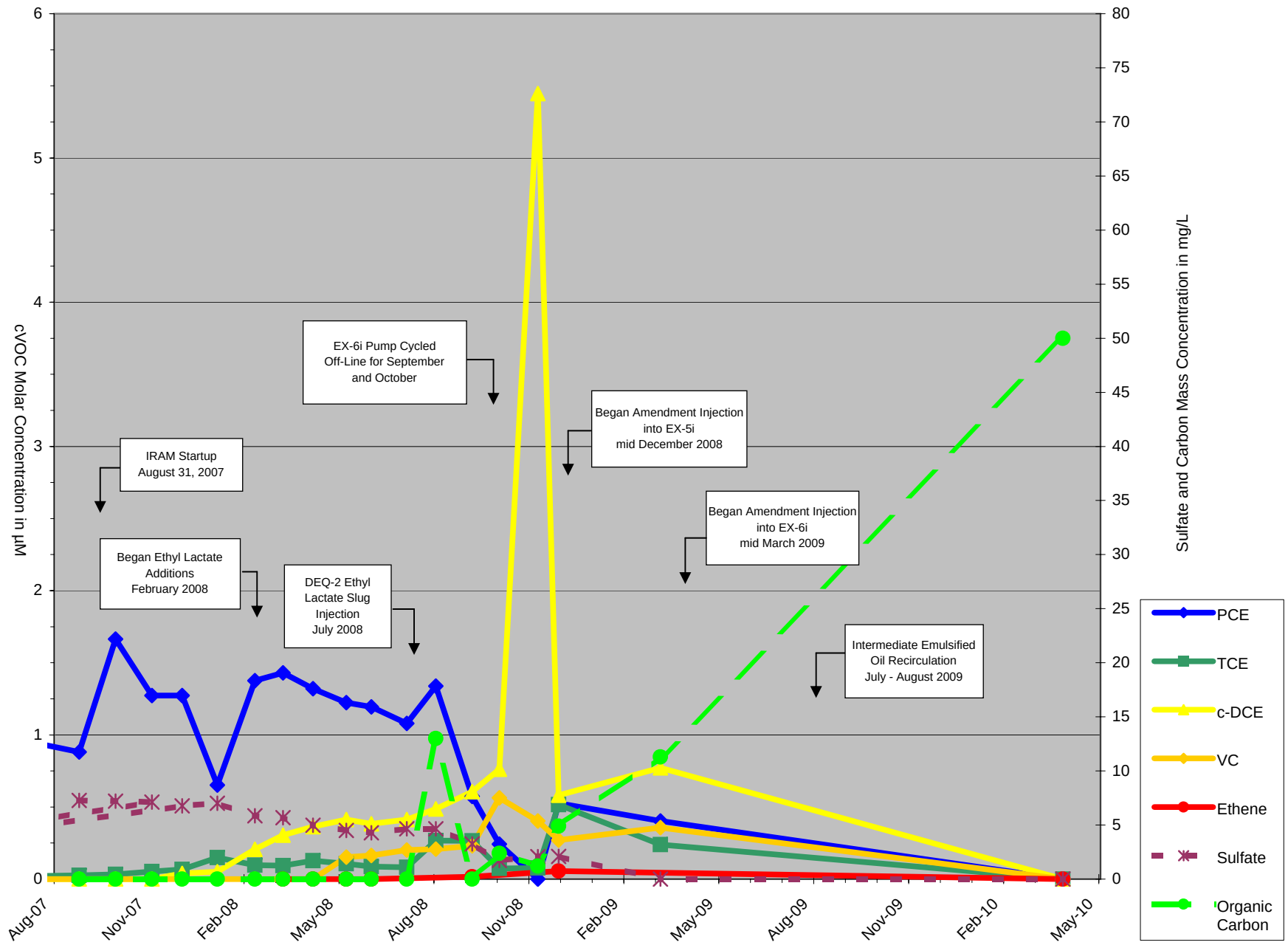
Concentrations in Intermediate Well EX-6i (MW-17)

Former Springvilla Dry Cleaners

Mohawk Shopping Center, Springfiend, Oregon



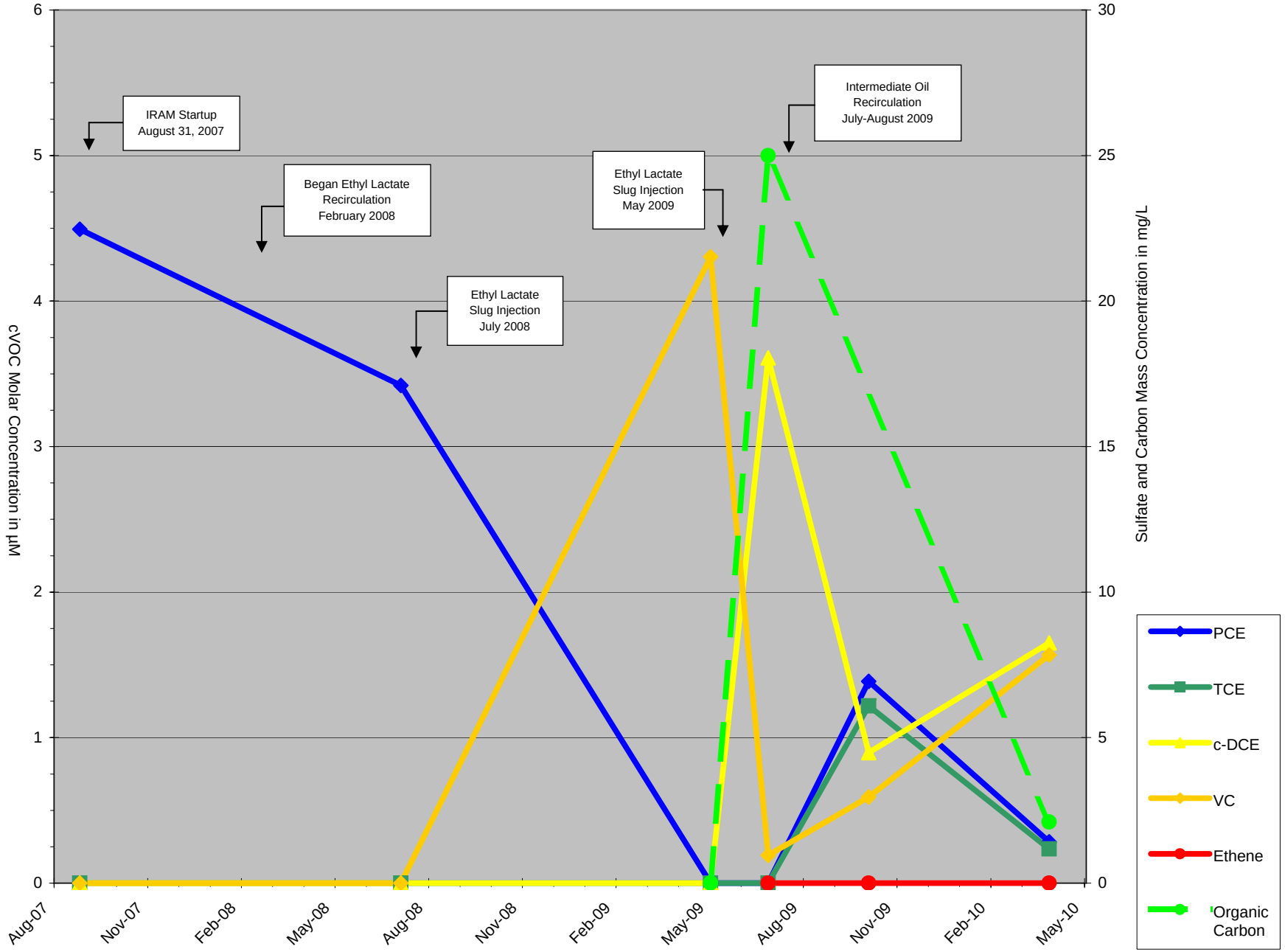
15267-03/Task 4 6/10

Figure 10

Concentrations in Intermediate Well MW-14

Former Springvilla Dry Cleaners

Mohawk Shopping Center, Springfiend, Oregon



HARTCROWSER

15267-03/Task 4 6/10

Figure 11

APPENDIX A
FIELD METHODS AND SAMPLING PROCEDURES

APPENDIX A
FIELD METHODS AND SAMPLING PROCEDURES

This appendix presents the field and sampling procedures that Hart Crowser used to complete the Interim Remedial Action Measure (IRAM) activities for this project. The field and sampling procedures included the following:

- Groundwater monitoring;
- Sample management; and
- Handling of investigation-derived waste (IDW).

1.0 GROUNDWATER MONITORING

Purging. For operational shallow extraction wells, pumps were turned off and groundwater levels were allowed to equilibrate for a minimum of 20 minutes prior to purging. Shallow extraction wells were then purged using low flow sampling techniques with a peristaltic pump. Due to better yield, operating intermediate extraction wells were purged using a dedicated Redi-Flow extraction pump and monitored directly from the remediation system sample port. Prior to IRAM system demobilization in August 2009, intermediate monitoring wells that were off-line for more than one month were purged by removing a minimum of 4 well casing volumes and then monitored for stability. For monitoring wells and after IRAM system demobilization, the wells were purged using low flow sampling techniques with a peristaltic pump.

Purged groundwater was monitored for field parameters (i.e., pH, temperature, oxidation-reduction potential, dissolved oxygen, and specific conductance) using a flow-cell to eliminate field meter and groundwater exposure to the atmosphere. Samples were collected when the water quality were confirmed to be stable. Field parameter readings and other observations made during purging were documented in the field notes.

Sampling. For shallow extraction wells, groundwater samples were obtained using a peristaltic pump and disposable tubing placed as near to the middle of the screened section as possible. For intermediate extraction wells prior to system demobilization, groundwater samples were obtained directly from the extraction well spigot located at the remediation building. For monitoring wells and after system demobilization, groundwater samples were obtained using a peristaltic pump and disposable tubing placed as near to the middle of the screened section as possible. Groundwater was pumped directly into laboratory-supplied sampling

containers. Sample containers filled for volatile organic compound (VOC) analyses were void of headspace.

2.0 SAMPLE MANAGEMENT

Containers. Clean sample containers were provided by the analytical laboratory ready for sample collection, including preservative, if required. Lids were equipped with Teflon® liners to reduce the loss of VOCs.

Labeling Requirements. A sample label was affixed to each sample container and was marked with a unique sample number, date of collection, project number, and sampler's initials.

Sample Storage and Shipment. The groundwater samples were placed in a cooler with ice until transported to our office or the laboratory for refrigeration. Chain of custody was maintained and documented at all times, including sealing the shipping container with chain of custody seals.

3.0 HANDLING OF INVESTIGATION-DERIVED WASTE

IDW consisted of sampling purge water from the system and personnel protective equipment (PPE). PPE was disposed of as solid waste. Purge water was temporarily stored in a 5-gallon bucket until it was reintroduced into the groundwater recirculation system prior to system demobilization. After the system was removed from the site, purge water was stored in labeled 55-gallon drums on the site.

APPENDIX B
QUALITY ASSURANCE REVIEW AND ANALYTICAL LABORATORY REPORTS

APPENDIX B
QUALITY ASSURANCE REVIEW AND ANALYTICAL LABORATORY REPORTS

This appendix documents the results of a quality assurance (QA) review of the analytical data for samples collected during the field work for the *in situ* Interim Remedial Action Measure activities. TestAmerica Inc. of Beaverton, Oregon, and Austin, Texas, performed the May 2009 groundwater analyses under subcontract to Hart Crowser. July 2009, October 2009, and April 2010 groundwater analyses were performed by ESC Lab Sciences under contract with the Oregon Department of Environmental Quality. Copies of the analytical laboratory reports are included in this attachment.

The QA review included examination and validation of the laboratory's summary reports, including:

- Analytical methods;
- Reporting limits;
- Sample holding times;
- Custody records;
- Surrogates, spikes, and blanks;
- Initial and continuing calibration verification; and
- Duplicates.

The QA review did not include a review of raw data.

1.0 ANALYTICAL METHODS AND REPORTING LIMITS

Reporting limits are set by the laboratory and are based on instrumentation abilities, sample matrix, and suggested reporting limits by the Environmental Protection Agency (EPA) or DEQ. In some cases, the reporting limit is raised due to high analyte concentrations in the samples or matrix interferences. Reporting limits are generally consistent with industry standards and below promulgated standards (if not raised as discussed above). Reporting limits were reviewed and generally conform to those specified in the work plan and are generally acceptable for this project.

2.0 DATA QUALITY ASSURANCE

Data quality is indicated by assessing their completeness, representativeness, accuracy, precision, and comparability. An evaluation of the data follows.

2.1 Completeness

Completeness is defined as the percentage of measurements made that are judged to be valid. The completeness goal is essentially that a sufficient amount of valid data is generated to meet the objectives of the data (i.e., assess groundwater conditions). Four laboratory reports were received and are included in this report. The data completeness for the samples is 100 percent for all requested analyses.

2.2 Representativeness

Representativeness is a measure of how closely the results reflect the actual concentration of the parameters in the medium sampled. It is not possible to measure this directly, so representativeness is controlled and ensured by using standard protocols for sample handling and custody, analyzing samples within prescribed holding times, and analyzing blank samples.

Sample Handling and Custody. We collected samples in general accordance with industry standards. These included requirements for collection, containers, labeling, packaging, shipping, and storage. Compliance with these procedures has been documented on chain of custody forms. A copy of the chain of custody form is included with the laboratory report.

Holding Times. Collection dates for all samples submitted are documented on the chain of custody form. Collection and analysis dates are indicated in the laboratory report. Holding times required by EPA Contract Laboratory Program (CLP) protocols were met for all applicable analyses except July 2009 nitrate analysis of EX-1s. Results are qualified (H).

Sample Quality. All samples were collected in general accordance with industry standards. Volatile organic compound (VOC) sample containers were fully filled, leaving no observed headspace.

Blanks. Blanks are analyzed to check for the possibility that the sample may become contaminated during the analysis process. No analytes were found in the trip blank samples or laboratory blanks except for April 2010 analysis for total organic carbon associated with EX-3s, DEQ-4, EX-4i, EX-6i, IN-6i, and IN-8i. Results are qualifed (B). No other blank contamination was noted.

2.3 Accuracy

Surrogates. In a surrogate analysis, a known amount of a compound similar to the constituent of interest is added to a sample and measured. The surrogate analysis assesses the accuracy of a chemical measurement by comparing the measured value to the actual spiked value. Up to four surrogates are added to each sample. Surrogate recoveries were within control limits.

Matrix Spike Samples. Matrix spike analyses are performed on samples submitted to the laboratory that are of the same matrix as the actual sample. The sample is spiked with known levels of the constituents of interest. These analyses are used to assess the potential for matrix interference with recovery, detection of the constituents of interest, and the accuracy of the determination. The spiked sample results are compared to the expected result (i.e., sample concentration plus spike amount) and are reported as percent recovery. All matrix spikes were within control limits.

Laboratory Control Sample. A laboratory control sample (LCS) was also analyzed by the laboratory to assess the accuracy of the analytical equipment. The sample is prepared from the analyte-free matrix, which is then spiked with known levels of the constituents of interest (i.e., a standard). The concentrations are measured, and the results are compared to the known spiked levels. This comparison is expressed as percent recovery. All LCS recoveries were within control limits except for October 2009 results for styrene. Results for analytes of interest are judged as not affected.

2.4 Precision

Matrix Spike Duplicates. A second matrix spike sample (a.k.a., the matrix spike duplicate; MSD) is prepared as above and analyzed. This is compared to the initial matrix spike to assess the precision of the analytical method by calculating the relative percent difference (RPD). For this method, both a percent recovery and an RPD are reported. The matrix spike duplicates RPDs were within the acceptability criteria except May 2009 ethene, ethane, and methane analysis. As the matrix spike was not performed on a sample from this site, the results are judged as not affected. All other results were within tolerance and results are judged to be accurate.

Laboratory Duplicates. A duplicate is a second laboratory sample taken from a submitted sample. The duplicate is then prepared along with the original. It is analyzed and compared to the first to assess the precision of the analytical method and the potential variability of the sample matrix. This comparison is reported as the RPD. The laboratory duplicates RPDs were within the acceptability criteria.

Laboratory Control Sample Duplicates. A duplicate is a second analysis of an LCS. The duplicate is then prepared along with the original. It is analyzed and compared to the first to assess the precision of the analytical method. The laboratory control sample RPDs were within the acceptability criteria except October 2009 bromomethane analysis. Results for analytes of interest are judges as not affected. LCS acceptability criteria was exceeded for chloromethane, dichlorodifluoromethane, and vinyl chloride for April 2010 and applicable to samples collected from MW-4, DEQ-2, EX-1s, EX-2s, EX-3s, IN-4s, IN-5s, DEQ-4, EX-4i, EX-5i, and EX-6i. Vinyl chloride results for these wells are flagged as approximate (J).

2.5 Comparability

Generally, all samples were analyzed in accordance with accepted methods of the EPA or DEQ. Because similar or the same methods were used, the quality of the data collected is consistent for all data sets and is therefore comparable.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

ORELAP#: OR100021

May 21, 2009

Craig Dockter
Hart Crowser
8910 SW Gemini Drive
Beaverton, OR 97008

RE: DEQ Springvilla

Enclosed are the results of analyses for samples received by the laboratory on 05/07/09 08:25. The following list is a summary of the Work Orders contained in this report, generated on 05/21/09 14:15.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PSE0227	DEQ Springvilla	15267-03/Task 2

TestAmerica Portland

Darrell Auvil, Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Ex-4i	PSE0227-01	Water	05/06/09 09:10	05/07/09 08:25
MW-14	PSE0227-02	Water	05/06/09 08:27	05/07/09 08:25
DEQ-5	PSE0227-03	Water	05/06/09 09:37	05/07/09 08:25

TestAmerica Portland

Darrell Auvil, Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

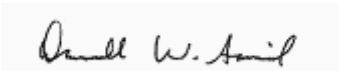
Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PSE0227-01 (Ex-4i)		**Water**				**Sampled: 05/06/09 09:10**				**RL7**
Acetone	EPA 8260B	ND	-----	250	ug/l	10x	9050451	05/13/09 09:00	05/14/09 17:59	
Benzene	"	ND	-----	10.0	"	"	"	"	"	
Bromobenzene	"	ND	-----	10.0	"	"	"	"	"	
Bromochloromethane	"	ND	-----	10.0	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	10.0	"	"	"	"	"	
Bromoform	"	ND	-----	10.0	"	"	"	"	"	
Bromomethane	"	ND	-----	50.0	"	"	"	"	"	
2-Butanone (MEK)	"	ND	-----	100	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	50.0	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	10.0	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	10.0	"	"	"	"	"	
Carbon disulfide	"	ND	-----	100	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	10.0	"	"	"	"	"	
Chlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
Chloroethane	"	ND	-----	10.0	"	"	"	"	"	
Chloroform	"	ND	-----	10.0	"	"	"	"	"	
Chloromethane	"	ND	-----	50.0	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	10.0	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	50.0	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	10.0	"	"	"	"	"	
Dibromomethane	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	50.0	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	10.0	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	10.0	"	"	"	"	"	
cis-1,2-Dichloroethene	"	**14.8**	-----	10.0	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	10.0	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	10.0	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	10.0	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	10.0	"	"	"	"	"	

TestAmerica Portland



Darrell Auvil, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PSE0227-01 (Ex-4i)		**Water**				**Sampled: 05/06/09 09:10**				**RL7**
cis-1,3-Dichloropropene	EPA 8260B	ND	-----	10.0	ug/l	10x	9050451	05/13/09 09:00	05/14/09 17:59	
trans-1,3-Dichloropropene	"	ND	-----	10.0	"	"	"	"	"	
Ethylbenzene	"	ND	-----	10.0	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	40.0	"	"	"	"	"	
2-Hexanone	"	ND	-----	100	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	20.0	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	20.0	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	50.0	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	10.0	"	"	"	"	"	
Methylene chloride	"	ND	-----	50.0	"	"	"	"	"	
Naphthalene	"	ND	-----	20.0	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	10.0	"	"	"	"	"	
Styrene	"	ND	-----	10.0	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	10.0	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	10.0	"	"	"	"	"	
Tetrachloroethene	"	**282**	-----	10.0	"	"	"	"	"	
Toluene	"	ND	-----	10.0	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	10.0	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	10.0	"	"	"	"	"	
Trichloroethene	"	**11.9**	-----	10.0	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	10.0	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	10.0	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	10.0	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	10.0	"	"	"	"	"	
Vinyl chloride	"	ND	-----	10.0	"	"	"	"	"	
o-Xylene	"	ND	-----	10.0	"	"	"	"	"	
m,p-Xylene	"	ND	-----	20.0	"	"	"	"	"	

Surrogate(s):	*Dibromofluoromethane*	*96.9%*	*80 - 120 %*	*1x*	"
	1,2-DCA-d4	*90.6%*	*80 - 120 %*	"	"
	Toluene-d8	*94.7%*	*80 - 120 %*	"	"
	4-BFB	*100%*	*80 - 120 %*	"	"

TestAmerica Portland

Darrell Auvil, Project Manager

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Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PSE0227-02 (MW-14)		**Water**				**Sampled: 05/06/09 08:27**				**RL7**
Acetone	EPA 8260B	ND	-----	250	ug/l	10x	9050451	05/13/09 09:00	05/14/09 18:23	
Benzene	"	ND	-----	10.0	"	"	"	"	"	
Bromobenzene	"	ND	-----	10.0	"	"	"	"	"	
Bromochloromethane	"	ND	-----	10.0	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	10.0	"	"	"	"	"	
Bromoform	"	ND	-----	10.0	"	"	"	"	"	
Bromomethane	"	ND	-----	50.0	"	"	"	"	"	
2-Butanone (MEK)	"	ND	-----	100	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	50.0	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	10.0	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	10.0	"	"	"	"	"	
Carbon disulfide	"	ND	-----	100	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	10.0	"	"	"	"	"	
Chlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
Chloroethane	"	ND	-----	10.0	"	"	"	"	"	
Chloroform	"	ND	-----	10.0	"	"	"	"	"	
Chloromethane	"	ND	-----	50.0	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	10.0	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	50.0	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	10.0	"	"	"	"	"	
Dibromomethane	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	50.0	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	10.0	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	10.0	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	10.0	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	10.0	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	10.0	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	10.0	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	10.0	"	"	"	"	"	

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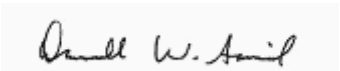

Darrell Auvil, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PSE0227-02 (MW-14)		**Water**				**Sampled: 05/06/09 08:27**				**RL7**
cis-1,3-Dichloropropene	EPA 8260B	ND	-----	10.0	ug/l	10x	9050451	05/13/09 09:00	05/14/09 18:23	
trans-1,3-Dichloropropene	"	ND	-----	10.0	"	"	"	"	"	
Ethylbenzene	"	ND	-----	10.0	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	40.0	"	"	"	"	"	
2-Hexanone	"	ND	-----	100	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	20.0	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	20.0	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	50.0	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	10.0	"	"	"	"	"	
Methylene chloride	"	ND	-----	50.0	"	"	"	"	"	
Naphthalene	"	ND	-----	20.0	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	10.0	"	"	"	"	"	
Styrene	"	ND	-----	10.0	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	10.0	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	10.0	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	10.0	"	"	"	"	"	
Toluene	"	ND	-----	10.0	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	10.0	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	10.0	"	"	"	"	"	
Trichloroethene	"	ND	-----	10.0	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	10.0	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	10.0	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	10.0	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	10.0	"	"	"	"	"	
Vinyl chloride	"	**269**	-----	10.0	"	"	"	"	"	
o-Xylene	"	ND	-----	10.0	"	"	"	"	"	
m,p-Xylene	"	ND	-----	20.0	"	"	"	"	"	

Surrogate(s):	*Dibromofluoromethane*	*97.4%*	*80 - 120 %*	*1x*	"
	1,2-DCA-d4	*91.6%*	*80 - 120 %*	"	"
	Toluene-d8	*98.2%*	*80 - 120 %*	"	"
	4-BFB	*101%*	*80 - 120 %*	"	"

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Darrell Auvil, Project Manager

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Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PSE0227-03 (DEQ-5)		**Water**				**Sampled: 05/06/09 09:37**				**RL7**
Acetone	EPA 8260B	ND	-----	250	ug/l	10x	9050451	05/13/09 09:00	05/14/09 18:46	
Benzene	"	ND	-----	10.0	"	"	"	"	"	
Bromobenzene	"	ND	-----	10.0	"	"	"	"	"	
Bromochloromethane	"	ND	-----	10.0	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	10.0	"	"	"	"	"	
Bromoform	"	ND	-----	10.0	"	"	"	"	"	
Bromomethane	"	ND	-----	50.0	"	"	"	"	"	
2-Butanone (MEK)	"	ND	-----	100	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	50.0	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	10.0	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	10.0	"	"	"	"	"	
Carbon disulfide	"	ND	-----	100	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	10.0	"	"	"	"	"	
Chlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
Chloroethane	"	ND	-----	10.0	"	"	"	"	"	
Chloroform	"	ND	-----	10.0	"	"	"	"	"	
Chloromethane	"	ND	-----	50.0	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	10.0	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	50.0	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	10.0	"	"	"	"	"	
Dibromomethane	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	50.0	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	10.0	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	10.0	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	10.0	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	10.0	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	10.0	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	10.0	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	10.0	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	10.0	"	"	"	"	"	

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Darrell Auvil, Project Manager

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Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PSE0227-03 (DEQ-5)		**Water**				**Sampled: 05/06/09 09:37**				**RL7**
cis-1,3-Dichloropropene	EPA 8260B	ND	-----	10.0	ug/l	10x	9050451	05/13/09 09:00	05/14/09 18:46	
trans-1,3-Dichloropropene	"	ND	-----	10.0	"	"	"	"	"	
Ethylbenzene	"	ND	-----	10.0	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	40.0	"	"	"	"	"	
2-Hexanone	"	ND	-----	100	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	20.0	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	20.0	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	50.0	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	10.0	"	"	"	"	"	
Methylene chloride	"	ND	-----	50.0	"	"	"	"	"	
Naphthalene	"	ND	-----	20.0	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	10.0	"	"	"	"	"	
Styrene	"	ND	-----	10.0	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	10.0	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	10.0	"	"	"	"	"	
Tetrachloroethene	"	**104**	-----	10.0	"	"	"	"	"	
Toluene	"	ND	-----	10.0	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	10.0	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	10.0	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	10.0	"	"	"	"	"	
Trichloroethene	"	ND	-----	10.0	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	10.0	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	10.0	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	10.0	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	10.0	"	"	"	"	"	
Vinyl chloride	"	ND	-----	10.0	"	"	"	"	"	
o-Xylene	"	ND	-----	10.0	"	"	"	"	"	
m,p-Xylene	"	ND	-----	20.0	"	"	"	"	"	

Surrogate(s):	*Dibromofluoromethane*	*100%*	*80 - 120 %*	*1x*	"
	1,2-DCA-d4	*94.7%*	*80 - 120 %*	"	"
	Toluene-d8	*99.2%*	*80 - 120 %*	"	"
	4-BFB	*108%*	*80 - 120 %*	"	"

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Darrell Auvil, Project Manager

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Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Conventional Chemistry Parameters per APHA/EPA Methods

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PSE0227-01 (Ex-4i)			**Water**				**Sampled: 05/06/09 09:10**			
Total Organic Carbon	EPA 415.2	ND	-----	1.00	mg/l	1x	9050274	05/08/09 09:47	05/12/09 17:41	
PSE0227-03 (DEQ-5)			**Water**				**Sampled: 05/06/09 09:37**			
Total Organic Carbon	EPA 415.2	ND	-----	1.00	mg/l	1x	9050274	05/08/09 09:47	05/12/09 17:41	

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Darrell Auvil, Project Manager

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Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Anions per EPA Method 300.0

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PSE0227-02 (MW-14)			**Water**				**Sampled: 05/06/09 08:27**			
Nitrate-Nitrogen	EPA 300.0	ND	-----	0.100	mg/l	1x	9050222	05/07/09 10:31	05/07/09 14:52	
Sulfate	"	ND	-----	1.00	"	"	"	"	"	
PSE0227-03 (DEQ-5)			**Water**				**Sampled: 05/06/09 09:37**			
Nitrate-Nitrogen	EPA 300.0	**2.21**	-----	0.100	mg/l	1x	9050222	05/07/09 10:31	05/07/09 15:24	
Sulfate	"	**20.8**	-----	1.00	"	"	"	"	"	

TestAmerica Portland

Darrell W. Auvil

Darrell Auvil, Project Manager

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Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Gases by RSK-175

TestAmerica Austin

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PSE0227-03 (DEQ-5)			**Water**				**Sampled: 05/06/09 09:37**			
Ethane	RSK SOP-175	ND	*0.0615*	0.500	ug/L	1x	9E13010	05/12/09 10:00	05/12/09 13:40	
Ethene	"	ND	*0.0569*	0.500	"	"	"	"	"	
Methane	"	**44.7**	*0.211*	0.500	"	"	"	"	"	

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Darrell Auvil, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

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Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9050451 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9050451-BLK1)							**Extracted: 05/13/09 09:00**							
Acetone	EPA 8260B	ND	---	25.0	ug/l	1x	--	--	--	--	--	--	05/14/09 10:57	
Benzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromochloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromodichloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromoform	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromomethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Butanone (MEK)	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
n-Butylbenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
sec-Butylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
tert-Butylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Carbon disulfide	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Carbon tetrachloride	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloroform	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloromethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Chlorotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
4-Chlorotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dibromo-3-chloropropane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Dibromochloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dibromoethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dibromomethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,4-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dichlorodifluoromethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
cis-1,2-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
trans-1,2-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
2,2-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
cis-1,3-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
trans-1,3-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	

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Darrell Auvil, Project Manager

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BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9050451 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9050451-BLK1)							**Extracted: 05/13/09 09:00**							
Hexachlorobutadiene	EPA 8260B	ND	---	4.00	ug/l	1x	--	--	--	--	--	--	05/14/09 10:57	
2-Hexanone	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Isopropylbenzene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
p-Isopropyltoluene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
4-Methyl-2-pentanone	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Methyl tert-butyl ether	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Methylene chloride	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
n-Propylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Styrene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,1,2-Tetrachloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,2,2-Tetrachloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Tetrachloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,3-Trichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,4-Trichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,1-Trichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,2-Trichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Trichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Trichlorofluoromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,3-Trichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,4-Trimethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3,5-Trimethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Vinyl chloride	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
o-Xylene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
m,p-Xylene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 93.2%*			*Limits: 80-120%*	"							*05/14/09 10:57*	
1,2-DCA-d4		*90.3%*			*80-120%*	"							"	
Toluene-d8		*93.4%*			*80-120%*	"							"	
4-BFB		*95.4%*			*80-120%*	"							"	

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Darrell Auvil, Project Manager

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Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9050451 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (9050451-BS1)								**Extracted: 05/13/09 09:00**						
Benzene	EPA 8260B	18.6	---	1.00	ug/l	1x	--	20.0	93.0%	(80-120)	--	--	05/14/09 09:23	
Chlorobenzene	"	19.2	---	1.00	"	"	--	"	95.8%	(80-124)	--	--	"	
1,1-Dichloroethene	"	18.4	---	1.00	"	"	--	"	92.0%	(78-120)	--	--	"	
Toluene	"	18.4	---	1.00	"	"	--	"	92.0%	(80-124)	--	--	"	
Trichloroethene	"	18.9	---	1.00	"	"	--	"	94.4%	(80-132)	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 95.6%*			*Limits: 80-120%*	"							*05/14/09 09:23*	
1,2-DCA-d4		*95.0%*			*80-120%*	"							"	
Toluene-d8		*98.4%*			*80-120%*	"							"	
4-BFB		*102%*			*80-120%*	"							"	
LCS Dup (9050451-BSD1)								**Extracted: 05/13/09 09:00**						
Benzene	EPA 8260B	18.5	---	1.00	ug/l	1x	--	20.0	92.5%	(80-120)	0.485%	(25)	05/14/09 09:47	
Chlorobenzene	"	18.6	---	1.00	"	"	--	"	93.2%	(80-124)	2.75%	"	"	
1,1-Dichloroethene	"	18.0	---	1.00	"	"	--	"	90.2%	(78-120)	1.98%	"	"	
Toluene	"	18.2	---	1.00	"	"	--	"	91.0%	(80-124)	1.15%	"	"	
Trichloroethene	"	18.5	---	1.00	"	"	--	"	92.6%	(80-132)	1.87%	"	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 94.2%*			*Limits: 80-120%*	"							*05/14/09 09:47*	
1,2-DCA-d4		*92.6%*			*80-120%*	"							"	
Toluene-d8		*96.7%*			*80-120%*	"							"	
4-BFB		*100%*			*80-120%*	"							"	

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Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Conventional Chemistry Parameters per APHA/EPA Methods - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9050274 **Water Preparation Method: General Preparation**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9050274-BLK1)								**Extracted: 05/08/09 09:47**						
Total Organic Carbon	EPA 415.2	ND	---	1.00	mg/l	1x	--	--	--	--	--	--	05/08/09 21:35	
LCS (9050274-BS1)								**Extracted: 05/08/09 09:47**						
Total Organic Carbon	EPA 415.2	18.7	---	1.00	mg/l	1x	--	20.0	93.3%	(85-115)	--	--	05/08/09 21:35	
Duplicate (9050274-DUP1)				**QC Source: PSE0212-10**				**Extracted: 05/08/09 09:47**						
Total Organic Carbon	EPA 415.2	1.64	---	1.00	mg/l	1x	1.66	--	--	--	1.01%	(20)	05/08/09 21:35	
Matrix Spike (9050274-MS1)				**QC Source: PSE0212-10**				**Extracted: 05/08/09 09:47**						
Total Organic Carbon	EPA 415.2	26.2	---	1.01	mg/l	1x	1.66	25.3	96.8%	(75-125)	--	--	05/08/09 21:35	

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Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Anions per EPA Method 300.0 - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9050222 **Water Preparation Method: Wet Chem**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9050222-BLK1)								**Extracted: 05/07/09 10:31**						
Nitrate-Nitrogen	EPA 300.0	ND	---	0.100	mg/l	1x	--	--	--	--	--	--	05/07/09 14:21	
Sulfate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
LCS (9050222-BS1)								**Extracted: 05/07/09 10:31**						
Nitrate-Nitrogen	EPA 300.0	4.90	---	0.100	mg/l	1x	--	5.00	98.0%	(90-110)	--	--	05/07/09 14:36	
Sulfate	"	30.8	---	1.00	"	"	--	30.0	103%	"	--	--	"	
Duplicate (9050222-DUP1)					**QC Source: PSE0234-02**			**Extracted: 05/07/09 10:31**						
Nitrate-Nitrogen	EPA 300.0	6.21	---	0.100	mg/l	1x	6.22	--	--	--	0.161%	(20)	05/07/09 16:27	
Sulfate	"	34.3	---	1.00	"	"	34.3	--	--	--	0.233%	"	"	
Matrix Spike (9050222-MS1)					**QC Source: PSE0234-02**			**Extracted: 05/07/09 10:31**						
Sulfate	EPA 300.0	39.2	---	1.11	mg/l	1x	34.3	4.44	111%	(80-120)	--	--	05/07/09 16:43	
Nitrate-Nitrogen	"	8.59	---	0.111	"	"	6.22	2.22	107%	"	--	--	"	
Matrix Spike (9050222-MS2)					**QC Source: PSE0264-01**			**Extracted: 05/07/09 10:31**						
Nitrate-Nitrogen	EPA 300.0	2.76	---	0.111	mg/l	1x	0.580	2.22	97.9%	(80-120)	--	--	05/07/09 20:57	
Sulfate	"	16.8	---	1.11	"	"	12.3	4.44	101%	"	--	--	"	
Matrix Spike Dup (9050222-MSD1)					**QC Source: PSE0234-02**			**Extracted: 05/07/09 10:31**						
Sulfate	EPA 300.0	39.2	---	1.11	mg/l	1x	34.3	4.44	112%	(80-120)	0.0850%	(20)	05/07/09 16:59	
Nitrate-Nitrogen	"	8.60	---	0.111	"	"	6.22	2.22	107%	"	0.129%	"	"	

