SCS ENGINEERS

2010 Annual Monitoring Report

Olympic View Sanitary Landfill (OVSL)

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1 INTRODUCTION

This annual report summarizes the results of the quarterly post-closure environmental monitoring conducted at the Olympic View Sanitary Landfill (OVSL) located in Port Orchard, Washington, for the 2010 reporting period. Monitoring events for the current reporting period were performed during March, June, September and December of the calendar year. Environmental monitoring at the OVSL includes sampling and analysis of groundwater, leachate influent (collected prior to on-site treatment) and landfill gas.

The current OVSL monitoring program meets the regulatory requirements for both corrective action and post-closure detection and assessment monitoring. Quarterly groundwater and landfill gas monitoring was performed at the facility in accordance with the OVSL Environmental Monitoring Plan (EMP, Engineering Management Support, Inc., 2009) and the site-specific Sampling and Analysis Plan (SCS Engineers, 2009). The plans were developed in consultation with the Washington Department of Ecology (Ecology) and reflect a refined understanding of the site conditions based on the results of a Remedial Investigation/Feasibility Study (RI/FS) per WAC 173-340 (the Model Toxics Control Act, MTCA). The OVSL monitoring program also meets the requirements of the Criteria for Municipal Solid Waste Landfills (WAC 173-351-430) which is administered by the Kitsap County Health District (KCHD). Leachate influent and leachate pond leak detection monitoring is also performed at the OVSL.

Storm water discharges from industrial facilities are regulated under the 1972 Clean Water Act through the federal National Pollutant Discharge Elimination System (NPDES). In Washington State, the NPDES program is administered by Ecology. Under Ecology's new (2010-2015) general industrial permit, properly closed landfills with no other industrial activity are now exempt from storm water permitting requirements. The industrial storm water permit for the OVSL facility was terminated on March 29, 2010. As a result, no storm water monitoring was conducted at the OVSL during the 2010 reporting period.

SCS Engineers (SCS) completed quarterly environmental sampling at the OVSL during March 2010 through December 2010. The following detailed information for the quarterly monitoring activities is included in this report:

- Measurement of groundwater elevation at between 48 and 53 groundwater monitoring wells (discussed in detail in Section 3) at the OVSL;
- Collection of groundwater samples from between 19 and 22 monitoring wells (discussed in detail in Section 3);
- Collection of a leachate influent sample (during the December, 2010 event);
- Quarterly collection of a leachate pond leak detection system sample:.
- Laboratory analysis of groundwater, leachate influent, and leak detection samples; and
- Measurement of landfill gas concentrations at 10 perimeter gas monitoring probes and at 4 building monitoring locations.

This report provides:

- A brief site description and background section.
- A figure presenting the site location.
- A discussion of groundwater monitoring (including water level measurements), leachate monitoring and landfill gas monitoring activities. This section includes a presentation of sample collection techniques. A site plan showing the groundwater monitoring well network and leachate monitoring stations is presented for reference. A second site plan illustrates the landfill gas probe and building monitoring locations. A groundwater well construction table and a summary of the analytical parameters included in the groundwater and leachate influent monitoring program are also presented.
- A discussion of the year's groundwater elevation data and a presentation of the year's groundwater and leachate analytical results and field parameters. This section includes a discussion of data quality assurance/quality control, summary tables (including a comparison of the reporting period's detected groundwater results to regulatory standards), contour maps depicting groundwater elevations and flow directions, and a hydrograph of the groundwater elevations at the OVSL for the 2010 reporting period. Groundwater flow rates are also calculated for the reporting period.
- Results of the December 2010 landfill gas monitoring and a brief discussion of the 2010 landfill gas monitoring is included.
- 2010 groundwater and leachate monitoring field records including: December 2010 Groundwater Sampling Forms, Instrument Calibration Documentation Forms, and Records of Water Level Readings. December 2010 landfill gas monitoring: GEM Calibration and data forms. These documents are provided in Appendix A.
- Geochemical results are provided in Appendix B. This includes cation/anion balance and Piper diagrams displaying the December 2010 results. Chemical concentration plots for selected analytes (arsenic, dissolved iron, dissolved manganese and vinyl chloride) are included for reference.
- A statistical evaluation of the 2010 reporting period groundwater monitoring results is provided along with times series graphs (presented in Appendix C). The statistical evaluation includes a comparison with background prediction limits, a comparison of monitoring results to cleanup levels for wells identified in the EMP for compliance and downgradient monitoring, and an analysis for significant increasing or decreasing parameter trends in all wells.
- December 2010 groundwater and leachate data validation reports and analytical laboratory reports (including Field Information Forms) are provided in Appendix D.
- Conclusions based on the data collected during the monitoring period, including a summary of the groundwater, leachate influent and leak detection and landfill gas results.

Groundwater geochemical results, groundwater and leachate influent data validation reports and analytical laboratory data reports (including Field Information Forms) for the first three quarters of the 2010 reporting year can be found in the respective quarterly monitoring reports for the OVSL. Similarly, landfill gas migration monitoring results for the first three quarters of the 2010 reporting year are reported separately in respective quarterly monitoring reports.

In order to conserve paper resources, the appendixes for the 2010 annual report are presented on a data CD attached to the rear cover of the document. However, for the convenience of the reviewer, hard copies of all the parameter time series diagrams showing statistically significant increasing or decreasing trends have been appended to the end of the report.

2 SITE DESCRIPTION AND BACKGROUND

SITE LOCATION AND DESCRIPTION

The closed OVSL facility is located on approximately 436 acres in Sections 3 and 10, Township 23N, Range 1W of the Willamette Meridian, in Kitsap County, Washington. The facility is situated on an upland area approximately 10 miles southwest of the city of Bremerton. The facility address is 10015 SW Barney White Road, Port Orchard, Washington. The closed refuse fill area covers approximately 65 acres of the site. A site location map is shown on Figure 1. A site plan is presented on Figure 2.

The OVSL facility accepted municipal solid waste between 1967 and 2003. Landfill closure was completed in 2004, in accordance with Washington Administrative Code (WAC) 173-351. Landfill closure included construction of a landfill gas monitoring system, an active landfill gas collection and treatment system, a leachate collection and treatment system, a storm water drainage control system, and a final cover. The final cover consists of:

- 6-inch thick, low permeability soil,
- Geonet composite,
- 60-mil flexible membrane liner,
- 12-inch drainage layer,
- geotextile fabric, and
- 12-inches of vegetative topsoil and cover soil.

The active landfill gas collection system consists of a total of 92 well heads (70 vertical wells, 7 horizontal wells, and 15 interconnections to the leachate collection system) connected to a gas treatment flare station. The leachate collection system consists of subgrade collection piping and a leachate collection lagoon. A leachate evaporator unit operated at the lagoon through November 2009; however evaporative treatment has since been terminated due to declining efficiency. A storm water drainage control system controls storm water erosion and minimizes off-site migration of sediment-laden water. Drainage and erosion protection improvements include vegetation, a landfill toe under drain, down chutes, culverts, and drainage ditches.

TOPOGRAPHY AND CLIMATE

The site is located in the Southern Upland of the Kitsap Peninsula adjacent to the Union River-Gorst Creek trough. The site topography ranges from approximately 150 to 360 feet above mean sea level (msl). The land surface generally slopes to the west-southwest towards the Union River, which is located approximately a half mile west of the site.

Kitsap County's climate is characterized as maritime, with long, mild, wet winters and short, cool, dry summers. Climatically, and due to the local relief, there can be significant variations in total annual precipitation and average temperatures over short distances.

LOCAL AND REGIONAL HYDROGEOLOGY

The regional near-surface geology in the vicinity of the OVSL is dominated by glacio-fluvial and glacio-lacustrine deposits associated with the Vashon glaciation. The Remedial Investigation Report (Parametrix, 2007) identified the following main stratigraphic units at the Site: Organic Soils and Peat (Qw), Alluvium (Qal), Vashon Recessional Outwash (Qvr), Vashon Lacustrine Recessional Outwash (Qvrl), Vashon Till (Qvt), Vashon Advance Outwash (Qva), Vashon Advance Lacustrine Deposits (Qval), and Pre-Vashon Deposits (Qpvu). With the exception of the Vashon Till (which has not been confirmed to be present at the site), all of these units appear to be present beneath the OVSL.

Information provided in the site conceptual model indicates that organic soils/peat, alluvium, outwash, glacio-fluvial, glacio-lacustrine, and flood plain deposits outcrop along the west-central portions of the OVSL facility. Groundwater is present beneath the site at depths ranging between near-surface and approximately 80 feet below ground surface (bgs), or at elevations ranging between approximately 140 and 257 feet above msl. The groundwater flow direction beneath the landfill is generally towards the west.

3 2010 MONITORING ACTIVITIES

SUMMARY OF CURRENT GROUNDWATER MONITORING PROGRAM

Groundwater Monitoring Network

Quarterly groundwater monitoring is performed at the OVSL in accordance with the January 2001 Agreed Order and EMP as modified through recent technical discussions with Ecology. The monitoring also meets the post-closure landfill monitoring requirements under WAC 173-351-430. A sampling and analysis plan (SAP) describes the field monitoring program that is conducted at the OVSL. The current SAP (SCS, December 2009) reflects a refined understanding of the site conditions based on the results of the remedial investigation, and addresses future monitoring objectives (e.g. corrective action monitoring).

The groundwater monitoring network at the OVSL includes monitoring wells that are sampled quarterly or semi-annually, as well as those that are only used for water level measurement. The locations of the groundwater monitoring wells are illustrated on Figure 2. Completion details for the monitoring wells are provided on Table 1.

Of the 22 monitoring wells that were routinely sampled in 2010, four are upgradient wells (MW-13A, MW-13B, MW-16 and MW-35), and six are downgradient wells (MW-9, MW-29A, MW-32, MW-33A, MW-33C and MW-36A). Six wells are compliance monitoring wells (MW-15R, MW-34A, MW-34C, MW-39, MW-42 and MW-43). Six are performance monitoring wells (MW-2B1, MW-4, MW-19C, MW-20, MW-23A and MW-24). The 2009 SAP provides detailed information regarding each of the different categories of monitoring wells that are routinely sampled for water quality at the OVSL.

Well completion depths range from approximately 9 to 230 feet below ground surface. Screen lengths vary from 5 to 20 feet, with most of the well screens 10 feet in length. The “A” designations in these well names indicate relatively shallow monitoring well completions. The “C” designations indicate relatively deep monitoring well completions. The “B” designations are in-between (depth-wise).

Each of the groundwater monitoring wells designated for routine sampling is outfitted with a dedicated sampling pump (QED Well Wizard) suitable for low-flow purging and sampling. Use of this type of pumping apparatus helps minimize sampling artifacts as well as the potential for cross contamination between wells, and eliminates the need for decontamination of sampling pumps. Each dedicated bladder pump is positioned with its inlet located within the screened interval of the well. Well construction, development, and pump installation are reported in detail in the *Report of 2005 Gas Probe and Monitoring Well Installations at OVSL* (SCS Engineers, June 2006), the *Remedial Investigation Report, OVSL, Kitsap County (*Parametrix, *2007)* and the G*roundwater Monitoring Well Installation Report, OVSL* (SCS Engineers. April 2009).

Monitoring Schedule

Groundwater monitoring was conducted on a quarterly basis. The quarterly events were completed in March, June, September, and December 2010. In accordance with the SAP, monitoring wells MW-29A and MW-33A were sampled on a semi-annual basis during March and September 2010. MW-9 was inadvertently monitored in March and June, 2010.

Groundwater Parameters and Analytical Methods

A summary of the analytical parameters tested for during the 2010 groundwater monitoring period is provided in Table 2. The analytical parameters tested for during quarterly groundwater monitoring at the OVSL include the following Appendix I and II parameters:

Field Measurements: temperature, specific conductivity, pH, dissolved oxygen, turbidity, and static water level

Dissolved Metals: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, and zinc

Volatile Organic Compounds: (VOCs) as listed in WAC 173-351 Appendix I

Geochemical Indicator Parameters: chloride, sulfate, nitrate, calcium, sodium, bicarbonate, alkalinity, magnesium, potassium, iron, and manganese

Leachate Indicator Parameters: ammonia, total organic carbon (TOC), and total dissolved solids (TDS)

Laboratory methods are those described in EPA publication number SW-846, Test Methods for Evaluating Solid Waste Physical/Chemical Methods. All laboratory analyses were completed by Test America labs in Denver, Colorado and Buffalo, New York; and by Analytical Resources Incorporated (ARI) in Tukwila, Washington. The laboratories are accredited in accordance with WAC 173-50, Accreditation of Environmental Laboratories.

Monitoring Well Purging and Sampling Procedures

Per the 2009 SAP, field activities consisted of: surveying well conditions; obtaining field measurements for water level elevation, pH, specific conductance, turbidity, temperature, and dissolved oxygen; collecting groundwater samples for laboratory analysis; and packaging and shipping the samples to the laboratories.

Prior to initiating well purge, static water level was measured and documented. Static groundwater level measurements were collected from the monitoring wells at the OVSL each quarter during the reporting period. Depth to water measurements (to the nearest 0.01 ft) were collected using an electronic water level indicator.

Wells P-1 and P-9 were omitted during the 2010 monitoring year because these wells could not be found. These wells are located in areas of dense foliage with no reference points and cannot be located on a regular basis. Twelve wells (including MW-11, MW-12, MW-17, MW-18,MW-28, MW-31, MW-36A, MW-37, MW-38 MW-40A, MW-40B and MW-40C) could not be accessed for at least one quarter of 2010 due to access and safety limitations. These were primarily due to the occurrence of onsite logging activities, road blockages, dense foliage, and downed trees due to area storms. It should be noted that all of these wells are only used for water level measurements to supplement the quarterly determination of groundwater flow direction at the site. SCS and Waste Management are continually working together to identify and address access issues. If some of these wells cannot be located or properly accessed, the facility may request to have these wells removed from the quarterly water level elevation monitoring program.

Purging and sampling of the monitoring wells at the site was conducted using low-flow/low-volume well sampling techniques. Once the pumping was initiated, flow rate was confirmed by volumetric discharge measurement (by measuring the total volume discharged per cycle using a graduated cylinder and verifying the number of pump cycles per minute specified by the controller). Field instruments were calibrated in accordance with manufacturer's guidelines. Field measurements for pH, temperature, conductivity, dissolved oxygen, and turbidity were conducted using a closed, in-line flow-through cell and a turbidity meter. When water quality parameters stabilized and there had been no change in the pumping water level, sample collection began. Field information obtained during groundwater sampling was recorded on Field Information Forms included in Appendix C (for December 2010).

All non-disposable equipment that was exposed to well water (water level probe) was decontaminated between wells with a three-point wash. Decontamination of equipment was completed before leaving each well, therefore eliminating cross contamination. The wash consisted of a non-phosphate detergent (Alconox) and water wash, a tap water rinse, and a deionized water rinse. Disposable nitrile gloves were doffed after each use and prior to leaving each well.

SUMMARY OF CURRENT LEACHATE MONITORING PROGRAM

Leachate generated from three separate closed municipal waste storage cells at the OVSL is collected and pumped to an arterial force main that discharges to a one-acre leachate pond located near the western end of the landfill. The force main outfalls on the north end of the leachate lagoon. Accumulated leachate was treated by aeration and subjected to volume reduction onsite using an evaporator unit through November 2009 when the evaporator use was discontinued due to increasing inefficiency. When leachate elevation in the pond approaches the elevation of the former outlet to ponds that once existed west of current pond, leachate is removed via pumping and hauled to nearby wastewater treatment plants.

Leachate Monitoring Locations

Per the EMP and SAP, leachate monitoring is to be performed at three locations at the facility, including sampling stations L-INF, OBWL-TD, and LP-LCD. Influent leachate sampling station L-INF is located immediately downstream of the force main outfall on the north end of the leachate collection pond. The OBWL-TD sampling station is situated at the Old Barney White Landfill Toe Drain collection sump, which subsequently connects to the leachate pond. Sampling station LP-LCD is located at the pump discharge outlet which periodically returns any accumulated liquids that collect beneath the leachate pond liner system back into the main lagoon. The locations of the leachate monitoring stations are illustrated on Figure 2.

Monitoring Schedule

The current SAP provides for annual monitoring of the L-INF and OBWL-TD stations and quarterly monitoring of the LP-LCD station. Leachate influent was sampled at L-INF during December 2010. Sampleable volumes of liquid did not occur at the OBWL-TD station during the 2010 reporting period.

Parameters and Analytical Methods

A summary of the analytical parameters tested for during leachate influent monitoring at the OVSL is provided in Table 2. The leachate influent (L-INF) sample collected during December 2010 was analyzed for the same Appendix I and II parameters as the groundwater monitoring wells, as well as for the following analytes:

Total Metals (instead of Dissolved Metals): antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, and zinc.

Total Coliform

WAC 173-351 Appendix IV Parameters: nitrite, COD, BOD, and total cyanide.

The LP-LCD samples were analyzed for selected Appendix II parameters including field parameters (pH, specific conductance, temperature and dissolved oxygen), geochemical indicators (chloride, sulfate, bicarbonate and alkalinity), and leachate indicators (ammonia, TOC and TDS).

Laboratory methods are those described in EPA publication number SW-846, Test Methods for Evaluating Solid Waste Physical/Chemical Methods. All laboratory analyses were completed by TestAmerica, Denver, Colorado and Buffalo, New York. The laboratories are accredited in accordance with WAC 173-50, Accreditation of Environmental Laboratories.

Leachate Monitoring Field Procedures

Field activities consisted of obtaining field parameter measurements, collecting leachate samples for laboratory analysis, and packaging and shipping the sample to the laboratory.

The leachate influent samples consisted of individual grab samples. Field personnel immersed sample tubing from the peristaltic pump into the discharge to obtain the leachate influent sample. The LP-LCD sample was collected from an inline sampling port attached to the liquid return line that drains back into the leachate pond. All the leachate samples were collected directly into pre-labeled laboratory containers suitable for the chemical parameters being analyzed. Field instruments were calibrated in accordance with manufacturer's guidelines.

Field-measured parameters including temperature, specific conductivity, turbidity, pH, and dissolved oxygen were measured as described in Standard Methods for the Examination of Water and Wastewater. Field information obtained during leachate sampling was recorded on Field Information Forms included in Appendix C (December 2010).

SUMMARY OF CURRENT LANDFILL GAS MONITORING PROGRAM

Landfill gas monitoring activities at the OVSL consists of obtaining field measurements of primary gas composition (methane, carbon dioxide, and oxygen) at between 12 and 17 monitoring locations on a quarterly basis. During the 2010 reporting period, the landfill gas monitoring network included 10 subsurface gas detection probes and 2 onsite structures on and immediately adjacent to the landfill.

Landfill gas monitoring is conducted to provide an assessment of the subsurface landfill gas conditions at the OVSL and compliance with regulatory criteria for subsurface methane concentrations. At the subsurface gas detection probes (gas probes) relative soil pressure was also measured in the field. Landfill gas monitoring procedures are detailed in the 2009 SAP.

Landfill Gas Monitoring Locations

Landfill gas monitoring was conducted at 10 perimeter gas probes (GP-7 through GP-16) and 2 onsite structures as illustrated on Figure 3 and tabulated on Table 11. During the summer of 2009, the Maintenance Building, Welding Shop Old Toll Booth, Main Well House and the Wash Rack Shed were demolished. As a result, only the South Slope Well House (SS-WH) and the Scale House (SH-SS, SH-NS and SH-IN) continue to be monitored on a quarterly basis.

Five of the gas probes (GP-9 through GP-13) consist of multiple, vertically discrete monitoring zones. Gas probes with dual monitoring zones are designated with an “S” for the shallow zone, and a “D” for the deep zone. Gas probes with triple monitoring zones are designated with an “S” for the shallow zone, “M” for the middle zone, and “D” for the deep zone. Details of all the gas probes and boring logs can be found in *Report of 2005 Gas Probe and Monitoring Well Installations at OVSL (SCS Engineers, June, 2006).*

Monitoring Schedule

Monitoring at the landfill gas probes and facility structures was conducted during March, June, September and December 2010. The landfill gas monitoring results reported in Section 4 of this report (December 2010/Fourth Quarter) were collected on December 22nd and December 23rdt, 2010.

Parameters

Field measurements of methane, carbon dioxide, and oxygen were obtained from each of the gas probes and within the facility structures. In addition, subsurface soil pressure was also measured in the gas probes during the sampling events.

Landfill Gas Monitoring Field Procedures and Instrumentation

Field monitoring was conducted in accordance with Section 6.4 of the 2009 SAP. The landfill gas probes and building locations were sampled and analyzed in the field (for all parameters) using a GEM-2000 portable multi-gas analyzer. This portable gas analyzer measures methane and carbon dioxide with a dual wavelength infrared cell with a reference channel. Oxygen is measured with an electro-chemical cell. Pressure was measured with a transducer.

The gas analyzer was calibrated prior to each monitoring event. Landfill gas monitoring activities are documented in the Field and Calibration Logs included in Appendix A.

Field Conditions

General weather conditions were noted during and preceding each quarterly landfill gas monitoring event. Atmospheric pressure fluctuations can influence gas concentrations and pressure in gas probes. To assist in interpreting data, barometric conditions were recorded during and prior to monitoring. The barometric trends for December 2010 are illustrated on Figure 14 and discussed in Section 4.