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Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Gases by RSK-175 - Laboratory Quality Control Results

TestAmerica Austin

QC Batch: 9E13010 **Water Preparation Method: RSK-175 Prep**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9E13010-BLK1)							**Extracted: 05/12/09 10:00**							
Methane	RSK SOP-175	ND	0.211	0.500	ug/L	1x	--	--	--	--	--	--	05/12/09 10:34	
Ethene	"	ND	0.0569	0.500	"	"	--	--	--	--	--	--	"	
Ethane	"	ND	0.0615	0.500	"	"	--	--	--	--	--	--	"	
LCS (9E13010-BS1)							**Extracted: 05/12/09 10:00**							
Methane	RSK SOP-175	40.8	0.211	0.500	ug/L	1x	--	45.74	89%	(40-130)	--	--	05/12/09 10:41	
Ethene	"	71.7	0.0569	0.500	"	"	--	79.99	90%	(32-148)	--	--	"	
Ethane	"	78.2	0.0615	0.500	"	"	--	85.75	91%	(32-131)	--	--	"	
LCS Dup (9E13010-BSD1)							**Extracted: 05/12/09 10:00**							
Methane	RSK SOP-175	50.4	0.211	0.500	ug/L	1x	--	45.80	110%	(40-130)	21%	(20)	05/12/09 10:46	R2
Ethene	"	77.4	0.0569	0.500	"	"	--	80.10	97%	(32-148)	8%	"	"	
Ethane	"	88.2	0.0615	0.500	"	"	--	85.87	103%	(32-131)	12%	"	"	
Matrix Spike (9E13010-MS1)					**QC Source: ASE0021-05**			**Extracted: 05/12/09 10:00**						
Methane	RSK SOP-175	86.3	0.211	0.500	ug/L	1x	32.0	45.30	120%	(40-130)	--	--	05/12/09 11:13	
Ethene	"	82.7	0.0569	0.500	"	"	ND	79.22	104%	(32-148)	--	--	"	
Ethane	"	80.6	0.0615	0.500	"	"	ND	84.93	95%	(32-131)	--	--	"	
Matrix Spike Dup (9E13010-MSD1)					**QC Source: ASE0021-05**			**Extracted: 05/12/09 10:00**						R2
Ethene	RSK SOP-175	117	0.0569	0.500	ug/L	1x	ND	78.45	149%	(32-148)	34%	(20)	05/12/09 11:09	M7
Ethane	"	139	0.0615	0.500	"	"	ND	84.10	165%	(32-131)	53%	"	"	M7
Methane	"	138	0.211	0.500	"	"	32.0	44.86	236%	(40-130)	46%	"	"	M7

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Hart Crowser	Project Name:	**DEQ Springvilla**	
8910 SW Gemini Drive	Project Number:	15267-03/Task 2	Report Created:
Beaverton, OR 97008	Project Manager:	Craig Dockter	05/21/09 14:15

Notes and Definitions

Report Specific Notes:

M7	-	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
R2	-	The RPD exceeded the acceptance limit.
RL7	-	Sample required dilution due to high concentrations of target analyte.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Darrell Auvil, Project Manager

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9000 W. International Airport Rd Ste. A10, Anchorage, AK 99502-1119 907-[illegible]-9200 FAX [illegible]

CHAIN OF CUSTODY REPORT

Work Order #: PSE0227

CLIENT: Hart Crowser

REPORT TO: Craig Dockter
ADDRESS: 890 SW Gemini Dr
Beaverton, OR 97008
PHONE: (503)620-7284 FAX: (503)620-6919

INVOICE TO: Craig Dockter

P.O. NUMBER:

PROJECT NAME: DEQ Springville
PROJECT NUMBER: 15267-03 / Task 2
SAMPLED BY: Chris Martin

TURNAROUND REQUEST in Business Days*

Organic & Inorganic Analyses: [10] STD. [7] [5] [4] [3] [2] [1] [<1]
Petroleum Hydrocarbon Analyses: [5] STD. [4] [3] [2] [1] [<1]
[OTHER] Specify:
* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE: HCl | H_2SO_4 | None | None | HCl

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	VOCs 8260B	TOC	Nitrate	Sulfate	Methane Ethane Ethene	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1 Ex-4i	5-6-09 / 9.10	X	X				W	4		
2 MW-14	" / 8.27	X		X	X		W	4		
3 DEQ-5	" / 9.37	X	X	X	X	X	W	5 cm 11		
4										
5										
6										
7										
8										
9										
10										

RELEASED BY: [signature] DATE: 5-7-09
PRINT NAME: Chris Martin FIRM: Hart Crowser TIME: 3:25

RECEIVED BY: [signature] DATE: 5/7/09
PRINT NAME: [signature] FIRM: TMP TIME: 825

RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY: DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:

TEMP: 2.2

PAGE OF

TAL-1000(0408)

TestAmerica Portland

Sample Receiving Checklist

Work Order #: PSE0227 Date/Time Received: 5/7/09 825

Client Name and Project: Hart Crowser DEQ Springville

PM to Complete This Section: Yes No Yes No

Residual Chlorine Check Required: ☐ ☐ Quarantined: ☐ ☐

Quote #:

Special Instructions:

Time Zone:

☐EDT/EST ☐CDT/CST ☐MDT/MST ☐PDT/PST ☐OTHER

Unpacking Checks:

Cooler #(s): 1

Temperatures: 2 2

Digi #1 Digi #2 IR Gun

☑ ☐ ☐ (☐Plastic ☐Glass)

Temperature out of Range:

__Not enough or No Ice

__Ice Melted

__W/in 4 Hrs of collection

__Other:_____

Initials: JM

N/A	Yes	No	
☑	☐	☐	1. If ESI client, were temp blanks received? If no, document on NOD.
☑	☐	☐	2. Cooler Seals intact? (N/A if hand delivered) if no, document on NOD.
	☑	☐	3. Chain of Custody present? If no, document on NOD.
	☑	☐	4. Bottles received intact? If no, document on NOD.
	☑	☐	5. Sample is not multiphasic? If no, document on NOD.
	☑	☐	6. Proper Container and preservatives used? If no, document on NOD.
☑	☐	☐	7. pH of all samples checked and meet requirements? If no, document on NOD.
☑	☐	☐	8. Cyanide samples checked for sulfides and meet requirements? If no, notify PM.
☑	☐	☐	9. HF Dilution required?
	☑	☐	10. Sufficient volume provided for all analysis? If no, document on NOD and consult PM before proceeding.
	☑	☒	11. Did chain of custody agree with samples received? If no, document on NOD. TB not on COC. BE
☐	☑	☐	12. Were VOA/Oil Syringe samples without headspace?
☐	☑	☐	13. Were VOA vials preserved? ☑HCL ☐Sodium Thiosulfate ☐Ascorbic Acid
	☐	☑	14. Did samples require preservation with sodium thiosulfate?
☑	☐	☐	15. If yes to #14, was the residual chlorine test negative? If no, document on NOD.
☑	☐	☐	16. Are dissolved/field filtered metals bottles sediment-free? If no, document on NOD.
☑	☐	☐	17. Is sufficient volume provided for client requested MS/MSD or matrix duplicates? If no, document on NOD and contact PM before proceeding.
☐	☑	☐	18. Are analyses with short holding times received in hold?
	☑	☐	19. Was Standard Turn Around (TAT) requested?
	☑	☐	20. Receipt date(s) < 48 hours past the collection date(s)? If no, notify PM.

TestAmerica Portland

Sample Receiving Checklist

Work Order #: PSE0227

Login Checks: Initials: PS

N/A	Yes	No	
	☒	☐	21. Sufficient volume provided for all analysis? If no, document on NOD & contact PM.
☒	☐	☐	22. Sufficient volume provided for client requested MS/MSD or matrix duplicates? If no. document on NOD and contact PM.
	☒	☐	23. Did the chain of custody include "received by" and "relinquished by" signatures, dates and times?
☒	☐	☐	24. Were special log in instructions read and followed?
	☒	☐	25. Were tests logged checked against the COC?
☒	☐	☐	26. Were rush notices printed and delivered?
☒	☐	☐	27. Were short hold notices printed and delivered?
☐	☒	☐	28. Were subcontract COCs printed?
☒	☐	☐	29. Was HF dilution logged?

Labeling and Storage Checks: Initials: BME

N/A	Yes	No	
☒	☒	☐	30. Were the subcontracted samples/containers put in Sx fridge?
☒	☐	☐	31. Were sample bottles and COC double checked for dissolved/filtered metals?
	☒	☐	32. Did the sample ID, Date, and Time from label match what was logged?
☒	☐	☐	33. Were Foreign sample stickers affixed to each container and containers stored in foreign fridge?
☒	☐	☐	34. Were HF stickers affixed to each container, and containers stored in Sx fridge?
☒	☒	☐	35. Was an NOD for created for noted discrepancies and placed in folder?

Document any problems or discrepancies and the actions taken to resolve them on a Notice of Discrepancy form (NOD).

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Est. 1970

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive

Beaverton, OR 97008

Report Summary

Thursday July 16, 2009

Report Number: L410633
Samples Received: 07/03/09
Client Project: 15267-03

Description: DEQ Springvilla

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Jarred Willis, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-01

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : MW-2

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 15:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	790	100	ug/l	300.0	07/03/09	1
Sulfate	7400	5000	ug/l	300.0	07/03/09	1
TOC (Total Organic Carbon)	2200	1000	ug/l	9060A	07/08/09	1
Volatile Organics						
Tetrachloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/10/09	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	07/10/09	1
Dibromofluoromethane	101.		% Rec.	8260B	07/10/09	1
4-Bromofluorobenzene	103.		% Rec.	8260B	07/10/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 07/16/09 08:54 Printed: 07/16/09 10:30

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-02

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : MW-4

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 11:01

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	6.5	1.0	ug/l	8260B	07/10/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/10/09	1
Surrogate Recovery						
Toluene-d8	106.		% Rec.	8260B	07/10/09	1
Dibromofluoromethane	102.		% Rec.	8260B	07/10/09	1
4-Bromofluorobenzene	103.		% Rec.	8260B	07/10/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
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July 16,2009

ESC Sample # : L410633-03

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : MW-5

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 11:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/11/09	1
Surrogate Recovery						
Toluene-d8	96.6		% Rec.	8260B	07/11/09	1
Dibromofluoromethane	101.		% Rec.	8260B	07/11/09	1
4-Bromofluorobenzene	92.6		% Rec.	8260B	07/11/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-04

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : MW-6

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 15:18

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/11/09	1
Surrogate Recovery						
Toluene-d8	95.4		% Rec.	8260B	07/11/09	1
Dibromofluoromethane	102.		% Rec.	8260B	07/11/09	1
4-Bromofluorobenzene	90.0		% Rec.	8260B	07/11/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 07/16/09 08:54 Printed: 07/16/09 10:30

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-05

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : MW-10

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 16:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/11/09	1
Surrogate Recovery						
Toluene-d8	98.8		% Rec.	8260B	07/11/09	1
Dibromofluoromethane	102.		% Rec.	8260B	07/11/09	1
4-Bromofluorobenzene	93.5		% Rec.	8260B	07/11/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-06

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : MW-12

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 12:38

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	1600	100	ug/l	300.0	07/03/09	1
Sulfate	BDL	5000	ug/l	300.0	07/03/09	1
TOC (Total Organic Carbon)	BDL	1000	ug/l	9060A	07/08/09	1
Volatile Organics						
Tetrachloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/11/09	1
Surrogate Recovery						
Toluene-d8	96.7		% Rec.	8260B	07/11/09	1
Dibromofluoromethane	101.		% Rec.	8260B	07/11/09	1
4-Bromofluorobenzene	94.7		% Rec.	8260B	07/11/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 07/16/09 08:54 Printed: 07/16/09 10:30

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-07

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : EX-1S

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 09:59

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	1900	100	ug/l	300.0	07/03/09	1
Sulfate	7200	5000	ug/l	300.0	07/03/09	1
Methane	4100	100	ug/l	RSK175	07/08/09	10
Ethane	BDL	130	ug/l	RSK175	07/08/09	10
Ethene	BDL	130	ug/l	RSK175	07/08/09	10
TOC (Total Organic Carbon)	2400	1000	ug/l	9060A	07/08/09	1
Volatile Organics						
Tetrachloroethene	460	10.	ug/l	8260B	07/15/09	10
Trichloroethene	56.	1.0	ug/l	8260B	07/11/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
cis-1,2-Dichloroethene	220	10.	ug/l	8260B	07/15/09	10
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Vinyl chloride	1.6	1.0	ug/l	8260B	07/11/09	1
Surrogate Recovery						
Toluene-d8	95.4		% Rec.	8260B	07/11/09	1
Dibromofluoromethane	97.1		% Rec.	8260B	07/11/09	1
4-Bromofluorobenzene	97.5		% Rec.	8260B	07/11/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 07/16/09 08:54 Printed: 07/16/09 10:30

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-08

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : EX-3S

Project # : 15267-03

Collected By :
Collection Date : 07/01/09 11:37

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	300.0	07/03/09	1
Sulfate	BDL	5000	ug/l	300.0	07/03/09	1
Methane	880	40.	ug/l	RSK175	07/08/09	4
Ethane	BDL	52.	ug/l	RSK175	07/08/09	4
Ethene	BDL	52.	ug/l	RSK175	07/08/09	4
TOC (Total Organic Carbon)	3700	1000	ug/l	9060A	07/08/09	1
Volatile Organics						
Tetrachloroethene	33.	1.0	ug/l	8260B	07/11/09	1
Trichloroethene	14.	1.0	ug/l	8260B	07/11/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
cis-1,2-Dichloroethene	150	1.0	ug/l	8260B	07/11/09	1
trans-1,2-Dichloroethene	1.1	1.0	ug/l	8260B	07/11/09	1
Vinyl chloride	52.	1.0	ug/l	8260B	07/11/09	1
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	07/11/09	1
Dibromofluoromethane	106.		% Rec.	8260B	07/11/09	1
4-Bromofluorobenzene	94.6		% Rec.	8260B	07/11/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 07/16/09 08:54 Printed: 07/16/09 10:30

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-09

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : DEQ-4

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 14:43

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	300.0	07/03/09	1
Sulfate	BDL	5000	ug/l	300.0	07/03/09	1
TOC (Total Organic Carbon)	6900	1000	ug/l	9060A	07/08/09	1
Volatile Organics						
Tetrachloroethene	BDL	1.0	ug/l	8260B	07/15/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/11/09	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	07/11/09	1
Dibromofluoromethane	98.5		% Rec.	8260B	07/11/09	1
4-Bromofluorobenzene	99.9		% Rec.	8260B	07/11/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 07/16/09 08:54 Printed: 07/16/09 10:30

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-10

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : MW-7

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 15:33

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	36.	1.0	ug/l	8260B	07/11/09	1
Trichloroethene	1.2	1.0	ug/l	8260B	07/11/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
cis-1,2-Dichloroethene	6.1	1.0	ug/l	8260B	07/11/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/11/09	1
Surrogate Recovery						
Toluene-d8	99.4		% Rec.	8260B	07/11/09	1
Dibromofluoromethane	96.5		% Rec.	8260B	07/11/09	1
4-Bromofluorobenzene	92.3		% Rec.	8260B	07/11/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Est. 1970

REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-11

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : MW-9

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 12:22

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	6.4	1.0	ug/l	8260B	07/11/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/11/09	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	07/11/09	1
Dibromofluoromethane	101.		% Rec.	8260B	07/11/09	1
4-Bromofluorobenzene	97.7		% Rec.	8260B	07/11/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-12

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : MW-11

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 16:03

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	5.4	1.0	ug/l	8260B	07/11/09	1
Trichloroethene	9.7	1.0	ug/l	8260B	07/11/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/11/09	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	07/11/09	1
Dibromofluoromethane	105.		% Rec.	8260B	07/11/09	1
4-Bromofluorobenzene	97.8		% Rec.	8260B	07/11/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-13

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : MW-14

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 10:48

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	300.0	07/03/09	1
Sulfate	BDL	5000	ug/l	300.0	07/03/09	1
Methane	460	10.	ug/l	RSK175	07/08/09	1
Ethane	BDL	13.	ug/l	RSK175	07/08/09	1
Ethene	BDL	13.	ug/l	RSK175	07/08/09	1
TOC (Total Organic Carbon)	25000	1000	ug/l	9060A	07/08/09	1
Volatile Organics						
Tetrachloroethene	BDL	1.0	ug/l	8260B	07/12/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/12/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/12/09	1
cis-1,2-Dichloroethene	350	5.0	ug/l	8260B	07/15/09	5
trans-1,2-Dichloroethene	1.9	1.0	ug/l	8260B	07/12/09	1
Vinyl chloride	12.	1.0	ug/l	8260B	07/12/09	1
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	07/12/09	1
Dibromofluoromethane	89.8		% Rec.	8260B	07/12/09	1
4-Bromofluorobenzene	106.		% Rec.	8260B	07/12/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-14

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : DEQ-1

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 15:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	4.8	1.0	ug/l	8260B	07/12/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/12/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/12/09	1
cis-1,2-Dichloroethene	12.	1.0	ug/l	8260B	07/12/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/12/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/12/09	1
Surrogate Recovery						
Toluene-d8	98.4		% Rec.	8260B	07/12/09	1
Dibromofluoromethane	85.5		% Rec.	8260B	07/12/09	1
4-Bromofluorobenzene	110.		% Rec.	8260B	07/12/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-15

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : EX-4I

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 10:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	21.	1.0	ug/l	8260B	07/11/09	1
Trichloroethene	7.3	1.0	ug/l	8260B	07/11/09	1
1,1-Dichloroethene	3.2	1.0	ug/l	8260B	07/11/09	1
cis-1,2-Dichloroethene	1200	25.	ug/l	8260B	07/15/09	25
trans-1,2-Dichloroethene	1.4	1.0	ug/l	8260B	07/11/09	1
Vinyl chloride	48.	1.0	ug/l	8260B	07/11/09	1
Surrogate Recovery						
Toluene-d8	98.4		% Rec.	8260B	07/11/09	1
Dibromofluoromethane	93.9		% Rec.	8260B	07/11/09	1
4-Bromofluorobenzene	98.3		% Rec.	8260B	07/11/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
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July 16,2009

ESC Sample # : L410633-16

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : IN-6I

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 14:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/15/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/11/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/11/09	1
Surrogate Recovery						
Toluene-d8	97.8		% Rec.	8260B	07/11/09	1
Dibromofluoromethane	100.		% Rec.	8260B	07/11/09	1
4-Bromofluorobenzene	95.7		% Rec.	8260B	07/11/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-17

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : IN-7I

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 14:02

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
cis-1,2-Dichloroethene	2.4	1.0	ug/l	8260B	07/10/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/10/09	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	07/10/09	1
Dibromofluoromethane	93.6		% Rec.	8260B	07/10/09	1
4-Bromofluorobenzene	84.2		% Rec.	8260B	07/10/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 07/16/09 08:54 Printed: 07/16/09 10:30

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-18

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : IN-8I

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 13:44

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/10/09	1
Surrogate Recovery						
Toluene-d8	99.7		% Rec.	8260B	07/10/09	1
Dibromofluoromethane	95.3		% Rec.	8260B	07/10/09	1
4-Bromofluorobenzene	82.2		% Rec.	8260B	07/10/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 07/16/09 08:54 Printed: 07/16/09 10:30

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-19

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : DEQ-2

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 13:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	300.0	07/03/09	1
Sulfate	5100	5000	ug/l	300.0	07/03/09	1
TOC (Total Organic Carbon)	BDL	1000	ug/l	9060A	07/09/09	1
Volatile Organics						
Tetrachloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Trichloroethene	1.3	1.0	ug/l	8260B	07/10/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
cis-1,2-Dichloroethene	2.1	1.0	ug/l	8260B	07/10/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/10/09	1
Surrogate Recovery						
Toluene-d8	99.5		% Rec.	8260B	07/10/09	1
Dibromofluoromethane	96.0		% Rec.	8260B	07/10/09	1
4-Bromofluorobenzene	83.4		% Rec.	8260B	07/10/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 07/16/09 08:54 Printed: 07/16/09 10:30

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-20

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : DEQ-3

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 16:52

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/10/09	1
Surrogate Recovery						
Toluene-d8	98.5		% Rec.	8260B	07/10/09	1
Dibromofluoromethane	92.2		% Rec.	8260B	07/10/09	1
4-Bromofluorobenzene	84.1		% Rec.	8260B	07/10/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 07/16/09 08:54 Printed: 07/16/09 10:30

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-21

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : 1460 G STREET

Project # : 15267-03

Collected By : C Martin-J Miles
Collection Date : 07/01/09 17:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	2.6	1.0	ug/l	8260B	07/10/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/10/09	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	07/10/09	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	07/10/09	1
Dibromofluoromethane	91.7		% Rec.	8260B	07/10/09	1
4-Bromofluorobenzene	82.5		% Rec.	8260B	07/10/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 07/16/09 08:54 Printed: 07/16/09 10:30

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-22

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : 1441 M STREET

Project # : 15267-03

Collected By :
Collection Date : 07/01/09 17:03

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	5.7	1.0	ug/l	8260B	07/10/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/10/09	1
Methyl tert-butyl ether	45.	1.0	ug/l	8260B	07/10/09	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	07/10/09	1
Dibromofluoromethane	94.1		% Rec.	8260B	07/10/09	1
4-Bromofluorobenzene	83.8		% Rec.	8260B	07/10/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 07/16/09 08:54 Printed: 07/16/09 10:30

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REPORT OF ANALYSIS

Craig Dockter
Hart Crowser - Portland, OR
8910 SW Gemini Drive
Beaverton, OR 97008

July 16,2009

ESC Sample # : L410633-23

Date Received : July 03, 2009
Description : DEQ Springvilla

Site ID :

Sample ID : 1350 N STREET

Project # : 15267-03

Collected By :
Collection Date : 07/01/09 17:18

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Tetrachloroethene	34.	1.0	ug/l	8260B	07/10/09	1
Trichloroethene	1.2	1.0	ug/l	8260B	07/10/09	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	07/10/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	07/10/09	1
Methyl tert-butyl ether	18.	1.0	ug/l	8260B	07/10/09	1
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	07/10/09	1
Dibromofluoromethane	92.9		% Rec.	8260B	07/10/09	1
4-Bromofluorobenzene	84.1		% Rec.	8260B	07/10/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 07/16/09 08:54 Printed: 07/16/09 10:30

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L410633-07	WG429801	SAMP	Nitrate	R805446	T8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
07/16/09 at 10:30:23

TSR Signing Reports: 358
R5 - Desired TAT

Sample: L410633-01 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54
UNI 484901 dor 7/14/09.
Sample: L410633-02 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-03 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-04 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-05 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-06 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54
Run nitrate out of hold.
Sample: L410633-07 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-08 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-09 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-10 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-11 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-12 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-13 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-14 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-15 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-16 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-17 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-18 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-19 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-20 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-21 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-22 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

Sample: L410633-23 Account: HARCROPOR Received: 07/03/09 09:00 Due Date: 07/17/09 00:00 RPT Date: 07/16/09 08:54

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Beaverton, OR 97008

Quality Assurance Report
Level II

July 16, 2009

L410633

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Nitrate	< .1	mg/l			WG429801	07/03/09 11:36
Sulfate	< 5	mg/l			WG429801	07/03/09 11:36
Nitrate	< .1	mg/l			WG429800	07/03/09 09:26
Sulfate	< 5	mg/l			WG429800	07/03/09 09:26
Ethane	< .013	mg/l			WG430411	07/08/09 14:53
Ethene	< .013	mg/l			WG430411	07/08/09 14:53
Methane	< .01	mg/l			WG430411	07/08/09 14:53
TOC (Total Organic Carbon)	< 1	mg/l			WG430405	07/08/09 16:33
TOC (Total Organic Carbon)	< 1	mg/l			WG430407	07/09/09 00:35
1,1-Dichloroethene	< .001	mg/l			WG430761	07/10/09 00:46
cis-1,2-Dichloroethene	< .001	mg/l			WG430761	07/10/09 00:46
Tetrachloroethene	< .001	mg/l			WG430761	07/10/09 00:46
trans-1,2-Dichloroethene	< .001	mg/l			WG430761	07/10/09 00:46
Trichloroethene	< .001	mg/l			WG430761	07/10/09 00:46
Vinyl chloride	< .001	mg/l			WG430761	07/10/09 00:46
4-Bromofluorobenzene		% Rec.	102.8	75-128	WG430761	07/10/09 00:46
Dibromofluoromethane		% Rec.	99.82	79-125	WG430761	07/10/09 00:46
Toluene-d8		% Rec.	102.1	87-114	WG430761	07/10/09 00:46
1,1-Dichloroethene	< .001	mg/l			WG430773	07/10/09 13:04
cis-1,2-Dichloroethene	< .001	mg/l			WG430773	07/10/09 13:04
Methyl tert-butyl ether	< .001	mg/l			WG430773	07/10/09 13:04
Tetrachloroethene	< .001	mg/l			WG430773	07/10/09 13:04
trans-1,2-Dichloroethene	< .001	mg/l			WG430773	07/10/09 13:04
Trichloroethene	< .001	mg/l			WG430773	07/10/09 13:04
Vinyl chloride	< .001	mg/l			WG430773	07/10/09 13:04
4-Bromofluorobenzene		% Rec.	87.79	75-128	WG430773	07/10/09 13:04
Dibromofluoromethane		% Rec.	90.83	79-125	WG430773	07/10/09 13:04
Toluene-d8		% Rec.	99.47	87-114	WG430773	07/10/09 13:04
1,1-Dichloroethene	< .001	mg/l			WG430770	07/11/09 03:07
cis-1,2-Dichloroethene	< .001	mg/l			WG430770	07/11/09 03:07
Tetrachloroethene	< .001	mg/l			WG430770	07/11/09 03:07
trans-1,2-Dichloroethene	< .001	mg/l			WG430770	07/11/09 03:07
Trichloroethene	< .001	mg/l			WG430770	07/11/09 03:07
Vinyl chloride	< .001	mg/l			WG430770	07/11/09 03:07
4-Bromofluorobenzene		% Rec.	93.15	75-128	WG430770	07/11/09 03:07
Dibromofluoromethane		% Rec.	100.7	79-125	WG430770	07/11/09 03:07
Toluene-d8		% Rec.	98.95	87-114	WG430770	07/11/09 03:07
1,1-Dichloroethene	< .001	mg/l			WG430974	07/11/09 11:14
cis-1,2-Dichloroethene	< .001	mg/l			WG430974	07/11/09 11:14
Tetrachloroethene	< .001	mg/l			WG430974	07/11/09 11:14
trans-1,2-Dichloroethene	< .001	mg/l			WG430974	07/11/09 11:14
Trichloroethene	< .001	mg/l			WG430974	07/11/09 11:14
Vinyl chloride	< .001	mg/l			WG430974	07/11/09 11:14

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Beaverton, OR 97008

Quality Assurance Report
Level II

L410633

July 16, 2009

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
4-Bromofluorobenzene		% Rec.	96.72	75-128		07/11/09 11:14
Dibromofluoromethane		% Rec.	101.7	79-125		07/11/09 11:14
Toluene-d8		% Rec.	100.1	87-114		07/11/09 11:14
1,1-Dichloroethene	< .001	mg/l			WG430992	07/11/09 23:38
cis-1,2-Dichloroethene	< .001	mg/l			WG430992	07/11/09 23:38
Tetrachloroethene	< .001	mg/l			WG430992	07/11/09 23:38
trans-1,2-Dichloroethene	< .001	mg/l			WG430992	07/11/09 23:38
Trichloroethene	< .001	mg/l			WG430992	07/11/09 23:38
Vinyl chloride	< .001	mg/l			WG430992	07/11/09 23:38
4-Bromofluorobenzene		% Rec.	106.3	75-128	WG430992	07/11/09 23:38
Dibromofluoromethane		% Rec.	84.22	79-125	WG430992	07/11/09 23:38
Toluene-d8		% Rec.	100.5	87-114	WG430992	07/11/09 23:38
cis-1,2-Dichloroethene	< .001	mg/l			WG431309	07/15/09 04:38
Tetrachloroethene	< .001	mg/l			WG431309	07/15/09 04:38
4-Bromofluorobenzene		% Rec.	89.70	75-128	WG431309	07/15/09 04:38
Dibromofluoromethane		% Rec.	117.0	79-125	WG431309	07/15/09 04:38
Toluene-d8		% Rec.	106.7	87-114	WG431309	07/15/09 04:38
cis-1,2-Dichloroethene	< .001	mg/l			WG431470	07/15/09 10:30
4-Bromofluorobenzene		% Rec.	97.40	75-128	WG431470	07/15/09 10:30
Dibromofluoromethane		% Rec.	105.5	79-125	WG431470	07/15/09 10:30
Toluene-d8		% Rec.	102.3	87-114	WG431470	07/15/09 10:30

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Sulfate	mg/l	23.7	24.0	1.26	20	L410224-03	WG429801
Sulfate	mg/l	83.2	84.0	0.957	20	L410283-02	WG429801
Sulfate	mg/l	18.0	18.0	0.00	20	L410068-18	WG429800
TOC (Total Organic Carbon)	mg/l	1.33	1.60	18.4	20	L410380-05	WG430405
TOC (Total Organic Carbon)	mg/l	24.7	25.0	1.25	20	L410633-13	WG430405
TOC (Total Organic Carbon)	mg/l	2.08	2.10	0.957	20	L410068-01	WG430407
TOC (Total Organic Carbon)	mg/l	9.85	9.90	0.506	20	L410976-01	WG430407

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Nitrate	mg/l	8	8.10	101.	90-110	WG429801
Sulfate	mg/l	40	37.2	93.0	90-110	WG429801
Nitrate	mg/l	8	8.12	102.	90-110	WG429800
Sulfate	mg/l	40	38.3	95.8	90-110	WG429800
Ethane	mg/l	.645	0.557	86.3	70-130	WG430411
Ethene	mg/l	.635	0.532	83.7	70-130	WG430411
Methane	mg/l	.339	0.268	78.9	70-130	WG430411

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Quality Assurance Report
Level II

July 16, 2009

L410633

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
TOC (Total Organic Carbon)	mg/l	75	76.7	102.	85-115	WG430405
TOC (Total Organic Carbon)	mg/l	75	70.1	93.4	85-115	WG430407
1,1-Dichloroethene	mg/l	.05	0.0543	109.	60-130	WG430761
cis-1,2-Dichloroethene	mg/l	.05	0.0509	102.	72-128	WG430761
Tetrachloroethene	mg/l	.05	0.0556	111.	67-135	WG430761
trans-1,2-Dichloroethene	mg/l	.05	0.0496	99.3	67-129	WG430761
Trichloroethene	mg/l	.05	0.0521	104.	74-126	WG430761
Vinyl chloride	mg/l	.05	0.0569	114.	55-153	WG430761
4-Bromofluorobenzene				104.7	75-128	WG430761
Dibromofluoromethane				102.0	79-125	WG430761
Toluene-d8				98.74	87-114	WG430761
1,1-Dichloroethene	mg/l	.05	0.0503	101.	60-130	WG430773
cis-1,2-Dichloroethene	mg/l	.05	0.0459	91.8	72-128	WG430773
Methyl tert-butyl ether	mg/l	.05	0.0449	89.8	51-142	WG430773
Tetrachloroethene	mg/l	.05	0.0443	88.7	67-135	WG430773
trans-1,2-Dichloroethene	mg/l	.05	0.0433	86.6	67-129	WG430773
Trichloroethene	mg/l	.05	0.0475	95.0	74-126	WG430773
Vinyl chloride	mg/l	.05	0.0462	92.5	55-153	WG430773
4-Bromofluorobenzene				86.69	75-128	WG430773
Dibromofluoromethane				95.26	79-125	WG430773
Toluene-d8				100.7	87-114	WG430773
1,1-Dichloroethene	mg/l	.05	0.0488	97.5	60-130	WG430770
cis-1,2-Dichloroethene	mg/l	.05	0.0493	98.7	72-128	WG430770
Tetrachloroethene	mg/l	.05	0.0468	93.6	67-135	WG430770
trans-1,2-Dichloroethene	mg/l	.05	0.0457	91.4	67-129	WG430770
Trichloroethene	mg/l	.05	0.0523	105.	74-126	WG430770
Vinyl chloride	mg/l	.05	0.0475	95.0	55-153	WG430770
4-Bromofluorobenzene				103.6	75-128	WG430770
Dibromofluoromethane				97.31	79-125	WG430770
Toluene-d8				96.76	87-114	WG430770
1,1-Dichloroethene	mg/l	.05	0.0572	114.	60-130	WG430974
cis-1,2-Dichloroethene	mg/l	.05	0.0502	100.	72-128	WG430974
Tetrachloroethene	mg/l	.05	0.0494	98.7	67-135	WG430974
trans-1,2-Dichloroethene	mg/l	.05	0.0504	101.	67-129	WG430974
Trichloroethene	mg/l	.05	0.0500	100.	74-126	WG430974
Vinyl chloride	mg/l	.05	0.0521	104.	55-153	WG430974
4-Bromofluorobenzene				99.03	75-128	WG430974
Dibromofluoromethane				100.7	79-125	WG430974
Toluene-d8				102.4	87-114	WG430974
1,1-Dichloroethene	mg/l	.05	0.0605	121.	60-130	WG430992
cis-1,2-Dichloroethene	mg/l	.05	0.0493	98.6	72-128	WG430992
Tetrachloroethene	mg/l	.05	0.0606	121.	67-135	WG430992
trans-1,2-Dichloroethene	mg/l	.05	0.0506	101.	67-129	WG430992
Trichloroethene	mg/l	.05	0.0522	104.	74-126	WG430992
Vinyl chloride	mg/l	.05	0.0471	94.2	55-153	WG430992
4-Bromofluorobenzene				102.6	75-128	WG430992
Dibromofluoromethane				93.88	79-125	WG430992

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July 16, 2009

L410633

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Toluene-d8				100.3	87-114	
cis-1,2-Dichloroethene	mg/l	.05	0.0495	99.0	72-128	WG431309
Tetrachloroethene	mg/l	.05	0.0377	75.5	67-135	WG431309
4-Bromofluorobenzene				97.63	75-128	WG431309
Dibromofluoromethane				109.0	79-125	WG431309
Toluene-d8				105.3	87-114	WG431309
cis-1,2-Dichloroethene	mg/l	.05	0.0508	102.	72-128	WG431470
4-Bromofluorobenzene				101.6	75-128	WG431470
Dibromofluoromethane				104.5	79-125	WG431470
Toluene-d8				103.0	87-114	WG431470

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Nitrate	mg/l	8.07	8.10	101.	90-110	0.371	20	WG429801
Sulfate	mg/l	37.2	37.2	93.0	90-110	0.00	20	WG429801
Nitrate	mg/l	8.09	8.12	101.	90-110	0.370	20	WG429800
Sulfate	mg/l	38.3	38.3	96.0	90-110	0.00	20	WG429800
Ethane	mg/l	0.587	0.557	91.0	70-130	5.34	25	WG430411
Ethene	mg/l	0.562	0.532	88.0	70-130	5.51	25	WG430411
Methane	mg/l	0.273	0.268	81.0	70-130	2.16	25	WG430411
TOC (Total Organic Carbon)	mg/l	69.0	76.7	92.0	85-115	10.6	20	WG430405
TOC (Total Organic Carbon)	mg/l	70.0	70.1	93.0	85-115	0.0428	20	WG430407
1,1-Dichloroethene	mg/l	0.0574	0.0543	115.	60-130	5.62	20	WG430761
cis-1,2-Dichloroethene	mg/l	0.0498	0.0509	100.	72-128	2.18	20	WG430761
Tetrachloroethene	mg/l	0.0529	0.0556	106.	67-135	5.08	20	WG430761
trans-1,2-Dichloroethene	mg/l	0.0503	0.0496	101.	67-129	1.37	20	WG430761
Trichloroethene	mg/l	0.0506	0.0521	101.	74-126	2.89	20	WG430761
Vinyl chloride	mg/l	0.0548	0.0569	110.	55-153	3.78	20	WG430761
4-Bromofluorobenzene				95.18	75-128			WG430761
Dibromofluoromethane				102.4	79-125			WG430761
Toluene-d8				98.49	87-114			WG430761
1,1-Dichloroethene	mg/l	0.0562	0.0503	112.	60-130	11.0	20	WG430773
cis-1,2-Dichloroethene	mg/l	0.0488	0.0459	98.0	72-128	6.07	20	WG430773
Methyl tert-butyl ether	mg/l	0.0493	0.0449	99.0	51-142	9.27	20	WG430773
Tetrachloroethene	mg/l	0.0470	0.0443	94.0	67-135	5.72	20	WG430773
trans-1,2-Dichloroethene	mg/l	0.0463	0.0433	93.0	67-129	6.64	20	WG430773
Trichloroethene	mg/l	0.0508	0.0475	102.	74-126	6.58	20	WG430773
Vinyl chloride	mg/l	0.0480	0.0462	96.0	55-153	3.83	20	WG430773
4-Bromofluorobenzene				88.30	75-128			WG430773
Dibromofluoromethane				95.29	79-125			WG430773
Toluene-d8				100.2	87-114			WG430773
1,1-Dichloroethene	mg/l	0.0492	0.0488	98.0	60-130	0.798	20	WG430770

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Craig Dockter
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Quality Assurance Report
Level II

July 16, 2009

L410633

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
cis-1,2-Dichloroethene	mg/l	0.0495	0.0493	99.0	72-128	0.212	20	WG430770
Tetrachloroethene	mg/l	0.0466	0.0468	93.0	67-135	0.509	20	WG430770
trans-1,2-Dichloroethene	mg/l	0.0458	0.0457	92.0	67-129	0.283	20	WG430770
Trichloroethene	mg/l	0.0546	0.0523	109.	74-126	4.20	20	WG430770
Vinyl chloride	mg/l	0.0459	0.0475	92.0	55-153	3.39	20	WG430770
4-Bromofluorobenzene				97.11	75-128			WG430770
Dibromofluoromethane				99.54	79-125			WG430770
Toluene-d8				97.93	87-114			WG430770
1,1-Dichloroethene	mg/l	0.0581	0.0572	116.	60-130	1.62	20	WG430974
cis-1,2-Dichloroethene	mg/l	0.0513	0.0502	103.	72-128	2.18	20	WG430974
Tetrachloroethene	mg/l	0.0510	0.0494	102.	67-135	3.16	20	WG430974
trans-1,2-Dichloroethene	mg/l	0.0518	0.0504	104.	67-129	2.67	20	WG430974
Trichloroethene	mg/l	0.0514	0.0500	103.	74-126	2.84	20	WG430974
Vinyl chloride	mg/l	0.0529	0.0521	106.	55-153	1.64	20	WG430974
4-Bromofluorobenzene				99.83	75-128			WG430974
Dibromofluoromethane				101.3	79-125			WG430974
Toluene-d8				101.7	87-114			WG430974
1,1-Dichloroethene	mg/l	0.0570	0.0605	114.	60-130	6.03	20	WG430992
cis-1,2-Dichloroethene	mg/l	0.0449	0.0493	90.0	72-128	9.29	20	WG430992
Tetrachloroethene	mg/l	0.0582	0.0606	116.	67-135	3.95	20	WG430992
trans-1,2-Dichloroethene	mg/l	0.0450	0.0506	90.0	67-129	11.7	20	WG430992
Trichloroethene	mg/l	0.0489	0.0522	98.0	74-126	6.59	20	WG430992
Vinyl chloride	mg/l	0.0420	0.0471	84.0	55-153	11.4	20	WG430992
4-Bromofluorobenzene				100.5	75-128			WG430992
Dibromofluoromethane				91.24	79-125			WG430992
Toluene-d8				95.30	87-114			WG430992
cis-1,2-Dichloroethene	mg/l	0.0507	0.0495	101.	72-128	2.43	20	WG431309
Tetrachloroethene	mg/l	0.0379	0.0377	76.0	67-135	0.445	20	WG431309
4-Bromofluorobenzene				92.85	75-128			WG431309
Dibromofluoromethane				111.6	79-125			WG431309
Toluene-d8				107.6	87-114			WG431309
cis-1,2-Dichloroethene	mg/l	0.0477	0.0508	95.0	72-128	6.33	20	WG431470
4-Bromofluorobenzene				104.7	75-128			WG431470
Dibromofluoromethane				101.4	79-125			WG431470
Toluene-d8				102.8	87-114			WG431470

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Nitrate	mg/l	5.60	0.550	5	101.	80-120	L410632-01	WG429801
Sulfate	mg/l	159.	110.	50	98.0	80-120	L410632-01	WG429801
Sulfate	mg/l	73.6	24.0	50	99.2	80-120	L410224-02	WG429800
TOC (Total Organic Carbon)	mg/l	49.3	6.90	50	84.8	80-120	L410385-01	WG430405
TOC (Total Organic Carbon)	mg/l	44.1	1.70	50	84.8	80-120	L410068-02	WG430407

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Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1-Dichloroethene	mg/l	0.767	0.00	.05	76.7	10-162	L410507-02	WG430761
cis-1,2-Dichloroethene	mg/l	0.777	0.00	.05	77.7	29-156	L410507-02	WG430761
Tetrachloroethene	mg/l	0.919	0.00	.05	91.9	13-157	L410507-02	WG430761
trans-1,2-Dichloroethene	mg/l	0.752	0.00	.05	75.2	11-160	L410507-02	WG430761
Trichloroethene	mg/l	0.860	0.00	.05	86.0	18-163	L410507-02	WG430761
Vinyl chloride	mg/l	0.703	0.00	.05	70.3	0-179	L410507-02	WG430761
1,1-Dichloroethene	mg/l	0.0511	0.00	.05	102.	10-162	L410580-17	WG430773
cis-1,2-Dichloroethene	mg/l	0.0471	0.00	.05	94.2	29-156	L410580-17	WG430773
Methyl tert-butyl ether	mg/l	0.0505	0.00	.05	101.	24-167	L410580-17	WG430773
Tetrachloroethene	mg/l	0.0428	0.00	.05	85.5	13-157	L410580-17	WG430773
trans-1,2-Dichloroethene	mg/l	0.0389	0.00	.05	77.8	11-160	L410580-17	WG430773
Trichloroethene	mg/l	0.0465	0.00	.05	92.9	18-163	L410580-17	WG430773
Vinyl chloride	mg/l	0.0458	0.00	.05	91.6	0-179	L410580-17	WG430773
4-Bromofluorobenzene					90.87	75-128		WG430773
Dibromofluoromethane					95.66	79-125		WG430773
Toluene-d8					99.63	87-114		WG430773
1,1-Dichloroethene	mg/l	0.0575	0.00	.05	115.	10-162	L410633-06	WG430770
cis-1,2-Dichloroethene	mg/l	0.0521	0.00	.05	104.	29-156	L410633-06	WG430770
Tetrachloroethene	mg/l	0.0438	0.00	.05	87.7	13-157	L410633-06	WG430770
trans-1,2-Dichloroethene	mg/l	0.0429	0.00	.05	85.9	11-160	L410633-06	WG430770
Trichloroethene	mg/l	0.0532	0.00	.05	106.	18-163	L410633-06	WG430770
Vinyl chloride	mg/l	0.0411	0.00	.05	82.3	0-179	L410633-06	WG430770
4-Bromofluorobenzene					91.78	75-128		WG430770
Dibromofluoromethane					96.41	79-125		WG430770
Toluene-d8					98.92	87-114		WG430770
1,1-Dichloroethene	mg/l	0.0639	0.00210	.05	124.	10-162	L410710-01	WG430974
cis-1,2-Dichloroethene	mg/l	0.0903	0.0420	.05	96.6	29-156	L410710-01	WG430974
Tetrachloroethene	mg/l	0.522	0.510	.05	23.7	13-157	L410710-01	WG430974
trans-1,2-Dichloroethene	mg/l	0.0477	0.00	.05	95.4	11-160	L410710-01	WG430974
Trichloroethene	mg/l	0.332	0.290	.05	83.5	18-163	L410710-01	WG430974
Vinyl chloride	mg/l	0.0472	0.00	.05	94.3	0-179	L410710-01	WG430974
4-Bromofluorobenzene					102.0	75-128		WG430974
Dibromofluoromethane					102.1	79-125		WG430974
Toluene-d8					101.5	87-114		WG430974
1,1-Dichloroethene	mg/l	0.0533	0.00	.05	107.	10-162	L410633-13	WG430992
cis-1,2-Dichloroethene	mg/l	0.357	0.380	.05	0.00*	29-156	L410633-13	WG430992
Tetrachloroethene	mg/l	0.0600	0.00	.05	120.	13-157	L410633-13	WG430992
trans-1,2-Dichloroethene	mg/l	0.0526	0.00190	.05	101.	11-160	L410633-13	WG430992
Trichloroethene	mg/l	0.0515	0.00	.05	103.	18-163	L410633-13	WG430992
Vinyl chloride	mg/l	0.0541	0.0120	.05	84.2	0-179	L410633-13	WG430992
4-Bromofluorobenzene					106.2	75-128		WG430992
Dibromofluoromethane					94.47	79-125		WG430992
Toluene-d8					98.18	87-114		WG430992
cis-1,2-Dichloroethene	mg/l	0.0520	0.00	.05	104.	29-156	L411571-01	WG431309
Tetrachloroethene	mg/l	0.0388	0.00	.05	77.5	13-157	L411571-01	WG431309
4-Bromofluorobenzene					100.4	75-128		WG431309
Dibromofluoromethane					114.6	79-125		WG431309
Toluene-d8					102.0	87-114		WG431309

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Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
cis-1,2-Dichloroethene	mg/l	1.21	0.00	.05	97.1	29-156	L411438-04	WG431470
4-Bromofluorobenzene					101.4	75-128		WG431470
Dibromofluoromethane					103.3	79-125		WG431470
Toluene-d8					102.3	87-114		WG431470

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Nitrate	mg/l	5.55	5.60	100.	80-120	0.897	20	L410632-01	WG429801
Sulfate	mg/l	158.	159.	96.0	80-120	0.631	20	L410632-01	WG429801
Sulfate	mg/l	74.1	73.6	100.	80-120	0.677	20	L410224-02	WG429800
TOC (Total Organic Carbon)	mg/l	48.2	49.3	82.6	80-120	2.26	20	L410385-01	WG430405
TOC (Total Organic Carbon)	mg/l	45.3	44.1	87.2	80-120	2.71	20	L410068-02	WG430407
1,1-Dichloroethene	mg/l	0.830	0.767	83.0	10-162	7.89	23	L410507-02	WG430761
cis-1,2-Dichloroethene	mg/l	0.873	0.777	87.3	29-156	11.7	22	L410507-02	WG430761
Tetrachloroethene	mg/l	0.998	0.919	99.8	13-157	8.26	24	L410507-02	WG430761
trans-1,2-Dichloroethene	mg/l	0.831	0.752	83.1	11-160	9.91	23	L410507-02	WG430761
Trichloroethene	mg/l	0.937	0.860	93.7	18-163	8.50	21	L410507-02	WG430761
Vinyl chloride	mg/l	0.779	0.703	77.9	0-179	10.2	26	L410507-02	WG430761
1,1-Dichloroethene	mg/l	0.0408	0.0511	81.7	10-162	22.3	23	L410580-17	WG430773
cis-1,2-Dichloroethene	mg/l	0.0391	0.0471	78.1	29-156	18.7	22	L410580-17	WG430773
Methyl tert-butyl ether	mg/l	0.0423	0.0505	84.7	24-167	17.6	22	L410580-17	WG430773
Tetrachloroethene	mg/l	0.0359	0.0428	71.8	13-157	17.4	24	L410580-17	WG430773
trans-1,2-Dichloroethene	mg/l	0.0330	0.0389	66.1	11-160	16.2	23	L410580-17	WG430773
Trichloroethene	mg/l	0.0388	0.0465	77.6	18-163	18.0	21	L410580-17	WG430773
Vinyl chloride	mg/l	0.0380	0.0458	75.9	0-179	18.7	26	L410580-17	WG430773
4-Bromofluorobenzene				88.74	75-128				WG430773
Dibromofluoromethane				95.77	79-125				WG430773
Toluene-d8				99.68	87-114				WG430773
1,1-Dichloroethene	mg/l	0.0478	0.0575	95.5	10-162	18.5	23	L410633-06	WG430770
cis-1,2-Dichloroethene	mg/l	0.0455	0.0521	91.1	29-156	13.4	22	L410633-06	WG430770
Tetrachloroethene	mg/l	0.0385	0.0438	77.0	13-157	13.0	24	L410633-06	WG430770
trans-1,2-Dichloroethene	mg/l	0.0378	0.0429	75.6	11-160	12.8	23	L410633-06	WG430770
Trichloroethene	mg/l	0.0436	0.0532	87.3	18-163	19.7	21	L410633-06	WG430770
Vinyl chloride	mg/l	0.0342	0.0411	68.4	0-179	18.4	26	L410633-06	WG430770
4-Bromofluorobenzene				94.44	75-128				WG430770
Dibromofluoromethane				99.14	79-125				WG430770
Toluene-d8				96.57	87-114				WG430770
1,1-Dichloroethene	mg/l	0.0709	0.0639	138.	10-162	10.4	23	L410710-01	WG430974
cis-1,2-Dichloroethene	mg/l	0.0948	0.0903	106.	29-156	4.81	22	L410710-01	WG430974
Tetrachloroethene	mg/l	0.508	0.522	0*	13-157	2.66	24	L410710-01	WG430974
trans-1,2-Dichloroethene	mg/l	0.0533	0.0477	107.	11-160	11.1	23	L410710-01	WG430974
Trichloroethene	mg/l	0.331	0.332	82.3	18-163	0.178	21	L410710-01	WG430974
Vinyl chloride	mg/l	0.0512	0.0472	102.	0-179	8.25	26	L410710-01	WG430974
4-Bromofluorobenzene				99.96	75-128				WG430974

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Analyte	Units	Matrix Spike MSD	Matrix Spike Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
Dibromofluoromethane				101.9	79-125				
Toluene-d8				99.60	87-114				
1,1-Dichloroethene	mg/l	0.0549	0.0533	110.	10-162	2.96	23	L410633-13	WG430992
cis-1,2-Dichloroethene	mg/l	0.344	0.357	0*	29-156	3.76	22	L410633-13	WG430992
Tetrachloroethene	mg/l	0.0655	0.0600	131.	13-157	8.75	24	L410633-13	WG430992
trans-1,2-Dichloroethene	mg/l	0.0529	0.0526	102.	11-160	0.575	23	L410633-13	WG430992
Trichloroethene	mg/l	0.0535	0.0515	107.	18-163	3.72	21	L410633-13	WG430992
Vinyl chloride	mg/l	0.0502	0.0541	76.3	0-179	7.58	26	L410633-13	WG430992
4-Bromofluorobenzene				109.8	75-128				WG430992
Dibromofluoromethane				89.65	79-125				WG430992
Toluene-d8				98.81	87-114				WG430992
cis-1,2-Dichloroethene	mg/l	0.0509	0.0520	102.	29-156	2.23	22	L411571-01	WG431309
Tetrachloroethene	mg/l	0.0383	0.0388	76.6	13-157	1.22	24	L411571-01	WG431309
4-Bromofluorobenzene				95.76	75-128				WG431309
Dibromofluoromethane				112.1	79-125				WG431309
Toluene-d8				106.0	87-114				WG431309
cis-1,2-Dichloroethene	mg/l	1.16	1.21	93.1	29-156	4.19	22	L411438-04	WG431470
4-Bromofluorobenzene				102.5	75-128				WG431470
Dibromofluoromethane				103.8	79-125				WG431470
Toluene-d8				103.2	87-114				WG431470

Batch number /Run number / Sample number cross reference

WG429801: R805446: L410633-07 09
WG429800: R805546: L410633-01 06 08 13 19
WG430411: R808526: L410633-07 08 13
WG430405: R809567: L410633-01 06 07 08 09 13
WG430407: R809570: L410633-19
WG430761: R811807: L410633-01 02
WG430773: R812572: L410633-17 18 19 20 21 22 23
WG430770: R813086: L410633-03 04 05 06 07 09 10 11 15 16
WG430974: R813610: L410633-08 12
WG430992: R813706: L410633-13 14
WG431309: R819226: L410633-07 09 15 16
WG431470: R820046: L410633-13

* * Calculations are performed prior to rounding of reported values .
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The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Sample Custody Record

DATE 7-2-09 PAGE 1 OF 3

HARTCROWSER

Hart Crowser, Inc.
Five Centerpointe Drive, Suite 240
Lake Oswego, Oregon 97035

JOB NUMBER 15267-03 / Task 2 LAB NUMBER

PROJECT MANAGER Craig Dockter

PROJECT NAME DEQ Sprinquilla

SAMPLED BY: Chris Martin / Jason Hibbs

LAB NO.	SAMPLE	TIME	DATE ~~STATION~~	MATRIX	TESTING: Shortlist VOC's 8260B	TOC 415.1	Nitrates 300.0	Sulfates 300.0	MEE RSK-175	NO. OF CONTAINERS	E131 OBSERVATIONS / COMMENTS / COMPOSITING INSTRUCTIONS
	MW-2	15:00	7-1-09	W	X	X	X	X		5	L410633-01
	MW-4	1101			X					3	-02
	MW-5	1120			X					3	-03
	MW-6	1518			X					3	-04
	MW-10	1615			X					3	-05
	MW-12	1238			X	X	X	X		5	-06
	Ex-1s	0959			X	X	X	X	X	8	-07
	~~Ex-2s~~										
	Ex-3s	1137			X	X	X	X	X	8	-08
	~~IN-4S~~										
	~~IN-5S~~										
	DEQ-4	1443			X	X	X	X		5	-09

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE	7/2/09	SIGNATURE	
PRINTED NAME Chris Martin	TIME 9:00	PRINTED NAME	TIME
COMPANY HC		COMPANY	
RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE		SIGNATURE	7/3/09
PRINTED NAME	TIME	PRINTED NAME	TIME 0915
COMPANY		COMPANY ESC	

TOTAL NUMBER OF CONTAINERS 43

METHOD OF SHIPMENT fed ex

SPECIAL SHIPMENT / HANDLING OR STORAGE REQUIREMENTS Standard turnaround.

3.1°C Custody seal intact UPS 92 containers

DISTRIBUTION:

1. PROVIDE WHITE AND YELLOW COPIES TO LABORATORY
2. RETURN PINK COPY TO PROJECT MANAGER
3. LABORATORY TO FILL IN SAMPLE NUMBER AND SIGN FOR RECEIPT
4. LABORATORY TO RETURN WHITE COPY TO HART CROWSER

NCF

☐ 1910 Fairview Ave., E., Seattle WA 98102
☐ 2250 Denali St., #705, Anchorage, AK 99503
☐ Five Centerpointe Dr., Lake Oswego, OR 97035
☐ 307 E. Ocean Blvd., #1950, Long Beach CA 90802
☐ 120 3rd Ave S., #110, Edmonds, WA 98020
☐ 811 Church Hill Rd., # 236, Cherry Hill, NJ 08002

Sample Custody Record

HARTCROWSER

Samples Shipped To: ESC

JOB 15267-03 LAB NUMBER

PROJECT NAME DEQ Springville

HART CROWSER CONTACT Craig Dodder

SAMPLED BY: Chris Martin / Jason Miles

LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX	Shortlist VOCs 8260B	TOC, 415.1	Nitrates 300.0	Sulfates 300.0	MEE RSK175	NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
	MW-7		7-1-09	15:33	W	X					3	L410633 -10
	MW-9			1222		X					3	-11
	MW-11			1603		X					3	-12
	MW-14			1048		X	X	X	X	X	8	-13
	DEQ-1			1545		X					3	-14
	EX-4i			1020		X					3	-15
	IN-6i			1415		X					3	-16
	IN-7i			1402		X					3	-17
	IN-8i		▽	1344	▽	X					3	-18

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE Chris Martin	7/2/09	SIGNATURE	
PRINT NAME	TIME	PRINT NAME	TIME
COMPANY HC	9:00	COMPANY	
RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE		SIGNATURE	7/3/09
PRINT NAME	TIME	PRINT NAME	TIME
COMPANY		COMPANY	0915

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS

92 containers

36 TOTAL NUMBER OF CONTAINERS

SAMPLE RECEIPT INFORMATION
CUSTODY SEALS ☑YES ☐NO ☐N/A
GOOD CONDITION ☐YES ☐NO
TEMPERATURE 3.1°C
SHIPMENT METHOD ☐HAND ☐COURIER ☑OVERNIGHT UPS

COOLER NO.: STORAGE LOCATION:

See Lab Work Order No. for Other Contract Requirements

TURNAROUND TIME:
☐ 24 HOURS ☐ 1 WEEK
☐ 48 HOURS ☒ STANDARD WCF
☐ 72 HOURS OTHER

White and Yellow Copies to Lab — Pink to Project Manager — Lab to Return White Copy to Hart Crowser — Gold to Sample Custodian

☐ 1910 Fairview Ave., E., Seattle WA 98102
☐ 2250 Denali St., #705, Anchorage, AK 99503
☐ Five Centerpointe Dr., Lake Oswego, OR 97035
☐ 301 E. Ocean Blvd., #1950, Long Beach CA 90802
☐ 120 3rd Ave S., #110, Edmonds, WA 98020
☐ 811 Church Hill Rd., # 236, Cherry Hill, NJ 08002

3 of 3

Sample Custody Record

HARTCROWSER

Samples Shipped To: ESC

JOB 152670.03/Task2 LAB NUMBER

PROJECT NAME DEQ Springville

HART CROWSER CONTACT Craig Doctor

SAMPLED BY: Chris Martin / ERM Jason Miles

LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX	Shortlist VOC's 8260B	TOC 415.1	Nitrates 300.0	Sulfates 300.0	MTBE *	NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
	DEQ-2		7-1-09	1300	W	X	X	X	X		5	L410653 – 19
	DEQ-3		↓	1652	↓	X					3	* Please analyze -20
	1460 G Street			1745		X				X	3	for MTBE in -21
	1441 M Street			1703		X				X	3	addition to -22
	1350 N Street		↓	1718	↓	X				X	3	Shortlist BVOCs -23
												in these samples
												only

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE Chris Martin	7/2/09	SIGNATURE	
PRINT NAME	TIME	PRINT NAME	TIME
COMPANY HC	9.00	COMPANY	
RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE		SIGNATURE	7/3/09
PRINT NAME	TIME	PRINT NAME	TIME
COMPANY		COMPANY	0915

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS

92 containers

17 TOTAL NUMBER OF CONTAINERS

SAMPLE RECEIPT INFORMATION
CUSTODY SEALS ☑ YES ☐ NO ☐ N/A
GOOD CONDITION ☐ YES ☐ NO
TEMPERATURE 3.1°C
SHIPMENT METHOD ☐ HAND ☑ OVERNIGHT UPS ☐ COURIER

COOLER NO.: STORAGE LOCATION:

See Lab Work Order No. _____ for Other Contract Requirements

TURNAROUND TIME:
☐ 24 HOURS ☐ 1 WEEK
☐ 48 HOURS ☑ STANDARD
☐ 72 HOURS OTHER _____

White and Yellow Copies to Lab — Pink to Project Manager — Lab to Return White Copy to Hart Crowser — Gold to Sample Custodian

NF

ENVIRONMENTAL SCIENCE CORP.

SAMPLE NON-CONFORMANCE FORM

Login No. : L410633

Date: 7/3/09

Evaluated by: Jonah

Client: HARCROPOR

Non-Conformance (check applicable items)

____	Chain of Custody is missing	✓	Login Clarification Needed
____	Improper container type	____	Improper preservation
____	Chain of custody is incomplete	____	Container lid not intact
✓	Parameter(s) past holding time	____	Improper temperature
____	Broken container(s) **see below**	____	Broken container: sufficient sample volume remains for analysis requested

____ Insufficient packing material around container

____ Insufficient packing material inside cooler

____ Improper handling by carrier (FedEx / UPS / Courier)

____ Sample was frozen

Comments: ① Ex-1S out of hold for Nitrate.
② Clarify analysis for "Shortlist VOCs 8260B".

Login Instructions:

TSR Initials: JW

Client informed by call / email / fax / voice mail date: _____ time: _____

Client contact: - ① Run analysis and qualify
② log for V8260

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Don Hanson - ODEQ
State of Oregon
165 East 7th Ave., Suite 100

Eugene, OR 97401

Report Summary

Wednesday October 14, 2009

Report Number: L426295
Samples Received: 10/08/09
Client Project: 15267-03/Task 2

Description: ODEQ - Springvilla

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Jarred Willis, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910

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REPORT OF ANALYSIS

Don Hanson - ODEQ
State of Oregon
165 East 7th Ave., Suite 100
Eugene, OR 97401

October 14,2009

ESC Sample # : L426295-01

Site ID :

Project # : 15267-03/Task 2

Date Received : October 08, 2009
Description : ODEQ - Springvilla

Sample ID : EX-1S

Collected By : Jason Miles
Collection Date : 10/07/09 09:42

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
cis-1,2-Dichloroethene	40.	1.0	ug/l	8260B	10/12/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/12/09	1
Tetrachloroethene	270	5.0	ug/l	8260B	10/13/09	5
Trichloroethene	34.	1.0	ug/l	8260B	10/12/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	10/12/09	1
Surrogate Recovery						
Toluene-d8	93.1		% Rec.	8260B	10/12/09	1
Dibromofluoromethane	110.		% Rec.	8260B	10/12/09	1
4-Bromofluorobenzene	85.1		% Rec.	8260B	10/12/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 10/13/09 16:16 Revised: 10/14/09 10:44

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REPORT OF ANALYSIS

Don Hanson - ODEQ
State of Oregon
165 East 7th Ave., Suite 100
Eugene, OR 97401

October 14,2009

ESC Sample # : L426295-02

Date Received : October 08, 2009
Description : ODEQ - Springvilla

Site ID :

Sample ID : EX-3S

Project # : 15267-03/Task 2

Collected By : Jason Miles
Collection Date : 10/07/09 10:59

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/12/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/12/09	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	10/12/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	10/12/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	10/12/09	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	10/12/09	1
Dibromofluoromethane	110.		% Rec.	8260B	10/12/09	1
4-Bromofluorobenzene	90.3		% Rec.	8260B	10/12/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 10/13/09 16:16 Revised: 10/14/09 10:44

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REPORT OF ANALYSIS

Don Hanson - ODEQ
State of Oregon
165 East 7th Ave., Suite 100
Eugene, OR 97401

October 14,2009

ESC Sample # : L426295-03

Date Received : October 08, 2009
Description : ODEQ - Springvilla

Site ID :

Sample ID : EX-4I

Project # : 15267-03/Task 2

Collected By : Jason Miles
Collection Date : 10/07/09 10:04

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
cis-1,2-Dichloroethene	24.	1.0	ug/l	8260B	10/12/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/12/09	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	10/12/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	10/12/09	1
Vinyl chloride	100	1.0	ug/l	8260B	10/12/09	1
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	10/12/09	1
Dibromofluoromethane	114.		% Rec.	8260B	10/12/09	1
4-Bromofluorobenzene	82.9		% Rec.	8260B	10/12/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 10/13/09 16:16 Revised: 10/14/09 10:44

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REPORT OF ANALYSIS

Don Hanson - ODEQ
State of Oregon
165 East 7th Ave., Suite 100
Eugene, OR 97401

October 14,2009

ESC Sample # : L426295-04

Date Received : October 08, 2009
Description : ODEQ - Springvilla

Site ID :

Sample ID : MW-14

Project # : 15267-03/Task 2

Collected By : Jason Miles
Collection Date : 10/07/09 10:31

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
cis-1,2-Dichloroethene	87.	1.0	ug/l	8260B	10/12/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/12/09	1
Tetrachloroethene	230	5.0	ug/l	8260B	10/13/09	5
Trichloroethene	160	5.0	ug/l	8260B	10/13/09	5
Vinyl chloride	37.	1.0	ug/l	8260B	10/12/09	1
Surrogate Recovery						
Toluene-d8	91.2		% Rec.	8260B	10/12/09	1
Dibromofluoromethane	112.		% Rec.	8260B	10/12/09	1
4-Bromofluorobenzene	80.6		% Rec.	8260B	10/12/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 10/13/09 16:16 Revised: 10/14/09 10:44

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REPORT OF ANALYSIS

Don Hanson - ODEQ
State of Oregon
165 East 7th Ave., Suite 100
Eugene, OR 97401

October 14,2009

ESC Sample # : L426295-05

Date Received : October 08, 2009
Description : ODEQ - Springvilla

Site ID :

Sample ID : TB-270 TRIP BLANK

Project # : 15267-03/Task 2

Collected By : Jason Miles
Collection Date : 10/07/09 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/12/09	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/12/09	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	10/12/09	1
Trichloroethene	BDL	1.0	ug/l	8260B	10/12/09	1
Vinyl chloride	BDL	1.0	ug/l	8260B	10/12/09	1
Surrogate Recovery						
Toluene-d8	98.2		% Rec.	8260B	10/12/09	1
Dibromofluoromethane	112.		% Rec.	8260B	10/12/09	1
4-Bromofluorobenzene	81.7		% Rec.	8260B	10/12/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 10/13/09 16:16 Revised: 10/14/09 10:44

Summary of Remarks For Samples Printed
10/14/09 at 10:44:37

TSR Signing Reports: 358
R5 - Desired TAT

Log p-key under project manager's name. Contract # 8903.