4 2010 MONITORING RESULTS

GROUNDWATER ELEVATION RESULTS

Depths to water and calculated water level elevations from the OVSL monitoring wells for 2010 are presented in Table 3. Water level contour maps of estimated groundwater elevations (derived from measured static water level elevations at the OVSL wells) for each quarter during the reporting period are also presented in Figures 4 through 7. A hydrograph of the 2010 OVSL groundwater elevations is provided on Figure 12. Groundwater elevations ranged from approximately 141 to 258 feet-msl at the OVSL over the reporting period. Groundwater elevations remained be relatively stable over the entire reporting period. As noted during previous monitoring years, the potentiometric surface across the OVSL does not show significant seasonal fluctuations.

Very little change was seen in groundwater flow direction during the reporting period. Locally, the groundwater flow direction is from the east towards the west. The average hydraulic gradient across the site remained relatively consistent from quarter to quarter.

The hydraulic gradient beneath the eastern portion of the site (between wells MW-35 and MW-23A) ranged from 0.0.049 to 0.051 ft/ft. A horizontal hydraulic conductivity of 26 ft/day and an effective porosity of 30 percent were used to calculate average groundwater velocity on the eastern portion of the site. The horizontal hydraulic conductivity of 26 ft/day is the average of the values reported at MW-13A, MW-13B, and P-1. These values were derived from an aquifer test conducted at TW-1, reported in the *Draft Final Remedial Investigation Report, Olympic View Sanitary Landfill* (Parametrix, Inc. 2007). Groundwater flow velocities across the east portion of the site was estimated to range from 4.24 to 4.40 ft/day, which is slightly higher than the values reported for this area during previous monitoring years.

The average hydraulic gradient beneath the western portion of the site (between wells MW-20 and MW-37) ranged from 0.016 to 0.031 ft/ft. A horizontal hydraulic conductivity of 154 ft/day and an effective porosity of 30% were used to calculate average groundwater velocity on the western portion of the site. The horizontal hydraulic conductivity of 154 ft/day is the average of the values reported at MW-29A, MW-29B, and MW-29C. These values were derived from an aquifer test conducted at MW-29B, reported in the RI. The groundwater flow velocity was estimated to range from 8.27 to 15.95 ft/day, which is slightly higher than the flow values reported for this portion of the site during previous monitoring years.

GROUNDWATER QUALITY MONITORING RESULTS

Table 4 lists groundwater analytical results and field parameters for the 2010 monitoring period. Laboratory results for volatile organic compounds for the year 2010 are also presented in Table 5. These tables report analyte detections only. Table 6 summarizes the 2010 exceedances for a suite of 10 MTCA regulated parameters monitored at the OVSL's compliance and downgradient groundwater wells. Table 7 lists all exceedances of WAC 173-200 Groundwater Quality Protection Standards, federal Maximum Contaminant Levels and MTCA cleanup goals

established for OVSL have also been included. Contaminant concentration maps for the December 2010 monitoring event are presented for selected analytes on Figures 8 through 11.

Cation-anion balances and Piper plots for December 2010 are presented in Appendix B. Statistical evaluation documentation, including time series graphs for detection monitoring analytes, are included in Appendix C. The December 2010 groundwater data validation report and analytical laboratory data reports (including Field Information Forms) are assembled in Appendix D.

Data QA/QC

All analytical data from Test America and ARI were subjected to QA/QC evaluations. The QA/QC evaluations consisted of collection and analysis of field duplicates and matrix spike/matrix spike duplicate volume. The QA/QC evaluation also included a detailed review of the laboratory data, including sample handling, holding times, and laboratory performance analyses including duplicates, blanks, matrix spikes, matrix spike duplicates and surrogate recoveries. The data were determined to be acceptable for the intended purposes. Appendix D contains the data validation report and the analytical laboratory data report for December 2010.

Comparison of Detected Groundwater Sampling Results to MTCA Groundwater Cleanup Standards

Select parameter results for six OVSL compliance wells (MW-15R, MW-34A, MW-34C, MW-39, MW-42 and MW-43) and six downgradient wells (MW-9, MW-29A, MW-32, MW-33A, MW-33C and MW-36A) are compared to MTCA groundwater cleanup goals on Table 6. Specifically, the calculated upper confidence limit (UCL) of the mean concentration of each parameter for each well is used to assess compliance with their respective cleanup goals. The UCLs are calculated using three-year moving data sets (per MTCAStat guidance) for ten chemicals of concern (dissolved arsenic, dissolved iron, dissolved manganese, cis-1,2-dichloroethene, ethyl ether, trichloroethene, 1,4-dichlorobenzene, 1,1-dichloroethane, vinyl chloride and ammonia), and are compared to their respective MTCA groundwater cleanup goals. The UCLs are calculated using MTCAStat; calculation details are presented in Appendix C.

As shown on Table 6, for the OVSL compliance monitoring wells, MTCA exceedances were reported in all six locations as follows: MW-15R (vinyl chloride), MW-34A (ammonia), MW-34C (arsenic, iron, manganese), MW-39 (arsenic, iron, manganese, ammonia), MW-42 (arsenic, iron, manganese, vinyl chloride, ammonia), and MW-43 (iron, manganese, ammonia). A significant decreasing trend was reported for arsenic in MW-34C, and a significant decreasing trend was reported for manganese in MW-15R.

Trends are noted because they can impart a bias on the UCL for the affected corrective action monitoring parameters which, in turn, can affect the determination of whether or not the associated UCLs are truly above or below cleanup standards. An effective means of evaluating the potential for such bias is through visual inspection of the time-series graphs presented in Appendix C. As an example: for manganese and iron in MW-34C, the time period used for the

UCL calculation (January 2007 through December 2010) occurs over a relatively stable portion of the data set. Therefore, no significant bias is expected in the UCL calculation. Alternatively, for manganese in MW-15R, the data are drawn from a period of steadily declining concentrations, indicating a potential negative bias to the calculated UCL. In such a case, if the calculated UCL is very near the cleanup standard, an erroneous conclusion could result. However, further inspection of the time-series graphs reveals that all results are consistently an order of magnitude below the cleanup standard; therefore, the conclusion that the UCL for manganese in MW-15R is below the cleanup standard (as indicated on Table 6) is maintained with confidence.

As shown on Table 6, for the OVSL downgradient wells, MTCA exceedances were reported in all six monitoring wells as follows: MW-9 (iron), MW-29A (arsenic, iron, manganese, ammonia), MW-32 (arsenic, iron, manganese, vinyl chloride), MW-33A (iron), MW-33C (arsenic, manganese), and MW-36A (arsenic, ammonia). One significant decreasing trend was identified in the downgradient well MW-36A for ammonia.

Comparison of Detected Groundwater Sampling Results to WAC 173-200 and Federal Drinking Water Standards

All analytical results were compared to the water quality standards for ground waters of the state of Washington (Chapter 173-200 WAC) ,to State/Federal primary and secondary Maximum Contaminant Levels (MCLs) and to MTCA cleanup goals for the OVSL. Table 7 presents all WAC 173-200 and MCL exceedances for the reporting period. Standards for six analytes were exceeded:

- pH,
- dissolved arsenic,
- dissolved iron,
- dissolved manganese,
- ammonia, and
- vinyl chloride.

In 2010 reporting period, **pH** readings were generally mildly acidic to neutral. pH values ranged between 5.33 pH units (MW-43 in March 2010) and 7.81 pH units (MW-33C in December 2010). The WAC 173-200 standard and secondary MCL for pH (6.5 to 8.5 units) was exceeded at least once during the reporting period in each of the following monitoring wells MW-15R, MW-16, MW-19C, MW-20, MW-23A, MW-24, MW-29A, MW-2B1, MW-32, MW-33C, MW-34A, MW-34C, MW-36A, MW-39, MW-4, MW-42, MW-43 and MW-9 (see Table 7).

The MTCA and WAC 173-200 groundwater standard of 0.00005 mg/L for **dissolved arsenic** was exceeded at least once during the reporting period in all 22 wells monitored at the OVSL, except for well MW-43. The primary MCL of 0.01 mg/L was exceeded in downgradient monitoring well MW-32 (0.0101 to 0.0113 mg/L) in March, September and December 2010. Dissolved arsenic was detected at least once at relatively high levels in downgradient wells MW-19C (0.00378 mg/L to 0.00415 mg/L), and MW-33C (0.0025 mg/L to 0.0027 mg/L) during the

reporting period. The arsenic concentrations in the other wells at the OVSL were less than 0.002 mg/L during the reporting period.

Dissolved iron was detected at least once at relatively high levels in downgradient wells MW-39 (33 mg/L to 42 mg/L) and MW-42 (23 mg/L to 27 mg/L) during the reporting period. The iron concentrations in the remaining OVSL wells were less than 4.6 mg/L during the reporting period. Iron concentrations exceeded the MTCA, WAC 173-200 standard and secondary MCL of 0.3 mg/L at least once during the 2010 reporting year in 8 monitoring wells (all downgradient) at the OVSL.

Dissolved manganese was detected at least once at relatively high levels in downgradient wells MW-23A (1.5 mg/L to 2.4 mg/L), MW-24 (1.7 mg/L to 2.1 mg/L), MW-32 (2.1 mg/L to 2.9 mg/L), MW-2B1 (0.5-2.5 mg/L) and MW-42 (4.3 mg/L to 5.4 mg/L) during 2010. The manganese concentrations in the other OVSL wells remained less than 1.6 mg/L during the reporting period. Manganese concentrations exceeded the MTCA, WAC 173-200 standard and secondary MCL of 0.05 mg/L at least once during the reporting year in 12 monitoring wells (all downgradient) at the OVSL.

Ammonia levels at four wells exceeded the MTCA cleanup goal of 0.19 mg/L in 2010. MW-19C, MW-2B1, MW-39 and MW-42 returned values ranging from 0.24 to 4.7 mg/L.

The highest **vinyl chloride** concentration (0.49 ug/L) detected during the reporting period occurred in June 2010 in downgradient well MW-32, located downgradient of the landfill and on the southern edge of Wetland D. Vinyl chloride was also detected in downgradient wells MW-4, MW-15R, MW-19C, MW-20, MW-23A, MW-32, MW-34C and MW-42. The WAC 173-200 groundwater standard (0.02 ug/L) for vinyl chloride was exceeded at least once in all of the eight wells where the compound was detected at the OVSL, except at well MW-24. In March of 2010, vinyl chloride was detected at 0.02 ug/l. This was the only detection at MW-24 during 2010. The MTCA cleanup goal (0.29 ug/L) was exceeded during all four quarters at MW-32, and in June 2010 at MW- 34C. The primary MCL (2 ug/L) for vinyl chloride was not exceeded in 2010.

During the 2010 reporting period, 8 VOC compounds were detected in certain groundwater monitoring wells (Table 5). The most significant detections were for cis-1,2-dichloroethene (ranging between 0.51 and 0.84 ug/L at 5 well locations), trichloroethene (ranging between 0.51 and 1.9 ug/L at 7 well locations), and vinyl chloride (ranging between 0.02 and 0.49 ug/L at 9 well locations). With the exception of vinyl chloride (discussed above), none of these VOC detections exceeded state or federal groundwater quality standards.

Major Ion Geochemistry

An evaluation of the major ion geochemistry was performed on the data collected at the OVSL during the December 2010 quarterly monitoring event using piper plots and cation/anion balance calculations. Cation/anion balances are often performed to assess accuracy of the laboratory results and evaluate the potential for additional ions in the samples that were not included in the analyses. A Piper plot was prepared as an additional aid in identifying water quality similarities

between samples from different wells. The L-INF and LP-LCD sample points are also plotted on this Piper diagram. Cation/anion balance calculations and the Piper plot for December 2010 are presented in Appendix B.

Cation/Anion Balance Calculations

When all the major anions and cations have been determined, the sum of the cations in milliequivalents per liter (meq/L) should approximately equal the sum of the anions expressed in the same units (Hem 1986). As stated in WAC 173-351-430-5(a), a relative percent difference (RPD) in the charge-balance of greater than five to ten percent could potentially indicate error in the laboratory measurements, and/or that significant concentrations of additional ions are present that were not included in the testing program. Negative values indicate that the sum of the cations is greater than the sum of the anions.

The RPDs, or charge-balance differences, for the December 2010 groundwater samples were within ten percent except for 3 of the 19 monitoring wells. These wells included MW-39 (-16.25 percent), MW-35 (11.00 percent), and MW-20 (10.25 percent). For MW-20 and MW-2B1 the slightly higher percent differences were due to higher cation levels (primarily calcium, sodium and magnesium). For MW-34A, the lower cation level was largely the result of a high alkalinity concentration.

Piper Diagram

The Piper diagram presents the major ion geochemistry of groundwater at each well. This diagram is useful for representing the relative percentage of cations and anions in groundwater samples.

The upgradient and downgradient groundwater samples collected during December 2010 were of similar water type. The positions of samples on the diagram indicate that the dominant anion in groundwater samples continues to be bicarbonate, while the cations are still dominated by calcium and magnesium. Both the L-INF and the LP-LCD samples have higher sodium and potassium levels than groundwater, as well as higher chloride levels.

Spatial Patterns in Groundwater Quality

The influence of the waste disposal activities on groundwater quality at the OVSL is apparent in the groundwater VOC detections, general chemistry, inorganics, and field parameters. The elevated concentrations of parameters adjacent to the landfill are typical of a low-level influence from the landfill, due to either leaching from the landfill, landfill gas, or simply mobilization of naturally occurring constituents as a result of the landfill's presence.

The December 2010 chemical concentration maps for dissolved arsenic, dissolved iron, dissolved manganese, and vinyl chloride are presented in Figures 8 though 11. Each map separately highlights the selected parameter results for both shallow and deeper aquifer monitoring wells.

As illustrated on Figure 8, dissolved arsenic concentrations were relatively high in wells MW-42, MW-34C, MW-33C, MW-19C and MW-32 (in order of increasing dissolved arsenic). Arsenic levels in these five downgradient wells ranged from 0.0107 to 0.0012 mg/L in December 2010. Three of the highest values were reported in the deeper aquifer.

Figure 9 shows that dissolved iron levels were relatively high in downgradient wells MW-20 and MW-19C at 0.0032 and 0.140 mg/L, respectively.

Dissolved manganese (Figure 10) was relatively high in wells MW-33C MW-4, MW-2B1 MW-34C, MW19C, MW-23A, MW-32, MW-24 and MW-42 (in order of increasing dissolved manganese). The values in December 2010 ranged from 0.14 to 5.1 mg/L in these nine wells. The most elevated manganese levels were reported in two shallow wells (MW-24 and MW-42) situated just off the western edge of the landfill.

Vinyl chloride (Figure 11) was detected in four wells in December 2010, including MW-42, MW-20, MW-19C MW-34C, and MW-32 (in order of increasing vinyl chloride). The reported values ranged from 0.09 ug/L to 0.45 ug/L in these five wells. Shallow aquifer well MW-32, located approximately 400 feet west of the landfill, has historically contained the highest vinyl chloride levels at the site. However, shallow and deeper aquifers wells located further west (downgradient well MW-33A and MW-33C) did not report detectable vinyl chloride during the 2010 monitoring period.

Groundwater impacts from the parameters that were spatially mapped are found primarily at wells MW-32, MW-42, MW-19C, MW-34C, MW-24, MW-33C, MW-15R, MW-23A, MW-43 and MW-2B1 (in decreasing order of water quality). These ten wells are all located north and/or west of the landfill, in the downgradient groundwater flow direction. The most impacted wells (MW-32 and MW-42) are situated between 200 and 400 feet west of the western edge of the landfill. However, since the OVSL's downgradient property border is situated at least 600 to 800 feet beyond these wells, potential impacts from these parameter exceedances are anticipated to be mitigated through natural attenuation, advection and dispersion as groundwater moves beyond the immediate vicinity of the landfill.

Time Series Graphs and Statistical Trend Analysis

Time series graphs with statistical trend analysis were produced using the DUMPStat software package for all compliance, performance, downgradient, and upgradient monitoring wells. Beginning with the 2009 Annual Report statistical analyses were conducted beginning with data from 2005 because a 5-year look back provides information on more recent trends and a moving 5-year window may be considered at some point in the future if it appears that relatively older data begin to be exhibit too much control on the presence or absence of statistically significant trends. Therefore, graphs are based on groundwater monitoring data from 2005 through 2010 and depict the chemical parameters listed in Appendices I and II of WAC 173-351-990 -- organized into two groups, as follows: "Trend Test A" graphs and "Trend Test B" graphs. The Trend Test A graphs include all organic parameters in Appendices I and II that have been detected above the PQL during at least one sampling event in any of the wells since 2005 (this currently reflects 25

VOCs). The Trend Test B graphs include all Appendix I and II inorganic detection monitoring and ground water quality parameters (this includes 32 parameters). To facilitate review of the statistically significant trends, graph sets were developed to just show those well/parameter combinations exhibiting either increasing or decreasing trends. These time series graphs are presented in Appendix C along with the other statistical evaluation results. A summary of those wells/parameters showing significant increasing or decreasing concentration trends is provided in Table 9.

As shown on Table 9, five inorganic parameters exhibit significant increasing trends, including bicarbonate alkalinity (MW-13A, MW-13B, MW-35 and MW-34C), sulfate (MW-24), sodium (MW-32), total alkalinity (MW-13A, MW-13B, MW-34C, and MW-35), and dissolved iron (MW-23A) . In addition, twelve inorganic parameters exhibit significant decreasing trends, including dissolved arsenic (MW-19C, MW-24 and MW-34C), dissolved barium (MW-24, MW-29A and MW-36A), specific conductivity (MW-19C, MW-24 and MW-36A), temperature (MW-24), dissolved calcium (MW-24, MW-29A and MW-9), sulfate (MW-13B and MW- 19C), dissolved sodium (MW-19C), dissolved potassium (MW-36A), dissolved iron (MW-19C and MW-24), dissolved manganese (MW-15R and MW-24), ammonia (MW-36A) and TDS (MW-24, MW-33A and MW-36A).

Performance monitoring wells, with the exception of MW-19C and MW-24, exhibited very few significant trends relative to the number of parameters tested, indicating general geochemical system stability. The following significant trends were observed for inorganic/water quality parameters and VOCs: MW-19C decreasing dissolved arsenic, specific conductivity, sulfate, sodium and dissolved iron; MW-23A increasing dissolved iron; MW-24 decreasing dissolved arsenic, dissolved barium, specific conductivity, temperature, dissolved calcium, dissolved iron, dissolved manganese, total dissolved solids and increasing sulfate; MW-23A decreasing vinyl chloride; and MW-24 decreasing vinyl chloride.

Statistical Prediction Limit Evaluations

Statistical prediction limits using data from the upgradient monitoring wells are calculated at the end of each monitoring year to provide updated background concentrations for all Appendix I and II inorganic detection monitoring and ground water quality parameters (a total of 32 parameters). These updated background concentrations are used for detection monitoring purposes via comparison to the most recent parameter concentration for compliance and downgradient monitoring wells.

Table 8 provides a summary of the prediction limit exceedances reported at the OVSL groundwater monitoring as of the end of the 2010 reporting period for the compliance and downgradient wells. Prediction limits for inorganic parameters were exceeded at least once during 2010 in twelve of the groundwater monitoring wells. Wells MW-32, MW-34C, MW-39 and MW-43 reported the largest number of prediction limit exceedances. Prediction limit calculations are presented in Appendix C.

As noted in the above section and shown on Table 9, the following upgradient monitoring wells exhibited statistically significant increasing or decreasing trends over the period for which background prediction limits are calculated: MW-13A and MW-13B (increasing trends for both bicarbonate and total alkalinity). Trends in upgradient monitoring wells are noted because they can impart a bias on the calculated prediction limit for the affected monitoring parameters which, in turn, can affect the number of exceedances identified for those monitoring parameters in compliance and downgradient wells. In the case of bicarbonate and total alkalinity, the increasing trend could impart a positive bias on the calculated prediction limit. However, examination of the time series graphs presented in Appendix C indicates that the noted increasing trends for these parameters in these wells is relatively slight. Therefore, any bias to the prediction limit would be expected to be nominal and not significantly change the number of bicarbonate and total alkalinity exceedances listed on Table 8.

LEACHATE MONITORING RESULTS

Leachate Generation Rates

Leachate volumes generated at the OVSL have been recorded on a weekly basis by SCS Engineers Field Services since 2008. During the 2010 reporting period, approximately 1,619,506 gallons of leachate were reported to have been pumped into the leachate collection pond. Locally, 80.25 inches of precipitation was reported during 2010. This volume is approximately 1,000,000 gallons generated at the site in 2009 (2,658,033 gallons), during which local precipitation totaled 53 inches. These data indicate that ongoing improvements to site maintenance and existing infrastructure have greatly reduced leachate generation rates (per inch precipitation) at the OVSL. In 2010, Waste Management directed a repair of the upper liner in order to divert a larger portion of rainwater away from the landfill. The amounts of leachate produced on a quarterly and annual basis over the last four years is presented on Figure 13**.**

In addition, the liner leak collection/detection system is checked regularly for the presence of any accumulated liquids beneath the OVSL leachate pond. If liquids are present, they are pumped out of the collection system, pass through the LP-LCD monitoring station, and are returned to the leachate pond. The volumes of liquid pumped out of the liner leakage collection system during 2010 are presented on Table 10. As shown on Table 10, approximately 136 gallons of liquid were removed from the collection system during 2010.