Sample: L426295-01 Account: OREGONPOR Received: 10/08/09 09:00 Due Date: 10/15/09 00:00 RPT Date: 10/13/09 16:16

Sample: L426295-02 Account: OREGONPOR Received: 10/08/09 09:00 Due Date: 10/15/09 00:00 RPT Date: 10/13/09 16:16

Sample: L426295-03 Account: OREGONPOR Received: 10/08/09 09:00 Due Date: 10/15/09 00:00 RPT Date: 10/13/09 16:16

Sample: L426295-04 Account: OREGONPOR Received: 10/08/09 09:00 Due Date: 10/15/09 00:00 RPT Date: 10/13/09 16:16

Sample: L426295-05 Account: OREGONPOR Received: 10/08/09 09:00 Due Date: 10/15/09 00:00 RPT Date: 10/13/09 16:16

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State of Oregon
Don Hanson - ODEQ
165 East 7th Ave., Suite 100
Eugene, OR 97401

Quality Assurance Report
Level II

L426295

October 14, 2009

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG445214	10/12/09 02:59
1,1,1-Trichloroethane	< .001	mg/l			WG445214	10/12/09 02:59
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG445214	10/12/09 02:59
1,1,2-Trichloroethane	< .001	mg/l			WG445214	10/12/09 02:59
1,1,2-Trichloro-1,2,2-trifluoroethane	< .001	mg/l			WG445214	10/12/09 02:59
1,1-Dichloroethane	< .001	mg/l			WG445214	10/12/09 02:59
1,1-Dichloroethene	< .001	mg/l			WG445214	10/12/09 02:59
1,1-Dichloropropene	< .001	mg/l			WG445214	10/12/09 02:59
1,2,3-Trichlorobenzene	< .001	mg/l			WG445214	10/12/09 02:59
1,2,3-Trichloropropane	< .001	mg/l			WG445214	10/12/09 02:59
1,2,3-Trimethylbenzene	< .001	mg/l			WG445214	10/12/09 02:59
1,2,4-Trichlorobenzene	< .001	mg/l			WG445214	10/12/09 02:59
1,2,4-Trimethylbenzene	< .001	mg/l			WG445214	10/12/09 02:59
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG445214	10/12/09 02:59
1,2-Dibromoethane	< .001	mg/l			WG445214	10/12/09 02:59
1,2-Dichlorobenzene	< .001	mg/l			WG445214	10/12/09 02:59
1,2-Dichloroethane	< .001	mg/l			WG445214	10/12/09 02:59
1,2-Dichloropropane	< .001	mg/l			WG445214	10/12/09 02:59
1,3,5-Trimethylbenzene	< .001	mg/l			WG445214	10/12/09 02:59
1,3-Dichlorobenzene	< .001	mg/l			WG445214	10/12/09 02:59
1,3-Dichloropropane	< .001	mg/l			WG445214	10/12/09 02:59
1,4-Dichlorobenzene	< .001	mg/l			WG445214	10/12/09 02:59
2,2-Dichloropropane	< .001	mg/l			WG445214	10/12/09 02:59
2-Butanone (MEK)	< .01	mg/l			WG445214	10/12/09 02:59
2-Chloroethyl vinyl ether	< .001	mg/l			WG445214	10/12/09 02:59
2-Chlorotoluene	< .001	mg/l			WG445214	10/12/09 02:59
4-Chlorotoluene	< .001	mg/l			WG445214	10/12/09 02:59
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG445214	10/12/09 02:59
Acetone	< .05	mg/l			WG445214	10/12/09 02:59
Acrolein	< .05	mg/l			WG445214	10/12/09 02:59
Acrylonitrile	< .01	mg/l			WG445214	10/12/09 02:59
Benzene	< .001	mg/l			WG445214	10/12/09 02:59
Bromobenzene	< .001	mg/l			WG445214	10/12/09 02:59
Bromodichloromethane	< .001	mg/l			WG445214	10/12/09 02:59
Bromoform	< .001	mg/l			WG445214	10/12/09 02:59
Bromomethane	< .005	mg/l			WG445214	10/12/09 02:59
Carbon tetrachloride	< .001	mg/l			WG445214	10/12/09 02:59
Chlorobenzene	< .001	mg/l			WG445214	10/12/09 02:59
Chlorodibromomethane	< .001	mg/l			WG445214	10/12/09 02:59
Chloroethane	< .001	mg/l			WG445214	10/12/09 02:59
Chloroform	< .005	mg/l			WG445214	10/12/09 02:59
Chloromethane	< .001	mg/l			WG445214	10/12/09 02:59
cis-1,2-Dichloroethene	< .001	mg/l			WG445214	10/12/09 02:59
cis-1,3-Dichloropropene	< .001	mg/l			WG445214	10/12/09 02:59
Di-isopropyl ether	< .001	mg/l			WG445214	10/12/09 02:59
Dibromomethane	< .001	mg/l			WG445214	10/12/09 02:59
Dichlorodifluoromethane	< .005	mg/l			WG445214	10/12/09 02:59
Ethylbenzene	< .001	mg/l			WG445214	10/12/09 02:59
Hexachloro-1,3-butadiene	< .001	mg/l			WG445214	10/12/09 02:59
Isopropylbenzene	< .001	mg/l			WG445214	10/12/09 02:59
Methyl tert-butyl ether	< .001	mg/l			WG445214	10/12/09 02:59
Methylene Chloride	< .005	mg/l			WG445214	10/12/09 02:59
n-Butylbenzene	< .001	mg/l			WG445214	10/12/09 02:59
n-Propylbenzene	< .001	mg/l			WG445214	10/12/09 02:59
Naphthalene	< .005	mg/l			WG445214	10/12/09 02:59
p-Isopropyltoluene	< .001	mg/l			WG445214	10/12/09 02:59
sec-Butylbenzene	< .001	mg/l			WG445214	10/12/09 02:59
Styrene	< .001	mg/l			WG445214	10/12/09 02:59
tert-Butylbenzene	< .001	mg/l			WG445214	10/12/09 02:59

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Est. 1970

State of Oregon
Don Hanson - ODEQ
165 East 7th Ave., Suite 100
Eugene, OR 97401

Quality Assurance Report
Level II

L426295

October 14, 2009

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Tetrachloroethene	< .001	mg/l			WG445214	10/12/09 02:59
Toluene	< .005	mg/l			WG445214	10/12/09 02:59
trans-1,2-Dichloroethene	< .001	mg/l			WG445214	10/12/09 02:59
trans-1,3-Dichloropropene	< .001	mg/l			WG445214	10/12/09 02:59
Trichloroethene	< .001	mg/l			WG445214	10/12/09 02:59
Trichlorofluoromethane	< .005	mg/l			WG445214	10/12/09 02:59
Vinyl chloride	< .001	mg/l			WG445214	10/12/09 02:59
Xylenes, Total	< .003	mg/l			WG445214	10/12/09 02:59
4-Bromofluorobenzene		% Rec.	88.28	75-128	WG445214	10/12/09 02:59
Dibromofluoromethane		% Rec.	102.8	79-125	WG445214	10/12/09 02:59
Toluene-d8		% Rec.	98.30	87-114	WG445214	10/12/09 02:59
Tetrachloroethene	< .001	mg/l			WG445344	10/13/09 05:22
Trichloroethene	< .001	mg/l			WG445344	10/13/09 05:22
4-Bromofluorobenzene		% Rec.	115.2	75-128	WG445344	10/13/09 05:22
Dibromofluoromethane		% Rec.	94.83	79-125	WG445344	10/13/09 05:22
Toluene-d8		% Rec.	103.9	87-114	WG445344	10/13/09 05:22

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0230	91.9	75-134	WG445214
1,1,1-Trichloroethane	mg/l	.025	0.0221	88.5	67-137	WG445214
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0238	95.0	72-128	WG445214
1,1,2-Trichloroethane	mg/l	.025	0.0228	91.3	79-123	WG445214
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	.025	0.0277	111.	51-149	WG445214
1,1-Dichloroethane	mg/l	.025	0.0235	94.0	67-133	WG445214
1,1-Dichloroethene	mg/l	.025	0.0239	95.6	60-130	WG445214
1,1-Dichloropropene	mg/l	.025	0.0219	87.6	68-132	WG445214
1,2,3-Trichlorobenzene	mg/l	.025	0.0223	89.2	63-138	WG445214
1,2,3-Trichloropropane	mg/l	.025	0.0240	96.1	68-130	WG445214
1,2,3-Trimethylbenzene	mg/l	.025	0.0229	91.7	70-127	WG445214
1,2,4-Trichlorobenzene	mg/l	.025	0.0220	87.9	65-137	WG445214
1,2,4-Trimethylbenzene	mg/l	.025	0.0229	91.6	72-135	WG445214
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0194	77.6	55-134	WG445214
1,2-Dibromoethane	mg/l	.025	0.0213	85.1	75-126	WG445214
1,2-Dichlorobenzene	mg/l	.025	0.0225	90.2	75-122	WG445214
1,2-Dichloroethane	mg/l	.025	0.0204	81.8	63-137	WG445214
1,2-Dichloropropane	mg/l	.025	0.0232	92.8	74-122	WG445214
1,3,5-Trimethylbenzene	mg/l	.025	0.0223	89.2	73-134	WG445214
1,3-Dichlorobenzene	mg/l	.025	0.0225	89.9	73-131	WG445214
1,3-Dichloropropane	mg/l	.025	0.0218	87.3	77-119	WG445214
1,4-Dichlorobenzene	mg/l	.025	0.0214	85.5	70-121	WG445214
2,2-Dichloropropane	mg/l	.025	0.0238	95.2	46-151	WG445214
2-Butanone (MEK)	mg/l	.125	0.117	93.7	53-132	WG445214
2-Chloroethyl vinyl ether	mg/l	.125	0.113	90.5	0-171	WG445214
2-Chlorotoluene	mg/l	.025	0.0225	89.9	74-128	WG445214
4-Chlorotoluene	mg/l	.025	0.0224	89.8	74-130	WG445214
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.125	100.	60-142	WG445214
Acetone	mg/l	.125	0.105	83.8	48-134	WG445214
Acrolein	mg/l	.125	0.0529	42.3	6-182	WG445214
Acrylonitrile	mg/l	.125	0.127	101.	60-140	WG445214
Benzene	mg/l	.025	0.0226	90.5	67-126	WG445214
Bromobenzene	mg/l	.025	0.0222	88.9	76-123	WG445214
Bromodichloromethane	mg/l	.025	0.0242	96.7	68-133	WG445214
Bromoform	mg/l	.025	0.0218	87.3	60-139	WG445214
Bromomethane	mg/l	.025	0.0345	138.	45-175	WG445214
Carbon tetrachloride	mg/l	.025	0.0207	83.0	64-141	WG445214

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Est. 1970

State of Oregon
Don Hanson - ODEQ
165 East 7th Ave., Suite 100
Eugene, OR 97401

Quality Assurance Report
Level II

L426295

October 14, 2009

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Chlorobenzene	mg/l	.025	0.0209	83.5	77-125	WG445214
Chlorodibromomethane	mg/l	.025	0.0230	92.2	73-138	WG445214
Chloroethane	mg/l	.025	0.0241	96.3	49-155	WG445214
Chloroform	mg/l	.025	0.0234	93.5	66-126	WG445214
Chloromethane	mg/l	.025	0.0203	81.1	45-152	WG445214
cis-1,2-Dichloroethene	mg/l	.025	0.0228	91.1	72-128	WG445214
cis-1,3-Dichloropropene	mg/l	.025	0.0241	96.4	73-131	WG445214
Di-isopropyl ether	mg/l	.025	0.0253	101.	63-139	WG445214
Dibromomethane	mg/l	.025	0.0221	88.4	73-125	WG445214
Dichlorodifluoromethane	mg/l	.025	0.0204	81.6	39-189	WG445214
Ethylbenzene	mg/l	.025	0.0218	87.2	76-129	WG445214
Hexachloro-1,3-butadiene	mg/l	.025	0.0210	84.2	67-135	WG445214
Isopropylbenzene	mg/l	.025	0.0225	90.1	73-132	WG445214
Methyl tert-butyl ether	mg/l	.025	0.0250	100.	51-142	WG445214
Methylene Chloride	mg/l	.025	0.0219	87.7	64-125	WG445214
n-Butylbenzene	mg/l	.025	0.0242	96.8	63-142	WG445214
n-Propylbenzene	mg/l	.025	0.0232	93.0	71-132	WG445214
Naphthalene	mg/l	.025	0.0228	91.4	56-145	WG445214
p-Isopropyltoluene	mg/l	.025	0.0201	80.5	68-138	WG445214
sec-Butylbenzene	mg/l	.025	0.0232	92.6	70-135	WG445214
Styrene	mg/l	.025	0.0190	76.0*	78-130	WG445214
tert-Butylbenzene	mg/l	.025	0.0231	92.4	72-134	WG445214
Tetrachloroethene	mg/l	.025	0.0197	78.7	67-135	WG445214
Toluene	mg/l	.025	0.0211	84.3	72-122	WG445214
trans-1,2-Dichloroethene	mg/l	.025	0.0214	85.7	67-129	WG445214
trans-1,3-Dichloropropene	mg/l	.025	0.0226	90.3	66-137	WG445214
Trichloroethene	mg/l	.025	0.0207	82.7	74-126	WG445214
Trichlorofluoromethane	mg/l	.025	0.0252	101.	54-156	WG445214
Vinyl chloride	mg/l	.025	0.0229	91.7	55-153	WG445214
Xylenes, Total	mg/l	.075	0.0635	84.7	75-128	WG445214
4-Bromofluorobenzene				94.22	75-128	WG445214
Dibromofluoromethane				101.4	79-125	WG445214
Toluene-d8				99.90	87-114	WG445214
Tetrachloroethene	mg/l	.025	0.0263	105.	67-135	WG445344
Trichloroethene	mg/l	.025	0.0241	96.5	74-126	WG445344
4-Bromofluorobenzene				116.0	75-128	WG445344
Dibromofluoromethane				100.2	79-125	WG445344
Toluene-d8				101.1	87-114	WG445344

Laboratory Control Sample Duplicate

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0211	0.0230	84.0	75-134	8.49	20	WG445214
1,1,1-Trichloroethane	mg/l	0.0211	0.0221	84.0	67-137	4.67	20	WG445214
1,1,2,2-Tetrachloroethane	mg/l	0.0233	0.0238	93.0	72-128	2.11	20	WG445214
1,1,2-Trichloroethane	mg/l	0.0225	0.0228	90.0	79-123	1.49	20	WG445214
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0250	0.0277	100.	51-149	10.1	20	WG445214
1,1-Dichloroethane	mg/l	0.0225	0.0235	90.0	67-133	4.41	20	WG445214
1,1-Dichloroethene	mg/l	0.0210	0.0239	84.0	60-130	12.9	20	WG445214
1,1-Dichloropropene	mg/l	0.0212	0.0219	85.0	68-132	3.22	20	WG445214
1,2,3-Trichlorobenzene	mg/l	0.0220	0.0223	88.0	63-138	1.28	20	WG445214
1,2,3-Trichloropropane	mg/l	0.0233	0.0240	93.0	68-130	3.01	20	WG445214
1,2,3-Trimethylbenzene	mg/l	0.0220	0.0229	88.0	70-127	4.13	20	WG445214
1,2,4-Trichlorobenzene	mg/l	0.0215	0.0220	86.0	65-137	2.03	20	WG445214
1,2,4-Trimethylbenzene	mg/l	0.0214	0.0229	86.0	72-135	6.76	20	WG445214
1,2-Dibromo-3-Chloropropane	mg/l	0.0204	0.0194	82.0	55-134	4.99	20	WG445214
1,2-Dibromoethane	mg/l	0.0213	0.0213	85.0	75-126	0.0767	20	WG445214

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Quality Assurance Report
Level II

L426295

October 14, 2009

		Laboratory Control Sample				Duplicate		
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,2-Dichlorobenzene	mg/l	0.0219	0.0225	88.0	75-122	2.97	20	WG445214
1,2-Dichloroethane	mg/l	0.0205	0.0204	82.0	63-137	0.222	20	WG445214
1,2-Dichloropropane	mg/l	0.0222	0.0232	89.0	74-122	4.19	20	WG445214
1,3,5-Trimethylbenzene	mg/l	0.0209	0.0223	84.0	73-134	6.57	20	WG445214
1,3-Dichlorobenzene	mg/l	0.0217	0.0225	87.0	73-131	3.70	20	WG445214
1,3-Dichloropropane	mg/l	0.0212	0.0218	85.0	77-119	2.84	20	WG445214
1,4-Dichlorobenzene	mg/l	0.0211	0.0214	84.0	70-121	1.28	20	WG445214
2,2-Dichloropropane	mg/l	0.0225	0.0238	90.0	46-151	5.51	20	WG445214
2-Butanone (MEK)	mg/l	0.120	0.117	96.0	53-132	2.30	20	WG445214
2-Chloroethyl vinyl ether	mg/l	0.108	0.113	86.0	0-171	5.12	27	WG445214
2-Chlorotoluene	mg/l	0.0210	0.0225	84.0	74-128	6.80	20	WG445214
4-Chlorotoluene	mg/l	0.0213	0.0224	85.0	74-130	5.44	20	WG445214
4-Methyl-2-pentanone (MIBK)	mg/l	0.118	0.125	94.0	60-142	6.22	20	WG445214
Acetone	mg/l	0.107	0.105	85.0	48-134	1.86	20	WG445214
Acrolein	mg/l	0.0484	0.0529	39.0	6-182	8.79	39	WG445214
Acrylonitrile	mg/l	0.125	0.127	100.	60-140	1.21	20	WG445214
Benzene	mg/l	0.0214	0.0226	86.0	67-126	5.55	20	WG445214
Bromobenzene	mg/l	0.0211	0.0222	84.0	76-123	5.31	20	WG445214
Bromodichloromethane	mg/l	0.0233	0.0242	93.0	68-133	3.91	20	WG445214
Bromoform	mg/l	0.0205	0.0218	82.0	60-139	6.05	20	WG445214
Bromomethane	mg/l	0.0279	0.0345	112.	45-175	21.0*	20	WG445214
Carbon tetrachloride	mg/l	0.0197	0.0207	79.0	64-141	5.21	20	WG445214
Chlorobenzene	mg/l	0.0199	0.0209	80.0	77-125	4.75	20	WG445214
Chlorodibromomethane	mg/l	0.0231	0.0230	92.0	73-138	0.179	20	WG445214
Chloroethane	mg/l	0.0215	0.0241	86.0	49-155	11.5	20	WG445214
Chloroform	mg/l	0.0221	0.0234	88.0	66-126	5.73	20	WG445214
Chloromethane	mg/l	0.0186	0.0203	74.0	45-152	8.38	20	WG445214
cis-1,2-Dichloroethene	mg/l	0.0220	0.0228	88.0	72-128	3.72	20	WG445214
cis-1,3-Dichloropropene	mg/l	0.0233	0.0241	93.0	73-131	3.21	20	WG445214
Di-isopropyl ether	mg/l	0.0244	0.0253	98.0	63-139	3.44	20	WG445214
Dibromomethane	mg/l	0.0222	0.0221	89.0	73-125	0.477	20	WG445214
Dichlorodifluoromethane	mg/l	0.0190	0.0204	76.0	39-189	6.88	24	WG445214
Ethylbenzene	mg/l	0.0201	0.0218	80.0	76-129	8.26	20	WG445214
Hexachloro-1,3-butadiene	mg/l	0.0195	0.0210	78.0	67-135	7.54	20	WG445214
Isopropylbenzene	mg/l	0.0211	0.0225	84.0	73-132	6.40	20	WG445214
Methyl tert-butyl ether	mg/l	0.0250	0.0250	100.	51-142	0.225	20	WG445214
Methylene Chloride	mg/l	0.0215	0.0219	86.0	64-125	1.82	20	WG445214
n-Butylbenzene	mg/l	0.0238	0.0242	95.0	63-142	1.86	20	WG445214
n-Propylbenzene	mg/l	0.0218	0.0232	87.0	71-132	6.45	20	WG445214
Naphthalene	mg/l	0.0227	0.0228	91.0	56-145	0.794	20	WG445214
p-Isopropyltoluene	mg/l	0.0193	0.0201	77.0	68-138	4.32	20	WG445214
sec-Butylbenzene	mg/l	0.0219	0.0232	88.0	70-135	5.41	20	WG445214
Styrene	mg/l	0.0175	0.0190	70*	78-130	8.15	20	WG445214
tert-Butylbenzene	mg/l	0.0218	0.0231	87.0	72-134	6.04	20	WG445214
Tetrachloroethene	mg/l	0.0183	0.0197	73.0	67-135	7.36	20	WG445214
Toluene	mg/l	0.0194	0.0211	78.0	72-122	8.07	20	WG445214
trans-1,2-Dichloroethene	mg/l	0.0199	0.0214	79.0	67-129	7.50	20	WG445214
trans-1,3-Dichloropropene	mg/l	0.0215	0.0226	86.0	66-137	4.64	20	WG445214
Trichloroethene	mg/l	0.0205	0.0207	82.0	74-126	0.989	20	WG445214
Trichlorofluoromethane	mg/l	0.0226	0.0252	90.0	54-156	10.8	20	WG445214
Vinyl chloride	mg/l	0.0218	0.0229	87.0	55-153	4.99	20	WG445214
Xylenes, Total	mg/l	0.0580	0.0635	77.0	75-128	9.11	20	WG445214
4-Bromofluorobenzene				90.43	75-128			WG445214
Dibromofluoromethane				102.6	79-125			WG445214
Toluene-d8				99.51	87-114			WG445214
Tetrachloroethene	mg/l	0.0285	0.0263	114.	67-135	8.06	20	WG445344
Trichloroethene	mg/l	0.0259	0.0241	104.	74-126	7.01	20	WG445344

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Quality Assurance Report
Level II

L426295

October 14, 2009

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
4-Bromofluorobenzene				114.1		75-128		
Dibromofluoromethane				98.30		79-125		
Toluene-d8				102.1		87-114		

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0212	0	.025	84.7	45-152	L426299-01	WG445214
1,1,1-Trichloroethane	mg/l	0.0197	0	.025	78.6	31-161	L426299-01	WG445214
1,1,2,2-Tetrachloroethane	mg/l	0.0263	0	.025	105.	49-149	L426299-01	WG445214
1,1,2-Trichloroethane	mg/l	0.0226	0	.025	90.3	46-145	L426299-01	WG445214
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0202	0	.025	80.8	14-168	L426299-01	WG445214
1,1-Dichloroethane	mg/l	0.0213	0	.025	85.2	30-159	L426299-01	WG445214
1,1-Dichloroethene	mg/l	0.0176	0	.025	70.2	10-162	L426299-01	WG445214
1,1-Dichloropropene	mg/l	0.0181	0	.025	72.4	14-162	L426299-01	WG445214
1,2,3-Trichlorobenzene	mg/l	0.0214	0	.025	85.7	32-143	L426299-01	WG445214
1,2,3-Trichloropropane	mg/l	0.0242	0	.025	96.8	48-148	L426299-01	WG445214
1,2,3-Trimethylbenzene	mg/l	0.0208	0	.025	83.2	36-141	L426299-01	WG445214
1,2,4-Trichlorobenzene	mg/l	0.0208	0	.025	83.1	27-142	L426299-01	WG445214
1,2,4-Trimethylbenzene	mg/l	0.0202	0	.025	80.6	29-153	L426299-01	WG445214
1,2-Dibromo-3-Chloropropane	mg/l	0.0228	0	.025	91.3	37-148	L426299-01	WG445214
1,2-Dibromoethane	mg/l	0.0210	0	.025	83.8	41-149	L426299-01	WG445214
1,2-Dichlorobenzene	mg/l	0.0218	0	.025	87.1	40-139	L426299-01	WG445214
1,2-Dichloroethane	mg/l	0.0208	0	.025	83.1	29-167	L426299-01	WG445214
1,2-Dichloropropane	mg/l	0.0212	0	.025	84.9	39-148	L426299-01	WG445214
1,3,5-Trimethylbenzene	mg/l	0.0190	0	.025	76.1	33-149	L426299-01	WG445214
1,3-Dichlorobenzene	mg/l	0.0205	0	.025	81.9	32-148	L426299-01	WG445214
1,3-Dichloropropane	mg/l	0.0213	0	.025	85.1	44-142	L426299-01	WG445214
1,4-Dichlorobenzene	mg/l	0.0195	0	.025	77.9	32-136	L426299-01	WG445214
2,2-Dichloropropane	mg/l	0.0213	0	.025	85.1	14-158	L426299-01	WG445214
2-Butanone (MEK)	mg/l	0.130	0	.125	104.	32-151	L426299-01	WG445214
2-Chloroethyl vinyl ether	mg/l	0	0	.125	0	0-175	L426299-01	WG445214
2-Chlorotoluene	mg/l	0.0197	0	.025	78.7	35-147	L426299-01	WG445214
4-Chlorotoluene	mg/l	0.0197	0	.025	79.0	33-147	L426299-01	WG445214
4-Methyl-2-pentanone (MIBK)	mg/l	0.137	0	.125	109.	40-160	L426299-01	WG445214
Acetone	mg/l	0.126	0	.125	101.	25-157	L426299-01	WG445214
Acrolein	mg/l	0.110	0	.125	88.0	0-179	L426299-01	WG445214
Acrylonitrile	mg/l	0.146	0	.125	117.	37-162	L426299-01	WG445214
Benzene	mg/l	0.0196	0	.025	78.5	16-158	L426299-01	WG445214
Bromobenzene	mg/l	0.0197	0	.025	78.7	37-147	L426299-01	WG445214
Bromodichloromethane	mg/l	0.0231	0	.025	92.4	45-147	L426299-01	WG445214
Bromoform	mg/l	0.0231	0	.025	92.2	38-152	L426299-01	WG445214
Bromomethane	mg/l	0.0203	0	.025	81.1	0-191	L426299-01	WG445214
Carbon tetrachloride	mg/l	0.0182	0	.025	72.9	22-168	L426299-01	WG445214
Chlorobenzene	mg/l	0.0184	0	.025	73.8	33-148	L426299-01	WG445214
Chlorodibromomethane	mg/l	0.0226	0	.025	90.2	48-151	L426299-01	WG445214
Chloroethane	mg/l	0.0181	0	.025	72.4	4-176	L426299-01	WG445214
Chloroform	mg/l	0.0218	0	.025	87.3	37-147	L426299-01	WG445214
Chloromethane	mg/l	0.0141	0	.025	56.3	10-174	L426299-01	WG445214
cis-1,2-Dichloroethene	mg/l	0.0214	0	.025	85.6	29-156	L426299-01	WG445214
cis-1,3-Dichloropropene	mg/l	0.0207	0	.025	82.9	35-148	L426299-01	WG445214
Di-isopropyl ether	mg/l	0.0233	0	.025	93.2	39-160	L426299-01	WG445214
Dibromomethane	mg/l	0.0219	0	.025	87.7	36-152	L426299-01	WG445214
Dichlorodifluoromethane	mg/l	0.0148	0	.025	59.0	0-200	L426299-01	WG445214
Ethylbenzene	mg/l	0.0182	0	.025	72.8	29-150	L426299-01	WG445214
Hexachloro-1,3-butadiene	mg/l	0.0188	0	.025	75.3	28-144	L426299-01	WG445214
Isopropylbenzene	mg/l	0.0190	0	.025	76.0	35-147	L426299-01	WG445214
Methyl tert-butyl ether	mg/l	0.0253	0	.025	101.	24-167	L426299-01	WG445214
Methylene Chloride	mg/l	0.0204	0	.025	81.6	23-151	L426299-01	WG445214

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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State of Oregon
Don Hanson - ODEQ
165 East 7th Ave., Suite 100
Eugene, OR 97401

Quality Assurance Report
Level II

L426295

October 14, 2009

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
n-Butylbenzene	mg/l	0.0219	0	.025	87.5	22-151	L426299-01	WG445214
n-Propylbenzene	mg/l	0.0193	0	.025	77.2	26-150	L426299-01	WG445214
Naphthalene	mg/l	0.0239	0	.025	95.7	24-160	L426299-01	WG445214
p-Isopropyltoluene	mg/l	0.0174	0	.025	69.6	28-151	L426299-01	WG445214
sec-Butylbenzene	mg/l	0.0207	0	.025	82.6	32-149	L426299-01	WG445214
Styrene	mg/l	0.0165	0	.025	66.2	38-149	L426299-01	WG445214
tert-Butylbenzene	mg/l	0.0209	0	.025	83.7	36-149	L426299-01	WG445214
Tetrachloroethene	mg/l	0.0151	0	.025	60.2	13-157	L426299-01	WG445214
Toluene	mg/l	0.0180	0	.025	72.0	22-152	L426299-01	WG445214
trans-1,2-Dichloroethene	mg/l	0.0172	0	.025	68.8	11-160	L426299-01	WG445214
trans-1,3-Dichloropropene	mg/l	0.0208	0	.025	83.2	33-153	L426299-01	WG445214
Trichloroethene	mg/l	0.0173	0	.025	69.0	18-163	L426299-01	WG445214
Trichlorofluoromethane	mg/l	0.0207	0	.025	82.8	10-177	L426299-01	WG445214
Vinyl chloride	mg/l	0.0170	0	.025	67.9	0-179	L426299-01	WG445214
Xylenes, Total	mg/l	0.0532	0	.075	70.9	27-151	L426299-01	WG445214
4-Bromofluorobenzene					94.47	75-128		WG445214
Dibromofluoromethane					108.2	79-125		WG445214
Toluene-d8					97.97	87-114		WG445214
Tetrachloroethene	mg/l	0.0235	0	.025	93.9	13-157	L425683-02	WG445344
Trichloroethene	mg/l	0.0232	0	.025	92.7	18-163	L425683-02	WG445344
4-Bromofluorobenzene					109.3	75-128		WG445344
Dibromofluoromethane					100.1	79-125		WG445344
Toluene-d8					100.7	87-114		WG445344

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0210	0.0212	83.9	45-152	0.976	21	L426299-01	WG445214
1,1,1-Trichloroethane	mg/l	0.0196	0.0197	78.4	31-161	0.259	23	L426299-01	WG445214
1,1,2,2-Tetrachloroethane	mg/l	0.0244	0.0263	97.7	49-149	7.44	22	L426299-01	WG445214
1,1,2-Trichloroethane	mg/l	0.0222	0.0226	88.8	46-145	1.63	20	L426299-01	WG445214
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0193	0.0202	77.2	14-168	4.63	24	L426299-01	WG445214
1,1-Dichloroethane	mg/l	0.0204	0.0213	81.8	30-159	4.07	21	L426299-01	WG445214
1,1-Dichloroethene	mg/l	0.0170	0.0176	68.0	10-162	3.22	23	L426299-01	WG445214
1,1-Dichloropropene	mg/l	0.0178	0.0181	71.1	14-162	1.77	23	L426299-01	WG445214
1,2,3-Trichlorobenzene	mg/l	0.0218	0.0214	87.2	32-143	1.76	33	L426299-01	WG445214
1,2,3-Trichloropropane	mg/l	0.0240	0.0242	95.8	48-148	1.04	23	L426299-01	WG445214
1,2,3-Trimethylbenzene	mg/l	0.0210	0.0208	84.0	36-141	0.994	25	L426299-01	WG445214
1,2,4-Trichlorobenzene	mg/l	0.0220	0.0208	88.0	27-142	5.77	30	L426299-01	WG445214
1,2,4-Trimethylbenzene	mg/l	0.0203	0.0202	81.3	29-153	0.801	27	L426299-01	WG445214
1,2-Dibromo-3-Chloropropane	mg/l	0.0218	0.0228	87.0	37-148	4.77	27	L426299-01	WG445214
1,2-Dibromoethane	mg/l	0.0215	0.0210	86.2	41-149	2.79	21	L426299-01	WG445214
1,2-Dichlorobenzene	mg/l	0.0213	0.0218	85.2	40-139	2.15	23	L426299-01	WG445214
1,2-Dichloroethane	mg/l	0.0200	0.0208	80.1	29-167	3.65	21	L426299-01	WG445214
1,2-Dichloropropane	mg/l	0.0210	0.0212	84.1	39-148	0.936	20	L426299-01	WG445214
1,3,5-Trimethylbenzene	mg/l	0.0197	0.0190	78.6	33-149	3.24	26	L426299-01	WG445214
1,3-Dichlorobenzene	mg/l	0.0201	0.0205	80.6	32-148	1.69	24	L426299-01	WG445214
1,3-Dichloropropane	mg/l	0.0211	0.0213	84.4	44-142	0.758	20	L426299-01	WG445214
1,4-Dichlorobenzene	mg/l	0.0198	0.0195	79.1	32-136	1.46	23	L426299-01	WG445214
2,2-Dichloropropane	mg/l	0.0209	0.0213	83.5	14-158	1.92	23	L426299-01	WG445214
2-Butanone (MEK)	mg/l	0.127	0.130	102.	32-151	2.30	26	L426299-01	WG445214
2-Chloroethyl vinyl ether	mg/l	0	0	0.00	0-175	0	75	L426299-01	WG445214
2-Chlorotoluene	mg/l	0.0202	0.0197	80.9	35-147	2.79	24	L426299-01	WG445214
4-Chlorotoluene	mg/l	0.0200	0.0197	80.1	33-147	1.43	25	L426299-01	WG445214
4-Methyl-2-pentanone (MIBK)	mg/l	0.137	0.137	109.	40-160	0.108	28	L426299-01	WG445214
Acetone	mg/l	0.114	0.126	90.9	25-157	10.7	26	L426299-01	WG445214
Acrolein	mg/l	0.0985	0.110	78.8	0-179	11.0	39	L426299-01	WG445214

* Performance of this Analyte is outside of established criteria.
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165 East 7th Ave., Suite 100
Eugene, OR 97401

Quality Assurance Report
Level II

L426295

October 14, 2009

Analyte	Units	Matrix Spike MSD	Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Acrylonitrile	mg/l	0.132	0.146	106.	37-162	10.1	24	L426299-01	WG445214
Benzene	mg/l	0.0193	0.0196	77.4	16-158	1.48	21	L426299-01	WG445214
Bromobenzene	mg/l	0.0199	0.0197	79.8	37-147	1.39	23	L426299-01	WG445214
Bromodichloromethane	mg/l	0.0228	0.0231	91.2	45-147	1.35	20	L426299-01	WG445214
Bromoform	mg/l	0.0221	0.0231	88.2	38-152	4.42	20	L426299-01	WG445214
Bromomethane	mg/l	0.0189	0.0203	75.5	0-191	7.17	35	L426299-01	WG445214
Carbon tetrachloride	mg/l	0.0179	0.0182	71.5	22-168	1.99	24	L426299-01	WG445214
Chlorobenzene	mg/l	0.0190	0.0184	76.0	33-148	2.87	22	L426299-01	WG445214
Chlorodibromomethane	mg/l	0.0219	0.0226	87.6	48-151	2.94	21	L426299-01	WG445214
Chloroethane	mg/l	0.0173	0.0181	69.0	4-176	4.78	27	L426299-01	WG445214
Chloroform	mg/l	0.0207	0.0218	82.8	37-147	5.26	21	L426299-01	WG445214
Chloromethane	mg/l	0.0122	0.0141	48.8	10-174	14.2	28	L426299-01	WG445214
cis-1,2-Dichloroethene	mg/l	0.0210	0.0214	83.8	29-156	2.12	22	L426299-01	WG445214
cis-1,3-Dichloropropene	mg/l	0.0209	0.0207	83.5	35-148	0.747	21	L426299-01	WG445214
Di-isopropyl ether	mg/l	0.0228	0.0233	91.1	39-160	2.22	21	L426299-01	WG445214
Dibromomethane	mg/l	0.0207	0.0219	82.6	36-152	5.94	20	L426299-01	WG445214
Dichlorodifluoromethane	mg/l	0.0140	0.0148	55.8	0-200	5.62	26	L426299-01	WG445214
Ethylbenzene	mg/l	0.0191	0.0182	76.3	29-150	4.68	24	L426299-01	WG445214
Hexachloro-1,3-butadiene	mg/l	0.0203	0.0188	81.2	28-144	7.57	33	L426299-01	WG445214
Isopropylbenzene	mg/l	0.0196	0.0190	78.5	35-147	3.23	25	L426299-01	WG445214
Methyl tert-butyl ether	mg/l	0.0232	0.0253	92.8	24-167	8.76	22	L426299-01	WG445214
Methylene Chloride	mg/l	0.0197	0.0204	78.8	23-151	3.52	21	L426299-01	WG445214
n-Butylbenzene	mg/l	0.0221	0.0219	88.4	22-151	1.09	29	L426299-01	WG445214
n-Propylbenzene	mg/l	0.0201	0.0193	80.3	26-150	4.00	25	L426299-01	WG445214
Naphthalene	mg/l	0.0243	0.0239	97.1	24-160	1.48	37	L426299-01	WG445214
p-Isopropyltoluene	mg/l	0.0175	0.0174	70.0	28-151	0.498	27	L426299-01	WG445214
sec-Butylbenzene	mg/l	0.0206	0.0207	82.5	32-149	0.136	26	L426299-01	WG445214
Styrene	mg/l	0.0171	0.0165	68.2	38-149	3.07	23	L426299-01	WG445214
tert-Butylbenzene	mg/l	0.0207	0.0209	82.8	36-149	1.08	26	L426299-01	WG445214
Tetrachloroethene	mg/l	0.0155	0.0151	61.9	13-157	2.68	24	L426299-01	WG445214
Toluene	mg/l	0.0182	0.0180	72.9	22-152	1.33	22	L426299-01	WG445214
trans-1,2-Dichloroethene	mg/l	0.0167	0.0172	66.7	11-160	3.09	23	L426299-01	WG445214
trans-1,3-Dichloropropene	mg/l	0.0212	0.0208	84.8	33-153	2.00	22	L426299-01	WG445214
Trichloroethene	mg/l	0.0178	0.0173	71.2	18-163	3.01	21	L426299-01	WG445214
Trichlorofluoromethane	mg/l	0.0192	0.0207	76.7	10-177	7.63	24	L426299-01	WG445214
Vinyl chloride	mg/l	0.0157	0.0170	62.8	0-179	7.79	26	L426299-01	WG445214
Xylenes, Total	mg/l	0.0549	0.0532	73.2	27-151	3.17	23	L426299-01	WG445214
4-Bromofluorobenzene				93.22	75-128				WG445214
Dibromofluoromethane				103.5	79-125				WG445214
Toluene-d8				99.10	87-114				WG445214
Tetrachloroethene	mg/l	0.0246	0.0235	98.2	13-157	4.47	24	L425683-02	WG445344
Trichloroethene	mg/l	0.0242	0.0232	96.7	18-163	4.17	21	L425683-02	WG445344
4-Bromofluorobenzene				102.9	75-128				WG445344
Dibromofluoromethane				97.48	79-125				WG445344
Toluene-d8				101.6	87-114				WG445344

Batch number /Run number / Sample number cross reference

WG445214: R944069: L426295-01 02 03 04 05
WG445344: R946289: L426295-01 04

* * Calculations are performed prior to rounding of reported values .
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Don Hanson - ODEQ
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Eugene, OR 97401

Quality Assurance Report
Level II

L426295

October 14, 2009

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

E017

OREGONPOR - State of Oregon Sample Chain of Custody - ODEQ

Agency, Authorized Purchaser or Agent:
ODEQ – Hart Crowser

Send Lab Report To:

Address: Don Hanson, ODEQ
Craig Dockter, Hart-Crowser

Tel. #: 541 686-7838 (Hanson)
503 781-2232 (Dockter)

E-mail: hanson.don@deq.state.or.us
craig.dockter@hartcrowser.com

Contract Laboratory Name:
Environmental Science Corporation

Lab Batch #:

Invoice To: Don Hanson, ODEQ
Address: 165 East 7th Ave., Suite 100
Eugene, OR 97401
Tel. #: 541 686-7838

Lab Selection Criteria:
- ☐ Proximity (if TAT < 48 hrs)
- ☒ Prior work on same project (July, 2009)
- ☐ Cost (for anticipated analyses)
- ☐ Other labs disqualified or unable to perform requested services
- ☐ Emergency work

Turn Around Time:
- ☒ 10 days (std.)
- ☐ 5 days
- ☐ 72 hours
- ☐ 48 hours
- ☐ 24 hours
- ☐ Other _____

Project Name: ODEQ - Springvilla
Project #15267-03/Task 2

Sampler Name:Jason Miles

Sample Preservative

HCL										

Requested Analyses

Sample ID#	Collection Date/Time	Matrix	Number of Containers	Short list VOC's (8260B)									Comments
EX-1s	10-7-9/0942	GW	3	X									L426295-01
EX-3s	1059	GW	3	X									-02
EX-4i	1004	GW	3	X									-03
MW-14	1031	GW	3	X									-04
TB-270 (Trip Blank)		W	1	X									-05

Received by lab: [signature]
Date 10/8/09 Time 0960
Temp 3.7 Bottles Received 13
pH Checked _____ Condition ok
Custody Seal Intact Yes No N/A
Fedex UPS Courier Other _____
8689 0524 9240

Notes: Shipped Via Fedex. 3.7° C COC SF

Relinquished By: Jason R. Miles	Agency/Agent: Hart Crowser	Received By:	Agency/Agent:
Signature: [signature]	Time & Date: 1410 / 10-7-9	Signature:	Time & Date:
Relinquished By:	Agency/Agent:	Received By:	Agency/Agent:

Version: 4/4/2008 Ok

L426295

Signature:	Time & Date:	Signature:	Time & Date:

THIS PURCHASE IS SUBMITTED PURSUANT TO STATE OF OREGON SOLICITATION **#102-1098-07** AND PRICE AGREEMENT # [redacted]. THE PRICE AGREEMENT INCLUDING CONTRACT TERMS AND CONDITIONS AND SPECIAL CONTRACT TERMS AND CONDITIONS (T'S &C'S) CONTAINED IN THE PRICE AGREEMENT ARE HEREBY INCORPORATED BY REFERENCE AND SHALL APPLY TO THIS PURCHASE AND SHALL TAKE PRECEDENCE OVER ALL OTHER CONFLICTING T'S AND C'S, EXPRESS OR IMPLIED.

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Est. 1970

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

Report Summary

Monday April 12, 2010

Report Number: L452106
Samples Received: 04/02/10
Client Project: 15267-03/T2

Description: DEQ Springville

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jarred Willis

Jarred Willis , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002,NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-01

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : DEQ-1

Collected By : Chris Martin
Collection Date : 04/01/10 14:12

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	34.	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : DEQ-1

Collected By : Chris Martin
Collection Date : 04/01/10 14:12

ESC Sample # : L452106-01

Site ID :

Project # : 15267-03/T2

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	8.2	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	BDL	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	97.3		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	94.2		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	101.		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-02

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : DEQ-2

Collected By : Chris Martin
Collection Date : 04/01/10 14:39

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	4.2	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : DEQ-2

Collected By : Chris Martin
Collection Date : 04/01/10 14:39

ESC Sample # : L452106-02

Site ID :

Project # : 15267-03/T2

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	2.6	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	95.7		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	95.7		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	103.		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
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April 12,2010

ESC Sample # : L452106-03

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : MW-4

Collected By : Chris Martin
Collection Date : 04/01/10 10:29

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : MW-4

Collected By : Chris Martin
Collection Date : 04/01/10 10:29

ESC Sample # : L452106-03

Site ID :

Project # : 15267-03/T2

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	12.	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	BDL	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	104.		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	103.		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 04/12/10 09:26 Printed: 04/12/10 09:27

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-04

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : EX-1S

Collected By : Chris Martin
Collection Date : 04/01/10 09:39

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	1900	100	ug/l	9056	04/02/10	1
Sulfate	8600	5000	ug/l	9056	04/02/10	1
Methane	3200	100	ug/l	RSK175	04/06/10	10
Ethane	BDL	13.	ug/l	RSK175	04/06/10	1
Ethene	BDL	13.	ug/l	RSK175	04/06/10	1
TOC (Total Organic Carbon)	3600	1000	ug/l	9060A	04/10/10	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	66.	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-04

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : EX-1S

Collected By : Chris Martin
Collection Date : 04/01/10 09:39

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	580	10.	ug/l	8260B	04/09/10	10
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	29.	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	3.1	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	99.9		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	105.		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	95.6		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 04/12/10 09:26 Printed: 04/12/10 09:27

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Est. 1970

REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-05

Date Received : April 02, 2010
Description : DEQ Springville

Site ID :

Sample ID : EX-2S

Project # : 15267-03/T2

Collected By : Chris Martin
Collection Date : 04/01/10 10:51

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	9056	04/02/10	1
Sulfate	BDL	5000	ug/l	9056	04/02/10	1
Methane	8400	200	ug/l	RSK175	04/06/10	20
Ethane	15.	13.	ug/l	RSK175	04/06/10	1
Ethene	BDL	13.	ug/l	RSK175	04/06/10	1
TOC (Total Organic Carbon)	9700	1000	ug/l	9060A	04/10/10	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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Est. 1970

REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-05

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : EX-2S

Collected By : Chris Martin
Collection Date : 04/01/10 10:51

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	04/09/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	BDL	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	106.		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	99.4		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 04/12/10 09:26 Printed: 04/12/10 09:27

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Est. 1970

REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-06

Date Received : April 02, 2010
Description : DEQ Springville

Site ID :

Sample ID : EX-3S

Project # : 15267-03/T2

Collected By : Chris Martin
Collection Date : 04/01/10 11:49

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	9056	04/02/10	1
Sulfate	BDL	5000	ug/l	9056	04/02/10	1
Methane	7000	200	ug/l	RSK175	04/06/10	20
Ethane	BDL	13.	ug/l	RSK175	04/06/10	1
Ethene	BDL	13.	ug/l	RSK175	04/06/10	1
TOC (Total Organic Carbon)	90000	1000	ug/l	9060A	04/07/10	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-06

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : EX-3S

Collected By : Chris Martin
Collection Date : 04/01/10 11:49

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	3.3	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	106.		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	101.		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-07

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : IN-4S

Collected By : Chris Martin
Collection Date : 04/01/10 13:31

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	9056	04/02/10	1
Sulfate	11000	5000	ug/l	9056	04/02/10	1
Methane	7700	200	ug/l	RSK175	04/06/10	20
Ethane	BDL	13.	ug/l	RSK175	04/06/10	1
Ethene	BDL	13.	ug/l	RSK175	04/06/10	1
TOC (Total Organic Carbon)	6800	1000	ug/l	9060A	04/10/10	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-07

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : IN-4S

Collected By : Chris Martin
Collection Date : 04/01/10 13:31

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	BDL	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	107.		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	102.		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-08

Date Received : April 02, 2010
Description : DEQ Springville

Site ID :

Sample ID : IN-5S

Project # : 15267-03/T2

Collected By : Chris Martin
Collection Date : 04/01/10 12:37

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	9056	04/02/10	1
Sulfate	BDL	5000	ug/l	9056	04/02/10	1
Methane	5600	200	ug/l	RSK175	04/08/10	20
Ethane	BDL	13.	ug/l	RSK175	04/06/10	1
Ethene	BDL	13.	ug/l	RSK175	04/06/10	1
TOC (Total Organic Carbon)	8800	1000	ug/l	9060A	04/10/10	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-08

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : IN-5S

Collected By : Chris Martin
Collection Date : 04/01/10 12:37

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	BDL	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	107.		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	101.		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-09

Date Received : April 02, 2010
Description : DEQ Springville

Site ID :

Sample ID : DEQ-4

Project # : 15267-03/T2

Collected By : Chris Martin
Collection Date : 04/01/10 13:17

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	9056	04/02/10	1
Sulfate	BDL	5000	ug/l	9056	04/02/10	1
Methane	6200	200	ug/l	RSK175	04/08/10	20
Ethane	BDL	13.	ug/l	RSK175	04/06/10	1
Ethene	BDL	13.	ug/l	RSK175	04/06/10	1
TOC (Total Organic Carbon)	9300	1000	ug/l	9060A	04/07/10	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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Est. 1970

REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-09

Date Received : April 02, 2010
Description : DEQ Springville

Site ID :

Sample ID : DEQ-4

Project # : 15267-03/T2

Collected By : Chris Martin
Collection Date : 04/01/10 13:17

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	BDL	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	104.		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	105.		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Est. 1970

REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-10

Date Received : April 02, 2010
Description : DEQ Springville

Site ID :

Sample ID : EX-4I

Project # : 15267-03/T2

Collected By : Chris Martin
Collection Date : 04/01/10 09:55

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	9056	04/02/10	1
Sulfate	BDL	5000	ug/l	9056	04/02/10	1
Methane	7100	200	ug/l	RSK175	04/08/10	20
Ethane	BDL	13.	ug/l	RSK175	04/06/10	1
Ethene	BDL	13.	ug/l	RSK175	04/06/10	1
TOC (Total Organic Carbon)	75000	1000	ug/l	9060A	04/07/10	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-10

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : EX-4I

Collected By : Chris Martin
Collection Date : 04/01/10 09:55

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	1.8	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	107.		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	103.		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Est. 1970

REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-11

Date Received : April 02, 2010
Description : DEQ Springville

Site ID :

Sample ID : EX-5I

Project # : 15267-03/T2

Collected By : Chris Martin
Collection Date : 04/01/10 11:21

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	9056	04/02/10	1
Sulfate	BDL	5000	ug/l	9056	04/02/10	1
Methane	6500	400	ug/l	RSK175	04/08/10	40
Ethane	BDL	13.	ug/l	RSK175	04/06/10	1
Ethene	BDL	13.	ug/l	RSK175	04/06/10	1
TOC (Total Organic Carbon)	3300	1000	ug/l	9060A	04/10/10	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-11

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : EX-5I

Collected By : Chris Martin
Collection Date : 04/01/10 11:21

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	BDL	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	108.		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	98.2		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 04/12/10 09:26 Printed: 04/12/10 09:27

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-12

Date Received : April 02, 2010
Description : DEQ Springville

Site ID :

Sample ID : EX-6I

Project # : 15267-03/T2

Collected By : Chris Martin
Collection Date : 04/01/10 12:09

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	9056	04/02/10	1
Sulfate	BDL	5000	ug/l	9056	04/02/10	1
Methane	3200	200	ug/l	RSK175	04/08/10	20
Ethane	BDL	13.	ug/l	RSK175	04/06/10	1
Ethene	BDL	13.	ug/l	RSK175	04/06/10	1
TOC (Total Organic Carbon)	50000	10000	ug/l	9060A	04/08/10	10
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-12

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : EX-6I

Collected By : Chris Martin
Collection Date : 04/01/10 12:09

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	BDL	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	105.		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	102.		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Est. 1970

REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-13

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : IN-6I

Collected By : Chris Martin
Collection Date : 04/01/10 13:48

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	9056	04/03/10	1
Sulfate	BDL	5000	ug/l	9056	04/03/10	1
Methane	5500	200	ug/l	RSK175	04/08/10	20
Ethane	BDL	13.	ug/l	RSK175	04/06/10	1
Ethene	BDL	13.	ug/l	RSK175	04/06/10	1
TOC (Total Organic Carbon)	30000	1000	ug/l	9060A	04/07/10	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-13

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : IN-6I

Collected By : Chris Martin
Collection Date : 04/01/10 13:48

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	BDL	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	94.5		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	99.6		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	95.7		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 04/12/10 09:26 Printed: 04/12/10 09:27

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-14

Date Received : April 02, 2010
Description : DEQ Springville

Site ID :

Sample ID : IN-7I

Project # : 15267-03/T2

Collected By : Chris Martin
Collection Date : 04/01/10 12:52

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	9056	04/02/10	1
Sulfate	BDL	5000	ug/l	9056	04/02/10	1
Methane	4300	200	ug/l	RSK175	04/08/10	20
Ethane	BDL	13.	ug/l	RSK175	04/06/10	1
Ethene	BDL	13.	ug/l	RSK175	04/06/10	1
TOC (Total Organic Carbon)	4400	1000	ug/l	9060A	04/10/10	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	1.4	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : IN-7I

Collected By : Chris Martin
Collection Date : 04/01/10 12:52

ESC Sample # : L452106-14

Site ID :

Project # : 15267-03/T2

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	2.1	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	94.6		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	100.		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	92.9		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 04/12/10 09:26 Printed: 04/12/10 09:27

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Est. 1970

REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-15

Date Received : April 02, 2010
Description : DEQ Springville

Site ID :

Sample ID : IN-8I

Project # : 15267-03/T2

Collected By : Chris Martin
Collection Date : 04/01/10 12:22

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	9056	04/02/10	1
Sulfate	BDL	5000	ug/l	9056	04/02/10	1
Methane	7000	200	ug/l	RSK175	04/08/10	20
Ethane	BDL	13.	ug/l	RSK175	04/06/10	1
Ethene	BDL	13.	ug/l	RSK175	04/06/10	1
TOC (Total Organic Carbon)	35000	1000	ug/l	9060A	04/07/10	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-15

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : IN-8I

Collected By : Chris Martin
Collection Date : 04/01/10 12:22

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	BDL	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	94.6		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	102.		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	94.3		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 04/12/10 09:26 Printed: 04/12/10 09:27

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Est. 1970

REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-16

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : MW-14

Collected By : Chris Martin
Collection Date : 04/01/10 10:11

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Nitrate	BDL	100	ug/l	9056	04/02/10	1
Sulfate	5200	5000	ug/l	9056	04/02/10	1
Methane	5600	200	ug/l	RSK175	04/08/10	20
Ethane	BDL	13.	ug/l	RSK175	04/06/10	1
Ethene	BDL	13.	ug/l	RSK175	04/06/10	1
TOC (Total Organic Carbon)	2100	1000	ug/l	9060A	04/10/10	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	04/08/10	1
Acrolein	BDL	50.	ug/l	8260B	04/08/10	1
Acrylonitrile	BDL	10.	ug/l	8260B	04/08/10	1
Benzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	04/08/10	1
Bromoform	BDL	1.0	ug/l	8260B	04/08/10	1
Bromomethane	BDL	5.0	ug/l	8260B	04/08/10	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
Chloroethane	BDL	5.0	ug/l	8260B	04/08/10	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	04/08/10	1
Chloroform	BDL	5.0	ug/l	8260B	04/08/10	1
Chloromethane	BDL	2.5	ug/l	8260B	04/08/10	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	04/08/10	1
Dibromomethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloroethene	1.3	1.0	ug/l	8260B	04/08/10	1
cis-1,2-Dichloroethene	160	5.0	ug/l	8260B	04/09/10	5
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Craig Dockter
Oregon Dept. of Env. Quality - ODEQ
8910 SW Gemini Drive
Beaverton, OR 97008

April 12,2010

ESC Sample # : L452106-16

Site ID :

Project # : 15267-03/T2

Date Received : April 02, 2010
Description : DEQ Springville

Sample ID : MW-14

Collected By : Chris Martin
Collection Date : 04/01/10 10:11

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	04/08/10	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Ethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	04/08/10	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	04/08/10	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	04/08/10	1
Methylene Chloride	BDL	5.0	ug/l	8260B	04/08/10	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	04/08/10	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	04/08/10	1
Naphthalene	BDL	5.0	ug/l	8260B	04/08/10	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Styrene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloro-1,2,2-trifluoro	BDL	1.0	ug/l	8260B	04/08/10	1
Tetrachloroethene	47.	1.0	ug/l	8260B	04/08/10	1
Toluene	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	04/08/10	1
Trichloroethene	31.	1.0	ug/l	8260B	04/08/10	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	04/08/10	1
1,2,3-Trichloropropane	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	04/08/10	1
Vinyl chloride	98.	1.0	ug/l	8260B	04/08/10	1
Xylenes, Total	BDL	3.0	ug/l	8260B	04/08/10	1
Surrogate Recovery						
Toluene-d8	97.1		% Rec.	8260B	04/08/10	1
Dibromofluoromethane	99.3		% Rec.	8260B	04/08/10	1
4-Bromofluorobenzene	99.3		% Rec.	8260B	04/08/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 04/12/10 09:26 Printed: 04/12/10 09:27

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L452106-03	WG471898	SAMP	Chloromethane	R1177268	J3
	WG471898	SAMP	Dichlorodifluoromethane	R1177268	J3
	WG471898	SAMP	Vinyl chloride	R1177268	J3
L452106-04	WG471898	SAMP	Chloromethane	R1177268	J3
	WG471898	SAMP	Dichlorodifluoromethane	R1177268	J3
	WG471898	SAMP	Vinyl chloride	R1177268	J3
L452106-05	WG471898	SAMP	Chloromethane	R1177268	J3
	WG471898	SAMP	Dichlorodifluoromethane	R1177268	J3
	WG471898	SAMP	Vinyl chloride	R1177268	J3
L452106-06	WG471691	SAMP	TOC (Total Organic Carbon)	R1177468	B5
	WG471898	SAMP	Chloromethane	R1177268	J3
	WG471898	SAMP	Dichlorodifluoromethane	R1177268	J3
	WG471898	SAMP	Vinyl chloride	R1177268	J3
L452106-07	WG471898	SAMP	Chloromethane	R1177268	J3
	WG471898	SAMP	Dichlorodifluoromethane	R1177268	J3
	WG471898	SAMP	Vinyl chloride	R1177268	J3
L452106-08	WG471898	SAMP	Chloromethane	R1177268	J3
	WG471898	SAMP	Dichlorodifluoromethane	R1177268	J3
	WG471898	SAMP	Vinyl chloride	R1177268	J3
L452106-09	WG471691	SAMP	TOC (Total Organic Carbon)	R1177468	B5
	WG471898	SAMP	Chloromethane	R1177268	J3
	WG471898	SAMP	Dichlorodifluoromethane	R1177268	J3
	WG471898	SAMP	Vinyl chloride	R1177268	J3
L452106-10	WG471691	SAMP	TOC (Total Organic Carbon)	R1177468	B5
	WG471898	SAMP	Chloromethane	R1177268	J3
	WG471898	SAMP	Dichlorodifluoromethane	R1177268	J3
	WG471898	SAMP	Vinyl chloride	R1177268	J3
L452106-11	WG471898	SAMP	Chloromethane	R1177268	J3
	WG471898	SAMP	Dichlorodifluoromethane	R1177268	J3
	WG471898	SAMP	Vinyl chloride	R1177268	J3
L452106-12	WG471691	SAMP	TOC (Total Organic Carbon)	R1177468	B5
	WG471898	SAMP	Chloromethane	R1177268	J3
	WG471898	SAMP	Dichlorodifluoromethane	R1177268	J3
	WG471898	SAMP	Vinyl chloride	R1177268	J3
L452106-13	WG471691	SAMP	TOC (Total Organic Carbon)	R1177468	B5
L452106-15	WG471691	SAMP	TOC (Total Organic Carbon)	R1177468	B5

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
B5	(ESC) - The indicated compound was found in the associated instrument blank as well as the laboratory sample.
J3	The associated batch QC was outside the established quality control range for precision.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
04/12/10 at 09:27:50

TSR Signing Reports: 358

Log p-key under project manager's name if one is not already created with the specific project name. Contract # 8903.

Sample: L452106-01 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-02 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-03 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-04 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-05 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-06 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-07 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-08 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-09 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-10 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-11 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-12 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-13 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-14 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-15 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

Sample: L452106-16 Account: OREGONDEQ Received: 04/02/10 09:00 Due Date: 04/09/10 00:00 RPT Date: 04/12/10 09:26

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Oregon Dept. of Env. Quality - ODEQ
Craig Dockter
8910 SW Gemini Drive

Beaverton, OR 97008

Quality Assurance Report
Level II

L452106

April 12, 2010

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Nitrate	< .1	mg/l			WG470955	04/02/10 07:05
Sulfate	< 5	mg/l			WG470955	04/02/10 07:05
Nitrate	< .1	mg/l			WG470956	04/02/10 08:13
Sulfate	< 5	mg/l			WG470956	04/02/10 08:13
Nitrate	< .1	mg/l			WG470982	04/02/10 18:32
Sulfate	< 5	mg/l			WG470982	04/02/10 18:32
Nitrate	< .1	mg/l			WG471012	04/02/10 15:31
Sulfate	< 5	mg/l			WG471012	04/02/10 15:31
Nitrate	< .1	mg/l			WG471127	04/03/10 07:43
Sulfate	< 5	mg/l			WG471127	04/03/10 07:43
Ethane	< .013	mg/l			WG471519	04/06/10 13:56
Ethene	< .013	mg/l			WG471519	04/06/10 13:56
Methane	< .01	mg/l			WG471519	04/06/10 13:56
Methane	< .01	mg/l			WG471973	04/08/10 12:44
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG471897	04/07/10 21:56
1,1,1-Trichloroethane	< .001	mg/l			WG471897	04/07/10 21:56
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG471897	04/07/10 21:56
1,1,2-Trichloroethane	< .001	mg/l			WG471897	04/07/10 21:56
1,1,2-Trichloro-1,2,2-trifluoroethane	< .001	mg/l			WG471897	04/07/10 21:56
1,1-Dichloroethane	< .001	mg/l			WG471897	04/07/10 21:56
1,1-Dichloroethene	< .001	mg/l			WG471897	04/07/10 21:56
1,1-Dichloropropene	< .001	mg/l			WG471897	04/07/10 21:56
1,2,3-Trichlorobenzene	< .001	mg/l			WG471897	04/07/10 21:56
1,2,3-Trichloropropane	< .001	mg/l			WG471897	04/07/10 21:56
1,2,3-Trimethylbenzene	< .001	mg/l			WG471897	04/07/10 21:56
1,2,4-Trichlorobenzene	< .001	mg/l			WG471897	04/07/10 21:56
1,2,4-Trimethylbenzene	< .001	mg/l			WG471897	04/07/10 21:56
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG471897	04/07/10 21:56
1,2-Dibromoethane	< .001	mg/l			WG471897	04/07/10 21:56
1,2-Dichlorobenzene	< .001	mg/l			WG471897	04/07/10 21:56
1,2-Dichloroethane	< .001	mg/l			WG471897	04/07/10 21:56
1,2-Dichloropropane	< .001	mg/l			WG471897	04/07/10 21:56
1,3,5-Trimethylbenzene	< .001	mg/l			WG471897	04/07/10 21:56
1,3-Dichlorobenzene	< .001	mg/l			WG471897	04/07/10 21:56
1,3-Dichloropropane	< .001	mg/l			WG471897	04/07/10 21:56
1,4-Dichlorobenzene	< .001	mg/l			WG471897	04/07/10 21:56
2,2-Dichloropropane	< .001	mg/l			WG471897	04/07/10 21:56
2-Butanone (MEK)	< .01	mg/l			WG471897	04/07/10 21:56
2-Chloroethyl vinyl ether	< .001	mg/l			WG471897	04/07/10 21:56
2-Chlorotoluene	< .001	mg/l			WG471897	04/07/10 21:56
4-Chlorotoluene	< .001	mg/l			WG471897	04/07/10 21:56
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG471897	04/07/10 21:56
Acetone	< .05	mg/l			WG471897	04/07/10 21:56
Acrolein	< .05	mg/l			WG471897	04/07/10 21:56
Acrylonitrile	< .01	mg/l			WG471897	04/07/10 21:56

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Craig Dockter
8910 SW Gemini Drive

Beaverton, OR 97008

Quality Assurance Report
Level II

L452106

April 12, 2010

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Benzene	< .001	mg/l			WG471897	04/07/10 21:56
Bromobenzene	< .001	mg/l			WG471897	04/07/10 21:56
Bromodichloromethane	< .001	mg/l			WG471897	04/07/10 21:56
Bromoform	< .001	mg/l			WG471897	04/07/10 21:56
Bromomethane	< .005	mg/l			WG471897	04/07/10 21:56
Carbon tetrachloride	< .001	mg/l			WG471897	04/07/10 21:56
Chlorobenzene	< .001	mg/l			WG471897	04/07/10 21:56
Chlorodibromomethane	< .001	mg/l			WG471897	04/07/10 21:56
Chloroethane	< .001	mg/l			WG471897	04/07/10 21:56
Chloroform	< .005	mg/l			WG471897	04/07/10 21:56
Chloromethane	< .001	mg/l			WG471897	04/07/10 21:56
cis-1,2-Dichloroethene	< .001	mg/l			WG471897	04/07/10 21:56
cis-1,3-Dichloropropene	< .001	mg/l			WG471897	04/07/10 21:56
Di-isopropyl ether	< .001	mg/l			WG471897	04/07/10 21:56
Dibromomethane	< .001	mg/l			WG471897	04/07/10 21:56
Dichlorodifluoromethane	< .005	mg/l			WG471897	04/07/10 21:56
Ethylbenzene	< .001	mg/l			WG471897	04/07/10 21:56
Hexachloro-1,3-butadiene	< .001	mg/l			WG471897	04/07/10 21:56
Isopropylbenzene	< .001	mg/l			WG471897	04/07/10 21:56
Methyl tert-butyl ether	< .001	mg/l			WG471897	04/07/10 21:56
Methylene Chloride	< .005	mg/l			WG471897	04/07/10 21:56
n-Butylbenzene	< .001	mg/l			WG471897	04/07/10 21:56
n-Propylbenzene	< .001	mg/l			WG471897	04/07/10 21:56
Naphthalene	< .005	mg/l			WG471897	04/07/10 21:56
p-Isopropyltoluene	< .001	mg/l			WG471897	04/07/10 21:56
sec-Butylbenzene	< .001	mg/l			WG471897	04/07/10 21:56
Styrene	< .001	mg/l			WG471897	04/07/10 21:56
tert-Butylbenzene	< .001	mg/l			WG471897	04/07/10 21:56
Tetrachloroethene	< .001	mg/l			WG471897	04/07/10 21:56
Toluene	< .005	mg/l			WG471897	04/07/10 21:56
trans-1,2-Dichloroethene	< .001	mg/l			WG471897	04/07/10 21:56
trans-1,3-Dichloropropene	< .001	mg/l			WG471897	04/07/10 21:56
Trichloroethene	< .001	mg/l			WG471897	04/07/10 21:56
Trichlorofluoromethane	< .005	mg/l			WG471897	04/07/10 21:56
Vinyl chloride	< .001	mg/l			WG471897	04/07/10 21:56
Xylenes, Total	< .003	mg/l			WG471897	04/07/10 21:56
4-Bromofluorobenzene		% Rec.	102.8	75-128	WG471897	04/07/10 21:56
Dibromofluoromethane		% Rec.	93.82	79-125	WG471897	04/07/10 21:56
Toluene-d8		% Rec.	96.95	87-114	WG471897	04/07/10 21:56
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG471899	04/08/10 10:59
1,1,1-Trichloroethane	< .001	mg/l			WG471899	04/08/10 10:59
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG471899	04/08/10 10:59
1,1,2-Trichloroethane	< .001	mg/l			WG471899	04/08/10 10:59
1,1,2-Trichloro-1,2,2-trifluoroethane	< .001	mg/l			WG471899	04/08/10 10:59
1,1-Dichloroethane	< .001	mg/l			WG471899	04/08/10 10:59
1,1-Dichloroethene	< .001	mg/l			WG471899	04/08/10 10:59
1,1-Dichloropropene	< .001	mg/l			WG471899	04/08/10 10:59
1,2,3-Trichlorobenzene	< .001	mg/l			WG471899	04/08/10 10:59
1,2,3-Trichloropropane	< .001	mg/l			WG471899	04/08/10 10:59
1,2,3-Trimethylbenzene	< .001	mg/l			WG471899	04/08/10 10:59
1,2,4-Trichlorobenzene	< .001	mg/l			WG471899	04/08/10 10:59
1,2,4-Trimethylbenzene	< .001	mg/l			WG471899	04/08/10 10:59
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG471899	04/08/10 10:59
1,2-Dibromoethane	< .001	mg/l			WG471899	04/08/10 10:59
1,2-Dichlorobenzene	< .001	mg/l			WG471899	04/08/10 10:59
1,2-Dichloroethane	< .001	mg/l			WG471899	04/08/10 10:59
1,2-Dichloropropane	< .001	mg/l			WG471899	04/08/10 10:59

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Quality Assurance Report
Level II

L452106

April 12, 2010

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,3,5-Trimethylbenzene	< .001	mg/l			WG471899	04/08/10 10:59
1,3-Dichlorobenzene	< .001	mg/l			WG471899	04/08/10 10:59
1,3-Dichloropropane	< .001	mg/l			WG471899	04/08/10 10:59
1,4-Dichlorobenzene	< .001	mg/l			WG471899	04/08/10 10:59
2,2-Dichloropropane	< .001	mg/l			WG471899	04/08/10 10:59
2-Butanone (MEK)	< .01	mg/l			WG471899	04/08/10 10:59
2-Chloroethyl vinyl ether	< .001	mg/l			WG471899	04/08/10 10:59
2-Chlorotoluene	< .001	mg/l			WG471899	04/08/10 10:59
4-Chlorotoluene	< .001	mg/l			WG471899	04/08/10 10:59
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG471899	04/08/10 10:59
Acetone	< .05	mg/l			WG471899	04/08/10 10:59
Acrolein	< .05	mg/l			WG471899	04/08/10 10:59
Acrylonitrile	< .01	mg/l			WG471899	04/08/10 10:59
Benzene	< .001	mg/l			WG471899	04/08/10 10:59
Bromobenzene	< .001	mg/l			WG471899	04/08/10 10:59
Bromodichloromethane	< .001	mg/l			WG471899	04/08/10 10:59
Bromoform	< .001	mg/l			WG471899	04/08/10 10:59
Bromomethane	< .005	mg/l			WG471899	04/08/10 10:59
Carbon tetrachloride	< .001	mg/l			WG471899	04/08/10 10:59
Chlorobenzene	< .001	mg/l			WG471899	04/08/10 10:59
Chlorodibromomethane	< .001	mg/l			WG471899	04/08/10 10:59
Chloroethane	< .001	mg/l			WG471899	04/08/10 10:59
Chloroform	< .005	mg/l			WG471899	04/08/10 10:59
Chloromethane	< .001	mg/l			WG471899	04/08/10 10:59
cis-1,2-Dichloroethene	< .001	mg/l			WG471899	04/08/10 10:59
cis-1,3-Dichloropropene	< .001	mg/l			WG471899	04/08/10 10:59
Di-isopropyl ether	< .001	mg/l			WG471899	04/08/10 10:59
Dibromomethane	< .001	mg/l			WG471899	04/08/10 10:59
Dichlorodifluoromethane	< .005	mg/l			WG471899	04/08/10 10:59
Ethylbenzene	< .001	mg/l			WG471899	04/08/10 10:59
Hexachloro-1,3-butadiene	< .001	mg/l			WG471899	04/08/10 10:59
Isopropylbenzene	< .001	mg/l			WG471899	04/08/10 10:59
Methyl tert-butyl ether	< .001	mg/l			WG471899	04/08/10 10:59
Methylene Chloride	< .005	mg/l			WG471899	04/08/10 10:59
n-Butylbenzene	< .001	mg/l			WG471899	04/08/10 10:59
n-Propylbenzene	< .001	mg/l			WG471899	04/08/10 10:59
Naphthalene	< .005	mg/l			WG471899	04/08/10 10:59
p-Isopropyltoluene	< .001	mg/l			WG471899	04/08/10 10:59
sec-Butylbenzene	< .001	mg/l			WG471899	04/08/10 10:59
Styrene	< .001	mg/l			WG471899	04/08/10 10:59
tert-Butylbenzene	< .001	mg/l			WG471899	04/08/10 10:59
Tetrachloroethene	< .001	mg/l			WG471899	04/08/10 10:59
Toluene	< .005	mg/l			WG471899	04/08/10 10:59
trans-1,2-Dichloroethene	< .001	mg/l			WG471899	04/08/10 10:59
trans-1,3-Dichloropropene	< .001	mg/l			WG471899	04/08/10 10:59
Trichloroethene	< .001	mg/l			WG471899	04/08/10 10:59
Trichlorofluoromethane	< .005	mg/l			WG471899	04/08/10 10:59
Vinyl chloride	< .001	mg/l			WG471899	04/08/10 10:59
Xylenes, Total	< .003	mg/l			WG471899	04/08/10 10:59
4-Bromofluorobenzene		% Rec.	94.92	75-128	WG471899	04/08/10 10:59
Dibromofluoromethane		% Rec.	96.71	79-125	WG471899	04/08/10 10:59
Toluene-d8		% Rec.	97.26	87-114	WG471899	04/08/10 10:59
cis-1,2-Dichloroethene	< .001	mg/l			WG472163	04/09/10 00:16
4-Bromofluorobenzene		% Rec.	102.9	75-128	WG472163	04/09/10 00:16
Dibromofluoromethane		% Rec.	99.59	79-125	WG472163	04/09/10 00:16
Toluene-d8		% Rec.	103.5	87-114	WG472163	04/09/10 00:16

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Quality Assurance Report
Level II

L452106

April 12, 2010

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG471898	04/08/10 12:20
1,1,1-Trichloroethane	< .001	mg/l			WG471898	04/08/10 12:20
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG471898	04/08/10 12:20
1,1,2-Trichloroethane	< .001	mg/l			WG471898	04/08/10 12:20
1,1,2-Trichloro-1,2,2-trifluoroethane	< .001	mg/l			WG471898	04/08/10 12:20
1,1-Dichloroethane	< .001	mg/l			WG471898	04/08/10 12:20
1,1-Dichloroethene	< .001	mg/l			WG471898	04/08/10 12:20
1,1-Dichloropropene	< .001	mg/l			WG471898	04/08/10 12:20
1,2,3-Trichlorobenzene	< .001	mg/l			WG471898	04/08/10 12:20
1,2,3-Trichloropropane	< .001	mg/l			WG471898	04/08/10 12:20
1,2,3-Trimethylbenzene	< .001	mg/l			WG471898	04/08/10 12:20
1,2,4-Trichlorobenzene	< .001	mg/l			WG471898	04/08/10 12:20
1,2,4-Trimethylbenzene	< .001	mg/l			WG471898	04/08/10 12:20
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG471898	04/08/10 12:20
1,2-Dibromoethane	< .001	mg/l			WG471898	04/08/10 12:20
1,2-Dichlorobenzene	< .001	mg/l			WG471898	04/08/10 12:20
1,2-Dichloroethane	< .001	mg/l			WG471898	04/08/10 12:20
1,2-Dichloropropane	< .001	mg/l			WG471898	04/08/10 12:20
1,3,5-Trimethylbenzene	< .001	mg/l			WG471898	04/08/10 12:20
1,3-Dichlorobenzene	< .001	mg/l			WG471898	04/08/10 12:20
1,3-Dichloropropane	< .001	mg/l			WG471898	04/08/10 12:20
1,4-Dichlorobenzene	< .001	mg/l			WG471898	04/08/10 12:20
2,2-Dichloropropane	< .001	mg/l			WG471898	04/08/10 12:20
2-Butanone (MEK)	< .01	mg/l			WG471898	04/08/10 12:20
2-Chloroethyl vinyl ether	< .001	mg/l			WG471898	04/08/10 12:20
2-Chlorotoluene	< .001	mg/l			WG471898	04/08/10 12:20
4-Chlorotoluene	< .001	mg/l			WG471898	04/08/10 12:20
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG471898	04/08/10 12:20
Acetone	< .05	mg/l			WG471898	04/08/10 12:20
Acrolein	< .05	mg/l			WG471898	04/08/10 12:20
Acrylonitrile	< .01	mg/l			WG471898	04/08/10 12:20
Benzene	< .001	mg/l			WG471898	04/08/10 12:20
Bromobenzene	< .001	mg/l			WG471898	04/08/10 12:20
Bromodichloromethane	< .001	mg/l			WG471898	04/08/10 12:20
Bromoform	< .001	mg/l			WG471898	04/08/10 12:20
Bromomethane	< .005	mg/l			WG471898	04/08/10 12:20
Carbon tetrachloride	< .001	mg/l			WG471898	04/08/10 12:20
Chlorobenzene	< .001	mg/l			WG471898	04/08/10 12:20
Chlorodibromomethane	< .001	mg/l			WG471898	04/08/10 12:20
Chloroethane	< .001	mg/l			WG471898	04/08/10 12:20
Chloroform	< .005	mg/l			WG471898	04/08/10 12:20
Chloromethane	< .001	mg/l			WG471898	04/08/10 12:20
cis-1,2-Dichloroethene	< .001	mg/l			WG471898	04/08/10 12:20
cis-1,3-Dichloropropene	< .001	mg/l			WG471898	04/08/10 12:20
Di-isopropyl ether	< .001	mg/l			WG471898	04/08/10 12:20
Dibromomethane	< .001	mg/l			WG471898	04/08/10 12:20
Dichlorodifluoromethane	< .005	mg/l			WG471898	04/08/10 12:20
Ethylbenzene	< .001	mg/l			WG471898	04/08/10 12:20
Hexachloro-1,3-butadiene	< .001	mg/l			WG471898	04/08/10 12:20
Isopropylbenzene	< .001	mg/l			WG471898	04/08/10 12:20
Methyl tert-butyl ether	< .001	mg/l			WG471898	04/08/10 12:20
Methylene Chloride	< .005	mg/l			WG471898	04/08/10 12:20
n-Butylbenzene	< .001	mg/l			WG471898	04/08/10 12:20
n-Propylbenzene	< .001	mg/l			WG471898	04/08/10 12:20
Naphthalene	< .005	mg/l			WG471898	04/08/10 12:20
p-Isopropyltoluene	< .001	mg/l			WG471898	04/08/10 12:20
sec-Butylbenzene	< .001	mg/l			WG471898	04/08/10 12:20
Styrene	< .001	mg/l			WG471898	04/08/10 12:20