Leachate Quality

The results of the December 2010 leachate influent sample (L-INF) analysis are presented along with the groundwater sampling results on Tables 4 and 5. Where the leachate influent and groundwater sample were analyzed for the same Appendix I and II parameters, a comparison was made. The following parameters were found in relatively elevated concentrations in the leachate influent sample:

- Field Parameters: specific conductivity (7.239 mS/cm) and temperature (12.06 ^{o}C).

- General Chemistry Parameters: alkalinity (2,200 mg/L), ammonia (250 mg/L), dissolved calcium (160 mg/L), dissolved magnesium (92 mg/L), dissolved potassium (120 mg/L), dissolved sodium (960 mg/L), chloride (1,000 mg/L), sulfate (320 mg/L), total dissolved solids (3,100 mg/L), and total organic carbon (210 mg/L).
- Metals: barium (0.35 mg/L), chromium (0.018 mg/L), cobalt (0.017 mg/L), nickel (0.1 mg/L), and vanadium (0.017 mg/L).
- Detected VOCs: butyl alcohol, tert (390 ug/L) and tetrahydrofuran (150 ug/L).

The December 2010 leachate influent sample also reported Appendix IV parameter concentrations for BOD (29 mg/L) and COD (600 mg/L). Total coliform were too numerous to count (TNTC), nitrite and total cyanide were not detected above their respective analytical reporting limits

Sample volume was obtained from the LP-LCD monitoring station and submitted for selected Appendix II parameter and total metals analysis during all four quarters of 2010 (Table 4). Field parameter were not available during the 4th quarter of 2010.

LANDFILL GAS MONITORING RESULTS

Landfill gas monitoring results acquired during December 2010 are summarized on Table 11 for both perimeter gas probe and surface structure monitoring locations.

The following discussion identifies areas of subsurface landfill gas in terms of detected methane and/or carbon dioxide (greater than 0.3 percent by volume) and depressed oxygen (less than 20.3 percent by volume). Concentrations of methane and/or carbon dioxide less than 0.4 percent by volume and oxygen greater than 20.3 percent by volume are not considered significant given the sensitivity of the field instrument. These conditions, as well as elevated pressures within the gas probes, represent the potential presence of landfill gas. The values reported are measurements from stabilized sampling conditions after purging at least one probe volume of gas from each sampling zone. It should also be noted that the monitoring results are discussed in terms of gas probe locations, not sampling zones. For example, if methane is detected in the shallow or deep monitoring zone (or both) of one gas probe, the reference is to one probe location.

Gas concentrations and pressures are also influenced by fluctuating barometric pressure. To assist in interpreting data, barometric conditions were recorded prior to and during monitoring. Barometric trends for December 2010 are presented on Figure 14.

Perimeter Gas Probe Results

Methane was not detected above the regulatory standards in any of the gas monitoring probes (the LEL which is equal to 5% methane by volume for gas probes) or in any of the landfill buildings (25% of the LEL for methane in any structures).

Carbon dioxide was detected at all gas probes ranging from 0.4 (GP-13d) to 8.3 percent by volume (GP-7). Carbon dioxide levels appear to be declining in probes GP-13M, and GP-15.

Depressed oxygen levels were reported at all gas probes, ranging from 1.8 (GP-7) to 19.5 percent by volume (GP-13d). Oxygen levels appear to be increasing in probes GP-12S, GP-12D, GP-13M, GP-13D, and GP-15. Relative (static) pressure in the perimeter gas probes ranged from 0.00 to 0.09 inches of water column.

Declines in methane and carbon dioxide levels in the various gas probes as well as the increases in oxygen levels likely reflect changes in the landfill gas extraction system components (e.g., replacement of landfill gas flare and blower station) and changes to landfill gas extraction system operations recently implemented by Waste Management. Appendix E includes tables of historical concentrations of methane, carbon dioxide, and oxygen in the currently monitored gas probes, from March 2007 through the end of the 2010 monitoring year.

Groundwater seepage during the rainy season can submerge the perforated portion of the gas probe pipes and inhibit collection of soil gas in the vadose zone. To determine whether the perforated portion of the gas probes were blocked by water, water level measurements were taken in the deepest sampling zone for each gas probe. The percentage of exposed perforation for each gas probe is shown on Table 11. For the December 2010 reporting period, water was found above the perforated zone at GP-7 and at GP-12d and GP-11d only had 6 percent of perforations exposed due to water levels. These water levels inhibited the collection/measurement of soil gas concentrations at these locations.

Structure Monitoring Results

The landfill gas monitoring for December 2010 showed no presence of methane or carbon dioxide in either the South Slope Well House or the Scale House. Oxygen concentrations at both structures were at ambient to slightly depressed concentrations (19.9 to 20.00 percent by volume).

Barometric Pressure Conditions

Gas concentrations and pressures are influenced by fluctuating barometric pressure. Relative to time, the highest landfill gas concentrations and depressed oxygen concentrations tend to occur shortly after a significantly falling barometric trend. This is due to the affects of the landfill pressures trying to stabilize with the fluctuation in atmospheric (barometric) pressure and the associated lag time for stabilization.

To assist in interpreting data, barometric conditions were recorded prior to and during landfill gas monitoring. The trends for December 2010 are presented on Figure 14. On December 22, landfill gas monitoring was conducted during a period of stable barometric pressure. On December 23, barometric pressure was increasing during monitoring.

5 2010 MONITORING CONCLUSIONS

GROUNDWATER MONITORING

Groundwater Flow

Regional groundwater flow is generally to the west, with hydraulic gradients ranging between 0.016 and 0.051 ft/ft. Groundwater flow velocities across the eastern portion of the OVSL site are estimated to be less (4.24 ft/day to 4.40 ft/day) than those in the western portion of the site (8.27 ft/day to 15.95 ft/day). These velocities measured in 2010 are on the upper end of the ranges reported during previous monitoring periods.

Groundwater Quality

Groundwater monitoring at the OVSL in 2010 returned results which are generally consistent with those reported for previous monitoring periods. Elevated concentrations of certain volatile organic compounds (VOCs), general chemistry parameters, inorganic analytes, and field parameters continue to be detected in the monitoring wells adjacent to the OVSL.

Water quality standards were exceeded for six analytes: pH, arsenic, iron, manganese, ammonia and vinyl chloride. The only primary federal MCL exceedance at the OVSL for the 2010 reporting period was arsenic in well MW-32 during three quarters of the year. The primary MCL for vinyl chloride was not exceeded during the reporting period and has not been exceeded since 2006.

MTCA corrective action monitoring during 2010 reported groundwater cleanup goal exceedances at all 12 compliance and downgradient wells at the OVSL. The most parameter exceedances were reported in compliance wells MW-34C, MW-39, MW-42 and MW-43 and downgradient wells MW-29A and MW-32. Performance wells exhibited a larger number of significant trends than in 2009, most of them decreasing.

The groundwater analytical data, statistical and graphical analyses, and comparison to water quality standards continue to indicate similar conditions to those previously documented during 2005 through 2009, with possible natural attenuation affecting the groundwater quality at the site Prediction limits for inorganic parameters were exceeded in eighteen groundwater monitoring wells. Significantly increasing concentrations trends were reported for some inorganic parameters at five well locations, and, significantly decreasing trends also occurred at twelve well locations. Vinyl chloride reported significantly decreasing trends in performance wells MW-23A and MW-24.

Evidence for Natural Attenuation

Natural attention refers to naturally occurring physical, chemical and biological processes that can reduce concentrations of contaminants. At solid waste landfills, natural attention processes are typically associated with changes in groundwater geochemistry (for example, towards

increasingly anaerobic or reducing conditions) related to the decomposition of waste. These conditions in turn, can promote the microbial degradation of major contaminant groups (such as the reduction of chlorinated VOCs though reductive dechlorination).

The 2010 groundwater monitoring results support the conclusion that natural attention is occurring at the OVSL. Significant areas across and immediately downgradient of the waste cells exhibit an anaerobic and/or reducing geochemistry, especially at those wells showing most elevated contaminant concentration (for example: MW-20 and MW-19C with elevated dissolved iron, vinyl chloride, etc.). The presence of vinyl chloride beneath the west-central portions of the site is consistent with the ongoing reductive dechlorination of precursor compounds (PCE, TCE and DCE isomers). However, further downgradient, along the far western margins of the site, groundwater geochemistry begins to revert towards background conditions (i.e., more aerobic, less reductive) which are more conducive for the microbial degradation of vinyl chloride. This is demonstrated by the absence of VOCs, including vinyl chloride, in downgradient wells MW-33 and MW-36.

Additional evidence for ongoing natural attention at the OVSL is provided by the numerous parameter trends that are decreasing over time. As previously discussed, twelve groundwater wells (over half of those monitored), show significant decreasing trends in at least one analytical parameter. For example, vinyl chloride exhibits a significantly decreasing trend in performance wells MW-23A and MW-24. Given these current and historical trends, natural attenuation at the OVSL can be anticipated to continue throughout the post-closure period.

LANDFILL GAS MONITORING

Methane was not detected above state regulatory standards in any of the gas monitoring probes or in any of the landfill structures. The perimeter probe monitoring results indicate that the facility is in compliance with respect to subsurface landfill gas migration criteria (less than 5% by volume of methane in soil at the property boundary). During recent years, both carbon dioxide and depressed oxygen concentrations in the perimeter probes have been declining, which is consistent with attenuating landfill gas levels at these locations.

Methane was not detected at any of the structural gas monitoring locations during the 2010 reporting period. It should be noted that due to the demolition of on-site buildings during the latter half of 2009, only the South Slope Well House and the Scale House remain present at the OVSL. Going forward, structural landfill gas monitoring will continue for these buildings.

Ongoing improvements (discussed above and in previous reports) to the OVSL landfill gas extraction system and associated infrastructure, which commenced in 2007, have reduced landfill gas levels (as measured by methane, carbon dioxide and depressed oxygen levels) at both perimeter probe and structural monitoring locations. The gas collection system will continue to be monitored and optimized to enhance its performance.

LEACHATE MONITORING

A reduction on the order of 1,000,000 gallons in leachate volume generated at the OVSL was realized in 2010. This demonstrates that infrastructure improvements discussed above have had a significant beneficial impact on the site. Liquid volumes recorded at the LP-LCD monitoring station for the leachate pond leakage collection system indicate that approximately 136 gallons of liquid were returned to the pond in 2010. The low LP-LCD volumes reported during 2010 suggest that leakage through the leachate pond liner system is minimal.

Leachate influent monitoring confirmed the presence of elevated specific conductivity, alkalinity, ammonia, dissolved calcium, dissolved magnesium, dissolved potassium, dissolved sodium, chloride, sulfate, TDS, TOC, COD, total barium, total chromium, total cobalt, total nickel and total vanadium, compared to the 2010 groundwater results for the facility. Total coliform was also high (at too numerous to count (TNTC)). Tert-butyl alcohol and tetrahydrofuran were also reported in the L-INF sample, as they were in 2009. Nitrite and total cyanide were not detected above their respective analytical reporting limits.

The LP-LCD monitoring station was sampled in all four quarters of 2010. This sample reported elevated specific conductivity, alkalinity, ammonia, calcium, chloride, iron, manganese, sodium, sulfate, TDS and TOC compared to the 2010 groundwater results. However, with the exception of sulfate, iron and TDS (September 2010), the LP-LCD parameter concentrations were lower than those reported for the leachate influent. Leakage through the leachate pond liner is unlikely to be adversely impacting groundwater quality, given that only 136 gallons were pumped back into the pond during 2010.

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FIGURES

TABLES

APPENDIX A

FIELD RECORDS

{Appendix A is included on the attached data CD to conserve paper}

APPENDIX B

GROUNDWATER GEOCHEMICAL RESULTS

{Appendix B is included on the attached data CD to conserve paper}

APPENDIX C

STATISTICAL EVALUATION SUMMARY DATA

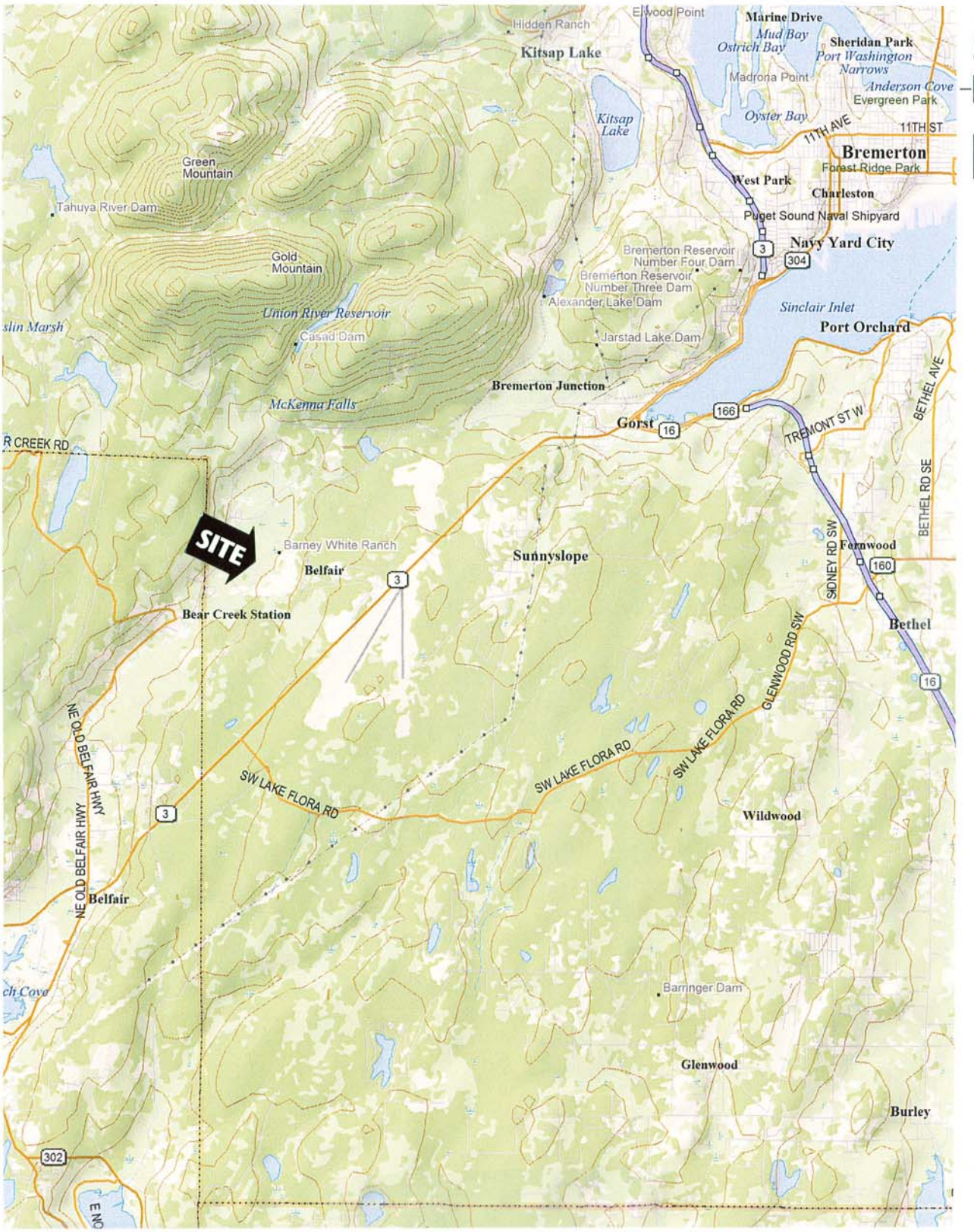
APPENDIX D

LABORATORY DATA REPORTS AND DATA VALIDATION

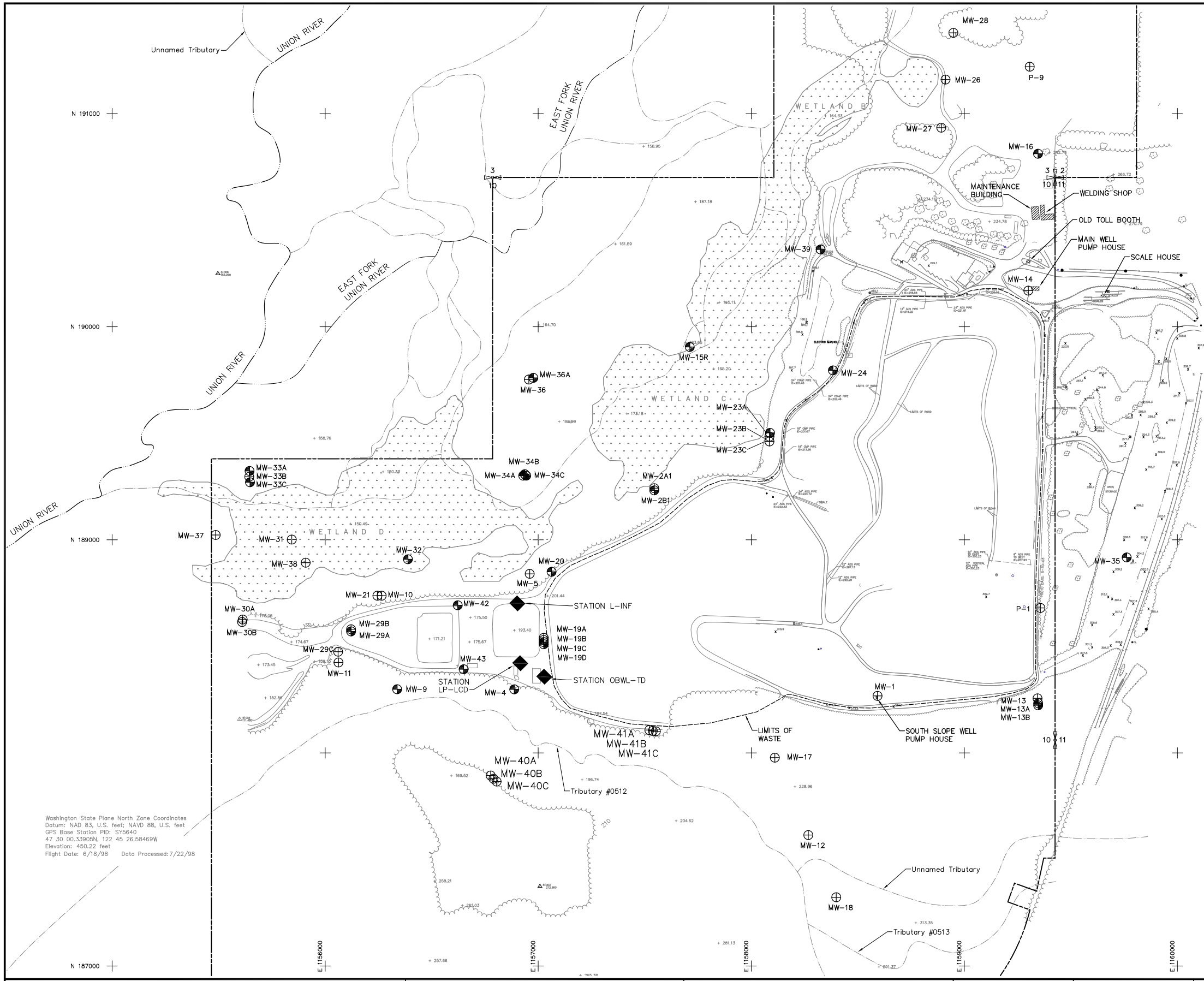
{Appendix D is included on the attached data CD to conserve paper}

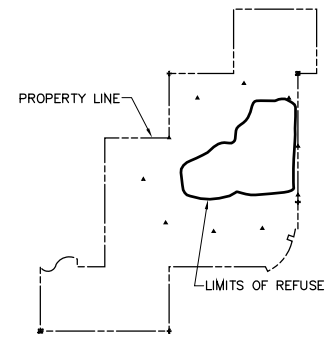
APPENDIX E

HISTORICAL LANDFILL GAS MONITORING RESULTS



SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC. 2405 140TH AVE NE, SUITE 107, BELLEVUE, WA 98005 (425) 746-4600	PROJECT NO. 04204027.00 / DES BY E.D. SCALE 1:100,000 / CHK BY E.D. CAD FILE FIG-FRM1 / APP BY M.V.	SITE LOCATION MAP Olympic View Sanitary Landfill Port Orchard, Washington	DATE July 2005 FIGURE 1





KEY MAP

LEGEND

MW-36	GROUNDWATER MONITORING WELL
MW-36	GROUNDWATER MONITORING WELL – WATER LEVEL ONLY
L-INF	LEACHATE INFLUENT MONITORING STATION
	PROPERTY LINE (ASSUMED)
10	SECTION CENTER (ASSUMED – NOT FOUND)

200 0 200 400
SCALE IN FEET

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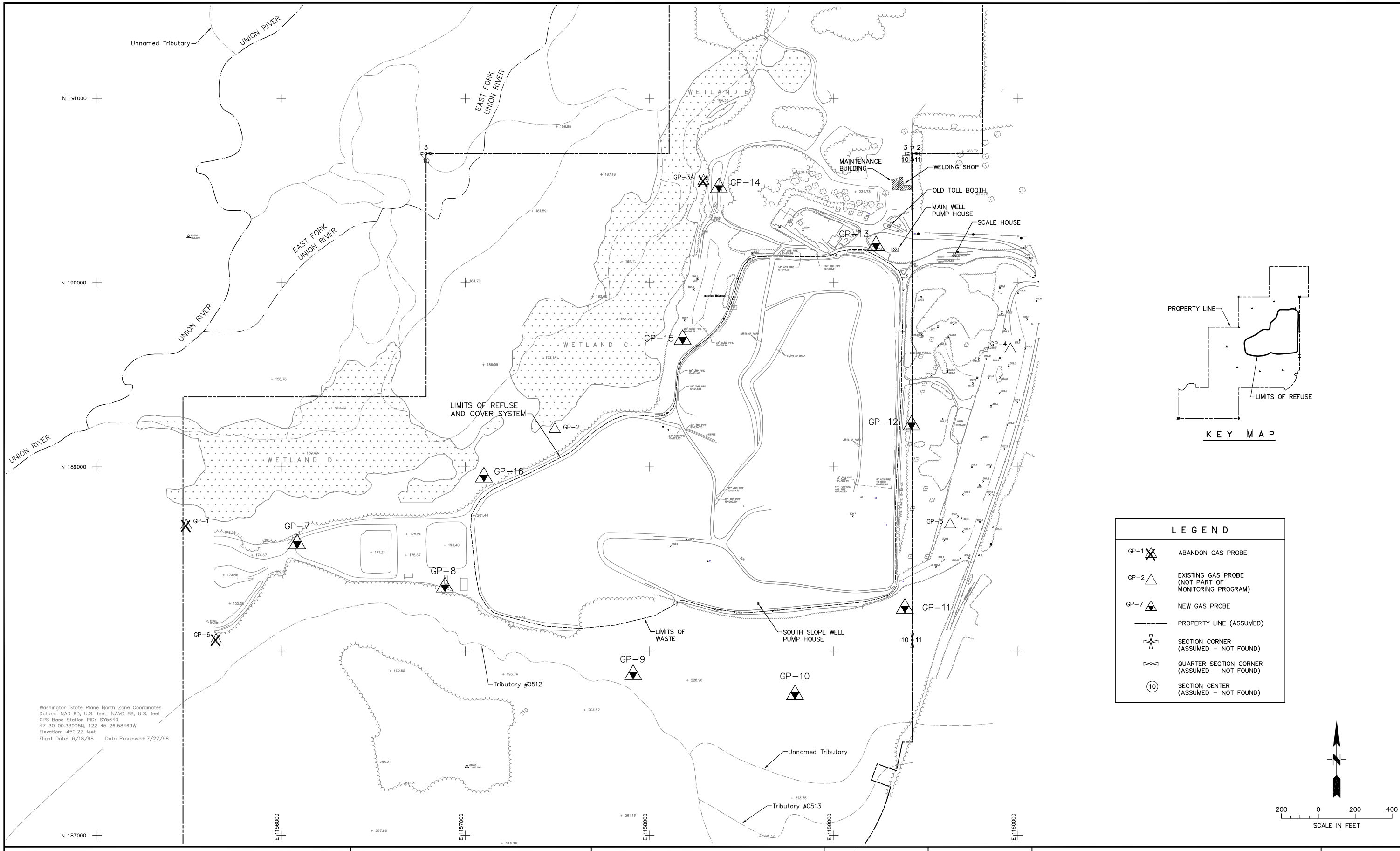
CONSULTING ENGINEERS
2405 140TH AVE NE, SUITE 107, BELLEVUE, WA 98005 (425) 746-4600

PROJECT NO. 04204027.14	DES BY L.L.	GROUNDWATER MONITORING WELL, STORMWATER OUTFALL & LEACHATE MONITORING LOCATIONS OLYMPIC VIEW SANITARY LANDFILL PORT ORCHARD, WASHINGTON	DATE FEBRUARY 2011
SCALE AS SHOWN	CHK BY E.M.		FIGURE 2
CAD FILE FIGURE 2	APP BY D.V.		



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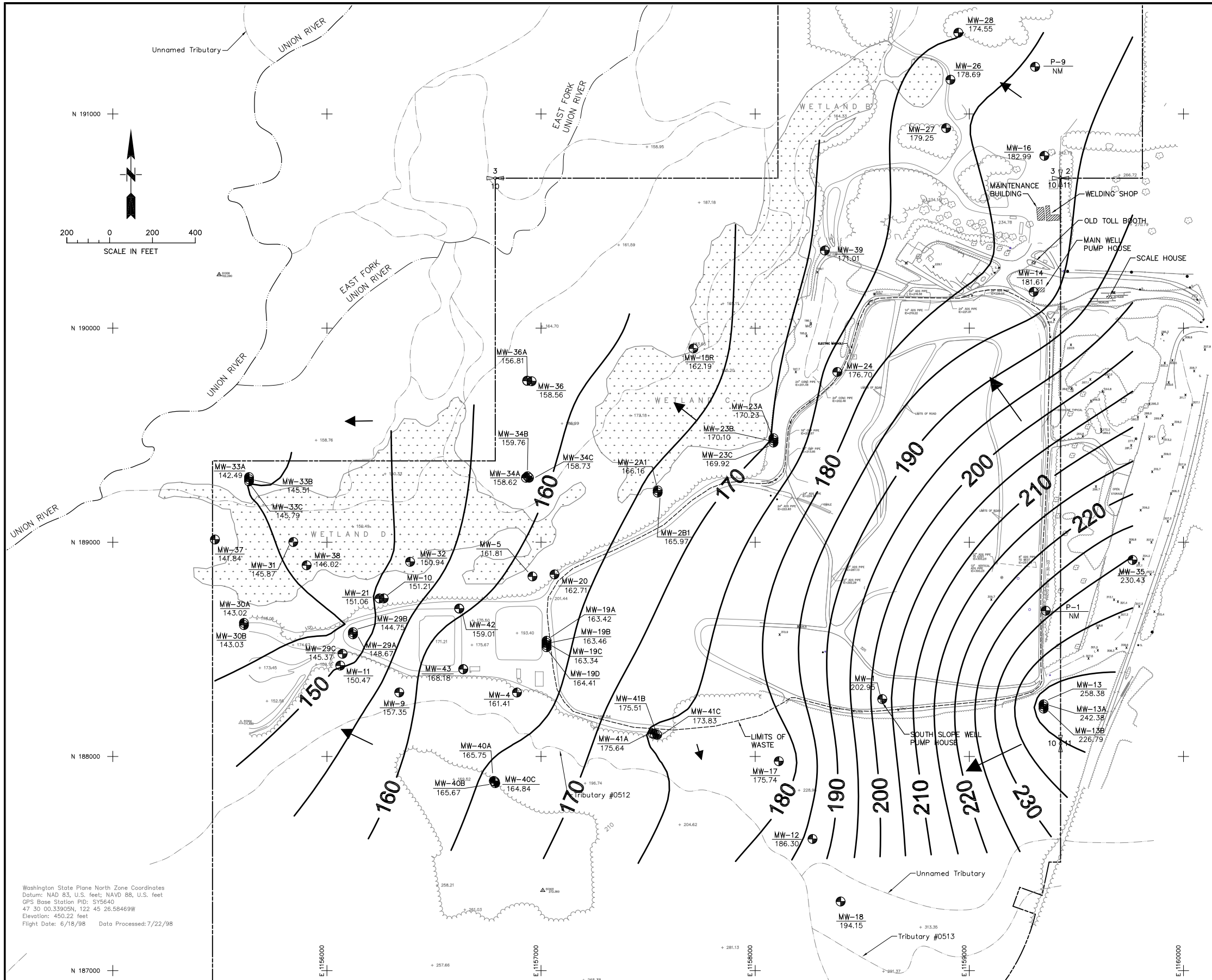
2405 140TH AVE NE, SUITE 107, BELLEVUE, WA 98005 (425) 746-4600

PROJECT NO. 04204027.14	DES BY T.M.
SCALE AS SHOWN	CHK BY E.S.
CAD FILE FIGURE 3	APP BY D.V.

SUBSURFACE GAS MIGRATION MONITORING PROBES AND BUILDING MONITORING LOCATIONS
OLYMPIC VIEW SANITARY LANDFILL
PORT ORCHARD, WASHINGTON

DATE FEBRUARY 2011

FIGURE 3

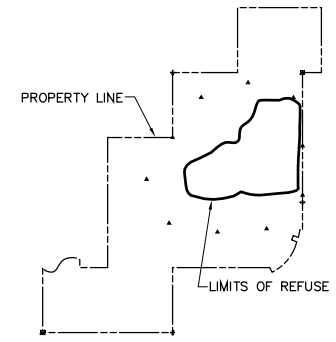


Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98

Note:

Water level contours were generated using depth to water and measuring point elevation data from wells screened between 89 and 200 ft-msl and one stream gauge. The water level elevations for fourteen wells and one stream gauge have not been used to generate contours for the following reasons:

- Wells MW-13, MW-13B, MW-19D, MW-23C, MW-30B, MW-33C, MW-34B, MW-40C, MW-41C, and P-1 have screen elevations outside the 89 to 200 ft-msl range.
- Water levels was not measured at P-9.



KEY MAP

LEGEND

MW-35 230.43	MONITORING WELL — WATER LEVEL ELEVATION, FT-MSL, MARCH 2010
180	ESTIMATED GROUNDWATER ELEVATION CONTOUR IN FEET-MSL CONTOUR INTERVAL = 5 FT
→	GROUNDWATER FLOW DIRECTION

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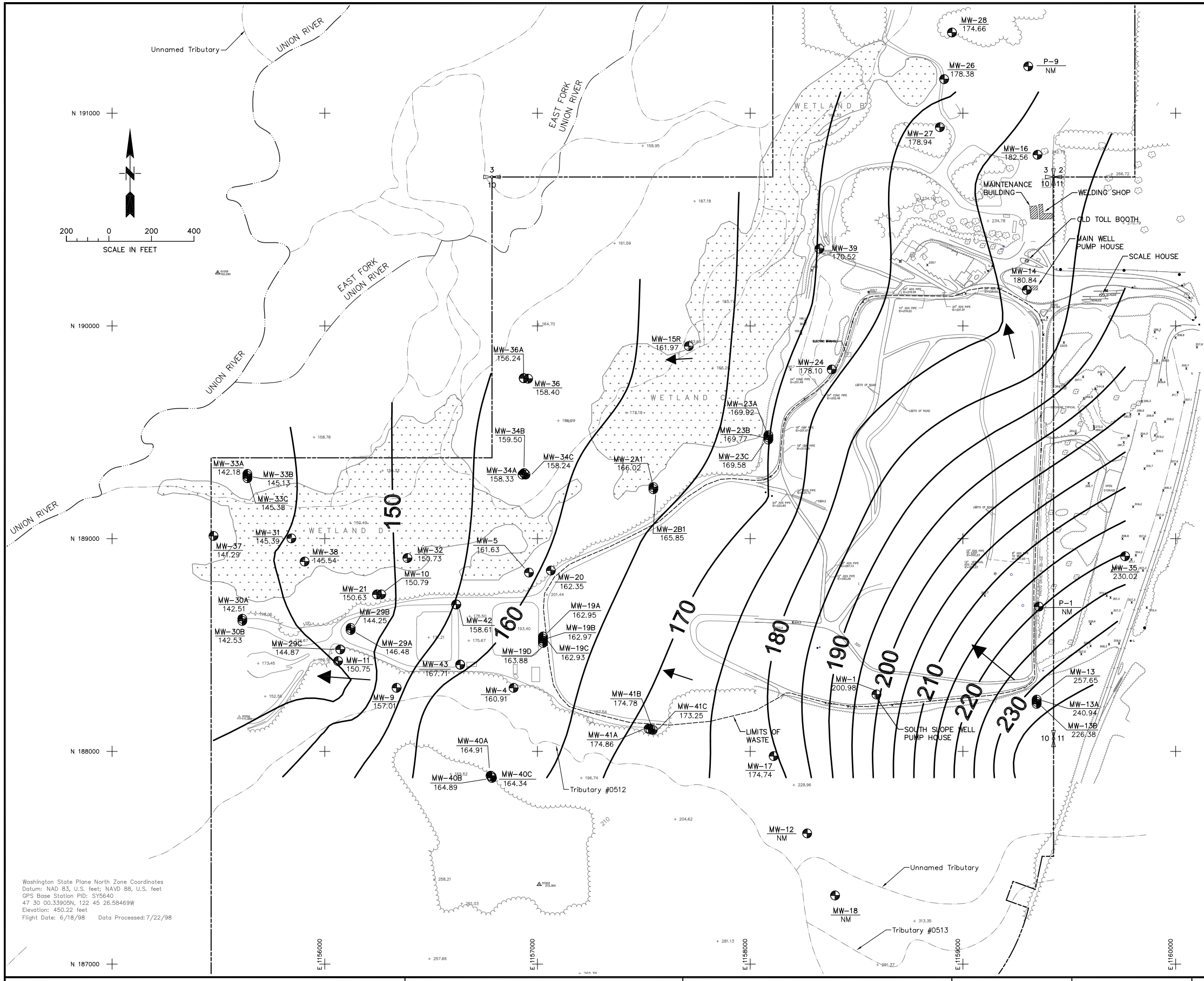
PROJECT NO. 04204027.14	DES BY E.M.
SCALE AS SHOWN	CHK BY D.V.
CAD FILE FIGURE 4	APP BY D.V.

WATER LEVEL CONTOUR MAP MARCH 2010

OLYMPIC VIEW SANITARY LANDFILL
PORT ORCHARD, WASHINGTON

DATE FEBRUARY 2011

FIGURE 4

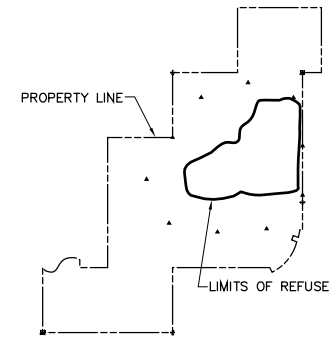


Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98

Note:

Water level contours were generated using depth to water and measuring point elevation data from wells screened between 89 and 200 ft-msl and one stream gauge. The water level elevations for fourteen wells and one stream gauge have not been used to generate contours for the following reasons:

- Wells MW-13, MW-13B, MW-19D, MW-23C, MW-30B, MW-33C, MW-34B, MW-40C, MW-41C, and P-1 have screen elevations outside the 89 to 200 ft-msl range.
- Water levels was not measured at P-9.



KEY MAP

LEGEND

MW-35 230.02	MONITORING WELL WATER LEVEL ELEVATION, FT-MSL, JUNE 2010
180	ESTIMATED GROUNDWATER ELEVATION CONTOUR IN FEET-MSL CONTOUR INTERVAL = 5 FT
	GROUNDWATER FLOW DIRECTION

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CONSULTING ENGINEERS
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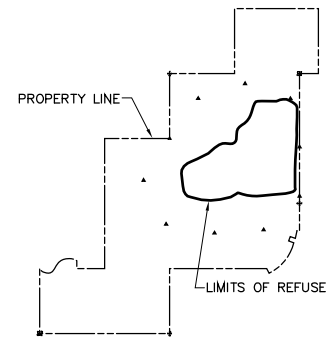
PROJECT NO. 04204027.14	DES BY E.S.	WATER LEVEL CONTOUR MAP JUNE 2010 OLYMPIC VIEW SANITARY LANDFILL PORT ORCHARD, WASHINGTON	DATE FEBRUARY 2011
SCALE AS SHOWN	CHK BY D.V.		FIGURE 5
CAD FILE FIGURE 5	APP BY D.V.		

Note:

Water level contours were generated using depth to water and measuring point elevation data from wells screened between 89 and 200 ft-msl and one stream gauge. The water level elevations for fourteen wells and one stream gauge have not been used to generate contours for the following reasons:

- Wells MW-13, MW-13B, MW-19D, MW-23C, MW-30B, MW-33C, MW-34B, MW-40C, MW-41C, and P-1 have screen elevations outside the 89 to 200 ft-msl range.
- Water levels was not measured at P-9.



KEY MAP

LEGEND

MW-35 / 229.33 — MONITORING WELL
WATER LEVEL ELEVATION, FT-MSL, SEPTEMBER 2010

180 — ESTIMATED GROUNDWATER ELEVATION CONTOUR IN FEET-MSL CONTOUR INTERVAL = 5 FT

GROUNDWATER FLOW DIRECTION

Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98

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CONSULTING ENGINEERS
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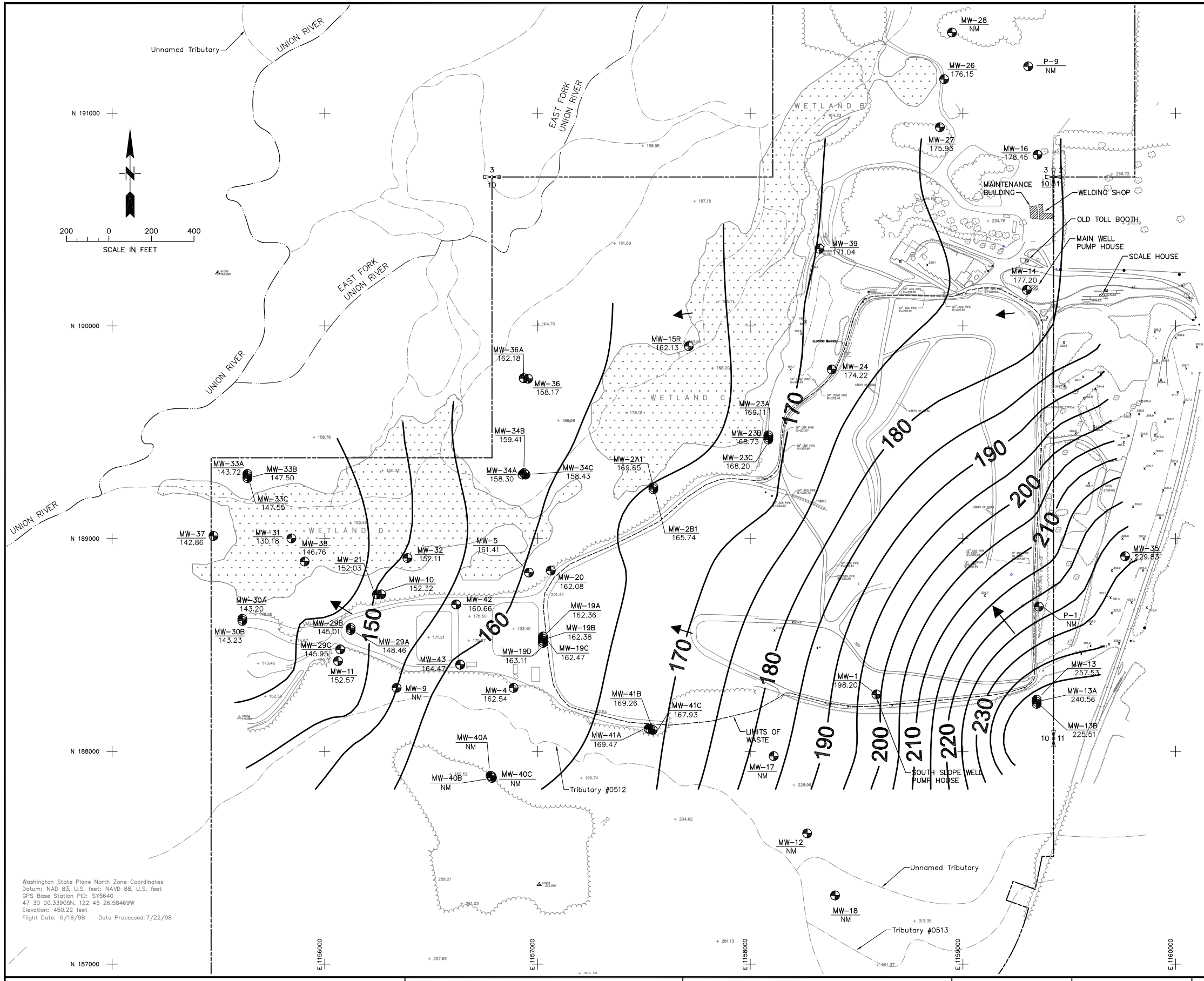
PROJECT NO. 04204027.14	DES BY S.A.	WATER LEVEL CONTOUR MAP SEPTEMBER 2010	DATE FEBRUARY 2011
SCALE AS SHOWN	CHK BY E.M.	OLYMPIC VIEW SANITARY LANDFILL PORT ORCHARD, WASHINGTON	FIGURE 6
CAD FILE FIGURE 6	APP BY D.V.		