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Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
tert-Butylbenzene	< .001	mg/l			WG471898	04/08/10 12:20
Tetrachloroethene	< .001	mg/l			WG471898	04/08/10 12:20
Toluene	< .005	mg/l			WG471898	04/08/10 12:20
trans-1,2-Dichloroethene	< .001	mg/l			WG471898	04/08/10 12:20
trans-1,3-Dichloropropene	< .001	mg/l			WG471898	04/08/10 12:20
Trichloroethene	< .001	mg/l			WG471898	04/08/10 12:20
Trichlorofluoromethane	< .005	mg/l			WG471898	04/08/10 12:20
Vinyl chloride	< .001	mg/l			WG471898	04/08/10 12:20
Xylenes, Total	< .003	mg/l			WG471898	04/08/10 12:20
4-Bromofluorobenzene		% Rec.	105.7	75-128	WG471898	04/08/10 12:20
Dibromofluoromethane		% Rec.	98.09	79-125	WG471898	04/08/10 12:20
Toluene-d8		% Rec.	101.4	87-114	WG471898	04/08/10 12:20
TOC (Total Organic Carbon)	< 1	mg/l			WG471691	04/07/10 09:58
Tetrachloroethene	< .001	mg/l			WG472303	04/09/10 18:43
4-Bromofluorobenzene		% Rec.	106.4	75-128	WG472303	04/09/10 18:43
Dibromofluoromethane		% Rec.	99.50	79-125	WG472303	04/09/10 18:43
Toluene-d8		% Rec.	99.72	87-114	WG472303	04/09/10 18:43
TOC (Total Organic Carbon)	< 1	mg/l			WG472359	04/10/10 09:34

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Sulfate	mg/l	0	0	0	20	L451114-09	WG470955
Sulfate	mg/l	0	0	0	20	L451114-10	WG470956
Nitrate	mg/l	0.320	0.310	1.92	20	L452107-04	WG470956
Nitrate	mg/l	0	0	0	20	L452107-07	WG470982
Sulfate	mg/l	30.0	30.0	1.34	20	L451305-08	WG470982
Sulfate	mg/l	0	0	0	20	L451179-07	WG471012
Sulfate	mg/l	0	0	0	20	L451179-08	WG471012
Nitrate	mg/l	0.410	0.420	2.17	20	L452340-06	WG471127
Sulfate	mg/l	50.0	50.0	0.598	20	L452340-06	WG471127
TOC (Total Organic Carbon)	mg/l	94.0	100.	5.87	20	L452102-09	WG471691
TOC (Total Organic Carbon)	mg/l	9.00	9.70	7.82	20	L452106-05	WG472359
TOC (Total Organic Carbon)	mg/l	3.00	3.00	1.34	20	L452382-03	WG472359

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Nitrate	mg/l	8	8.08	101.	90-110	WG470955
Sulfate	mg/l	40	37.6	94.0	90-110	WG470955

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Quality Assurance Report
Level II

L452106

April 12, 2010

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Nitrate	mg/l	8	8.24	103.	90-110	WG470956
Sulfate	mg/l	40	39.2	98.0	90-110	WG470956
Nitrate	mg/l	8	8.23	103.	90-110	WG470982
Sulfate	mg/l	40	39.2	98.0	90-110	WG470982
Nitrate	mg/l	8	8.05	101.	90-110	WG471012
Sulfate	mg/l	40	39.5	98.8	90-110	WG471012
Nitrate	mg/l	8	8.07	101.	90-110	WG471127
Sulfate	mg/l	40	39.4	98.5	90-110	WG471127
Ethane	mg/l	.645	0.723	112.	70-130	WG471519
Ethene	mg/l	.635	0.715	113.	70-130	WG471519
Methane	mg/l	.339	0.344	102.	70-130	WG471519
Methane	mg/l	.339	0.322	95.0	70-130	WG471973
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0298	119.	75-134	WG471897
1,1,1-Trichloroethane	mg/l	.025	0.0270	108.	67-137	WG471897
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0282	113.	72-128	WG471897
1,1,2-Trichloroethane	mg/l	.025	0.0289	116.	79-123	WG471897
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	.025	0.0259	104.	51-149	WG471897
1,1-Dichloroethane	mg/l	.025	0.0260	104.	67-133	WG471897
1,1-Dichloroethene	mg/l	.025	0.0250	99.9	60-130	WG471897
1,1-Dichloropropene	mg/l	.025	0.0266	106.	68-132	WG471897
1,2,3-Trichlorobenzene	mg/l	.025	0.0272	109.	63-138	WG471897
1,2,3-Trichloropropane	mg/l	.025	0.0272	109.	68-130	WG471897
1,2,3-Trimethylbenzene	mg/l	.025	0.0293	117.	70-127	WG471897
1,2,4-Trichlorobenzene	mg/l	.025	0.0277	111.	65-137	WG471897
1,2,4-Trimethylbenzene	mg/l	.025	0.0306	122.	72-135	WG471897
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0294	118.	55-134	WG471897
1,2-Dibromoethane	mg/l	.025	0.0288	115.	75-126	WG471897
1,2-Dichlorobenzene	mg/l	.025	0.0283	113.	75-122	WG471897
1,2-Dichloroethane	mg/l	.025	0.0267	107.	63-137	WG471897
1,2-Dichloropropane	mg/l	.025	0.0281	112.	74-122	WG471897
1,3,5-Trimethylbenzene	mg/l	.025	0.0301	120.	73-134	WG471897
1,3-Dichlorobenzene	mg/l	.025	0.0291	116.	73-131	WG471897
1,3-Dichloropropane	mg/l	.025	0.0269	108.	77-119	WG471897
1,4-Dichlorobenzene	mg/l	.025	0.0262	105.	70-121	WG471897
2,2-Dichloropropane	mg/l	.025	0.0264	106.	46-151	WG471897
2-Butanone (MEK)	mg/l	.125	0.125	100.	53-132	WG471897
2-Chloroethyl vinyl ether	mg/l	.125	0.123	98.2	0-171	WG471897
2-Chlorotoluene	mg/l	.025	0.0285	114.	74-128	WG471897
4-Chlorotoluene	mg/l	.025	0.0285	114.	74-130	WG471897
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.128	102.	60-142	WG471897
Acetone	mg/l	.125	0.111	89.2	48-134	WG471897
Acrolein	mg/l	.125	0.0279	22.3	6-182	WG471897
Acrylonitrile	mg/l	.125	0.127	101.	60-140	WG471897
Benzene	mg/l	.025	0.0257	103.	67-126	WG471897
Bromobenzene	mg/l	.025	0.0274	110.	76-123	WG471897
Bromodichloromethane	mg/l	.025	0.0297	119.	68-133	WG471897

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Quality Assurance Report
Level II

L452106

April 12, 2010

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Bromoform	mg/l	.025	0.0307	123.	60-139	WG471897
Bromomethane	mg/l	.025	0.0360	144.	45-175	WG471897
Carbon tetrachloride	mg/l	.025	0.0257	103.	64-141	WG471897
Chlorobenzene	mg/l	.025	0.0284	114.	77-125	WG471897
Chlorodibromomethane	mg/l	.025	0.0300	120.	73-138	WG471897
Chloroethane	mg/l	.025	0.0276	110.	49-155	WG471897
Chloroform	mg/l	.025	0.0259	104.	66-126	WG471897
Chloromethane	mg/l	.025	0.0286	114.	45-152	WG471897
cis-1,2-Dichloroethene	mg/l	.025	0.0264	106.	72-128	WG471897
cis-1,3-Dichloropropene	mg/l	.025	0.0288	115.	73-131	WG471897
Di-isopropyl ether	mg/l	.025	0.0254	102.	63-139	WG471897
Dibromomethane	mg/l	.025	0.0291	116.	73-125	WG471897
Dichlorodifluoromethane	mg/l	.025	0.0341	136.	39-189	WG471897
Ethylbenzene	mg/l	.025	0.0294	118.	76-129	WG471897
Hexachloro-1,3-butadiene	mg/l	.025	0.0313	125.	67-135	WG471897
Isopropylbenzene	mg/l	.025	0.0272	109.	73-132	WG471897
Methyl tert-butyl ether	mg/l	.025	0.0250	100.	51-142	WG471897
Methylene Chloride	mg/l	.025	0.0250	100.	64-125	WG471897
n-Butylbenzene	mg/l	.025	0.0297	119.	63-142	WG471897
n-Propylbenzene	mg/l	.025	0.0287	115.	71-132	WG471897
Naphthalene	mg/l	.025	0.0280	112.	56-145	WG471897
p-Isopropyltoluene	mg/l	.025	0.0304	122.	68-138	WG471897
sec-Butylbenzene	mg/l	.025	0.0301	120.	70-135	WG471897
Styrene	mg/l	.025	0.0289	115.	78-130	WG471897
tert-Butylbenzene	mg/l	.025	0.0301	121.	72-134	WG471897
Tetrachloroethene	mg/l	.025	0.0291	116.	67-135	WG471897
Toluene	mg/l	.025	0.0274	110.	72-122	WG471897
trans-1,2-Dichloroethene	mg/l	.025	0.0260	104.	67-129	WG471897
trans-1,3-Dichloropropene	mg/l	.025	0.0279	112.	66-137	WG471897
Trichloroethene	mg/l	.025	0.0277	111.	74-126	WG471897
Trichlorofluoromethane	mg/l	.025	0.0296	118.	54-156	WG471897
Vinyl chloride	mg/l	.025	0.0255	102.	55-153	WG471897
Xylenes, Total	mg/l	.075	0.0857	114.	75-128	WG471897
4-Bromofluorobenzene				99.03	75-128	WG471897
Dibromofluoromethane				94.54	79-125	WG471897
Toluene-d8				96.21	87-114	WG471897
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0248	99.1	75-134	WG471899
1,1,1-Trichloroethane	mg/l	.025	0.0236	94.6	67-137	WG471899
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0233	93.2	72-128	WG471899
1,1,2-Trichloroethane	mg/l	.025	0.0234	93.6	79-123	WG471899
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	.025	0.0209	83.5	51-149	WG471899
1,1-Dichloroethane	mg/l	.025	0.0230	92.1	67-133	WG471899
1,1-Dichloroethene	mg/l	.025	0.0213	85.2	60-130	WG471899
1,1-Dichloropropene	mg/l	.025	0.0221	88.4	68-132	WG471899
1,2,3-Trichlorobenzene	mg/l	.025	0.0227	90.8	63-138	WG471899
1,2,3-Trichloropropane	mg/l	.025	0.0234	93.7	68-130	WG471899
1,2,3-Trimethylbenzene	mg/l	.025	0.0243	97.3	70-127	WG471899
1,2,4-Trichlorobenzene	mg/l	.025	0.0222	88.8	65-137	WG471899
1,2,4-Trimethylbenzene	mg/l	.025	0.0239	95.6	72-135	WG471899
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0230	91.9	55-134	WG471899
1,2-Dibromoethane	mg/l	.025	0.0217	86.8	75-126	WG471899
1,2-Dichlorobenzene	mg/l	.025	0.0236	94.5	75-122	WG471899
1,2-Dichloroethane	mg/l	.025	0.0227	90.8	63-137	WG471899
1,2-Dichloropropane	mg/l	.025	0.0233	93.2	74-122	WG471899
1,3,5-Trimethylbenzene	mg/l	.025	0.0236	94.6	73-134	WG471899
1,3-Dichlorobenzene	mg/l	.025	0.0234	93.5	73-131	WG471899
1,3-Dichloropropane	mg/l	.025	0.0227	90.9	77-119	WG471899

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Quality Assurance Report
Level II

L452106

April 12, 2010

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,4-Dichlorobenzene	mg/l	.025	0.0230	92.0	70-121	WG471899
2,2-Dichloropropane	mg/l	.025	0.0222	88.7	46-151	WG471899
2-Butanone (MEK)	mg/l	.125	0.102	81.7	53-132	WG471899
2-Chloroethyl vinyl ether	mg/l	.125	0.103	82.3	0-171	WG471899
2-Chlorotoluene	mg/l	.025	0.0243	97.1	74-128	WG471899
4-Chlorotoluene	mg/l	.025	0.0237	94.8	74-130	WG471899
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.105	83.8	60-142	WG471899
Acetone	mg/l	.125	0.109	87.6	48-134	WG471899
Acrolein	mg/l	.125	0.0456	36.5	6-182	WG471899
Acrylonitrile	mg/l	.125	0.109	87.3	60-140	WG471899
Benzene	mg/l	.025	0.0217	86.6	67-126	WG471899
Bromobenzene	mg/l	.025	0.0234	93.7	76-123	WG471899
Bromodichloromethane	mg/l	.025	0.0240	96.1	68-133	WG471899
Bromoform	mg/l	.025	0.0248	99.4	60-139	WG471899
Bromomethane	mg/l	.025	0.0240	96.1	45-175	WG471899
Carbon tetrachloride	mg/l	.025	0.0223	89.1	64-141	WG471899
Chlorobenzene	mg/l	.025	0.0227	90.9	77-125	WG471899
Chlorodibromomethane	mg/l	.025	0.0240	96.2	73-138	WG471899
Chloroethane	mg/l	.025	0.0225	89.9	49-155	WG471899
Chloroform	mg/l	.025	0.0232	92.9	66-126	WG471899
Chloromethane	mg/l	.025	0.0223	89.3	45-152	WG471899
cis-1,2-Dichloroethene	mg/l	.025	0.0232	92.8	72-128	WG471899
cis-1,3-Dichloropropene	mg/l	.025	0.0233	93.1	73-131	WG471899
Di-isopropyl ether	mg/l	.025	0.0226	90.2	63-139	WG471899
Dibromomethane	mg/l	.025	0.0223	89.3	73-125	WG471899
Dichlorodifluoromethane	mg/l	.025	0.0213	85.2	39-189	WG471899
Ethylbenzene	mg/l	.025	0.0225	90.1	76-129	WG471899
Hexachloro-1,3-butadiene	mg/l	.025	0.0233	93.0	67-135	WG471899
Isopropylbenzene	mg/l	.025	0.0224	89.6	73-132	WG471899
Methyl tert-butyl ether	mg/l	.025	0.0218	87.1	51-142	WG471899
Methylene Chloride	mg/l	.025	0.0219	87.5	64-125	WG471899
n-Butylbenzene	mg/l	.025	0.0231	92.3	63-142	WG471899
n-Propylbenzene	mg/l	.025	0.0234	93.8	71-132	WG471899
Naphthalene	mg/l	.025	0.0226	90.6	56-145	WG471899
p-Isopropyltoluene	mg/l	.025	0.0240	95.8	68-138	WG471899
sec-Butylbenzene	mg/l	.025	0.0239	95.6	70-135	WG471899
Styrene	mg/l	.025	0.0249	99.5	78-130	WG471899
tert-Butylbenzene	mg/l	.025	0.0241	96.4	72-134	WG471899
Tetrachloroethene	mg/l	.025	0.0228	91.1	67-135	WG471899
Toluene	mg/l	.025	0.0213	85.1	72-122	WG471899
trans-1,2-Dichloroethene	mg/l	.025	0.0223	89.3	67-129	WG471899
trans-1,3-Dichloropropene	mg/l	.025	0.0213	85.2	66-137	WG471899
Trichloroethene	mg/l	.025	0.0234	93.6	74-126	WG471899
Trichlorofluoromethane	mg/l	.025	0.0253	101.	54-156	WG471899
Vinyl chloride	mg/l	.025	0.0233	93.1	55-153	WG471899
Xylenes, Total	mg/l	.075	0.0666	88.8	75-128	WG471899
4-Bromofluorobenzene				99.54	75-128	WG471899
Dibromofluoromethane				102.1	79-125	WG471899
Toluene-d8				94.63	87-114	WG471899
cis-1,2-Dichloroethene	mg/l	.025	0.0242	96.8	72-128	WG472163
4-Bromofluorobenzene				101.4	75-128	WG472163
Dibromofluoromethane				103.5	79-125	WG472163
Toluene-d8				102.8	87-114	WG472163
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0263	105.	75-134	WG471898
1,1,1-Trichloroethane	mg/l	.025	0.0250	99.9	67-137	WG471898

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Quality Assurance Report
Level II

L452106

April 12, 2010

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0284	114.	72-128	WG471898
1,1,2-Trichloroethane	mg/l	.025	0.0264	105.	79-123	WG471898
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	.025	0.0250	100.	51-149	WG471898
1,1-Dichloroethane	mg/l	.025	0.0237	94.9	67-133	WG471898
1,1-Dichloroethene	mg/l	.025	0.0228	91.2	60-130	WG471898
1,1-Dichloropropene	mg/l	.025	0.0228	91.4	68-132	WG471898
1,2,3-Trichlorobenzene	mg/l	.025	0.0293	117.	63-138	WG471898
1,2,3-Trichloropropane	mg/l	.025	0.0299	119.	68-130	WG471898
1,2,3-Trimethylbenzene	mg/l	.025	0.0261	104.	70-127	WG471898
1,2,4-Trichlorobenzene	mg/l	.025	0.0269	108.	65-137	WG471898
1,2,4-Trimethylbenzene	mg/l	.025	0.0272	109.	72-135	WG471898
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0261	105.	55-134	WG471898
1,2-Dibromoethane	mg/l	.025	0.0275	110.	75-126	WG471898
1,2-Dichlorobenzene	mg/l	.025	0.0268	107.	75-122	WG471898
1,2-Dichloroethane	mg/l	.025	0.0246	98.3	63-137	WG471898
1,2-Dichloropropane	mg/l	.025	0.0254	102.	74-122	WG471898
1,3,5-Trimethylbenzene	mg/l	.025	0.0273	109.	73-134	WG471898
1,3-Dichlorobenzene	mg/l	.025	0.0276	110.	73-131	WG471898
1,3-Dichloropropane	mg/l	.025	0.0258	103.	77-119	WG471898
1,4-Dichlorobenzene	mg/l	.025	0.0253	101.	70-121	WG471898
2,2-Dichloropropane	mg/l	.025	0.0264	106.	46-151	WG471898
2-Butanone (MEK)	mg/l	.125	0.138	110.	53-132	WG471898
2-Chloroethyl vinyl ether	mg/l	.125	0.185	148.	0-171	WG471898
2-Chlorotoluene	mg/l	.025	0.0264	106.	74-128	WG471898
4-Chlorotoluene	mg/l	.025	0.0271	108.	74-130	WG471898
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.153	123.	60-142	WG471898
Acetone	mg/l	.125	0.124	99.4	48-134	WG471898
Acrolein	mg/l	.125	0.143	114.	6-182	WG471898
Acrylonitrile	mg/l	.125	0.144	115.	60-140	WG471898
Benzene	mg/l	.025	0.0232	92.9	67-126	WG471898
Bromobenzene	mg/l	.025	0.0257	103.	76-123	WG471898
Bromodichloromethane	mg/l	.025	0.0251	101.	68-133	WG471898
Bromoform	mg/l	.025	0.0249	99.4	60-139	WG471898
Bromomethane	mg/l	.025	0.0242	96.8	45-175	WG471898
Carbon tetrachloride	mg/l	.025	0.0244	97.8	64-141	WG471898
Chlorobenzene	mg/l	.025	0.0256	103.	77-125	WG471898
Chlorodibromomethane	mg/l	.025	0.0250	99.8	73-138	WG471898
Chloroethane	mg/l	.025	0.0262	105.	49-155	WG471898
Chloroform	mg/l	.025	0.0250	99.8	66-126	WG471898
Chloromethane	mg/l	.025	0.0184	73.8	45-152	WG471898
cis-1,2-Dichloroethene	mg/l	.025	0.0241	96.3	72-128	WG471898
cis-1,3-Dichloropropene	mg/l	.025	0.0249	99.6	73-131	WG471898
Di-isopropyl ether	mg/l	.025	0.0257	103.	63-139	WG471898
Dibromomethane	mg/l	.025	0.0258	103.	73-125	WG471898
Dichlorodifluoromethane	mg/l	.025	0.0215	86.2	39-189	WG471898
Ethylbenzene	mg/l	.025	0.0269	107.	76-129	WG471898
Hexachloro-1,3-butadiene	mg/l	.025	0.0287	115.	67-135	WG471898
Isopropylbenzene	mg/l	.025	0.0275	110.	73-132	WG471898
Methyl tert-butyl ether	mg/l	.025	0.0269	108.	51-142	WG471898
Methylene Chloride	mg/l	.025	0.0231	92.5	64-125	WG471898
n-Butylbenzene	mg/l	.025	0.0241	96.6	63-142	WG471898
n-Propylbenzene	mg/l	.025	0.0269	108.	71-132	WG471898
Naphthalene	mg/l	.025	0.0318	127.	56-145	WG471898
p-Isopropyltoluene	mg/l	.025	0.0280	112.	68-138	WG471898
sec-Butylbenzene	mg/l	.025	0.0282	113.	70-135	WG471898
Styrene	mg/l	.025	0.0265	106.	78-130	WG471898
tert-Butylbenzene	mg/l	.025	0.0276	110.	72-134	WG471898
Tetrachloroethene	mg/l	.025	0.0249	99.6	67-135	WG471898
Toluene	mg/l	.025	0.0237	94.9	72-122	WG471898

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Tax I.D. 62-0814289

Est. 1970

Oregon Dept. of Env. Quality - ODEQ
Craig Dockter
8910 SW Gemini Drive

Beaverton, OR 97008

Quality Assurance Report
Level II

L452106

April 12, 2010

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
trans-1,2-Dichloroethene	mg/l	.025	0.0218	87.4	67-129	WG471898
trans-1,3-Dichloropropene	mg/l	.025	0.0284	114.	66-137	WG471898
Trichloroethene	mg/l	.025	0.0240	95.9	74-126	WG471898
Trichlorofluoromethane	mg/l	.025	0.0230	92.1	54-156	WG471898
Vinyl chloride	mg/l	.025	0.0205	81.9	55-153	WG471898
Xylenes, Total	mg/l	.075	0.0785	105.	75-128	WG471898
4-Bromofluorobenzene				100.7	75-128	WG471898
Dibromofluoromethane				98.93	79-125	WG471898
Toluene-d8				99.10	87-114	WG471898
TOC (Total Organic Carbon)	mg/l	75	69.8	93.0	85-115	WG471691
Tetrachloroethene	mg/l	.025	0.0263	105.	67-135	WG472303
4-Bromofluorobenzene				101.5	75-128	WG472303
Dibromofluoromethane				96.58	79-125	WG472303
Toluene-d8				98.75	87-114	WG472303
TOC (Total Organic Carbon)	mg/l	75	75.0	100.	85-115	WG472359

Laboratory Control Sample Duplicate

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Nitrate	mg/l	8.05	8.08	101.	90-110	0.372	20	WG470955
Sulfate	mg/l	37.8	37.6	94.0	90-110	0.531	20	WG470955
Nitrate	mg/l	8.24	8.24	103.	90-110	0	20	WG470956
Sulfate	mg/l	39.2	39.2	98.0	90-110	0	20	WG470956
Nitrate	mg/l	8.21	8.23	103.	90-110	0.243	20	WG470982
Sulfate	mg/l	39.1	39.2	98.0	90-110	0.255	20	WG470982
Nitrate	mg/l	8.06	8.05	101.	90-110	0.124	20	WG471012
Sulfate	mg/l	39.4	39.5	98.0	90-110	0.253	20	WG471012
Nitrate	mg/l	8.11	8.07	101.	90-110	0.494	20	WG471127
Sulfate	mg/l	39.7	39.4	99.0	90-110	0.759	20	WG471127
Ethane	mg/l	0.703	0.723	109.	70-130	2.86	25	WG471519
Ethene	mg/l	0.695	0.715	110.	70-130	2.82	25	WG471519
Methane	mg/l	0.338	0.344	100.	70-130	1.91	25	WG471519
Methane	mg/l	0.327	0.322	96.0	70-130	1.44	25	WG471973
1,1,1,2-Tetrachloroethane	mg/l	0.0278	0.0298	111.	75-134	7.06	20	WG471897
1,1,1-Trichloroethane	mg/l	0.0259	0.0270	104.	67-137	4.32	20	WG471897
1,1,2,2-Tetrachloroethane	mg/l	0.0262	0.0282	105.	72-128	7.30	20	WG471897
1,1,2-Trichloroethane	mg/l	0.0265	0.0289	106.	79-123	8.56	20	WG471897
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0243	0.0259	97.0	51-149	6.32	20	WG471897
1,1-Dichloroethane	mg/l	0.0244	0.0260	97.0	67-133	6.69	20	WG471897

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Quality Assurance Report
Level II

April 12, 2010

L452106

		Laboratory Control Sample				Duplicate		
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1-Dichloroethene	mg/l	0.0231	0.0250	92.0	60-130	7.65	20	WG471897
1,1-Dichloropropene	mg/l	0.0248	0.0266	99.0	68-132	7.00	20	WG471897
1,2,3-Trichlorobenzene	mg/l	0.0268	0.0272	107.	63-138	1.74	20	WG471897
1,2,3-Trichloropropane	mg/l	0.0258	0.0272	103.	68-130	5.36	20	WG471897
1,2,3-Trimethylbenzene	mg/l	0.0276	0.0293	110.	70-127	6.07	20	WG471897
1,2,4-Trichlorobenzene	mg/l	0.0263	0.0277	105.	65-137	5.04	20	WG471897
1,2,4-Trimethylbenzene	mg/l	0.0293	0.0306	117.	72-135	4.21	20	WG471897
1,2-Dibromo-3-Chloropropane	mg/l	0.0286	0.0294	114.	55-134	3.01	20	WG471897
1,2-Dibromoethane	mg/l	0.0272	0.0288	109.	75-126	5.53	20	WG471897
1,2-Dichlorobenzene	mg/l	0.0265	0.0283	106.	75-122	6.59	20	WG471897
1,2-Dichloroethane	mg/l	0.0251	0.0267	100.	63-137	6.34	20	WG471897
1,2-Dichloropropane	mg/l	0.0264	0.0281	106.	74-122	6.13	20	WG471897
1,3,5-Trimethylbenzene	mg/l	0.0288	0.0301	115.	73-134	4.21	20	WG471897
1,3-Dichlorobenzene	mg/l	0.0277	0.0291	111.	73-131	4.98	20	WG471897
1,3-Dichloropropane	mg/l	0.0250	0.0269	100.	77-119	7.35	20	WG471897
1,4-Dichlorobenzene	mg/l	0.0248	0.0262	99.0	70-121	5.58	20	WG471897
2,2-Dichloropropane	mg/l	0.0248	0.0264	99.0	46-151	6.17	20	WG471897
2-Butanone (MEK)	mg/l	0.113	0.125	90.0	53-132	10.5	20	WG471897
2-Chloroethyl vinyl ether	mg/l	0.117	0.123	93.0	0-171	5.22	27	WG471897
2-Chlorotoluene	mg/l	0.0272	0.0285	109.	74-128	4.74	20	WG471897
4-Chlorotoluene	mg/l	0.0276	0.0285	110.	74-130	3.37	20	WG471897
4-Methyl-2-pentanone (MIBK)	mg/l	0.117	0.128	94.0	60-142	8.80	20	WG471897
Acetone	mg/l	0.0970	0.111	78.0	48-134	13.9	20	WG471897
Acrolein	mg/l	0.0292	0.0279	23.0	6-182	4.31	39	WG471897
Acrylonitrile	mg/l	0.115	0.127	92.0	60-140	9.54	20	WG471897
Benzene	mg/l	0.0240	0.0257	96.0	67-126	6.56	20	WG471897
Bromobenzene	mg/l	0.0260	0.0274	104.	76-123	5.22	20	WG471897
Bromodichloromethane	mg/l	0.0281	0.0297	112.	68-133	5.83	20	WG471897
Bromoform	mg/l	0.0289	0.0307	116.	60-139	5.81	20	WG471897
Bromomethane	mg/l	0.0352	0.0360	141.	45-175	2.16	20	WG471897
Carbon tetrachloride	mg/l	0.0244	0.0257	98.0	64-141	5.13	20	WG471897
Chlorobenzene	mg/l	0.0269	0.0284	108.	77-125	5.35	20	WG471897
Chlorodibromomethane	mg/l	0.0287	0.0300	115.	73-138	4.22	20	WG471897
Chloroethane	mg/l	0.0265	0.0276	106.	49-155	4.10	20	WG471897
Chloroform	mg/l	0.0246	0.0259	98.0	66-126	5.29	20	WG471897
Chloromethane	mg/l	0.0263	0.0286	105.	45-152	8.44	20	WG471897
cis-1,2-Dichloroethene	mg/l	0.0250	0.0264	100.	72-128	5.56	20	WG471897
cis-1,3-Dichloropropene	mg/l	0.0275	0.0288	110.	73-131	4.82	20	WG471897
Di-isopropyl ether	mg/l	0.0238	0.0254	95.0	63-139	6.49	20	WG471897
Dibromomethane	mg/l	0.0269	0.0291	108.	73-125	7.77	20	WG471897
Dichlorodifluoromethane	mg/l	0.0315	0.0341	126.	39-189	7.75	24	WG471897
Ethylbenzene	mg/l	0.0273	0.0294	109.	76-129	7.54	20	WG471897
Hexachloro-1,3-butadiene	mg/l	0.0298	0.0313	119.	67-135	4.74	20	WG471897
Isopropylbenzene	mg/l	0.0258	0.0272	103.	73-132	5.32	20	WG471897
Methyl tert-butyl ether	mg/l	0.0231	0.0250	92.0	51-142	7.73	20	WG471897
Methylene Chloride	mg/l	0.0237	0.0250	95.0	64-125	5.48	20	WG471897
n-Butylbenzene	mg/l	0.0282	0.0297	113.	63-142	5.33	20	WG471897
n-Propylbenzene	mg/l	0.0275	0.0287	110.	71-132	4.27	20	WG471897
Naphthalene	mg/l	0.0272	0.0280	109.	56-145	2.80	20	WG471897
p-Isopropyltoluene	mg/l	0.0291	0.0304	116.	68-138	4.53	20	WG471897
sec-Butylbenzene	mg/l	0.0288	0.0301	115.	70-135	4.21	20	WG471897
Styrene	mg/l	0.0278	0.0289	111.	78-130	3.65	20	WG471897
tert-Butylbenzene	mg/l	0.0288	0.0301	115.	72-134	4.66	20	WG471897
Tetrachloroethene	mg/l	0.0272	0.0291	109.	67-135	6.74	20	WG471897
Toluene	mg/l	0.0254	0.0274	102.	72-122	7.42	20	WG471897
trans-1,2-Dichloroethene	mg/l	0.0243	0.0260	97.0	67-129	6.75	20	WG471897
trans-1,3-Dichloropropene	mg/l	0.0262	0.0279	105.	66-137	6.29	20	WG471897
Trichloroethene	mg/l	0.0264	0.0277	106.	74-126	4.77	20	WG471897
Trichlorofluoromethane	mg/l	0.0263	0.0296	105.	54-156	11.7	20	WG471897

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Quality Assurance Report
Level II