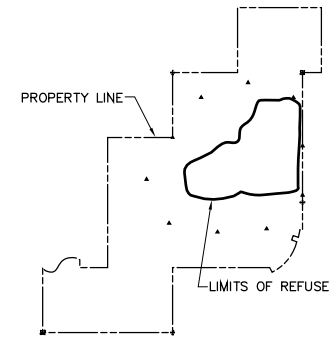


Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98

Note:

Water level contours were generated using depth to water and measuring point elevation data from wells screened between 89 and 200 ft-msl and one stream gauge. The water level elevations for fourteen wells and one stream gauge have not been used to generate contours for the following reasons:

- Wells MW-13, MW-13B, MW-19D, MW-23C, MW-30B, MW-33C, MW-34B, MW-40C, MW-41C, and P-1 have screen elevations outside the 89 to 200 ft-msl range.
- Water levels was not measured at P-9.



KEY MAP

LEGEND

MW-35 229.83	MONITORING WELL — WATER LEVEL ELEVATION, FT-MSL, DECEMBER 2010
180	ESTIMATED GROUNDWATER ELEVATION CONTOUR IN FEET-MSL CONTOUR INTERVAL = 5 FT
	GROUNDWATER FLOW DIRECTION

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CONSULTING ENGINEERS
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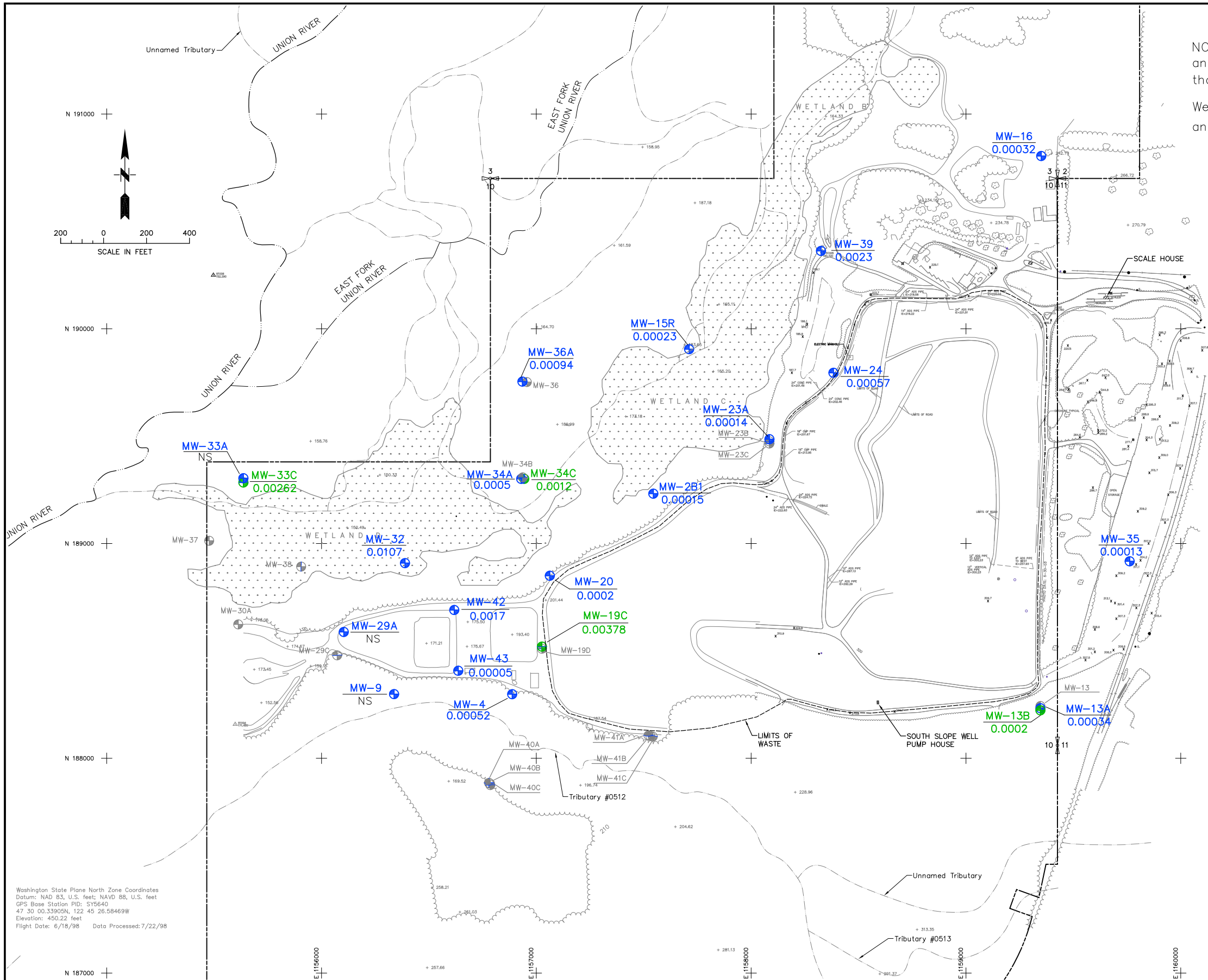
PROJECT NO. 04204027.14	DES BY S.A.
SCALE AS SHOWN	CHK BY E.M.
CAD FILE FIGURE 7	APP BY D.V.

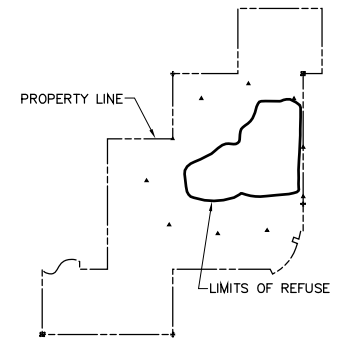
WATER LEVEL CONTOUR MAP
DECEMBER 2010
OLYMPIC VIEW SANITARY LANDFILL
PORT ORCHARD, WASHINGTON

DATE JANUARY 2011
FIGURE 7

NOTES : Analyte concentrations are color coded for deep and shallow groundwater wells. Where concentrations are less than the method detection limit, results are in black text.

Wells MW-29 and MW-33A are only sampled semi-annually and are shown as NS when not sampled.





KEY MAP

Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98

LEGEND

MW-35 0.00016 — SHALLOW MONITORING WELL
DISSOLVED ARSENIC (mg/L), DECEMBER 2010

MW-19C 0.004 — DEEP MONITORING WELL
DISSOLVED ARSENIC (mg/L), DECEMBER 2010

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PROJECT NO. 04204027.14	DES BY S.A.
SCALE AS SHOWN	CHK BY D.V.
CAD FILE FIGURE 8	APP BY D.V.

DISSOLVED ARSENIC CONCENTRATION MAP DECEMBER 2010

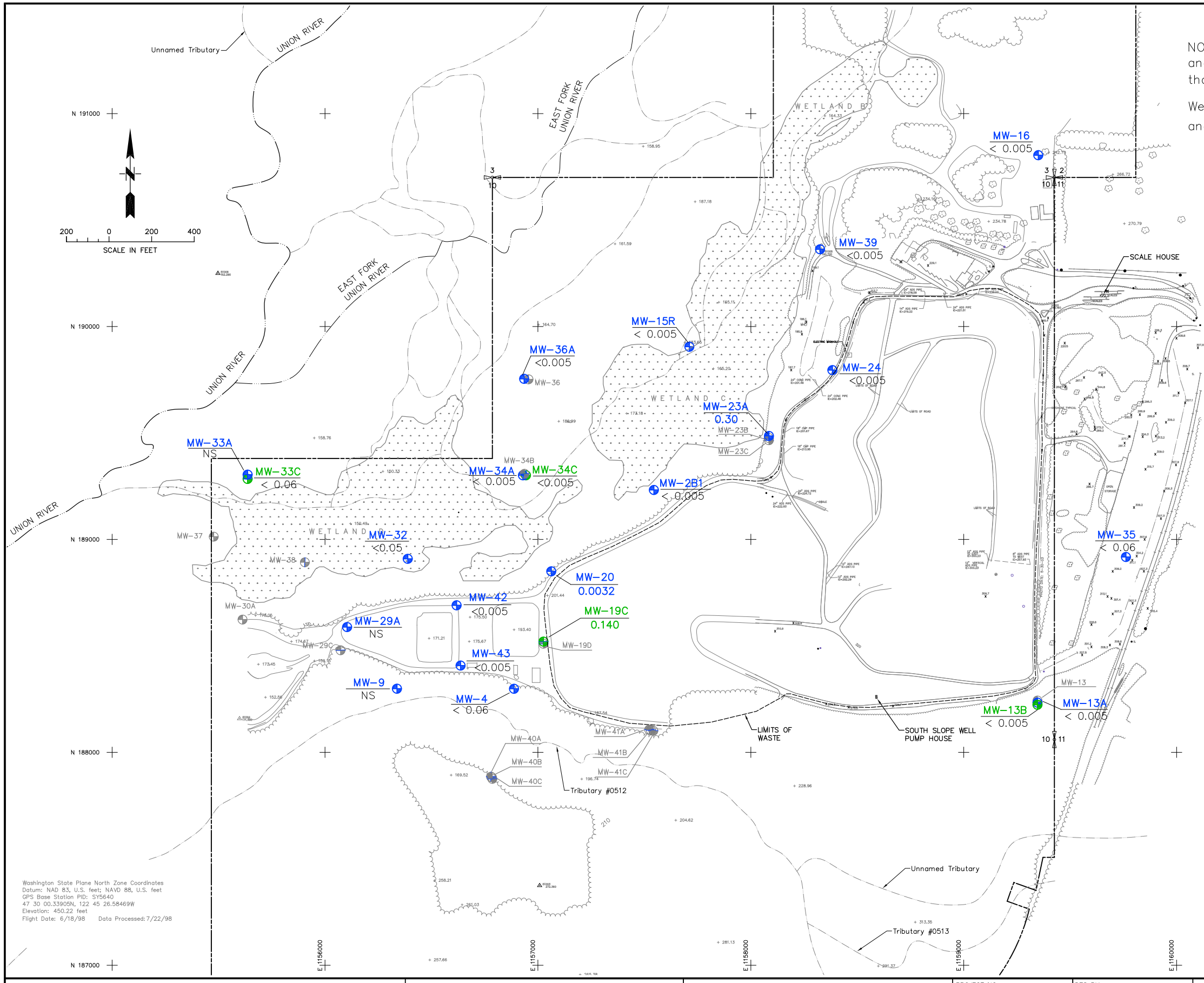
OLYMPIC VIEW SANITARY LANDFILL
PORT ORCHARD, WASHINGTON

DATE JANUARY 2010

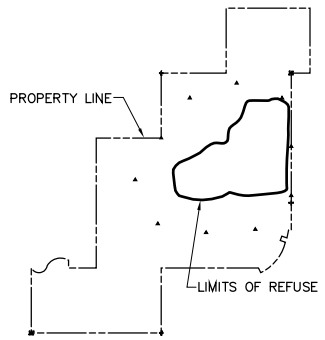
FIGURE 8

NOTES : Analyte concentrations are color coded for deep and shallow groundwater wells. Where concentrations are less than the method detection limit, results are in black text.

Wells MW–29 and MW–33A are only sampled semi–annually and shown as NS when not sampled.



Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98



KEY MAP

LEGEND

MW–24 0.13 — SHALLOW MONITORING WELL
DISSOLVED IRON (mg/L), DECEMBER 2010

MW–19C 0.12 — DEEP MONITORING WELL
DISSOLVED IRON (mg/L), DECEMBER 2010

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PROJECT NO. 04204027.14	DES BY S.A.
SCALE AS SHOWN	CHK BY D.V.
CAD FILE FIGURE 9	APP BY D.V.

DISSOLVED IRON CONCENTRATION MAP DECEMBER 2010

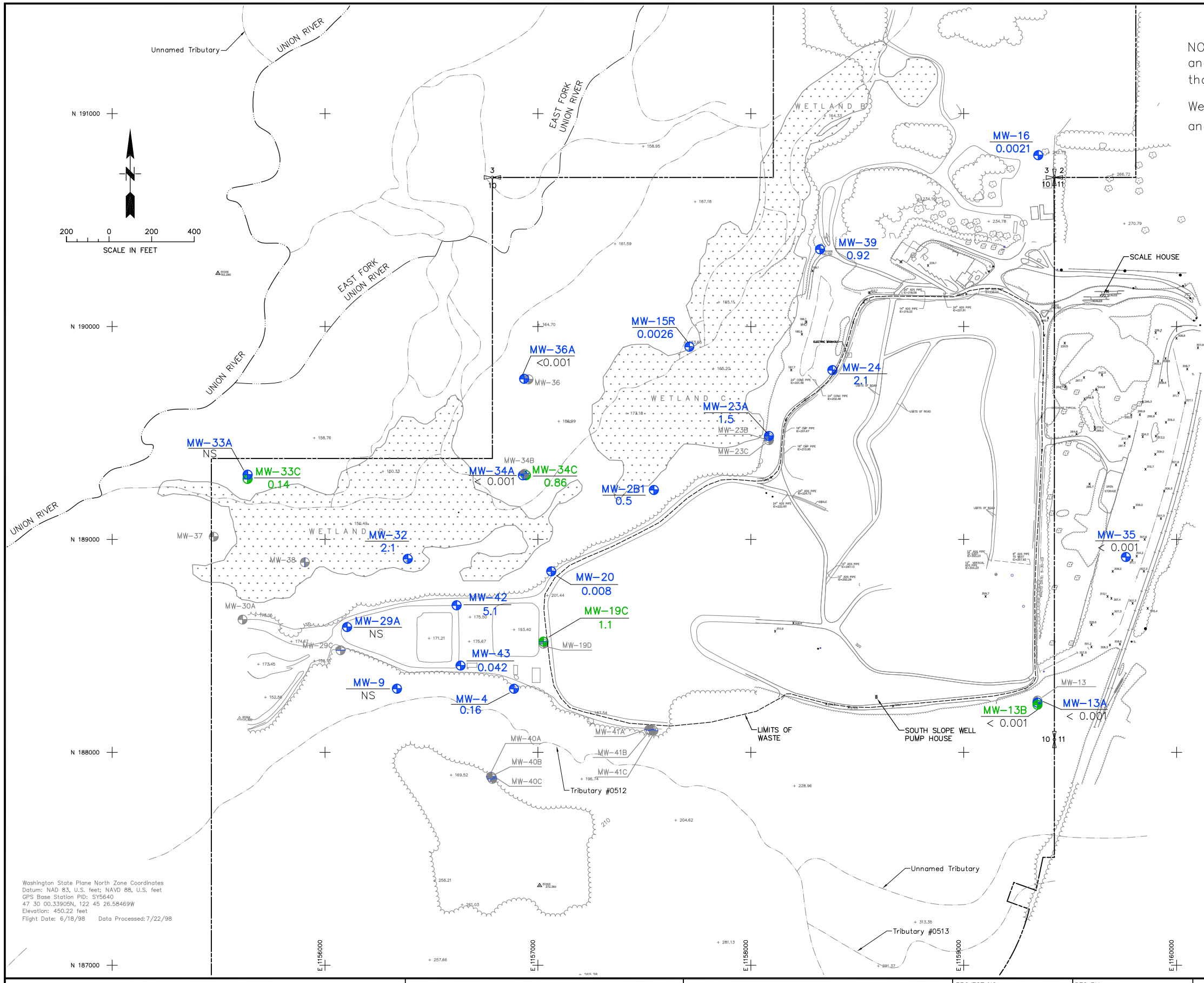
OLYMPIC VIEW SANITARY LANDFILL
PORT ORCHARD, WASHINGTON

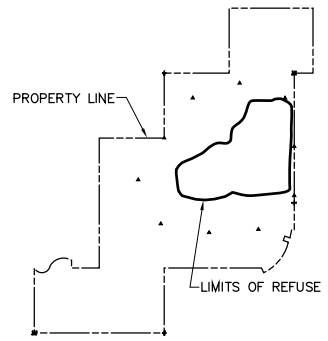
DATE JANUARY 2011

FIGURE 9

NOTES : Analyte concentrations are color coded for deep and shallow groundwater wells. Where concentrations are less than the method detection limit, results are in black text.

Wells MW–29 and MW–33A are only sampled semi–annually and shown as NS when not sampled.





KEY MAP

Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98

LEGEND

MW–16 0.0067	SHALLOW MONITORING WELL DISSOLVED MANGANESE (mg/L), DECEMBER 2010
MW–19C 1.1	DEEP MONITORING WELL DISSOLVED MANGANESE (mg/L), DECEMBER 2010

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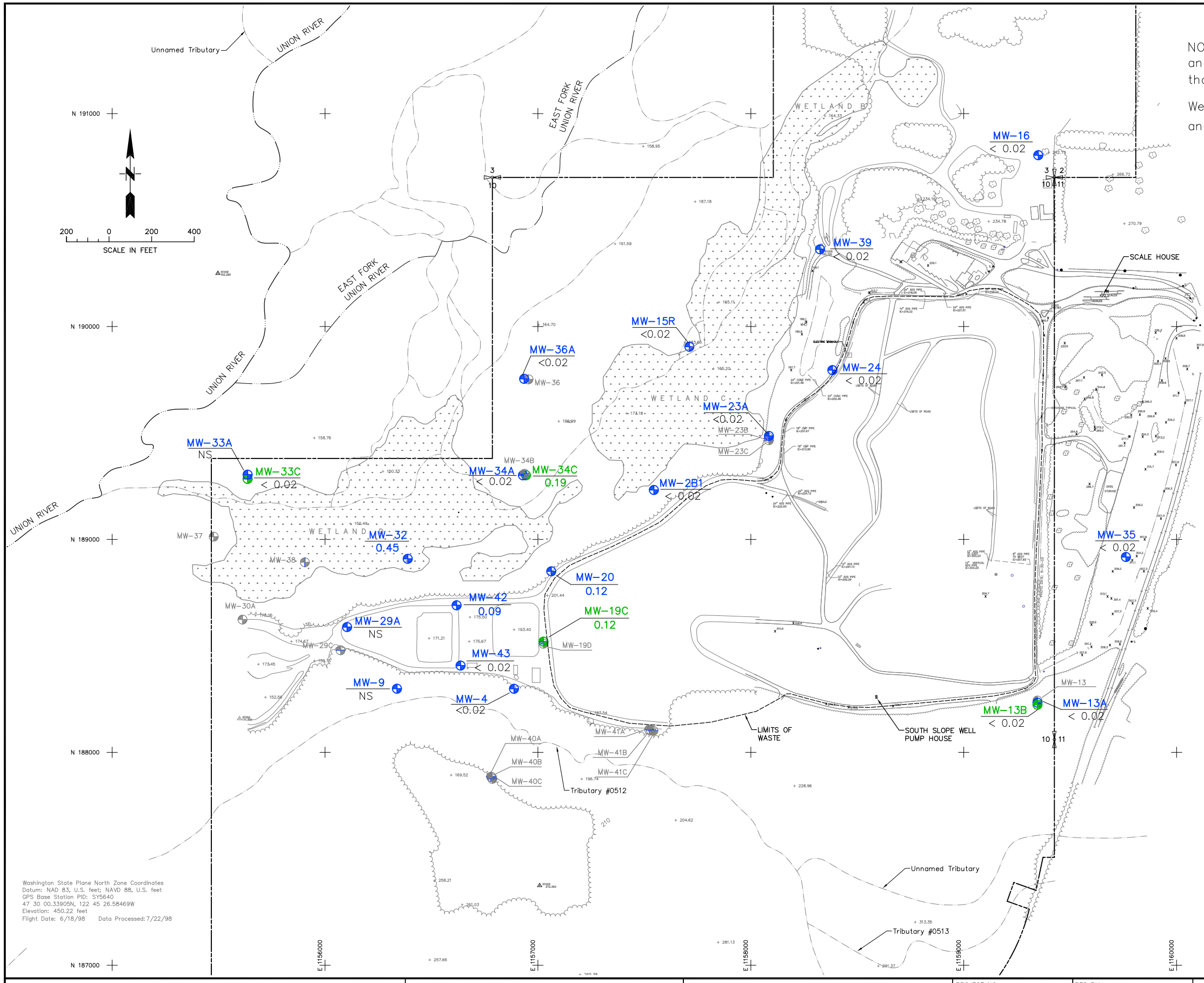
PROJECT NO. 04204027.14	DES BY S.A.	DISSOLVED MANGANESE CONCENTRATION MAP DECEMBER 2010	DATE JANUARY 2011
SCALE AS SHOWN	CHK BY D.V.	OLYMPIC VIEW SANITARY LANDFILL PORT ORCHARD, WASHINGTON	FIGURE 10
CAD FILE FIGURE 10	APP BY D.V.		

NOTES : Analyte concentrations are color coded for deep and shallow groundwater wells. Where concentrations are less than the method detection limit, results are in black text.

Wells MW–29 and MW–33A are only sampled semi–annually and shown as NS when not sampled.



Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98

LEGEND

MW–32 0.49	SHALLOW MONITORING WELL VINYL CHLORIDE (ug/L), DECEMBER 2010
MW–19C 0.09	DEEP MONITORING WELL VINYL CHLORIDE (ug/L), DECEMBER 2010

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PROJECT NO. 04204027.14	DES BY S.A.
SCALE AS SHOWN	CHK BY D.V.
CAD FILE FIGURE 11	APP BY D.V.

VINYL CHLORIDE CONCENTRATION MAP DECEMBER 2010

OLYMPIC VIEW SANITARY LANDFILL
PORT ORCHARD, WASHINGTON

DATE JANUARY 2011

FIGURE 11

Figure 12. Historic OVSL Groundwater Elevations

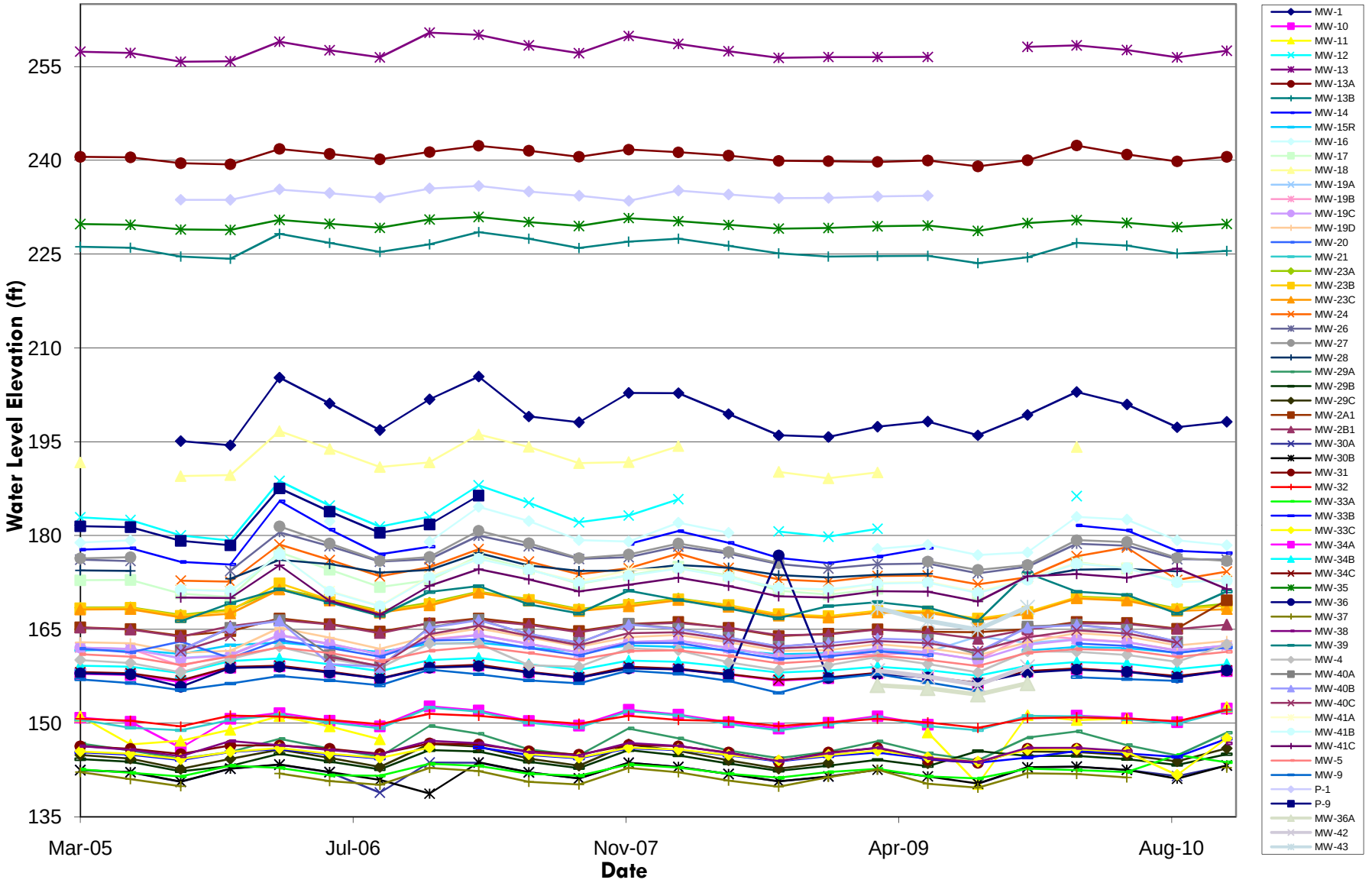


Figure 13: Leachate Generation at OVSL, 2007-2010

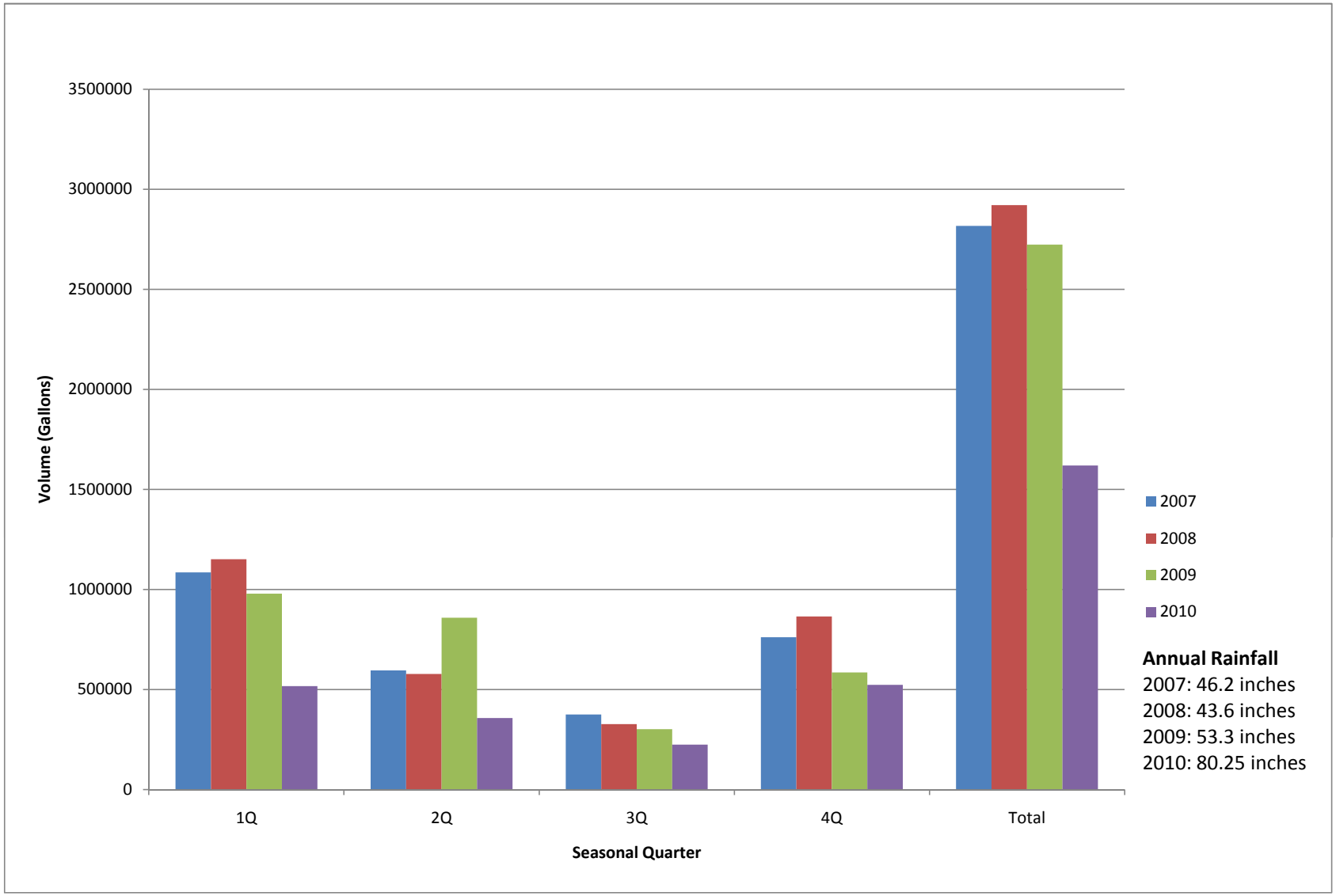
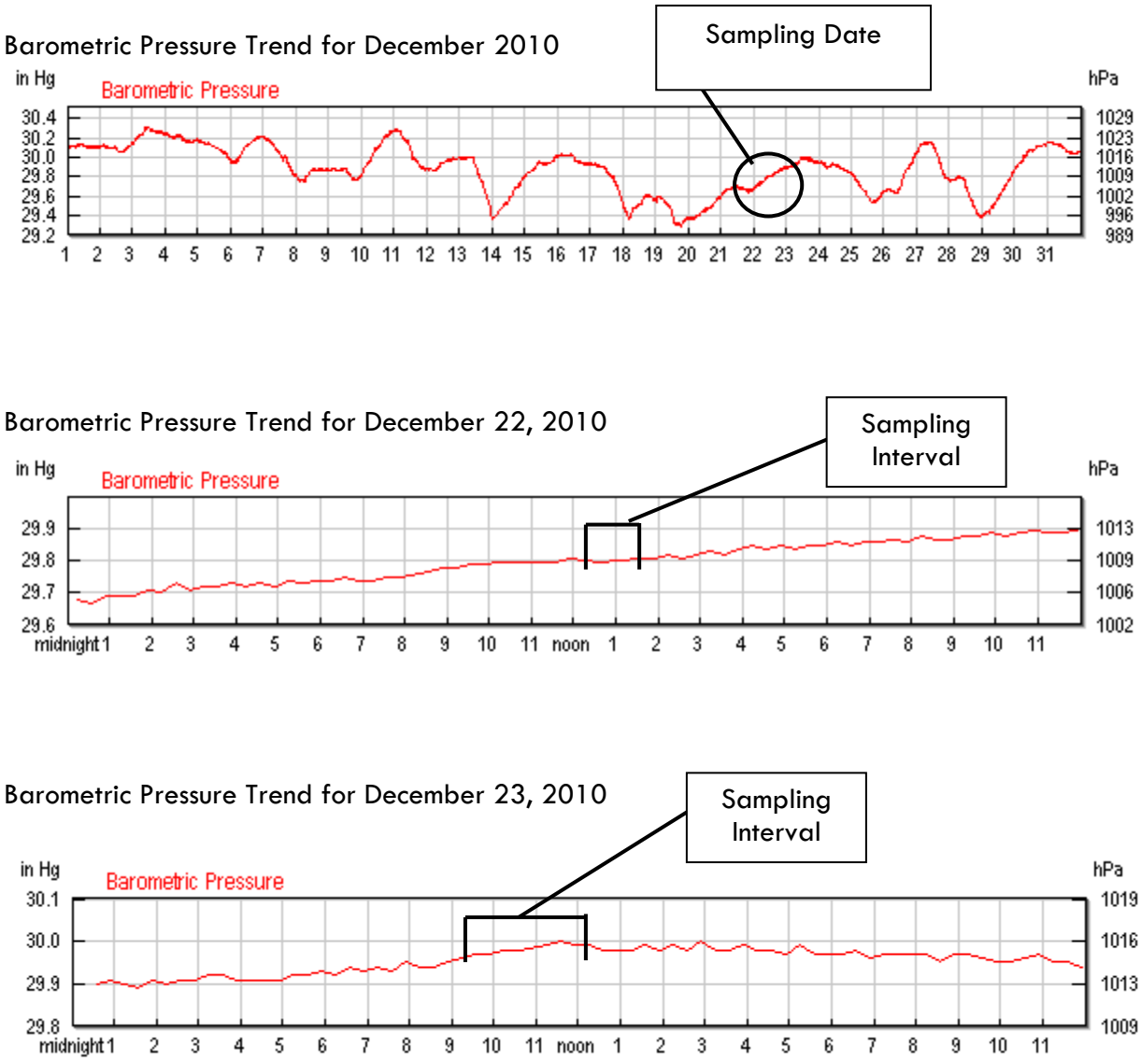


Figure 14.

Barometric Pressure Trend for December 2010
Olympic View Sanitary Landfill
Landfill Gas Migration Monitoring



Source: Bremerton National Airport, Station KPWT
Latitude 47.5, Longitude 122.75, Elevation 482 ft-AMSL

Table 1. Groundwater Well Construction Data, Olympic View Sanitary Landfill

Well ID	Northing	Easting	Reference Elevation (ft-msl)	Total Depth (ft-bgs)	Top of Screen Elevation (ft-msl)	Bottom of Screen Elevation (ft-msl)	Screen Length (ft)
Sampled Wells							
MW-2B1	189232.23	1157544.63	172.94	18	163	153	10
MW-4	188298.52	1156887.57	175.78	34	149	139	10
MW-9	188298.84	1156337.75	160.34	24	140	135	5
MW-13A	188233.33	1159346.53	288.74	155	141	131	10
MW-13B	188223.33	1159346.53	288.66	260	36	26	10
MW-15R	189905.03	1157711.29	180.66	33	157	147	10
MW-16	190804.53	1159350.37	240.01	70	178	168	10
MW-19C	188520.03	1157025.96	196.96	90	111	106	5
MW-20	188850.01	1157062.68	198.41	49	165	150	15
MW-23A	189485.84	1158085.12	182.28	23	172	157	15
MW-24	189795.14	1158383.22	208.24	42	176	161	15
MW-29A	188570.27	1156121.60	160.21	25	140	135	5
MW-32	188908.88	1156388.52	152.36	21	135	130	5
MW-33A	189304.18	1155636.34	147.68	20	140	125	15
MW-33C	189284.18	1155636.34	147.59	65	89	79	10
MW-34A	189391.16	1156929.63	197.95	48	168	148	20
MW-34C	189391.16	1156943.77	199.89	98	114	99	15
MW-35	188917.42	1159762.03	302.69	149	161	151	10
MW-36A	188690.50	1156617.90	187.43	33	159	154	5
MW-39	190362.60	1158325.32	189.92	25	174	164	10
MW-42	188407.60	1156636.60	186.42	30	161	156	5
MW-43	189754.10	1156935.20	192.68	50	147	142	5
Locations for Water Level Measurement Only							
MW-1	188267.80	1158593.35	273.63	180	NA	NA	NA
MW-2A1	189242.23	1157544.63	174.22	38	143	133	10
MW-5	188840.50	1156959.90	164.37	14	159.5	149.5	10
MW-10	188737.81	1156265.18	155.12	17.5	142	137	5
MW-11	188424.54	1156062.42	155.04	22	137	132	5
MW-12	187614.62	1158267.67	233.09	70	183	163	20
MW-13	188243.33	1159346.53	288.94	40	256	246	10
MW-14	190169.37	1159300.21	228.22	80	151	146	5
MW-17	187977.80	1158110.35	208.01	54	163	153	10
MW-18	187322.70	1158398.81	258.34	75	199	184	15
MW-19A	188540.03	1157025.96	195.74	45.5	165	150	15
MW-19B	188530.03	1157025.96	195.82	59.5	146	136	10
MW-19D	188510.03	1157025.96	196.83	143	61	51	10
MW-21	188737.81	1156245.18	156.03	15	150	140	10
MW-23B	189475.84	1158085.12	182.42	60	130	120	10
MW-23C	189465.84	1158085.12	182.41	114	76	66	10
MW-26	191159.90	1158911.65	189.73	25.5	178	163	15
MW-27	190934.05	1158891.56	200.65	32.5	182	167	15
MW-28	191379.07	1158948.49	181.05	15	174.5	164.5	10
MW-29B	188580.27	1156121.60	161.69	65	110	95	15
MW-29C	188479.36	1156072.97	156.92	50	111	106	5
MW-30A	188623.50	1155612.45	166.74	35	136	131	5
MW-29B	188580.27	1156121.60	161.69	65	110	95	15
MW-30B	188613.50	1155612.45	166.6	86	84	79	5
MW-31	189001.26	1155843.17	148.28	20	136	126	10
MW-33B	189294.18	1155636.34	147.55	40	114	104	10
MW-34B	189308.15	1156936.77	198.93	208	-1	-11	10
MW-36	189751.87	1156955.77	189.39	100	99	89	10
MW-37	189012.89	1155477.10	145.93	9	139	134	5
MW-38	188892.50	1155905.23	149.93	47	110	101	10
MW-40A	187885.89	1156779.45	180.16	24.4	160	155	5
MW-40B	187882.31	1156784.38	180.24	67	118	113	5
MW-40C	187875.42	1156785.79	181.16	103.7	82	77	5
MW-41A	188106.83	1157522.05	199.43	35.7	168	163	5
MW-41B	188104.34	1157530.68	200.64	79	126	121	5
MW-41C	188101.13	1157541.93	199.67	117	87	82	5
P-1	188680.42	1159357.03	281.66	57.5	232	224	7.5
P-9	191220.13	1159306.83	211.34	36	179	174	5

NA: screened interval information was not available for well MW-1.

+ : Remedial Investigation Monitoring Locations

Table 2. Summary of 2010 Analytical Parameters, Olympic View Sanitary Landfill

Well	Volatile Organic Compounds		Appendix I Metals and Nitrate	Appendix II Field Parameters	Appendix II Geochemical Indicator Parameters	Appendix II Leachate Indicator Parameters	WAC 173-351 Appendix IV
	WAC 173-351 Appendix I	Vinyl Chloride (SIM)	As, Sb, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, Tl, V, Zn, NO_3	Dissolved Oxygen, Eh, pH, Specific Conductivity, Temperature	Cl, Fe, Mn, SO_4, Ca, Mg, Na, K, Alkalinity	Ammonia, TOC, TDS	Coilform, COD, BOD, Nitrite, Cyanide
Upgradient Monitoring Locations							
MW-13A	•	•	•	•	•	•	
MW-13B							
MW-16							
MW-35							
Compliance Monitoring Locations							
MW-15-R	•	•	•	•	•	•	
MW-34A							
MW-34C							
MW-39							
MW-42							
MW-43							
Downgradient Monitoring Locations							
MW-9	•	•	•	•	•	•	
MW-29A							
MW-32							
MW-33A							
MW-33C							
MW-36A							
Performance Monitoring Locations							
MW-2B1	•	•	•	•	•	•	
MW-4							
MW-19C							
MW-20							
MW-23A							
MW-24							
Leachate Monitoring Locations							
L-INF	×		×	×	×	×	×
OBWL-TD							
LP-LCD				×	×	×	

• Indicates enitre group of wells was sampled.

× Indicates specific wells/stations that were sampled.

OBWL-TD did not contain samplable volumes of liquid during 2010.