L452106

April 12, 2010

		Laboratory Control Sample				Duplicate		
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Vinyl chloride	mg/l	0.0249	0.0255	100.	55-153	2.35	20	WG471897
Xylenes, Total	mg/l	0.0807	0.0857	108.	75-128	5.90	20	WG471897
4-Bromofluorobenzene				99.43	75-128			WG471897
Dibromofluoromethane				95.03	79-125			WG471897
Toluene-d8				96.44	87-114			WG471897
1,1,1,2-Tetrachloroethane	mg/l	0.0246	0.0248	98.0	75-134	0.845	20	WG471899
1,1,1-Trichloroethane	mg/l	0.0228	0.0236	91.0	67-137	3.69	20	WG471899
1,1,2,2-Tetrachloroethane	mg/l	0.0232	0.0233	93.0	72-128	0.201	20	WG471899
1,1,2-Trichloroethane	mg/l	0.0243	0.0234	97.0	79-123	3.72	20	WG471899
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0194	0.0209	78.0	51-149	7.32	20	WG471899
1,1-Dichloroethane	mg/l	0.0228	0.0230	91.0	67-133	0.930	20	WG471899
1,1-Dichloroethene	mg/l	0.0195	0.0213	78.0	60-130	8.64	20	WG471899
1,1-Dichloropropene	mg/l	0.0214	0.0221	86.0	68-132	3.12	20	WG471899
1,2,3-Trichlorobenzene	mg/l	0.0244	0.0227	97.0	63-138	7.14	20	WG471899
1,2,3-Trichloropropane	mg/l	0.0239	0.0234	96.0	68-130	2.15	20	WG471899
1,2,3-Trimethylbenzene	mg/l	0.0254	0.0243	102.	70-127	4.28	20	WG471899
1,2,4-Trichlorobenzene	mg/l	0.0230	0.0222	92.0	65-137	3.63	20	WG471899
1,2,4-Trimethylbenzene	mg/l	0.0245	0.0239	98.0	72-135	2.40	20	WG471899
1,2-Dibromo-3-Chloropropane	mg/l	0.0225	0.0230	90.0	55-134	2.32	20	WG471899
1,2-Dibromoethane	mg/l	0.0221	0.0217	88.0	75-126	1.61	20	WG471899
1,2-Dichlorobenzene	mg/l	0.0249	0.0236	100.	75-122	5.28	20	WG471899
1,2-Dichloroethane	mg/l	0.0225	0.0227	90.0	63-137	0.895	20	WG471899
1,2-Dichloropropane	mg/l	0.0230	0.0233	92.0	74-122	1.51	20	WG471899
1,3,5-Trimethylbenzene	mg/l	0.0237	0.0236	95.0	73-134	0.275	20	WG471899
1,3-Dichlorobenzene	mg/l	0.0244	0.0234	98.0	73-131	4.46	20	WG471899
1,3-Dichloropropane	mg/l	0.0235	0.0227	94.0	77-119	3.28	20	WG471899
1,4-Dichlorobenzene	mg/l	0.0240	0.0230	96.0	70-121	4.29	20	WG471899
2,2-Dichloropropane	mg/l	0.0226	0.0222	90.0	46-151	2.08	20	WG471899
2-Butanone (MEK)	mg/l	0.103	0.102	83.0	53-132	1.09	20	WG471899
2-Chloroethyl vinyl ether	mg/l	0.111	0.103	88.0	0-171	7.19	27	WG471899
2-Chlorotoluene	mg/l	0.0249	0.0243	100.	74-128	2.70	20	WG471899
4-Chlorotoluene	mg/l	0.0242	0.0237	97.0	74-130	2.20	20	WG471899
4-Methyl-2-pentanone (MIBK)	mg/l	0.107	0.105	85.0	60-142	1.78	20	WG471899
Acetone	mg/l	0.109	0.109	87.0	48-134	0.726	20	WG471899
Acrolein	mg/l	0.0433	0.0456	35.0	6-182	5.15	39	WG471899
Acrylonitrile	mg/l	0.109	0.109	87.0	60-140	0.437	20	WG471899
Benzene	mg/l	0.0217	0.0217	87.0	67-126	0.119	20	WG471899
Bromobenzene	mg/l	0.0233	0.0234	93.0	76-123	0.513	20	WG471899
Bromodichloromethane	mg/l	0.0249	0.0240	99.0	68-133	3.44	20	WG471899
Bromoform	mg/l	0.0252	0.0248	101.	60-139	1.32	20	WG471899
Bromomethane	mg/l	0.0217	0.0240	87.0	45-175	10.3	20	WG471899
Carbon tetrachloride	mg/l	0.0218	0.0223	87.0	64-141	2.24	20	WG471899
Chlorobenzene	mg/l	0.0230	0.0227	92.0	77-125	1.12	20	WG471899
Chlorodibromomethane	mg/l	0.0246	0.0240	98.0	73-138	2.37	20	WG471899
Chloroethane	mg/l	0.0202	0.0225	81.0	49-155	10.7	20	WG471899
Chloroform	mg/l	0.0229	0.0232	92.0	66-126	1.28	20	WG471899
Chloromethane	mg/l	0.0199	0.0223	80.0	45-152	11.5	20	WG471899
cis-1,2-Dichloroethene	mg/l	0.0225	0.0232	90.0	72-128	3.10	20	WG471899
cis-1,3-Dichloropropene	mg/l	0.0238	0.0233	95.0	73-131	2.40	20	WG471899
Di-isopropyl ether	mg/l	0.0227	0.0226	91.0	63-139	0.591	20	WG471899
Dibromomethane	mg/l	0.0233	0.0223	93.0	73-125	4.14	20	WG471899
Dichlorodifluoromethane	mg/l	0.0190	0.0213	76.0	39-189	11.5	24	WG471899
Ethylbenzene	mg/l	0.0225	0.0225	90.0	76-129	0.0717	20	WG471899
Hexachloro-1,3-butadiene	mg/l	0.0249	0.0233	100.	67-135	6.78	20	WG471899
Isopropylbenzene	mg/l	0.0221	0.0224	88.0	73-132	1.40	20	WG471899
Methyl tert-butyl ether	mg/l	0.0216	0.0218	86.0	51-142	0.761	20	WG471899
Methylene Chloride	mg/l	0.0214	0.0219	85.0	64-125	2.45	20	WG471899

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Quality Assurance Report
Level II

L452106

April 12, 2010

Analyte	Units	Laboratory Control Sample Result	Ref	%Rec	Limit	Duplicate RPD	Limit	Batch
n-Butylbenzene	mg/l	0.0240	0.0231	96.0	63-142	3.91	20	WG471899
n-Propylbenzene	mg/l	0.0235	0.0234	94.0	71-132	0.150	20	WG471899
Naphthalene	mg/l	0.0242	0.0226	97.0	56-145	6.78	20	WG471899
p-Isopropyltoluene	mg/l	0.0239	0.0240	96.0	68-138	0.208	20	WG471899
sec-Butylbenzene	mg/l	0.0240	0.0239	96.0	70-135	0.267	20	WG471899
Styrene	mg/l	0.0246	0.0249	98.0	78-130	1.12	20	WG471899
tert-Butylbenzene	mg/l	0.0244	0.0241	98.0	72-134	1.24	20	WG471899
Tetrachloroethene	mg/l	0.0223	0.0228	89.0	67-135	2.13	20	WG471899
Toluene	mg/l	0.0218	0.0213	87.0	72-122	2.27	20	WG471899
trans-1,2-Dichloroethene	mg/l	0.0210	0.0223	84.0	67-129	6.23	20	WG471899
trans-1,3-Dichloropropene	mg/l	0.0223	0.0213	89.0	66-137	4.65	20	WG471899
Trichloroethene	mg/l	0.0230	0.0234	92.0	74-126	1.85	20	WG471899
Trichlorofluoromethane	mg/l	0.0238	0.0253	95.0	54-156	6.38	20	WG471899
Vinyl chloride	mg/l	0.0210	0.0233	84.0	55-153	10.3	20	WG471899
Xylenes, Total	mg/l	0.0666	0.0666	89.0	75-128	0.0784	20	WG471899
4-Bromofluorobenzene				98.91	75-128			WG471899
Dibromofluoromethane				97.36	79-125			WG471899
Toluene-d8				96.80	87-114			WG471899
cis-1,2-Dichloroethene	mg/l	0.0225	0.0242	90.0	72-128	7.45	20	WG472163
4-Bromofluorobenzene				99.02	75-128			WG472163
Dibromofluoromethane				101.4	79-125			WG472163
Toluene-d8				101.0	87-114			WG472163
1,1,1,2-Tetrachloroethane	mg/l	0.0252	0.0263	101.	75-134	4.25	20	WG471898
1,1,1-Trichloroethane	mg/l	0.0250	0.0250	100.	67-137	0.0414	20	WG471898
1,1,2,2-Tetrachloroethane	mg/l	0.0275	0.0284	110.	72-128	3.26	20	WG471898
1,1,2-Trichloroethane	mg/l	0.0262	0.0264	105.	79-123	0.406	20	WG471898
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0258	0.0250	103.	51-149	3.20	20	WG471898
1,1-Dichloroethane	mg/l	0.0242	0.0237	97.0	67-133	2.16	20	WG471898
1,1-Dichloroethene	mg/l	0.0231	0.0228	92.0	60-130	1.43	20	WG471898
1,1-Dichloropropene	mg/l	0.0235	0.0228	94.0	68-132	2.81	20	WG471898
1,2,3-Trichlorobenzene	mg/l	0.0297	0.0293	119.	63-138	1.48	20	WG471898
1,2,3-Trichloropropane	mg/l	0.0293	0.0299	117.	68-130	1.79	20	WG471898
1,2,3-Trimethylbenzene	mg/l	0.0265	0.0261	106.	70-127	1.73	20	WG471898
1,2,4-Trichlorobenzene	mg/l	0.0268	0.0269	107.	65-137	0.196	20	WG471898
1,2,4-Trimethylbenzene	mg/l	0.0270	0.0272	108.	72-135	0.565	20	WG471898
1,2-Dibromo-3-Chloropropane	mg/l	0.0266	0.0261	106.	55-134	1.70	20	WG471898
1,2-Dibromoethane	mg/l	0.0270	0.0275	108.	75-126	1.55	20	WG471898
1,2-Dichlorobenzene	mg/l	0.0269	0.0268	108.	75-122	0.479	20	WG471898
1,2-Dichloroethane	mg/l	0.0244	0.0246	98.0	63-137	0.691	20	WG471898
1,2-Dichloropropane	mg/l	0.0253	0.0254	101.	74-122	0.281	20	WG471898
1,3,5-Trimethylbenzene	mg/l	0.0266	0.0273	106.	73-134	2.87	20	WG471898
1,3-Dichlorobenzene	mg/l	0.0269	0.0276	108.	73-131	2.64	20	WG471898
1,3-Dichloropropane	mg/l	0.0248	0.0258	99.0	77-119	3.83	20	WG471898
1,4-Dichlorobenzene	mg/l	0.0257	0.0253	103.	70-121	1.51	20	WG471898
2,2-Dichloropropane	mg/l	0.0264	0.0264	106.	46-151	0.0207	20	WG471898
2-Butanone (MEK)	mg/l	0.133	0.138	107.	53-132	3.47	20	WG471898
2-Chloroethyl vinyl ether	mg/l	0.177	0.185	142.	0-171	4.54	27	WG471898
2-Chlorotoluene	mg/l	0.0262	0.0264	105.	74-128	0.716	20	WG471898
4-Chlorotoluene	mg/l	0.0267	0.0271	107.	74-130	1.52	20	WG471898
4-Methyl-2-pentanone (MIBK)	mg/l	0.142	0.153	114.	60-142	7.43	20	WG471898
Acetone	mg/l	0.117	0.124	94.0	48-134	5.62	20	WG471898
Acrolein	mg/l	0.101	0.143	80.0	6-182	34.8	39	WG471898
Acrylonitrile	mg/l	0.137	0.144	110.	60-140	4.41	20	WG471898
Benzene	mg/l	0.0233	0.0232	93.0	67-126	0.490	20	WG471898
Bromobenzene	mg/l	0.0252	0.0257	101.	76-123	1.89	20	WG471898

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Craig Dockter
8910 SW Gemini Drive
Beaverton, OR 97008

Quality Assurance Report
Level II

April 12, 2010

L452106

		Laboratory Control Sample Duplicate						
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Bromodichloromethane	mg/l	0.0249	0.0251	100.	68-133	0.828	20	WG471898
Bromoform	mg/l	0.0238	0.0249	95.0	60-139	4.54	20	WG471898
Bromomethane	mg/l	0.0278	0.0242	111.	45-175	13.9	20	WG471898
Carbon tetrachloride	mg/l	0.0253	0.0244	101.	64-141	3.43	20	WG471898
Chlorobenzene	mg/l	0.0254	0.0256	101.	77-125	1.10	20	WG471898
Chlorodibromomethane	mg/l	0.0247	0.0250	99.0	73-138	1.08	20	WG471898
Chloroethane	mg/l	0.0296	0.0262	118.	49-155	12.4	20	WG471898
Chloroform	mg/l	0.0252	0.0250	101.	66-126	0.848	20	WG471898
Chloromethane	mg/l	0.0228	0.0184	91.0	45-152	21.0*	20	WG471898
cis-1,2-Dichloroethene	mg/l	0.0245	0.0241	98.0	72-128	1.66	20	WG471898
cis-1,3-Dichloropropene	mg/l	0.0248	0.0249	99.0	73-131	0.337	20	WG471898
Di-isopropyl ether	mg/l	0.0255	0.0257	102.	63-139	0.678	20	WG471898
Dibromomethane	mg/l	0.0259	0.0258	104.	73-125	0.247	20	WG471898
Dichlorodifluoromethane	mg/l	0.0315	0.0215	126.	39-189	37.6*	24	WG471898
Ethylbenzene	mg/l	0.0264	0.0269	105.	76-129	1.87	20	WG471898
Hexachloro-1,3-butadiene	mg/l	0.0292	0.0287	117.	67-135	1.66	20	WG471898
Isopropylbenzene	mg/l	0.0264	0.0275	106.	73-132	3.99	20	WG471898
Methyl tert-butyl ether	mg/l	0.0264	0.0269	106.	51-142	2.03	20	WG471898
Methylene Chloride	mg/l	0.0235	0.0231	94.0	64-125	1.49	20	WG471898
n-Butylbenzene	mg/l	0.0246	0.0241	98.0	63-142	1.70	20	WG471898
n-Propylbenzene	mg/l	0.0265	0.0269	106.	71-132	1.46	20	WG471898
Naphthalene	mg/l	0.0316	0.0318	126.	56-145	0.687	20	WG471898
p-Isopropyltoluene	mg/l	0.0275	0.0280	110.	68-138	1.91	20	WG471898
sec-Butylbenzene	mg/l	0.0278	0.0282	111.	70-135	1.51	20	WG471898
Styrene	mg/l	0.0266	0.0265	106.	78-130	0.469	20	WG471898
tert-Butylbenzene	mg/l	0.0273	0.0276	109.	72-134	0.877	20	WG471898
Tetrachloroethene	mg/l	0.0252	0.0249	101.	67-135	1.15	20	WG471898
Toluene	mg/l	0.0237	0.0237	95.0	72-122	0.265	20	WG471898
trans-1,2-Dichloroethene	mg/l	0.0227	0.0218	91.0	67-129	3.67	20	WG471898
trans-1,3-Dichloropropene	mg/l	0.0275	0.0284	110.	66-137	3.46	20	WG471898
Trichloroethene	mg/l	0.0244	0.0240	98.0	74-126	1.79	20	WG471898
Trichlorofluoromethane	mg/l	0.0256	0.0230	102.	54-156	10.4	20	WG471898
Vinyl chloride	mg/l	0.0257	0.0205	103.	55-153	22.8*	20	WG471898
Xylenes, Total	mg/l	0.0781	0.0785	104.	75-128	0.600	20	WG471898
4-Bromofluorobenzene				100.4	75-128			WG471898
Dibromofluoromethane				99.96	79-125			WG471898
Toluene-d8				99.01	87-114			WG471898
TOC (Total Organic Carbon)	mg/l	69.3	69.8	92.0	85-115	0.734	20	WG471691
Tetrachloroethene	mg/l	0.0257	0.0263	103.	67-135	2.14	20	WG472303
4-Bromofluorobenzene				101.7	75-128			WG472303
Dibromofluoromethane				98.60	79-125			WG472303
Toluene-d8				98.45	87-114			WG472303
TOC (Total Organic Carbon)	mg/l	74.0	75.0	99.0	85-115	1.29	20	WG472359

		Matrix Spike						
Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Sulfate	mg/l	52.7	5.80	50	93.8	80-120	L451179-18	WG470955
Nitrate	mg/l	6.88	1.90	5	99.6	80-120	L452106-04	WG470956
Sulfate	mg/l	56.6	8.60	50	96.0	80-120	L452106-04	WG470956

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Quality Assurance Report
Level II

L452106

April 12, 2010

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Sulfate	mg/l	49.7	0	50	99.4	80-120	L450974-05	WG470982
Nitrate	mg/l	5.11	0.200	5	98.2	80-120	L452107-10	WG471012
Nitrate	mg/l	4.78	0	5	95.6	80-120	L452341-01	WG471127
1,1,1,2-Tetrachloroethane	mg/l	0.0268	0	.025	107.	45-152	L451780-01	WG471897
1,1,1-Trichloroethane	mg/l	0.0256	0	.025	102.	31-161	L451780-01	WG471897
1,1,2,2-Tetrachloroethane	mg/l	0.0266	0	.025	106.	49-149	L451780-01	WG471897
1,1,2-Trichloroethane	mg/l	0.0258	0	.025	103.	46-145	L451780-01	WG471897
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0238	0	.025	95.0	14-168	L451780-01	WG471897
1,1-Dichloroethane	mg/l	0.0238	0	.025	95.3	30-159	L451780-01	WG471897
1,1-Dichloroethene	mg/l	0.0228	0	.025	91.2	10-162	L451780-01	WG471897
1,1-Dichloropropene	mg/l	0.0241	0	.025	96.5	14-162	L451780-01	WG471897
1,2,3-Trichlorobenzene	mg/l	0.0247	0	.025	98.8	32-143	L451780-01	WG471897
1,2,3-Trichloropropane	mg/l	0.0244	0	.025	97.6	48-148	L451780-01	WG471897
1,2,3-Trimethylbenzene	mg/l	0.0272	0	.025	109.	36-141	L451780-01	WG471897
1,2,4-Trichlorobenzene	mg/l	0.0248	0	.025	99.3	27-142	L451780-01	WG471897
1,2,4-Trimethylbenzene	mg/l	0.0274	0	.025	110.	29-153	L451780-01	WG471897
1,2-Dibromo-3-Chloropropane	mg/l	0.0284	0	.025	114.	37-148	L451780-01	WG471897
1,2-Dibromoethane	mg/l	0.0260	0	.025	104.	41-149	L451780-01	WG471897
1,2-Dichlorobenzene	mg/l	0.0260	0	.025	104.	40-139	L451780-01	WG471897
1,2-Dichloroethane	mg/l	0.0241	0	.025	96.6	29-167	L451780-01	WG471897
1,2-Dichloropropane	mg/l	0.0256	0	.025	102.	39-148	L451780-01	WG471897
1,3,5-Trimethylbenzene	mg/l	0.0274	0	.025	110.	33-149	L451780-01	WG471897
1,3-Dichlorobenzene	mg/l	0.0261	0	.025	104.	32-148	L451780-01	WG471897
1,3-Dichloropropane	mg/l	0.0240	0	.025	96.0	44-142	L451780-01	WG471897
1,4-Dichlorobenzene	mg/l	0.0244	0	.025	97.8	32-136	L451780-01	WG471897
2,2-Dichloropropane	mg/l	0.0255	0	.025	102.	14-158	L451780-01	WG471897
2-Butanone (MEK)	mg/l	0.119	0	.125	95.2	32-151	L451780-01	WG471897
2-Chloroethyl vinyl ether	mg/l	0.0530	0	.125	42.4	0-175	L451780-01	WG471897
2-Chlorotoluene	mg/l	0.0258	0	.025	103.	35-147	L451780-01	WG471897
4-Chlorotoluene	mg/l	0.0258	0	.025	103.	33-147	L451780-01	WG471897
4-Methyl-2-pentanone (MIBK)	mg/l	0.119	0	.125	95.5	40-160	L451780-01	WG471897
Acetone	mg/l	0.105	0	.125	83.9	25-157	L451780-01	WG471897
Acrolein	mg/l	0.0219	0	.125	17.5	0-179	L451780-01	WG471897
Acrylonitrile	mg/l	0.118	0	.125	94.1	37-162	L451780-01	WG471897
Benzene	mg/l	0.0232	0	.025	92.8	16-158	L451780-01	WG471897
Bromobenzene	mg/l	0.0247	0	.025	98.6	37-147	L451780-01	WG471897
Bromodichloromethane	mg/l	0.0271	0	.025	108.	45-147	L451780-01	WG471897
Bromoform	mg/l	0.0270	0	.025	108.	38-152	L451780-01	WG471897
Bromomethane	mg/l	0.0327	0	.025	131.	0-191	L451780-01	WG471897
Carbon tetrachloride	mg/l	0.0241	0	.025	96.5	22-168	L451780-01	WG471897
Chlorobenzene	mg/l	0.0256	0	.025	102.	33-148	L451780-01	WG471897
Chlorodibromomethane	mg/l	0.0271	0	.025	108.	48-151	L451780-01	WG471897
Chloroethane	mg/l	0.0249	0	.025	99.6	4-176	L451780-01	WG471897
Chloroform	mg/l	0.0239	0	.025	95.5	37-147	L451780-01	WG471897
Chloromethane	mg/l	0.0265	0	.025	106.	10-174	L451780-01	WG471897
cis-1,2-Dichloroethene	mg/l	0.0241	0	.025	96.5	29-156	L451780-01	WG471897
cis-1,3-Dichloropropene	mg/l	0.0259	0	.025	104.	35-148	L451780-01	WG471897
Di-isopropyl ether	mg/l	0.0231	0	.025	92.4	39-160	L451780-01	WG471897
Dibromomethane	mg/l	0.0261	0	.025	104.	36-152	L451780-01	WG471897
Dichlorodifluoromethane	mg/l	0.0323	0	.025	129.	0-200	L451780-01	WG471897
Ethylbenzene	mg/l	0.0263	0	.025	105.	29-150	L451780-01	WG471897
Hexachloro-1,3-butadiene	mg/l	0.0282	0	.025	113.	28-144	L451780-01	WG471897

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L452106

April 12, 2010

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Isopropylbenzene	mg/l	0.0246	0	.025	98.5	35-147	L451780-01	WG471897
Methyl tert-butyl ether	mg/l	0.0227	0	.025	90.8	24-167	L451780-01	WG471897
Methylene Chloride	mg/l	0.0230	0	.025	91.8	23-151	L451780-01	WG471897
n-Butylbenzene	mg/l	0.0280	0	.025	112.	22-151	L451780-01	WG471897
n-Propylbenzene	mg/l	0.0265	0	.025	106.	26-150	L451780-01	WG471897
Naphthalene	mg/l	0.0259	0	.025	103.	24-160	L451780-01	WG471897
p-Isopropyltoluene	mg/l	0.0274	0	.025	109.	28-151	L451780-01	WG471897
sec-Butylbenzene	mg/l	0.0271	0	.025	108.	32-149	L451780-01	WG471897
Styrene	mg/l	0.0260	0	.025	104.	38-149	L451780-01	WG471897
tert-Butylbenzene	mg/l	0.0275	0	.025	110.	36-149	L451780-01	WG471897
Tetrachloroethene	mg/l	0.0258	0	.025	103.	13-157	L451780-01	WG471897
Toluene	mg/l	0.0247	0	.025	98.6	22-152	L451780-01	WG471897
trans-1,2-Dichloroethene	mg/l	0.0239	0	.025	95.4	11-160	L451780-01	WG471897
trans-1,3-Dichloropropene	mg/l	0.0255	0	.025	102.	33-153	L451780-01	WG471897
Trichloroethene	mg/l	0.0247	0	.025	98.9	18-163	L451780-01	WG471897
Trichlorofluoromethane	mg/l	0.0259	0	.025	103.	10-177	L451780-01	WG471897
Vinyl chloride	mg/l	0.0250	0	.025	100.	0-179	L451780-01	WG471897
Xylenes, Total	mg/l	0.0771	0	.075	103.	27-151	L451780-01	WG471897
4-Bromofluorobenzene					97.63	75-128		WG471897
Dibromofluoromethane					93.97	79-125		WG471897
Toluene-d8					95.30	87-114		WG471897
1,1,1,2-Tetrachloroethane	mg/l	0.0241	0	.025	96.5	45-152	L452107-01	WG471899
1,1,1-Trichloroethane	mg/l	0.0229	0	.025	91.5	31-161	L452107-01	WG471899
1,1,2,2-Tetrachloroethane	mg/l	0.0252	0	.025	101.	49-149	L452107-01	WG471899
1,1,2-Trichloroethane	mg/l	0.0240	0	.025	96.1	46-145	L452107-01	WG471899
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0207	0	.025	82.9	14-168	L452107-01	WG471899
1,1-Dichloroethane	mg/l	0.0224	0	.025	89.7	30-159	L452107-01	WG471899
1,1-Dichloroethene	mg/l	0.0197	0	.025	78.8	10-162	L452107-01	WG471899
1,1-Dichloropropene	mg/l	0.0210	0	.025	83.9	14-162	L452107-01	WG471899
1,2,3-Trichlorobenzene	mg/l	0.0232	0	.025	92.7	32-143	L452107-01	WG471899
1,2,3-Trichloropropane	mg/l	0.0237	0	.025	94.6	48-148	L452107-01	WG471899
1,2,3-Trimethylbenzene	mg/l	0.0233	0	.025	93.1	36-141	L452107-01	WG471899
1,2,4-Trichlorobenzene	mg/l	0.0224	0	.025	89.5	27-142	L452107-01	WG471899
1,2,4-Trimethylbenzene	mg/l	0.0236	0	.025	94.5	29-153	L452107-01	WG471899
1,2-Dibromo-3-Chloropropane	mg/l	0.0229	0	.025	91.7	37-148	L452107-01	WG471899
1,2-Dibromoethane	mg/l	0.0218	0	.025	87.1	41-149	L452107-01	WG471899
1,2-Dichlorobenzene	mg/l	0.0230	0	.025	91.9	40-139	L452107-01	WG471899
1,2-Dichloroethane	mg/l	0.0220	0	.025	88.1	29-167	L452107-01	WG471899
1,2-Dichloropropane	mg/l	0.0226	0	.025	90.4	39-148	L452107-01	WG471899
1,3,5-Trimethylbenzene	mg/l	0.0229	0	.025	91.7	33-149	L452107-01	WG471899
1,3-Dichlorobenzene	mg/l	0.0236	0	.025	94.4	32-148	L452107-01	WG471899
1,3-Dichloropropane	mg/l	0.0229	0	.025	91.8	44-142	L452107-01	WG471899
1,4-Dichlorobenzene	mg/l	0.0223	0	.025	89.0	32-136	L452107-01	WG471899
2,2-Dichloropropane	mg/l	0.0226	0	.025	90.5	14-158	L452107-01	WG471899
2-Butanone (MEK)	mg/l	0.106	0	.125	84.7	32-151	L452107-01	WG471899
2-Chloroethyl vinyl ether	mg/l	0.0458	0	.125	36.6	0-175	L452107-01	WG471899
2-Chlorotoluene	mg/l	0.0241	0	.025	96.4	35-147	L452107-01	WG471899
4-Chlorotoluene	mg/l	0.0231	0	.025	92.4	33-147	L452107-01	WG471899
4-Methyl-2-pentanone (MIBK)	mg/l	0.107	0	.125	85.4	40-160	L452107-01	WG471899
Acetone	mg/l	0.115	0	.125	91.7	25-157	L452107-01	WG471899
Acrolein	mg/l	0.0303	0	.125	24.2	0-179	L452107-01	WG471899
Acrylonitrile	mg/l	0.113	0	.125	90.0	37-162	L452107-01	WG471899
Benzene	mg/l	0.0208	0	.025	83.1	16-158	L452107-01	WG471899
Bromobenzene	mg/l	0.0227	0	.025	90.8	37-147	L452107-01	WG471899
Bromodichloromethane	mg/l	0.0244	0	.025	97.5	45-147	L452107-01	WG471899
Bromoform	mg/l	0.0249	0	.025	99.7	38-152	L452107-01	WG471899
Bromomethane	mg/l	0.0216	0	.025	86.5	0-191	L452107-01	WG471899

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Oregon Dept. of Env. Quality - ODEQ
Craig Dockter
8910 SW Gemini Drive

Beaverton, OR 97008

Quality Assurance Report
Level II

L452106

April 12, 2010

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Carbon tetrachloride	mg/l	0.0227	0	.025	90.6	22-168	L452107-01	WG471899
Chlorobenzene	mg/l	0.0223	0	.025	89.3	33-148	L452107-01	WG471899
Chlorodibromomethane	mg/l	0.0244	0	.025	97.6	48-151	L452107-01	WG471899
Chloroethane	mg/l	0.0236	0	.025	94.6	4-176	L452107-01	WG471899
Chloroform	mg/l	0.0224	0	.025	89.6	37-147	L452107-01	WG471899
Chloromethane	mg/l	0.0213	0	.025	85.3	10-174	L452107-01	WG471899
cis-1,2-Dichloroethene	mg/l	0.0217	0	.025	86.9	29-156	L452107-01	WG471899
cis-1,3-Dichloropropene	mg/l	0.0229	0	.025	91.4	35-148	L452107-01	WG471899
Di-isopropyl ether	mg/l	0.0219	0	.025	87.7	39-160	L452107-01	WG471899
Dibromomethane	mg/l	0.0224	0	.025	89.6	36-152	L452107-01	WG471899
Dichlorodifluoromethane	mg/l	0.0256	0	.025	102.	0-200	L452107-01	WG471899
Ethylbenzene	mg/l	0.0220	0	.025	88.2	29-150	L452107-01	WG471899
Hexachloro-1,3-butadiene	mg/l	0.0234	0	.025	93.5	28-144	L452107-01	WG471899
Isopropylbenzene	mg/l	0.0216	0	.025	86.5	35-147	L452107-01	WG471899
Methyl tert-butyl ether	mg/l	0.0212	0	.025	85.0	24-167	L452107-01	WG471899
Methylene Chloride	mg/l	0.0222	0	.025	88.8	23-151	L452107-01	WG471899
n-Butylbenzene	mg/l	0.0227	0	.025	90.6	22-151	L452107-01	WG471899
n-Propylbenzene	mg/l	0.0230	0	.025	92.1	26-150	L452107-01	WG471899
Naphthalene	mg/l	0.0231	0	.025	92.4	24-160	L452107-01	WG471899
p-Isopropyltoluene	mg/l	0.0233	0	.025	93.3	28-151	L452107-01	WG471899
sec-Butylbenzene	mg/l	0.0237	0	.025	94.8	32-149	L452107-01	WG471899
Styrene	mg/l	0.0245	0	.025	98.1	38-149	L452107-01	WG471899
tert-Butylbenzene	mg/l	0.0238	0	.025	95.2	36-149	L452107-01	WG471899
Tetrachloroethene	mg/l	0.0230	0.00140	.025	86.4	13-157	L452107-01	WG471899
Toluene	mg/l	0.0206	0	.025	82.4	22-152	L452107-01	WG471899
trans-1,2-Dichloroethene	mg/l	0.0204	0	.025	81.4	11-160	L452107-01	WG471899
trans-1,3-Dichloropropene	mg/l	0.0212	0	.025	84.9	33-153	L452107-01	WG471899
Trichloroethene	mg/l	0.0239	0.00220	.025	86.9	18-163	L452107-01	WG471899
Trichlorofluoromethane	mg/l	0.0258	0	.025	103.	10-177	L452107-01	WG471899
Vinyl chloride	mg/l	0.0234	0	.025	93.6	0-179	L452107-01	WG471899
Xylenes, Total	mg/l	0.0653	0	.075	87.0	27-151	L452107-01	WG471899
4-Bromofluorobenzene					97.09	75-128		WG471899
Dibromofluoromethane					98.67	79-125		WG471899
Toluene-d8					95.11	87-114		WG471899
1,1,1,2-Tetrachloroethane	mg/l	0.0252	0	.025	101.	45-152	L452105-01	WG471898
1,1,1-Trichloroethane	mg/l	0.0250	0.000640	.025	97.6	31-161	L452105-01	WG471898
1,1,2,2-Tetrachloroethane	mg/l	0.0267	0	.025	107.	49-149	L452105-01	WG471898
1,1,2-Trichloroethane	mg/l	0.0258	0	.025	103.	46-145	L452105-01	WG471898
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0244	0	.025	97.4	14-168	L452105-01	WG471898
1,1-Dichloroethane	mg/l	0.0243	0.000650	.025	94.6	30-159	L452105-01	WG471898
1,1-Dichloroethene	mg/l	0.0227	0	.025	90.8	10-162	L452105-01	WG471898
1,1-Dichloropropene	mg/l	0.0243	0	.025	97.1	14-162	L452105-01	WG471898
1,2,3-Trichlorobenzene	mg/l	0.0275	0	.025	110.	32-143	L452105-01	WG471898
1,2,3-Trichloropropane	mg/l	0.0273	0	.025	109.	48-148	L452105-01	WG471898
1,2,3-Trimethylbenzene	mg/l	0.0270	0	.025	108.	36-141	L452105-01	WG471898
1,2,4-Trichlorobenzene	mg/l	0.0247	0	.025	99.0	27-142	L452105-01	WG471898
1,2,4-Trimethylbenzene	mg/l	0.0261	0	.025	104.	29-153	L452105-01	WG471898
1,2-Dibromo-3-Chloropropane	mg/l	0.0246	0	.025	98.4	37-148	L452105-01	WG471898
1,2-Dibromoethane	mg/l	0.0263	0	.025	105.	41-149	L452105-01	WG471898
1,2-Dichlorobenzene	mg/l	0.0270	0	.025	108.	40-139	L452105-01	WG471898
1,2-Dichloroethane	mg/l	0.0252	0	.025	101.	29-167	L452105-01	WG471898
1,2-Dichloropropane	mg/l	0.0253	0	.025	101.	39-148	L452105-01	WG471898
1,3,5-Trimethylbenzene	mg/l	0.0254	0	.025	102.	33-149	L452105-01	WG471898
1,3-Dichlorobenzene	mg/l	0.0259	0	.025	104.	32-148	L452105-01	WG471898
1,3-Dichloropropane	mg/l	0.0245	0	.025	97.9	44-142	L452105-01	WG471898
1,4-Dichlorobenzene	mg/l	0.0248	0	.025	99.1	32-136	L452105-01	WG471898
2,2-Dichloropropane	mg/l	0.0251	0	.025	100.	14-158	L452105-01	WG471898

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Craig Dockter
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Beaverton, OR 97008

Quality Assurance Report
Level II

L452106

April 12, 2010

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
2-Butanone (MEK)	mg/l	0.129	0	.125	103.	32-151	L452105-01	WG471898
2-Chloroethyl vinyl ether	mg/l	0.00309	0	.125	2.47	0-175	L452105-01	WG471898
2-Chlorotoluene	mg/l	0.0256	0	.025	102.	35-147	L452105-01	WG471898
4-Chlorotoluene	mg/l	0.0257	0	.025	103.	33-147	L452105-01	WG471898
4-Methyl-2-pentanone (MIBK)	mg/l	0.132	0	.125	106.	40-160	L452105-01	WG471898
Acetone	mg/l	0.112	0	.125	89.5	25-157	L452105-01	WG471898
Acrolein	mg/l	0.0377	0	.125	30.2	0-179	L452105-01	WG471898
Acrylonitrile	mg/l	0.130	0	.125	104.	37-162	L452105-01	WG471898
Benzene	mg/l	0.0232	0	.025	92.8	16-158	L452105-01	WG471898
Bromobenzene	mg/l	0.0246	0	.025	98.4	37-147	L452105-01	WG471898
Bromodichloromethane	mg/l	0.0264	0	.025	106.	45-147	L452105-01	WG471898
Bromoform	mg/l	0.0233	0	.025	93.0	38-152	L452105-01	WG471898
Bromomethane	mg/l	0.0329	0	.025	132.	0-191	L452105-01	WG471898
Carbon tetrachloride	mg/l	0.0247	0	.025	98.8	22-168	L452105-01	WG471898
Chlorobenzene	mg/l	0.0255	0	.025	102.	33-148	L452105-01	WG471898
Chlorodibromomethane	mg/l	0.0243	0	.025	97.4	48-151	L452105-01	WG471898
Chloroethane	mg/l	0.0354	0	.025	142.	4-176	L452105-01	WG471898
Chloroform	mg/l	0.0244	0	.025	97.5	37-147	L452105-01	WG471898
Chloromethane	mg/l	0.0300	0	.025	120.	10-174	L452105-01	WG471898
cis-1,2-Dichloroethene	mg/l	0.0264	0.00180	.025	98.6	29-156	L452105-01	WG471898
cis-1,3-Dichloropropene	mg/l	0.0243	0	.025	97.0	35-148	L452105-01	WG471898
Di-isopropyl ether	mg/l	0.0249	0	.025	99.7	39-160	L452105-01	WG471898
Dibromomethane	mg/l	0.0266	0	.025	106.	36-152	L452105-01	WG471898
Dichlorodifluoromethane	mg/l	0.0497	0	.025	199.	0-200	L452105-01	WG471898
Ethylbenzene	mg/l	0.0256	0	.025	102.	29-150	L452105-01	WG471898
Hexachloro-1,3-butadiene	mg/l	0.0277	0	.025	111.	28-144	L452105-01	WG471898
Isopropylbenzene	mg/l	0.0237	0	.025	94.9	35-147	L452105-01	WG471898
Methyl tert-butyl ether	mg/l	0.0251	0	.025	100.	24-167	L452105-01	WG471898
Methylene Chloride	mg/l	0.0239	0	.025	95.6	23-151	L452105-01	WG471898
n-Butylbenzene	mg/l	0.0233	0	.025	93.0	22-151	L452105-01	WG471898
n-Propylbenzene	mg/l	0.0251	0	.025	100.	26-150	L452105-01	WG471898
Naphthalene	mg/l	0.0303	0	.025	121.	24-160	L452105-01	WG471898
p-Isopropyltoluene	mg/l	0.0255	0	.025	102.	28-151	L452105-01	WG471898
sec-Butylbenzene	mg/l	0.0261	0	.025	104.	32-149	L452105-01	WG471898
Styrene	mg/l	0.0260	0	.025	104.	38-149	L452105-01	WG471898
tert-Butylbenzene	mg/l	0.0258	0	.025	103.	36-149	L452105-01	WG471898
Tetrachloroethene	mg/l	0.0375	0.0140	.025	93.9	13-157	L452105-01	WG471898
Toluene	mg/l	0.0233	0	.025	93.1	22-152	L452105-01	WG471898
trans-1,2-Dichloroethene	mg/l	0.0234	0	.025	93.6	11-160	L452105-01	WG471898
trans-1,3-Dichloropropene	mg/l	0.0276	0	.025	110.	33-153	L452105-01	WG471898
Trichloroethene	mg/l	0.0252	0.000860	.025	97.4	18-163	L452105-01	WG471898
Trichlorofluoromethane	mg/l	0.0284	0	.025	114.	10-177	L452105-01	WG471898
Vinyl chloride	mg/l	0.0370	0.000580	.025	146.	0-179	L452105-01	WG471898
Xylenes, Total	mg/l	0.0754	0	.075	100.	27-151	L452105-01	WG471898
4-Bromofluorobenzene					98.73	75-128		WG471898
Dibromofluoromethane					102.0	79-125		WG471898
Toluene-d8					98.73	87-114		WG471898
cis-1,2-Dichloroethene	mg/l	0.0257	0	.025	103.	29-156	L452164-01	WG472163
Tetrachloroethene	mg/l	0.160	0.180	.025	0*	13-157	L452282-03	WG472303
4-Bromofluorobenzene					105.7	75-128		WG472303
Dibromofluoromethane					92.73	79-125		WG472303
Toluene-d8					96.89	87-114		WG472303
TOC (Total Organic Carbon)	mg/l	52.2	3.60	50	97.2	80-120	L452106-04	WG472359