Table 3. 2010 Water Level Elevations, Groundwater Monitoring Wells
Olympic View Sanitary Landfill

Location ID	MPE	Mar-10		Jun-10		Sep-10		Dec-10	
		DTW	WLE	DTW	WLE	DTW	WLE	DTW	WLE
MW-1	273.63	70.68	202.95	72.65	200.98	76.32	197.31	75.43	198.20
MW-10	155.12	3.91	151.21	4.33	150.79	4.98	150.14	2.80	152.32
MW-11	155.04	4.57	150.47	4.29	150.75	NM	NM	2.47	152.57
MW-12	233.09	46.79	186.30	NM	NM	NM	NM	NM	NM
MW-13	288.94	30.56	258.38	31.29	257.65	32.47	256.47	31.41	257.53
MW-13A	288.74	46.36	242.38	47.80	240.94	48.90	239.84	48.18	240.56
MW-13B	288.66	61.87	226.79	62.28	226.38	63.56	225.10	63.15	225.51
MW-14	228.22	46.61	181.61	47.38	180.84	50.67	177.55	51.02	177.20
MW-15R	180.66	18.47	162.19	18.69	161.97	19.41	161.25	18.53	162.13
MW-16	240.01	57.02	182.99	57.45	182.56	60.79	179.22	61.56	178.45
MW-17	208.01	32.27	175.74	33.27	174.74	NM	NM	NM	NM
MW-18	258.34	64.19	194.15	NM	NM	NM	NM	NM	NM
MW-19A	195.74	32.32	163.42	32.79	162.95	34.11	161.63	33.38	162.36
MW-19B	195.82	32.36	163.46	32.85	162.97	34.17	161.65	33.44	162.38
MW-19C	196.96	33.62	163.34	34.03	162.93	35.41	161.55	34.49	162.47
MW-19D	196.83	32.42	164.41	32.95	163.88	34.41	162.42	33.72	163.11
MW-20	198.41	35.70	162.71	36.06	162.35	37.21	161.20	36.33	162.08
MW-21	156.03	4.97	151.06	5.40	150.63	6.16	149.87	4.00	152.03
MW-23A	182.28	12.05	170.23	12.36	169.92	13.97	168.31	13.17	169.11
MW-23B	182.42	12.32	170.10	12.65	169.77	14.22	168.20	13.69	168.73
MW-23C	182.41	12.49	169.92	12.83	169.58	14.48	167.93	14.21	168.20
MW-24	208.25	31.55	176.70	30.15	178.10	35.35	172.90	34.03	174.22
MW-26	189.73	11.04	178.69	11.35	178.38	13.52	176.21	13.58	176.15
MW-27	200.65	21.40	179.25	21.71	178.94	24.22	176.43	24.72	175.93
MW-28	181.05	6.50	174.55	6.39	174.66	6.78	174.27	NM	NM
MW-29A	160.21	11.54	148.67	13.73	146.48	15.39	144.82	11.75	148.46
MW-29B	161.69	16.94	144.75	17.44	144.25	18.38	143.31	16.68	145.01
MW-29C	156.92	11.55	145.37	12.05	144.87	13.04	143.88	10.97	145.95
MW-2A1	174.22	8.06	166.16	8.20	166.02	9.12	165.10	4.57	169.65
MW-2B1	172.94	6.97	165.97	7.09	165.85	7.89	165.05	7.20	165.74
MW-30A	166.74	23.72	143.02	24.23	142.51	25.22	141.52	23.54	143.20
MW-30B	166.60	23.57	143.03	24.07	142.53	25.50	141.10	23.37	143.23
MW-31	148.28	2.41	145.87	2.89	145.39	NM	NM	18.10	130.18
MW-32	152.36	1.42	150.94	1.63	150.73	2.06	150.30	0.25	152.11
MW-33A	147.68	5.19	142.49	5.50	142.18	2.77	144.91	3.96	143.72
MW-33B	147.55	2.04	145.51	2.42	145.13	2.96	144.59	0.05	147.50
MW-33C	147.59	1.80	145.79	2.21	145.38	5.88	141.71	0.04	147.55
MW-34A	197.95	39.33	158.62	39.62	158.33	40.56	157.39	39.65	158.30
MW-34B	198.93	39.17	159.76	39.43	159.50	40.32	158.61	39.52	159.41
MW-34C	199.89	41.16	158.73	41.65	158.24	42.38	157.51	41.46	158.43
MW-35	302.69	72.26	230.43	72.67	230.02	73.36	229.33	72.86	229.83
MW-36	189.39	30.83	158.56	31.19	158.20	32.09	157.30	30.97	158.42
MW-36A	187.43	30.62	156.81	30.99	156.44	NM	NM	31.22	156.21
MW-37	145.93	4.09	141.84	4.64	141.29	NM	NM	3.07	142.86
MW-38	149.93	3.91	146.02	4.39	145.54	NM	NM	3.17	146.76
MW-39	189.92	18.91	171.01	19.40	170.52	22.41	167.51	18.88	171.04
MW-4	175.78	14.37	161.41	14.87	160.91	15.99	159.79	13.24	162.54
MW-40A	180.15	14.40	165.75	15.24	164.91	17.14	163.01	NM	NM
MW-40B	180.24	14.57	165.67	15.35	164.89	17.21	163.03	NM	NM
MW-40C	180.30	15.46	164.84	15.96	164.34	17.46	162.84	NM	NM
MW-41A	199.43	23.79	175.64	24.57	174.86	26.79	172.64	26.44	172.99
MW-41B	199.76	24.25	175.51	24.98	174.78	27.21	172.55	26.98	172.78
MW-41C	199.67	25.84	173.83	26.42	173.25	24.94	174.73	28.22	171.45
MW-42	186.42	27.41	159.01	27.81	158.61	28.90	157.52	27.10	159.32
MW-43	192.68	24.50	168.18	24.97	167.71	25.95	166.73	22.10	170.58
MW-5	164.37	2.56	161.81	2.74	161.63	3.78	160.59	2.96	161.41
MW-9	160.34	2.99	157.35	3.33	157.01	3.61	156.73	NM	NM

DTW Depth to Water (ft)

MPE Measuring Point Elevation (ft-msl)

WLE Water Level Elevation (ft-msl)

NM Not monitoring because well could not be accessed during event.

Please Note: MPE for well MW-1 is approximate ground surface elevations (not top of casing elevation).

Table 4. 2010 Groundwater, Leachate Influent (L-INF) and Leak Detection (LP-LCD) Analytical Results and Field Parameters, OVSL

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-13A	Field Parameter	Dissolved Oxygen	9.19	7.74	8.94	7.83
		eH	84.7	67.9	104	38.7
		pH	6.96	6.99	6.78	7.48
		Specific Conductivity	0.093	0.145	0.17	0.07
		TEMPERATURE	9.22	9.58	9.42	9.45
		Turbidity	0.31	0.29	1.92	0.17
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	86	86	96	82
		Alkalinity, Total (As CaCO3)	86	86	96	82
		Ammonia (As N)	0.046		0.049	0.061 B
		Calcium, Dissolved	16	15	15	16
		Chloride	2.2	2.6	2.8	2.9
		Magnesium, Dissolved	8.7	9.7	9.4	8.1
		Nitrate (As N)	0.48	0.47	0.51	0.49
		Sodium, Dissolved	6.1 B	5.7	5	5.2
		Sulfate	2.3	2.1	2.3	3.7
		Total Dissolved Solids (TDS)	100	120	98	90
	Metals (mg/L)	Arsenic, Dissolved	0.0002	0.00021	0.00021	0.00034
		Barium, Dissolved	0.0031		0.0028	0.0044
		Chromium, Dissolved				0.0032
		Vanadium, Dissolved	0.0039	0.0038	0.0038	0.0058

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-13B	Field Parameter	Dissolved Oxygen	10.06	8.28	9.95	7.11
		eH	64.1	75	135.9	39.7
		pH	7.49	7.27	7.11	7.05
		Specific Conductivity	0.09	0.141	0.162	0.073
		TEMPERATURE	9.23	9.97	9.6	9.25
		Turbidity	0.5	0.11	1.09	0.11
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	81	80	81	88
		Alkalinity, Total (As CaCO3)	81	80	81	88
		Ammonia (As N)	0.044		0.045	0.052 B
		Calcium, Dissolved	17	16	16	16
		Chloride	2.5	2.8	3	2.5
		Magnesium, Dissolved	8.1	8.7	8.3	9.3
		Nitrate (As N)	0.46	0.45	0.48	0.5
		Sodium, Dissolved	5.3 B	5.3	4.8	5.6
		Sulfate	3.9	3.6	3.8	2.4
		Total Dissolved Solids (TDS)	100	110	94	94
	Metals (mg/L)	Arsenic, Dissolved	0.00032	0.00037	0.00036	0.0002
		Barium, Dissolved	0.0036		0.0034	0.0029
		Chromium, Dissolved	0.0031			
		Vanadium, Dissolved	0.0056	0.0055	0.0055	0.0038
	VOCs (ug/L)	Chloromethane			0.62	

J result is an estimate, or elevated reporting limit

B blank contamination

Blank Cell parameter not detected abouve the reporting limit, or not analyzed

Table 4. 2010 Groundwater, Leachate Influent (L-INF) and Leak Detection (LP-LCD) Analytical Results and Field Parameters, OVSL

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-15R	Field Parameter	Dissolved Oxygen	0.84	0.79	0.15	0.72
		eH	110	155.4	50	125
		pH	6.43	6.13	6.27	6.37
		Specific Conductivity	0.264	0.267	0.251	0.248
		TEMPERATURE	10.1	10.2	10.11	9.98
		Turbidity	0.68	0.95	0.23	0.16
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	130	130	130	130
		Alkalinity, Total (As CaCO3)	130	130	130	130
		Ammonia (As N)	0.048		0.04	0.039 B
		Calcium, Dissolved	24	23	23	24
		Chloride	3	3.2	3.8	3.9
		Magnesium, Dissolved	14	15	15	14
		Nitrate (As N)	0.21	0.15	0.11	0.16
		Sodium, Dissolved	7.1 B	6.9	6.1	7.3
		Sulfate	5.1	5.1	5.7	5.3
		Total Dissolved Solids (TDS)	150	150	150	130
	Metals (mg/L)	Arsenic, Dissolved	0.00025	0.00024	0.0002	0.00023
		Barium, Dissolved	0.0074		0.0071	0.0067
		Manganese, Dissolved	0.0031	0.0024	0.0046 J	0.0026
		Vanadium, Dissolved	0.004	0.0035	0.0029	0.0034
	VOCs (ug/L)	Dichlorofluoromethane			0.52	
		Vinyl chloride	0.08	0.16	0.06	

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-16	Field Parameter	Dissolved Oxygen	8.75	7.33	9.02	7.18
		eH	160	-230	123	52
		pH	6.26	6.04	5.90	6.17
		Specific Conductivity	0.118	0.155	0.148	0.15
		TEMPERATURE	9.11	9.39	9.44	9.13
		Turbidity	0.65	0.28	3.51	1.56
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	46	71	74	72
		Alkalinity, Total (As CaCO3)	46	71	74	72
		Ammonia (As N)	0.046			0.059 B
		Calcium, Dissolved	9.6	12	13	13
		Chloride	1.7	1.6	1.7	2.3
		Magnesium, Dissolved	5.1	6.9	7.4	8.3
		Nitrate (As N)	0.29	0.16	0.51	0.9
		Sodium, Dissolved	4.9 B	5.7 J	5.7	5.2
		Sulfate	9.9	2.5	2.3	2.7 J
		Total Dissolved Solids (TDS)	83	95	120	100
	Metals (mg/L)	Arsenic, Dissolved	0.00035	0.00034	0.00033	0.00032
		Barium, Dissolved	0.0033		0.0052	0.0045
		Chromium, Dissolved	0.0062	0.0088	0.0099	0.0088
		Manganese, Dissolved	0.0027	0.0067	0.0027 J	0.0021
		Vanadium, Dissolved	0.0036	0.0038	0.0041	0.0037
	VOCs (ug/L)	Trichloroethene			0.62	

J result is an estimate, or elevated reporting limit

B blank contamination

Blank Cell parameter not detected abouve the reporting limit, or not analyzed

Table 4. 2010 Groundwater, Leachate Influent (L-INF) and Leak Detection (LP-LCD) Analytical Results and Field Parameters, OVSL

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-19C	Field Parameter	Dissolved Oxygen	0.65	0.21	0.49	0.52
		eH	72.5	42.5	-51	41.3
		pH	6.67	6.70	6.42	6.72
		Specific Conductivity	0.085	0.166	0.162	0.161
		TEMPERATURE	10.69	10.77	10.59	10.49
		Turbidity	0.6	0.19	0.42	0.08
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	73	71	74	76
		Alkalinity, Total (As CaCO3)	73	71	74	76
		Ammonia (As N)	0.43	0.32 J	0.5	0.43 B
		Calcium, Dissolved	13	13	13	13
		Chloride	2.3	3.5	3.8	4.2
		Magnesium, Dissolved	6.4	6.5	6.8	7.4
		Potassium, Dissolved	1.2	1.4	1.4	1.4
		Sodium, Dissolved	6.5 B	6.3 J	5.9	5.9
		Sulfate	5.3	5.2	5.6	5.3 J
		Total Dissolved Solids (TDS)	100	110	99	110
	Metals (mg/L)	Arsenic, Dissolved	0.00394	0.004 J	0.00415 J	0.00378
		Barium, Dissolved	0.0041		0.0039	0.004
		Iron, Dissolved	0.11	0.12	0.1	0.14
		Manganese, Dissolved	0.95	1.1	1.1	1.1
	VOCs (ug/L)	cis-1,2-Dichloroethene	0.51			
		Trichloroethene	1.7	1.5	1.9	1.5
		Vinyl chloride	0.08	0.09	0.11	0.12

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-20	Field Parameter	Dissolved Oxygen	6.25	0.66	0.68	0.64
		eH	59.1	153.9	98	92.6
		pH	6.27	6.37	6.01	6.32
		Specific Conductivity	0.189	0.383	0.468	0.491
		TEMPERATURE	12.92	15.04	15.75	15.3
		Turbidity	0.9	1.15	0.34	0.75
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	100	160	180	170
		Alkalinity, Total (As CaCO3)	100	160	180	170
		Ammonia (As N)	0.037		0.039	0.058 B
		Calcium, Dissolved	29	34	42	38
		Chloride	19	12	24	20
		Magnesium, Dissolved	14	18	24	23
		Nitrate (As N)	6.1	1.3	4.8	2.6
		Potassium, Dissolved	3	3.6	4.2	4
		Sodium, Dissolved	11 B	11 J	13	14
		Sulfate	14	11	18	13 J
		Total Dissolved Solids (TDS)	190	220	260	240
	Metals (mg/L)	Arsenic, Dissolved	0.0002 J	0.0002 J	0.0003 J	0.0002 J
		Barium, Dissolved	0.013		0.016	0.015
		Manganese, Dissolved	0.0015		0.0057	0.008
	VOCs (ug/L)	Trichloroethene			0.71	
		Vinyl chloride		0.25	0.11	0.12

J result is an estimate, or elevated reporting limit

B blank contamination

Blank Cell parameter not detected abouve the reporting limit, or not analyzed

Table 4. 2010 Groundwater, Leachate Influent (L-INF) and Leak Detection (LP-LCD) Analytical Results and Field Parameters, OVSL

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-23A	Field Parameter	Dissolved Oxygen	0.49	0.23	0.35	2.06
		eH	47	-238	-32	56
		pH	6.13	5.96	5.89	6.03
		Specific Conductivity	0.26	0.265	0.238	0.199
		TEMPERATURE	13.44	14.31	14.4	13.02
		Turbidity	6.14	8.93	11.23	10.05
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	120	120	110	96
		Alkalinity, Total (As CaCO3)	120	120	110	96
		Ammonia (As N)	0.062		0.049	0.071 B
		Calcium, Dissolved	24	23	23	19
		Chloride	4.3	3.5	3.4	3
		Magnesium, Dissolved	9.9	10	11	9.1
		Nitrate (As N)	0.34			0.17
		Potassium, Dissolved		1.1	1.5	1.1
		Sodium, Dissolved	7.3 B	6.8 J	7.9	7.2
		Sulfate	6.4	6.1	7.6	7.3 J
		Total Dissolved Solids (TDS)	150	150	170	110
		Total Organic Carbon (TOC)				1.2
	Metals (mg/L)	Arsenic, Dissolved	0.00037 J	0.0007	0.00075	0.00014
		Barium, Dissolved	0.018		0.013	0.021
		Iron, Dissolved	0.73	0.99	1.4	0.3
		Manganese, Dissolved	2.3	2.3	2.4 J	1.5
		Zinc, Dissolved			0.0067	
	VOCs (ug/L)	Trichloroethene			0.51	
		Vinyl chloride	0.03	0.05	0.04	

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-24	Field Parameter	Dissolved Oxygen	0.24	0.57	0.16	0.58
		eH	43	60.8	-42	72.4
		pH	6.25	6.37	5.96	6.22
		Specific Conductivity	0.17	0.139	0.191	0.217
		TEMPERATURE	13.2	12.69	12.6	12.27
		Turbidity	4.79	5.49	3.85	1.51
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	130	63	94	100
		Alkalinity, Total (As CaCO3)	130	63	94	100
		Ammonia (As N)			0.04	0.063 B
		Calcium, Dissolved	16	11	18	18
		Chloride	2.5	2.9	3.4	3.9
		Magnesium, Dissolved	8.7	6.3	10	12
		Sodium, Dissolved	5.2 B	4.4 J	5.3	5.2
		Sulfate	4.6	3.1	4.4	4.5 J
		Total Dissolved Solids (TDS)	120	90	120	130
	Metals (mg/L)	Arsenic, Dissolved	0.00059	0.00059	0.00056	0.00057
		Barium, Dissolved	0.0038		0.0039	0.0044
		Cobalt, Dissolved				0.0017
		Iron, Dissolved	0.14	0.13	0.1	0.14
		Manganese, Dissolved	1.7	1.2	1.9	2.1
		Zinc, Dissolved		0.017		
	VOCs (ug/L)	cis-1,2-Dichloroethene	0.76			
		Vinyl chloride	0.02			

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B blank contamination

Blank Cell parameter not detected abouve the reporting limit, or not analyzed

Table 4. 2010 Groundwater, Leachate Influent (L-INF) and Leak Detection (LP-LCD) Analytical Results and Field Parameters, OVSL

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-29A (monitored semi-annually)	Field Parameter	Dissolved Oxygen	0.63		0.3	
		eH	46.9		-66	
		pH	5.91		5.68	
		Specific Conductivity	0.106		0.09	
		TEMPERATURE	7.48		10.46	
		Turbidity	4.67		3.26	
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	45		37	
		Alkalinity, Total (As CaCO3)	45		37	
		Ammonia (As N)	0.12		0.11	
		Calcium, Dissolved	7.8		6.5	
		Chloride	1.8		2.5	
		Magnesium, Dissolved	4.1		3.4	
		Sodium, Dissolved	3.1 B		3.1	
		Sulfate	1.2		1.3	
		Total Dissolved Solids (TDS)	64		45	
		Total Organic Carbon (TOC)	1.4		1.4	
	Metals (mg/L)	Arsenic, Dissolved	0.00154		0.00186 J	
		Barium, Dissolved	0.014		0.013	
		Iron, Dissolved	4.6		3.7	
		Manganese, Dissolved	1.5		1.2	

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-2B1	Field Parameter	Dissolved Oxygen	0.21	0.31	0.13	2.11
		eH	58	-249.4	73	135
		pH	6.35	6.41	5.82	5.87
		Specific Conductivity	0.302	0.347	0.264	0.094
		TEMPERATURE	11.24	12.63	14.2	12.28
		Turbidity	4.82	1.97	1.48	1.1
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	140	150	110	39
		Alkalinity, Total (As CaCO3)	140	150	110	39
		Ammonia (As N)	1.7	2.2 J	1.4	0.1 B
		Calcium, Dissolved	29	28	24	8.2
		Chloride	3	9.5	7	3.4
		Magnesium, Dissolved	4.7	8.8	7.8	3.2
		Nitrate (As N)	0.4		1.8	0.55
		Potassium, Dissolved	2	2.5	2.2	
		Sodium, Dissolved	20 B	17 J	10	3.6
		Sulfate	3.9	4.2	4.1	2.8 J
		Total Dissolved Solids (TDS)	150	170	150	55
		Total Organic Carbon (TOC)		1.1 J		
	Metals (mg/L)	Arsenic, Dissolved	0.00033	0.00049	0.00042	0.00015
		Barium, Dissolved	0.099		0.012	0.0035
		Manganese, Dissolved		2.4	2.5 J	0.5
		Vanadium, Dissolved	0.0072			
	VOCs (ug/L)	1,4-Dichlorobenzene	0.7			
		Tetrachloroethene			0.45	
		Trichloroethene			0.71	

J result is an estimate, or elevated reporting limit

B blank contamination

Blank Cell parameter not detected abouve the reporting limit, or not analyzed

Table 4. 2010 Groundwater, Leachate Influent (L-INF) and Leak Detection (LP-LCD) Analytical Results and Field Parameters, OVSL

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-32	Field Parameter	Dissolved Oxygen	0.13	0.25	0.4	0.24
		eH	-36	-141.5	-131	-31
		pH	6.63	6.46	6.66	6.51
		Specific Conductivity	0.322	0.34	0.312	0.314
		TEMPERATURE	11.56	11.7	12.29	11.83
		Turbidity	4.92	6.83	2.4	0.4
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	140	130	180	150
		Alkalinity, Total (As CaCO3)	140	130	180	150
		Ammonia (As N)	0.064		0.057	0.074 B
		Calcium, Dissolved	28	25	37	26
		Chloride	9.8	12	13	9
		Magnesium, Dissolved	13	13	19	14
		Potassium, Dissolved			1.3	
		Sodium, Dissolved	17 B	17 J	20	16
		Sulfate	14	15	23	15 J
		Total Dissolved Solids (TDS)	200	210	260	200
		Total Organic Carbon (TOC)			1.7	1.1
	Metals (mg/L)	Arsenic, Dissolved	0.0113 J	0.0099 J	0.0101 J	0.0107 J
		Barium, Dissolved	0.0055		0.007	0.0052
		Iron, Dissolved	0.66	0.68	0.89	0.7
		Manganese, Dissolved	2.1	2.1	2.9	2.1
	VOCs (ug/L)	cis-1,2-Dichloroethene	0.62			
		Trichloroethene			0.62	
		Vinyl chloride	0.4	0.49	0.31	0.45

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-33A (monitored semi-annually)	Field Parameter	Dissolved Oxygen	0.42		0.14	
		eH	-96		-107	
		pH	6.62		7.14	
		Specific Conductivity	0.126		0.155	
		TEMPERATURE	8.89		9.57	
		Turbidity	4.5		1.55	
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	60		65	
		Alkalinity, Total (As CaCO3)	60		65	
		Ammonia (As N)	0.12			
		Calcium, Dissolved	12		14	
		Chloride	2.6		3.2	
		Magnesium, Dissolved	5.6		6.6	
		Nitrate (As N)			0.075	
		Sodium, Dissolved	4.5 B		3.9	
		Sulfate	2.6		4.1	
		Total Dissolved Solids (TDS)	87		86	
		Total Organic Carbon (TOC)	1.3			
	Metals (mg/L)	Arsenic, Dissolved	0.00023		0.00014 J	
		Barium, Dissolved	0.0017		0.0011	
		Iron, Dissolved	1.2			
		Manganese, Dissolved	0.041		0.0015	
	VOCs (ug/L)	Acetone	1.5			

J result is an estimate, or elevated reporting limit

B blank contamination

Blank Cell parameter not detected abouve the reporting limit, or not analyzed

Table 4. 2010 Groundwater, Leachate Influent (L-INF) and Leak Detection (LP-LCD) Analytical Results and Field Parameters, OVSL