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Quality Assurance Report
Level II

April 12, 2010

L452106

		Matrix Spike							
Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Sulfate	mg/l	54.2	52.7	96.8	80-120	2.81	20	L451179-18	WG470955
Nitrate	mg/l	6.89	6.88	99.8	80-120	0.145	20	L452106-04	WG470956
Sulfate	mg/l	56.5	56.6	95.8	80-120	0.177	20	L452106-04	WG470956
Sulfate	mg/l	50.5	49.7	101.	80-120	1.60	20	L450974-05	WG470982
Nitrate	mg/l	5.01	5.11	96.2	80-120	1.98	20	L452107-10	WG471012
Nitrate	mg/l	4.72	4.78	94.4	80-120	1.26	20	L452341-01	WG471127
1,1,1,2-Tetrachloroethane	mg/l	0.0270	0.0268	108.	45-152	0.621	21	L451780-01	WG471897
1,1,1-Trichloroethane	mg/l	0.0249	0.0256	99.7	31-161	2.48	23	L451780-01	WG471897
1,1,2,2-Tetrachloroethane	mg/l	0.0264	0.0266	105.	49-149	0.741	22	L451780-01	WG471897
1,1,2-Trichloroethane	mg/l	0.0255	0.0258	102.	46-145	0.873	20	L451780-01	WG471897
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0234	0.0238	93.5	14-168	1.63	24	L451780-01	WG471897
1,1-Dichloroethane	mg/l	0.0236	0.0238	94.5	30-159	0.808	21	L451780-01	WG471897
1,1-Dichloroethene	mg/l	0.0223	0.0228	89.1	10-162	2.32	23	L451780-01	WG471897
1,1-Dichloropropene	mg/l	0.0237	0.0241	94.8	14-162	1.73	23	L451780-01	WG471897
1,2,3-Trichlorobenzene	mg/l	0.0262	0.0247	105.	32-143	5.85	33	L451780-01	WG471897
1,2,3-Trichloropropane	mg/l	0.0241	0.0244	96.2	48-148	1.39	23	L451780-01	WG471897
1,2,3-Trimethylbenzene	mg/l	0.0268	0.0272	107.	36-141	1.25	25	L451780-01	WG471897
1,2,4-Trichlorobenzene	mg/l	0.0260	0.0248	104.	27-142	4.62	30	L451780-01	WG471897
1,2,4-Trimethylbenzene	mg/l	0.0279	0.0274	111.	29-153	1.57	27	L451780-01	WG471897
1,2-Dibromo-3-Chloropropane	mg/l	0.0269	0.0284	108.	37-148	5.27	27	L451780-01	WG471897
1,2-Dibromoethane	mg/l	0.0259	0.0260	104.	41-149	0.517	21	L451780-01	WG471897
1,2-Dichlorobenzene	mg/l	0.0261	0.0260	104.	40-139	0.369	23	L451780-01	WG471897
1,2-Dichloroethane	mg/l	0.0244	0.0241	97.7	29-167	1.14	21	L451780-01	WG471897
1,2-Dichloropropane	mg/l	0.0252	0.0256	101.	39-148	1.51	20	L451780-01	WG471897
1,3,5-Trimethylbenzene	mg/l	0.0274	0.0274	110.	33-149	0.104	26	L451780-01	WG471897
1,3-Dichlorobenzene	mg/l	0.0266	0.0261	106.	32-148	1.95	24	L451780-01	WG471897
1,3-Dichloropropane	mg/l	0.0240	0.0240	96.1	44-142	0.180	20	L451780-01	WG471897
1,4-Dichlorobenzene	mg/l	0.0241	0.0244	96.5	32-136	1.32	23	L451780-01	WG471897
2,2-Dichloropropane	mg/l	0.0252	0.0255	101.	14-158	1.29	23	L451780-01	WG471897
2-Butanone (MEK)	mg/l	0.109	0.119	86.9	32-151	9.06	26	L451780-01	WG471897
2-Chloroethyl vinyl ether	mg/l	0.0133	0.0530	10.7	0-175	120.*	75	L451780-01	WG471897
2-Chlorotoluene	mg/l	0.0257	0.0258	103.	35-147	0.0412	24	L451780-01	WG471897
4-Chlorotoluene	mg/l	0.0259	0.0258	103.	33-147	0.264	25	L451780-01	WG471897
4-Methyl-2-pentanone (MIBK)	mg/l	0.112	0.119	90.0	40-160	5.98	28	L451780-01	WG471897
Acetone	mg/l	0.0992	0.105	79.4	25-157	5.60	26	L451780-01	WG471897
Acrolein	mg/l	0.0209	0.0219	16.7	0-179	4.83	39	L451780-01	WG471897
Acrylonitrile	mg/l	0.113	0.118	90.4	37-162	4.07	24	L451780-01	WG471897
Benzene	mg/l	0.0232	0.0232	93.0	16-158	0.232	21	L451780-01	WG471897
Bromobenzene	mg/l	0.0252	0.0247	101.	37-147	1.97	23	L451780-01	WG471897
Bromodichloromethane	mg/l	0.0273	0.0271	109.	45-147	0.559	20	L451780-01	WG471897
Bromoform	mg/l	0.0272	0.0270	109.	38-152	0.902	20	L451780-01	WG471897
Bromomethane	mg/l	0.0339	0.0327	135.	0-191	3.38	35	L451780-01	WG471897
Carbon tetrachloride	mg/l	0.0234	0.0241	93.5	22-168	3.17	24	L451780-01	WG471897
Chlorobenzene	mg/l	0.0259	0.0256	104.	33-148	1.35	22	L451780-01	WG471897
Chlorodibromomethane	mg/l	0.0274	0.0271	110.	48-151	1.30	21	L451780-01	WG471897
Chloroethane	mg/l	0.0252	0.0249	101.	4-176	1.05	27	L451780-01	WG471897
Chloroform	mg/l	0.0239	0.0239	95.5	37-147	0.0235	21	L451780-01	WG471897
Chloromethane	mg/l	0.0264	0.0265	106.	10-174	0.299	28	L451780-01	WG471897
cis-1,2-Dichloroethene	mg/l	0.0243	0.0241	97.4	29-156	0.889	22	L451780-01	WG471897

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Tax I.D. 62-0814289

Est. 1970

Oregon Dept. of Env. Quality - ODEQ
Craig Dockter
8910 SW Gemini Drive

Beaverton, OR 97008

Quality Assurance Report
Level II

L452106

April 12, 2010

Analyte	Units	Matrix Spike MSD	Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
cis-1,3-Dichloropropene	mg/l	0.0263	0.0259	105.	35-148	1.70	21	L451780-01	WG471897
Di-isopropyl ether	mg/l	0.0233	0.0231	93.2	39-160	0.830	21	L451780-01	WG471897
Dibromomethane	mg/l	0.0265	0.0261	106.	36-152	1.37	20	L451780-01	WG471897
Dichlorodifluoromethane	mg/l	0.0309	0.0323	124.	0-200	4.44	26	L451780-01	WG471897
Ethylbenzene	mg/l	0.0258	0.0263	103.	29-150	1.98	24	L451780-01	WG471897
Hexachloro-1,3-butadiene	mg/l	0.0288	0.0282	115.	28-144	1.89	33	L451780-01	WG471897
Isopropylbenzene	mg/l	0.0244	0.0246	97.6	35-147	0.949	25	L451780-01	WG471897
Methyl tert-butyl ether	mg/l	0.0226	0.0227	90.4	24-167	0.443	22	L451780-01	WG471897
Methylene Chloride	mg/l	0.0230	0.0230	91.8	23-151	0.00544	21	L451780-01	WG471897
n-Butylbenzene	mg/l	0.0274	0.0280	109.	22-151	2.39	29	L451780-01	WG471897
n-Propylbenzene	mg/l	0.0259	0.0265	104.	26-150	2.19	25	L451780-01	WG471897
Naphthalene	mg/l	0.0266	0.0259	106.	24-160	2.97	37	L451780-01	WG471897
p-Isopropyltoluene	mg/l	0.0274	0.0274	110.	28-151	0.327	27	L451780-01	WG471897
sec-Butylbenzene	mg/l	0.0272	0.0271	109.	32-149	0.229	26	L451780-01	WG471897
Styrene	mg/l	0.0262	0.0260	105.	38-149	0.453	23	L451780-01	WG471897
tert-Butylbenzene	mg/l	0.0271	0.0275	108.	36-149	1.54	26	L451780-01	WG471897
Tetrachloroethene	mg/l	0.0255	0.0258	102.	13-157	1.26	24	L451780-01	WG471897
Toluene	mg/l	0.0245	0.0247	98.0	22-152	0.644	22	L451780-01	WG471897
trans-1,2-Dichloroethene	mg/l	0.0235	0.0239	94.2	11-160	1.37	23	L451780-01	WG471897
trans-1,3-Dichloropropene	mg/l	0.0256	0.0255	102.	33-153	0.262	22	L451780-01	WG471897
Trichloroethene	mg/l	0.0246	0.0247	98.4	18-163	0.459	21	L451780-01	WG471897
Trichlorofluoromethane	mg/l	0.0246	0.0259	98.6	10-177	4.79	24	L451780-01	WG471897
Vinyl chloride	mg/l	0.0245	0.0250	97.8	0-179	2.31	26	L451780-01	WG471897
Xylenes, Total	mg/l	0.0773	0.0771	103.	27-151	0.264	23	L451780-01	WG471897
4-Bromofluorobenzene				97.91	75-128				WG471897
Dibromofluoromethane				94.13	79-125				WG471897
Toluene-d8				95.94	87-114				WG471897
1,1,1,2-Tetrachloroethane	mg/l	0.0242	0.0241	96.8	45-152	0.352	21	L452107-01	WG471899
1,1,1-Trichloroethane	mg/l	0.0229	0.0229	91.7	31-161	0.291	23	L452107-01	WG471899
1,1,2,2-Tetrachloroethane	mg/l	0.0232	0.0252	92.9	49-149	8.14	22	L452107-01	WG471899
1,1,2-Trichloroethane	mg/l	0.0241	0.0240	96.4	46-145	0.249	20	L452107-01	WG471899
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0191	0.0207	76.3	14-168	8.33	24	L452107-01	WG471899
1,1-Dichloroethane	mg/l	0.0222	0.0224	88.8	30-159	0.968	21	L452107-01	WG471899
1,1-Dichloroethene	mg/l	0.0196	0.0197	78.3	10-162	0.658	23	L452107-01	WG471899
1,1-Dichloropropene	mg/l	0.0209	0.0210	83.8	14-162	0.158	23	L452107-01	WG471899
1,2,3-Trichlorobenzene	mg/l	0.0229	0.0232	91.7	32-143	1.01	33	L452107-01	WG471899
1,2,3-Trichloropropane	mg/l	0.0219	0.0237	87.8	48-148	7.55	23	L452107-01	WG471899
1,2,3-Trimethylbenzene	mg/l	0.0242	0.0233	96.6	36-141	3.71	25	L452107-01	WG471899
1,2,4-Trichlorobenzene	mg/l	0.0226	0.0224	90.6	27-142	1.19	30	L452107-01	WG471899
1,2,4-Trimethylbenzene	mg/l	0.0235	0.0236	94.1	29-153	0.434	27	L452107-01	WG471899
1,2-Dibromo-3-Chloropropane	mg/l	0.0216	0.0229	86.5	37-148	5.83	27	L452107-01	WG471899
1,2-Dibromoethane	mg/l	0.0214	0.0218	85.7	41-149	1.62	21	L452107-01	WG471899
1,2-Dichlorobenzene	mg/l	0.0237	0.0230	94.9	40-139	3.21	23	L452107-01	WG471899
1,2-Dichloroethane	mg/l	0.0220	0.0220	88.2	29-167	0.0782	21	L452107-01	WG471899
1,2-Dichloropropane	mg/l	0.0228	0.0226	91.3	39-148	1.04	20	L452107-01	WG471899
1,3,5-Trimethylbenzene	mg/l	0.0231	0.0229	92.5	33-149	0.912	26	L452107-01	WG471899
1,3-Dichlorobenzene	mg/l	0.0235	0.0236	93.9	32-148	0.555	24	L452107-01	WG471899
1,3-Dichloropropane	mg/l	0.0231	0.0229	92.4	44-142	0.681	20	L452107-01	WG471899
1,4-Dichlorobenzene	mg/l	0.0229	0.0223	91.8	32-136	3.06	23	L452107-01	WG471899
2,2-Dichloropropane	mg/l	0.0228	0.0226	91.0	14-158	0.606	23	L452107-01	WG471899
2-Butanone (MEK)	mg/l	0.0982	0.106	78.5	32-151	7.51	26	L452107-01	WG471899
2-Chloroethyl vinyl ether	mg/l	0.0110	0.0458	8.77	0-175	123.*	75	L452107-01	WG471899
2-Chlorotoluene	mg/l	0.0233	0.0241	93.0	35-147	3.52	24	L452107-01	WG471899
4-Chlorotoluene	mg/l	0.0233	0.0231	93.2	33-147	0.897	25	L452107-01	WG471899
4-Methyl-2-pentanone (MIBK)	mg/l	0.104	0.107	83.3	40-160	2.55	28	L452107-01	WG471899
Acetone	mg/l	0.102	0.115	81.5	25-157	11.8	26	L452107-01	WG471899
Acrolein	mg/l	0.0281	0.0303	22.5	0-179	7.46	39	L452107-01	WG471899

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Beaverton, OR 97008

Quality Assurance Report
Level II

L452106

April 12, 2010

Analyte	Units	Matrix Spike MSD	Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Acrylonitrile	mg/l	0.104	0.113	83.5	37-162	7.47	24	L452107-01	WG471899
Benzene	mg/l	0.0208	0.0208	83.4	16-158	0.303	21	L452107-01	WG471899
Bromobenzene	mg/l	0.0229	0.0227	91.7	37-147	0.984	23	L452107-01	WG471899
Bromodichloromethane	mg/l	0.0233	0.0244	93.3	45-147	4.41	20	L452107-01	WG471899
Bromoform	mg/l	0.0234	0.0249	93.6	38-152	6.38	20	L452107-01	WG471899
Bromomethane	mg/l	0.0179	0.0216	71.6	0-191	18.8	35	L452107-01	WG471899
Carbon tetrachloride	mg/l	0.0226	0.0227	90.5	22-168	0.162	24	L452107-01	WG471899
Chlorobenzene	mg/l	0.0226	0.0223	90.2	33-148	1.04	22	L452107-01	WG471899
Chlorodibromomethane	mg/l	0.0232	0.0244	92.7	48-151	5.08	21	L452107-01	WG471899
Chloroethane	mg/l	0.0194	0.0236	77.5	4-176	19.8	27	L452107-01	WG471899
Chloroform	mg/l	0.0227	0.0224	90.8	37-147	1.25	21	L452107-01	WG471899
Chloromethane	mg/l	0.0196	0.0213	78.3	10-174	8.49	28	L452107-01	WG471899
cis-1,2-Dichloroethene	mg/l	0.0216	0.0217	86.3	29-156	0.641	22	L452107-01	WG471899
cis-1,3-Dichloropropene	mg/l	0.0233	0.0229	93.0	35-148	1.74	21	L452107-01	WG471899
Di-isopropyl ether	mg/l	0.0219	0.0219	87.4	39-160	0.253	21	L452107-01	WG471899
Dibromomethane	mg/l	0.0221	0.0224	88.2	36-152	1.51	20	L452107-01	WG471899
Dichlorodifluoromethane	mg/l	0.0239	0.0256	95.7	0-200	6.74	26	L452107-01	WG471899
Ethylbenzene	mg/l	0.0227	0.0220	90.8	29-150	2.89	24	L452107-01	WG471899
Hexachloro-1,3-butadiene	mg/l	0.0243	0.0234	97.3	28-144	3.96	33	L452107-01	WG471899
Isopropylbenzene	mg/l	0.0223	0.0216	89.1	35-147	3.01	25	L452107-01	WG471899
Methyl tert-butyl ether	mg/l	0.0208	0.0212	83.3	24-167	1.97	22	L452107-01	WG471899
Methylene Chloride	mg/l	0.0210	0.0222	84.1	23-151	5.41	21	L452107-01	WG471899
n-Butylbenzene	mg/l	0.0238	0.0227	95.3	22-151	4.99	29	L452107-01	WG471899
n-Propylbenzene	mg/l	0.0238	0.0230	95.2	26-150	3.31	25	L452107-01	WG471899
Naphthalene	mg/l	0.0228	0.0231	91.1	24-160	1.43	37	L452107-01	WG471899
p-Isopropyltoluene	mg/l	0.0233	0.0233	93.1	28-151	0.160	27	L452107-01	WG471899
sec-Butylbenzene	mg/l	0.0234	0.0237	93.7	32-149	1.17	26	L452107-01	WG471899
Styrene	mg/l	0.0241	0.0245	96.4	38-149	1.78	23	L452107-01	WG471899
tert-Butylbenzene	mg/l	0.0237	0.0238	94.9	36-149	0.379	26	L452107-01	WG471899
Tetrachloroethene	mg/l	0.0232	0.0230	87.3	13-157	0.973	24	L452107-01	WG471899
Toluene	mg/l	0.0216	0.0206	86.3	22-152	4.61	22	L452107-01	WG471899
trans-1,2-Dichloroethene	mg/l	0.0201	0.0204	80.2	11-160	1.44	23	L452107-01	WG471899
trans-1,3-Dichloropropene	mg/l	0.0217	0.0212	86.6	33-153	2.02	22	L452107-01	WG471899
Trichloroethene	mg/l	0.0236	0.0239	85.4	18-163	1.62	21	L452107-01	WG471899
Trichlorofluoromethane	mg/l	0.0255	0.0258	102.	10-177	1.20	24	L452107-01	WG471899
Vinyl chloride	mg/l	0.0218	0.0234	87.0	0-179	7.25	26	L452107-01	WG471899
Xylenes, Total	mg/l	0.0664	0.0653	88.5	27-151	1.64	23	L452107-01	WG471899
4-Bromofluorobenzene				98.81	75-128				WG471899
Dibromofluoromethane				97.11	79-125				WG471899
Toluene-d8				98.45	87-114				WG471899
1,1,1,2-Tetrachloroethane	mg/l	0.0267	0.0252	107.	45-152	5.91	21	L452105-01	WG471898
1,1,1-Trichloroethane	mg/l	0.0260	0.0250	101.	31-161	3.79	23	L452105-01	WG471898
1,1,2,2-Tetrachloroethane	mg/l	0.0302	0.0267	121.	49-149	12.4	22	L452105-01	WG471898
1,1,2-Trichloroethane	mg/l	0.0275	0.0258	110.	46-145	6.03	20	L452105-01	WG471898
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0259	0.0244	104.	14-168	6.27	24	L452105-01	WG471898
1,1-Dichloroethane	mg/l	0.0252	0.0243	98.2	30-159	3.63	21	L452105-01	WG471898
1,1-Dichloroethene	mg/l	0.0239	0.0227	95.6	10-162	5.20	23	L452105-01	WG471898
1,1-Dichloropropene	mg/l	0.0253	0.0243	101.	14-162	4.37	23	L452105-01	WG471898
1,2,3-Trichlorobenzene	mg/l	0.0294	0.0275	118.	32-143	6.88	33	L452105-01	WG471898
1,2,3-Trichloropropane	mg/l	0.0305	0.0273	122.	48-148	11.0	23	L452105-01	WG471898
1,2,3-Trimethylbenzene	mg/l	0.0281	0.0270	112.	36-141	4.21	25	L452105-01	WG471898
1,2,4-Trichlorobenzene	mg/l	0.0261	0.0247	104.	27-142	5.38	30	L452105-01	WG471898
1,2,4-Trimethylbenzene	mg/l	0.0279	0.0261	112.	29-153	6.99	27	L452105-01	WG471898
1,2-Dibromo-3-Chloropropane	mg/l	0.0273	0.0246	109.	37-148	10.3	27	L452105-01	WG471898
1,2-Dibromoethane	mg/l	0.0286	0.0263	114.	41-149	8.19	21	L452105-01	WG471898
1,2-Dichlorobenzene	mg/l	0.0283	0.0270	113.	40-139	4.72	23	L452105-01	WG471898
1,2-Dichloroethane	mg/l	0.0262	0.0252	105.	29-167	3.82	21	L452105-01	WG471898

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Quality Assurance Report
Level II

L452106

April 12, 2010

Analyte	Units	Matrix Spike MSD	Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,2-Dichloropropane	mg/l	0.0278	0.0253	111.	39-148	9.33	20	L452105-01	WG471898
1,3,5-Trimethylbenzene	mg/l	0.0274	0.0254	110.	33-149	7.60	26	L452105-01	WG471898
1,3-Dichlorobenzene	mg/l	0.0285	0.0259	114.	32-148	9.56	24	L452105-01	WG471898
1,3-Dichloropropane	mg/l	0.0261	0.0245	104.	44-142	6.59	20	L452105-01	WG471898
1,4-Dichlorobenzene	mg/l	0.0258	0.0248	103.	32-136	4.22	23	L452105-01	WG471898
2,2-Dichloropropane	mg/l	0.0264	0.0251	106.	14-158	5.24	23	L452105-01	WG471898
2-Butanone (MEK)	mg/l	0.141	0.129	113.	32-151	8.76	26	L452105-01	WG471898
2-Chloroethyl vinyl ether	mg/l	0	0.00309	0.00	0-175	200.*	75	L452105-01	WG471898
2-Chlorotoluene	mg/l	0.0275	0.0256	110.	35-147	7.32	24	L452105-01	WG471898
4-Chlorotoluene	mg/l	0.0276	0.0257	110.	33-147	7.05	25	L452105-01	WG471898
4-Methyl-2-pentanone (MIBK)	mg/l	0.146	0.132	116.	40-160	9.55	28	L452105-01	WG471898
Acetone	mg/l	0.123	0.112	98.2	25-157	9.21	26	L452105-01	WG471898
Acrolein	mg/l	0.0257	0.0377	20.6	0-179	37.9	39	L452105-01	WG471898
Acrylonitrile	mg/l	0.144	0.130	115.	37-162	10.5	24	L452105-01	WG471898
Benzene	mg/l	0.0242	0.0232	96.6	16-158	4.06	21	L452105-01	WG471898
Bromobenzene	mg/l	0.0265	0.0246	106.	37-147	7.43	23	L452105-01	WG471898
Bromodichloromethane	mg/l	0.0275	0.0264	110.	45-147	3.92	20	L452105-01	WG471898
Bromoform	mg/l	0.0252	0.0233	101.	38-152	7.83	20	L452105-01	WG471898
Bromomethane	mg/l	0.0363	0.0329	145.	0-191	9.74	35	L452105-01	WG471898
Carbon tetrachloride	mg/l	0.0255	0.0247	102.	22-168	3.21	24	L452105-01	WG471898
Chlorobenzene	mg/l	0.0267	0.0255	107.	33-148	4.73	22	L452105-01	WG471898
Chlorodibromomethane	mg/l	0.0262	0.0243	105.	48-151	7.37	21	L452105-01	WG471898
Chloroethane	mg/l	0.0377	0.0354	151.	4-176	6.22	27	L452105-01	WG471898
Chloroform	mg/l	0.0255	0.0244	102.	37-147	4.42	21	L452105-01	WG471898
Chloromethane	mg/l	0.0311	0.0300	124.	10-174	3.72	28	L452105-01	WG471898
cis-1,2-Dichloroethene	mg/l	0.0274	0.0264	102.	29-156	3.65	22	L452105-01	WG471898
cis-1,3-Dichloropropene	mg/l	0.0257	0.0243	103.	35-148	5.61	21	L452105-01	WG471898
Di-isopropyl ether	mg/l	0.0260	0.0249	104.	39-160	4.36	21	L452105-01	WG471898
Dibromomethane	mg/l	0.0284	0.0266	114.	36-152	6.45	20	L452105-01	WG471898
Dichlorodifluoromethane	mg/l	0.0509	0.0497	203.*	0-200	2.26	26	L452105-01	WG471898
Ethylbenzene	mg/l	0.0275	0.0256	110.	29-150	6.97	24	L452105-01	WG471898
Hexachloro-1,3-butadiene	mg/l	0.0286	0.0277	114.	28-144	3.20	33	L452105-01	WG471898
Isopropylbenzene	mg/l	0.0256	0.0237	102.	35-147	7.61	25	L452105-01	WG471898
Methyl tert-butyl ether	mg/l	0.0267	0.0251	107.	24-167	6.19	22	L452105-01	WG471898
Methylene Chloride	mg/l	0.0248	0.0239	99.2	23-151	3.76	21	L452105-01	WG471898
n-Butylbenzene	mg/l	0.0242	0.0233	96.9	22-151	4.13	29	L452105-01	WG471898
n-Propylbenzene	mg/l	0.0271	0.0251	108.	26-150	7.78	25	L452105-01	WG471898
Naphthalene	mg/l	0.0323	0.0303	129.	24-160	6.58	37	L452105-01	WG471898
p-Isopropyltoluene	mg/l	0.0277	0.0255	111.	28-151	8.35	27	L452105-01	WG471898
sec-Butylbenzene	mg/l	0.0283	0.0261	113.	32-149	7.97	26	L452105-01	WG471898
Styrene	mg/l	0.0280	0.0260	112.	38-149	7.50	23	L452105-01	WG471898
tert-Butylbenzene	mg/l	0.0280	0.0258	112.	36-149	8.20	26	L452105-01	WG471898
Tetrachloroethene	mg/l	0.0394	0.0375	102.	13-157	4.99	24	L452105-01	WG471898
Toluene	mg/l	0.0249	0.0233	99.4	22-152	6.55	22	L452105-01	WG471898
trans-1,2-Dichloroethene	mg/l	0.0245	0.0234	98.0	11-160	4.54	23	L452105-01	WG471898
trans-1,3-Dichloropropene	mg/l	0.0297	0.0276	119.	33-153	7.41	22	L452105-01	WG471898
Trichloroethene	mg/l	0.0265	0.0252	102.	18-163	5.00	21	L452105-01	WG471898
Trichlorofluoromethane	mg/l	0.0304	0.0284	121.	10-177	6.57	24	L452105-01	WG471898
Vinyl chloride	mg/l	0.0395	0.0370	156.	0-179	6.37	26	L452105-01	WG471898
Xylenes, Total	mg/l	0.0806	0.0754	107.	27-151	6.72	23	L452105-01	WG471898
4-Bromofluorobenzene				101.2	75-128				WG471898
Dibromofluoromethane				99.43	79-125				WG471898
Toluene-d8				98.71	87-114				WG471898
cis-1,2-Dichloroethene	mg/l	0.0256	0.0257	102.	29-156	0.160	22	L452164-01	WG472163
Tetrachloroethene	mg/l	0.239	0.160	236.*	13-157	39.8*	24	L452282-03	WG472303

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
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Tax I.D. 62-0814289

Est. 1970

YOUR LAB OF CHOICE

Oregon Dept. of Env. Quality - ODEQ
Craig Dockter
8910 SW Gemini Drive

Beaverton, OR 97008

Quality Assurance Report
Level II

L452106

April 12, 2010

Analyte	Units	Matrix Spike MSD	Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
4-Bromofluorobenzene				97.05	75-128				
Dibromofluoromethane				105.6	79-125				
Toluene-d8				98.47	87-114				
TOC (Total Organic Carbon)	mg/l	51.2	52.2	95.1	80-120	2.07	20	L452106-04	WG472359

Batch number /Run number / Sample number cross reference

WG470955: R1168048: L452106-07 08 09 12 14
WG470956: R1168129: L452106-04 05 10 11 16
WG470982: R1168170: L452106-15
WG471012: R1168188: L452106-06
WG471127: R1169197: L452106-13
WG471519: R1171150: L452106-04 05 06 07 08 09 10 11 12 13 14 15 16
WG471973: R1174928: L452106-08 09 10 11 12 13 14 15 16
WG471897: R1175628: L452106-01 02
WG471899: R1175848: L452106-13 14 15 16
WG472163: R1176469: L452106-16
WG471898: R1177268: L452106-03 04 05 06 07 08 09 10 11 12
WG471691: R1177468: L452106-06 09 10 12 13 15
WG472303: R1177788: L452106-04 05
WG472359: R1178869: L452106-04 05 07 08 11 14 16

* * Calculations are performed prior to rounding of reported values .
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

ESC LAB SCIENCES
YOUR LAB OF CHOICE

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Craig Dockter
8910 SW Gemini Drive

Beaverton, OR 97008

Quality Assurance Report
Level II

L452106

April 12, 2010

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Oregon Dept. of Env. Quality - ODEQ

3150 NW 229th St.. Suite 150
Hillsboro,OR 97124

Billing information:

Delia Chadwick - ODEQ
811 SW Sixth Avenue

Portland,OR 97204

D179

Chain of Custody
Page 1 of 2

ESC LAB SCIENCES
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

Report to: Craig Dockter

Email: Craig.Dockter tim.skrotzki@hartcrowser.co

Project Description: DEQ Springville

City/State Collected: Springfield, OR

Phone: (503) 693-5745
FAX: (503) 373-1626

Client Project #: 15267-03/T2

Lab Project #: OREGONDEQ-SPRINVILL

Collected by (print): Chris Martin

Site/Facility ID#:

P.O.#:

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day.....100%
___ Two Day.....50%
___ Three Day.....25%

Date Results Needed

Email? ___No X Yes
FAX? ___No ___Yes

Acctnum: OREGONDEQ (lab use only)
Template/Prelogin: T63798/P315359
Cooler #: 3-29 IR
Shipped Via: FedEx Standard

Analysis/Container/Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	RSK175 40mlAmb-NoPres	TOC 250mlAmb-Septa-HCl ✓2	V8260 40mlAmb-HCl	WetChem 125mlHDPE-NoPres Nitrate, Sulfate			Remarks/Contaminant	Sample # (lab only)
DEQ-1	Grab	GW	NA	4-1-10	1412	2			X					L452106 01
DEQ-2		GW			1439	2			X					02
MW-4		GW			1029	2			X					03
Ex-1S		GW			0939	6	X	X	X	X				04
Ex-2S		GW			1051	6	X	X	X	X				05
Ex-3S		GW			1149	6	X	X	X	X				06
IN-4S		GW			1331	6	X	X	X	X				07
IN-5S		GW			1237	6	X	X	X	X				08
DEQ-4	↓	GW	↓	↓	1317	6	X	X	X	X				09

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

270651574934

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	4/1/10	1600	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: 3.4°C Bottles Received: 8+2TB

Date: 4/2/10 Time: 0900

Condition: OK (lab use only)

COC Seal Intact: ✓ Y ___ N ___ NA

pH Checked: LR NCF:

Oregon Dept. of Env. Quality - ODEQ

3150 NW 229th St.. Suite 150
Hillsboro,OR 97124

Billing information:

Delia Chadwick - ODEQ
811 SW Sixth Avenue

Portland,OR 97204

Report to: **Craig Dockter**

Email: Craig.Dockter ~~tim.skrotzki~~@hartcrowser.co

Project Description: DEQ Springville

City/State Collected: Springfield, OR

Phone: (503) 693-5745
FAX: (503) 373-1626

Client Project #: 15267-03/T2

Lab Project #: OREGONDEQ-SPRINVILL

Collected by (print):

Site/Facility ID#:

P.O.#:

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day.....100%
___ Two Day.....50%
___ Three Day.....25%

Date Results Needed

Email? __No X Yes
FAX? __No __Yes

Analysis/Container/Preservative

Chain of Custody
Page 2 of 2

L-A-B S-C-I-E-N-C-E-S

12065 Lebanon Road
Mt. Juliet, TN 37122

Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

(lab use only)
Acctnum: OREGONDEQ
Template/Prelogin: T63798/ P315359
Cooler #: 3-25,103
Shipped Via: FedEX Standard

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	RSK175 40mlAmb-NoPres	TOC 250mlAmb-Septa-HCl ↓ N	V8260 40mlAmb-HCl	WetChem 125mlHDPE-NoPres Nitrate, Sulfate			Remarks/Contaminant	Sample # (lab only)
Ex-4i	Grab	GW	NA	4-1-10	0955	6	X	X	X	X				L452106-10
Ex-5i	↓	GW	↓	↓	1121	6	X	X	X	X				-11
Ex-6i		GW			1209	6	X	X	X	X				-12
IN-6i		GW			1348	6	X	X	X	X				-13
IN-7i		GW			1252	6	X	X	X	X				-14
IN-8i		GW			1222	6	X	X	X	X				-15
MW-14	↓	GW	↓	↓	1011	6	X	X	X	X				-16

*Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

8706 5157 5030

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	4/1/10	1600	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)
			Kevin Weller

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: 3.4c Bottles Received: 84 + 12

Date: 4/2/10 Time: 0900

Condition: (lab use only) OK

COC Seal Intact: ✓ Y ___ N ___ NA

pH Checked: ___ NCF: ___