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-33C	Field Parameter	Dissolved Oxygen	0.32	0.18	0.62	0.6
		eH	-122	-50.1	109	-29.5
		pH	7.65	7.58	6.39	7.81
		Specific Conductivity	0.15	0.131	0.14	0.15
		TEMPERATURE	9.4	9.39	9.42	8.94
		Turbidity	3.91	1.91	1.52	1.24
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	68	67	68	70
		Alkalinity, Total (As CaCO3)	68	67	68	70
		Ammonia (As N)			0.043	0.066 B
		Calcium, Dissolved	15	16	16	16
		Chloride	2.9	3.5	3.9	3.9
		Magnesium, Dissolved	6.1	7	6.6	7.5
		Potassium, Dissolved		1.4	1.2	1.2
		Sodium, Dissolved	4.2 B	4.3	4.1	3.7
		Sulfate	8.1	8.2	7.9	8.1 J
		Total Dissolved Solids (TDS)	97	100	87	100
	Metals (mg/L)	Arsenic, Dissolved	0.0025	0.00253	0.0027 J	0.00262
		Barium, Dissolved	0.004		0.0038	0.0042
		Manganese, Dissolved	0.13	0.13	0.14	0.14
	VOCs (ug/L)	Acetone	2.1 J			

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-34A	Field Parameter	Dissolved Oxygen	7.24	200	5.17	0.58
		eH	154	88.7	42	129
		pH	6.08	5.83	6.05	6.38
		Specific Conductivity	0.212	0.166	0.182	0.279
		TEMPERATURE	10.8	11.27	11.45	11.19
		Turbidity	0.38	0.1	0.58	0.08
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	89	82	84	120
		Alkalinity, Total (As CaCO3)	89	82	84	120
		Ammonia (As N)	0.058		0.037	0.04 B
		Calcium, Dissolved	17	13	15	22
		Chloride	5.6	3	5.1	6.7
		Magnesium, Dissolved	8.6	6.9	7.6	11
		Nitrate (As N)	0.55	0.87	0.9	0.6
		Sodium, Dissolved	12 B	10	9.4	12
		Sulfate	3.8	1.9	2.1	2.8
		Total Dissolved Solids (TDS)	130	120	130	140
	Metals (mg/L)	Arsenic, Dissolved	0.00048	0.00051	0.00052	0.0005 J
		Barium, Dissolved	0.005		0.004	0.0054
		Chromium, Dissolved	0.0065	0.0079	0.0069	0.0049
		Vanadium, Dissolved	0.0049	0.0052	0.0049	0.0056

J result is an estimate, or elevated reporting limit

B blank contamination

Blank Cell parameter not detected abouve the reporting limit, or not analyzed

Table 4. 2010 Groundwater, Leachate Influent (L-INF) and Leak Detection (LP-LCD) Analytical Results and Field Parameters, OVSL

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-34C	Field Parameter	Dissolved Oxygen	0.5	7.91	0.51	0.8
		eH	-8	35.3	-70	-22
		pH	6.36	6.10	6.26	6.39
		Specific Conductivity	0.47	0.434	0.373	0.366
		TEMPERATURE	11.58	12.41	12.58	11.77
		Turbidity	3.84	2.42	2.44	3.95
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	200	200	190	170
		Alkalinity, Total (As CaCO3)	200	200	190	170
		Ammonia (As N)	0.073		0.039	0.09 B
		Calcium, Dissolved	40	38	36	35
		Chloride	17	14	10	9.4
		Magnesium, Dissolved	19	18	16	15
		Potassium, Dissolved	1	1.3	1.2	1.2
		Sodium, Dissolved	20 B	20	17	17
		Sulfate	6	5.7	6	6
		Total Dissolved Solids (TDS)	270	270	260	220
		Total Organic Carbon (TOC)	2	1.9	1.8	2
	Metals (mg/L)	Arsenic, Dissolved	0.0012	0.0012	0.0013 J	0.0012 J
		Barium, Dissolved	0.018		0.015	0.014
		Iron, Dissolved	1.4	1.4 J	1.2	1.1
		Manganese, Dissolved	0.96	0.9	0.85 J	0.86
	VOCs (ug/L)	cis-1,2-Dichloroethene	0.54			
		Vinyl chloride	0.24	0.32	0.26	0.19

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-35	Field Parameter	Dissolved Oxygen	9.37	7.71	9.61	9.05
		eH	92	36	79	17.9
		pH	7.24	7.37	6.85	7.39
		Specific Conductivity	0.084	0.128	0.151	0.15
		TEMPERATURE	9.82	10.07	10.09	9.85
		Turbidity	0.57	0.06	0.19	0.13
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	76	75	75	74
		Alkalinity, Total (As CaCO3)	76	75	75	74
		Ammonia (As N)	0.041		0.053	0.055 B
		Calcium, Dissolved	13	13	13	14
		Chloride	2	2.1	2.6	2.7
		Magnesium, Dissolved	7.9	8.8	8.7	9.3
		Nitrate (As N)	0.36	0.32	0.4	0.39
		Sodium, Dissolved	5 B	5.1	4.7	4.8
		Sulfate	2.6	2.3	2.5	2.2 J
		Total Dissolved Solids (TDS)	96	100	86	97
	Metals (mg/L)	Arsenic, Dissolved	0.00013 J	0.00016 J	0.00014	0.00013
		Barium, Dissolved	0.003		0.0028	0.0031
		Vanadium, Dissolved	0.0043	0.0044	0.0043	0.0045

J result is an estimate, or elevated reporting limit

B blank contamination

Blank Cell parameter not detected abouve the reporting limit, or not analyzed

Table 4. 2010 Groundwater, Leachate Influent (L-INF) and Leak Detection (LP-LCD) Analytical Results and Field Parameters, OVSL

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-36A	Field Parameter	Dissolved Oxygen	0.83	1.29	7.38	6.65
		eH	132	157.6	-21	123
		pH	6.40	5.70	6.83	6.79
		Specific Conductivity	0.232	0.174	0.146	0.155
		TEMPERATURE	9.28	9.5	9.68	9.2
		Turbidity	0.77	0.51	2.86	0.4
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	97	86	71	75
		Alkalinity, Total (As CaCO3)	97	86	71	75
		Ammonia (As N)	0.057		0.046	0.045 B
		Calcium, Dissolved	19	16	15	16
		Chloride	2.5	2.2	3.1	2.9
		Magnesium, Dissolved	7.3	7.1	7	7
		Nitrate (As N)	0.92	0.87	0.62	0.59
		Potassium, Dissolved	1.5	1.6		
		Sodium, Dissolved	14 B	12	4.5	5
		Sulfate	8.5	7	1.8	2
		Total Dissolved Solids (TDS)	150	140	100	81
	Metals (mg/L)	Arsenic, Dissolved	0.0009	0.0009 J	0.00102	0.00094
		Barium, Dissolved	0.004		0.0023	0.0025
		Chromium, Dissolved	0.0072	0.0058		
		Manganese, Dissolved	0.018	0.017		
		Selenium, Dissolved		0.0012		
		Vanadium, Dissolved	0.0047	0.004	0.0049	0.0048

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-39	Field Parameter	Dissolved Oxygen	0.75	0.23	0.45	0.79
		eH	7.6	-44.4	-24.9	-6.3
		pH	6.03	6.16	6.22	5.97
		Specific Conductivity	0.253	0.273	0.181	0.256
		TEMPERATURE	9.69	9.86	10.73	11.61
		Turbidity	2.8	3.57	2.83	1.02
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	100	95	90	130
		Alkalinity, Total (As CaCO3)	100	95	90	130
		Ammonia (As N)	0.28	0.24 J	0.39	0.48 B
		Calcium, Dissolved	12	12	11	12
		Chloride	3.3	3.5	4	3.7
		Magnesium, Dissolved	7.4	7.4	7	8.8
		Nitrate (As N)	0.087	0.065		0.02
		Sodium, Dissolved	11 B	10 J	7.5	6.6
		Sulfate	0.81			
		Total Dissolved Solids (TDS)	140	120	110	120
		Total Organic Carbon (TOC)	2.3	3.3 J	2.9	4.6
	Metals (mg/L)	Arsenic, Dissolved	0.00102 J	0.0028 J	0.0015 J	0.0023 J
		Barium, Dissolved	0.016		0.013	0.016
		Cobalt, Dissolved	0.0073	0.0082	0.007	0.008
		Iron, Dissolved	34	45	33	42
		Manganese, Dissolved	0.46	0.47	0.49	0.92
		Nickel, Dissolved	0.0048			
		Vanadium, Dissolved				0.0021

J result is an estimate, or elevated reporting limit

B blank contamination

Blank Cell parameter not detected abouve the reporting limit, or not analyzed

Table 4. 2010 Groundwater, Leachate Influent (L-INF) and Leak Detection (LP-LCD) Analytical Results and Field Parameters, OVSL

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-4	Field Parameter	Dissolved Oxygen	0.42	0.5	0.09	3.34
		eH	185	-219	-47	152
		pH	6.31	6.37	6.26	5.75
		Specific Conductivity	0.125	0.148	0.133	0.081
		TEMPERATURE	9.16	9.39	9.72	10.36
		Turbidity	0.77	0.62	0.7	0.81
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	63	63	71	37
		Alkalinity, Total (As CaCO3)	63	63	71	37
		Ammonia (As N)		0.032 J	0.066	0.054 B
		Calcium, Dissolved	11	11	11	6.9
		Chloride	2.2	2.6	2.8	2.6
		Magnesium, Dissolved	5.6	5.8	5.8	3.6
		Nitrate (As N)				0.13
		Sodium, Dissolved	6 B	6.5 J	6.1	3.6
		Sulfate	4.8	4.9	4.3	2.7
		Total Dissolved Solids (TDS)	94	93	96	58
	Metals (mg/L)	Arsenic, Dissolved	0.0005	0.00062	0.00099 J	0.00052
		Barium, Dissolved	0.0024		0.0024	0.002
		Manganese, Dissolved	0.7	1	1.1	0.16
	VOCs (ug/L)	Acetone	1.4 J			
		cis-1,2-Dichloroethene	0.84			
		Vinyl chloride	0.05	0.11	0.06	

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-42	Field Parameter	Dissolved Oxygen	0.96	0.37	0.73	0.62
		eH	-60	-48.6	-20.2	-23.1
		pH	6.32	6.30	6.40	6.34
		Specific Conductivity	0.356	0.512	0.375	0.262
		TEMPERATURE	11.82	12.08	12	12.47
		Turbidity	3.52	2.04	2.95	1.59
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	260	240	240	260
		Alkalinity, Total (As CaCO3)	260	240	240	260
		Ammonia (As N)	5.5	3.7 J	4.7	4.5 B
		Calcium, Dissolved	43	40	34	40
		Chloride	20	17	12	12
		Magnesium, Dissolved	18	18	15	17
		Nitrate (As N)	0.079			
		Potassium, Dissolved	6.4	6.5	5.6	6.7
		Sodium, Dissolved	25 B	26	20	26
		Sulfate	14	13	11	13
		Total Dissolved Solids (TDS)	290	300	230	260
		Total Organic Carbon (TOC)	7.7	7.8	6	7.5
	Metals (mg/L)	Arsenic, Dissolved	0.0016 J	0.0013 J	0.0017 J	0.0017 J
		Barium, Dissolved	0.14		0.094	0.13
		Cobalt, Dissolved	0.0035			0.0033
		Iron, Dissolved	27	26 J	23	26
		Manganese, Dissolved	5.4	5.3	4.3	5.1
	VOCs (ug/L)	Trichloroethene			0.51	
		Vinyl chloride	0.05		0.04	0.09

J result is an estimate, or elevated reporting limit

B blank contamination

Blank Cell parameter not detected abouve the reporting limit, or not analyzed

Table 4. 2010 Groundwater, Leachate Influent (L-INF) and Leak Detection (LP-LCD) Analytical Results and Field Parameters, OVSL

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-43	Field Parameter	Dissolved Oxygen	5.1	2.43	1.28	4.23
		eH	158	143.1	19	148.5
		pH	5.33	5.70	5.42	5.76
		Specific Conductivity	0.025	0.044	0.059	0.019
		TEMPERATURE	7.76	9.19	9.85	11.13
		Turbidity	2.78	2.25	0.95	4.8
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	17	23	23	17
		Alkalinity, Total (As CaCO3)	17	23	23	17
		Ammonia (As N)	0.11	0.075 J	0.098	0.053 B
		Calcium, Dissolved	3.5	4.2	4.6	3.6
		Chloride	1.4	1.7	3.1	1.7
		Magnesium, Dissolved	1.3	1.7	1.9	1.4
		Nitrate (As N)	0.4	0.25	0.35	0.46
		Sodium, Dissolved	2.6 B	2.9	2.8	2.5
		Sulfate	2.4	1.9	2.1	2.1 J
		Total Dissolved Solids (TDS)	33	48	29	41
		Total Organic Carbon (TOC)	1.1	1.3		1.8
	Metals (mg/L)	Arsenic, Dissolved	0.00005	0.00005		0.00005
		Barium, Dissolved	0.0034		0.0043	0.0034
		Iron, Dissolved		0.1 J		
		Manganese, Dissolved	0.22	0.26	0.11	0.042

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
MW-9 (monitored semi-annually)	Field Parameter	Dissolved Oxygen	0.37	0.38		
		eH	-14	-228		
		pH	6.57	6.33		
		Specific Conductivity	0.074	0.083		
		TEMPERATURE	8.77	9.03		
		Turbidity	4.19	1.96		
	General Chemistry (mg/L)	Alkalinity, Bicarbonate (As CaCO3)	35	34		
		Alkalinity, Total (As CaCO3)	35	34		
		Calcium, Dissolved	6.5	6.4		
		Chloride	2.1	2.8		
		Magnesium, Dissolved	3.3	3.4		
		Nitrate (As N)		0.066		
		Sodium, Dissolved	3.4 B	3.8 J		
		Sulfate	1.5	1.4		
		Total Dissolved Solids (TDS)	66	56		
	Metals (mg/L)	Arsenic, Dissolved	0.00041	0.0003 J		
		Barium, Dissolved	0.0024			
		Iron, Dissolved	0.45	0.42		
		Manganese, Dissolved	0.035	0.032		

J result is an estimate, or elevated reporting limit

B blank contamination

Blank Cell parameter not detected abouve the reporting limit, or not analyzed

Table 4. 2010 Groundwater, Leachate Influent (L-INF) and Leak Detection (LP-LCD) Analytical Results and Field Parameters, OVSL

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
L-INF (monitored annually)	Field Parameter	Dissolved Oxygen				2.53
		eH				-34.3
		pH				6.94
		Specific Conductivity				7.239
		TEMPERATURE				12.06
		Turbidity				40.5
	General Chemistry	Alkalinity, Bicarbonate (As CaCO3)				2200
		Alkalinity, Total (As CaCO3)				2200
		Ammonia (As N)				250
		Biochemical Oxygen Demand				29
		Calcium, Dissolved				160
		Chemical Oxygen Demand (COD)				600
		Chloride				1000
		Magnesium, Dissolved				92
		Potassium, Dissolved				120
		Sodium, Dissolved				960
		Sulfate				320
		Total Coliform				TNTC
		Total Dissolved Solids (TDS)				3100
		Total Organic Carbon (TOC)				210
	Metals	Arsenic, Total				0.016
		Barium, Total				0.35
		Chromium, Total				0.018
		Cobalt, Total				0.017
		Iron, Dissolved				0.78
		Manganese, Dissolved				3.1
		Nickel, Total				0.1
		Selenium, Total				0.0025
		Vanadium, Total				0.017
	VOCs (ug/L)	Butyl alcohol, tert				390
		Tetrahydrofuran				150

Location	Class	Parameter	Mar-10	Jun-10	Sep-10	Dec-10
LP-LCD	Field Parameter	Dissolved Oxygen	4.5	3.2	2.7	
		eH	33	50	31	
		pH	7.44	7.27	7.58	
		Specific Conductivity	4631	4681	4513	
		TEMPERATURE	8.5	15.5	18.7	
	General Chemistry	Alkalinity, Bicarbonate (As CaCO3)	920		920	900
		Alkalinity, Total (As CaCO3)	920		920	900
		Ammonia (As N)	9.6	6.3	16	9.3
		Calcium, Dissolved	55	51	58	53
		Chloride	810	940	910	940
		Magnesium, Dissolved	32	31	33	31
		Potassium, Dissolved	69	70	85	63
		Sodium, Dissolved	1000	990	1100	960
		Sulfate	310	350	390	390
		Total Dissolved Solids (TDS)	2700	1500	3200	3000
		Total Organic Carbon (TOC)	75	83	96	89
	Metals	Iron, Dissolved	1.4	1.6	0.2	0.19
		Manganese, Dissolved	1.5	1.3	1.5	1.5

J result is an estimate, or elevated reporting limit

B blank contamination

Blank Cell parameter not detected abouve the reporting limit, or not analyzed

TNTC = too numerous to count

Table 5. 2010 Groundwater and Leachate Influent (L-INF) Volatile Organic Compound (ug/L) Detections, OVSL

Parameter	Sample Location	Event	Result
1,4-Dichlorobenzene	MW-2B1	Mar-10	0.7
Acetone	MW-33A	Mar-10	1.5
	MW-33C	Mar-10	2.1 J
	MW-4	Mar-10	1.4 J
Butyl alcohol, tert	L-INF	Dec-10	390
Chloromethane	MW-13B	Sep-10	0.62
cis-1,2-Dichloroethene	MW-19C	Mar-10	0.51
	MW-24	Mar-10	0.76
	MW-32	Mar-10	0.62
	MW-34C	Mar-10	0.54
	MW-4	Mar-10	0.84
Dichlorofluoromethane	MW-15R	Sep-10	0.52
Tetrachloroethene	MW-2B1	Sep-10	0.45
Tetrahydrofuran	L-INF	Dec-10	150
Trichloroethene	MW-16	Sep-10	0.62
	MW-19C	Mar-10	1.7
		Jun-10	1.5
		Sep-10	1.9
		Dec-10	1.5
	MW-20	Sep-10	0.71
	MW-23A	Sep-10	0.51
	MW-2B1	Sep-10	0.71
	MW-32	Sep-10	0.62
	MW-42	Sep-10	0.51
Vinyl chloride	MW-15R	Mar-10	0.08
		Jun-10	0.16
		Sep-10	0.06
	MW-19C	Mar-10	0.08
		Jun-10	0.09
		Sep-10	0.11
		Dec-10	0.12
	MW-20	Jun-10	0.25
		Sep-10	0.11
		Dec-10	0.12
	MW-23A	Mar-10	0.03
		Jun-10	0.05
		Sep-10	0.04
	MW-24	Mar-10	0.02
	MW-32	Mar-10	0.4
		Jun-10	0.49
		Sep-10	0.31
		Dec-10	0.45
	MW-34C	Mar-10	0.24
		Jun-10	0.32
		Sep-10	0.26
		Dec-10	0.19
	MW-4	Mar-10	0.05
		Jun-10	0.11
		Sep-10	0.06
	MW-42	Mar-10	0.05
		Sep-10	0.04
		Dec-10	0.09

J result is an estimate

Table 6. 2010 MTCA Parameter Exceedances in Groundwater for Compliance and Downgradient Wells, OVSL

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-15R	Compliance	1,1-Dichloroethane	0.75	ug/L	B	50	No	No
MW-15R	Compliance	1,4-Dichlorobenzene	0.84	ug/L	B	2.0	No	No
MW-15R	Compliance	Arsenic, dissolved	0.23	ug/L	Z	0.462	No	No
MW-15R	Compliance	Iron, dissolved	0.06	mg/L	B	0.30	No	No
MW-15R	Compliance	Manganese, dissolved	0.005	mg/L	LN	0.05	No	Yes (▼)
MW-15R	Compliance	cis-1,2-dichloroethene	0.81	ug/L	B	35	No	No
MW-15R	Compliance	Ethyl ether	0.72	ug/L	A*	50	No	No
MW-15R	Compliance	Trichloroethene	0.46	ug/L	B	1.0	No	No
MW-15R	Compliance	Vinyl Chloride	0.39	ug/L	LN	0.20	Yes	No
MW-15R	Compliance	Ammonia as N	0.05	mg/L	LN	0.19	No	No
MW-34A	Compliance	1,1-Dichloroethane	0.75	ug/L	B	50	No	No
MW-34A	Compliance	1,4-Dichlorobenzene	0.84	ug/L	B	2.0	No	No
MW-34A	Compliance	Arsenic, dissolved	0.456	ug/L	Z	0.462	No	No
MW-34A	Compliance	Iron, dissolved	0.06	mg/L	B	0.30	No	No
MW-34A	Compliance	Manganese, dissolved	0.0015	mg/L	A	0.05	No	No
MW-34A	Compliance	cis-1,2-dichloroethene	0.81	ug/L	B	35	No	No
MW-34A	Compliance	Ethyl ether	0.72	ug/L	B	50	No	No
MW-34A	Compliance	Trichloroethene	0.46	ug/L	B	1.0	No	No
MW-34A	Compliance	Vinyl Chloride	0.02	ug/L	B	0.20	No	No
MW-34A	Compliance	Ammonia as N	0.34	mg/L	A	0.19	Yes	No
MW-34C	Compliance	1,1-Dichloroethane	0.75	ug/L	B	50	No	No
MW-34C	Compliance	1,4-Dichlorobenzene	0.84	ug/L	B	2.0	No	No
MW-34C	Compliance	Arsenic, dissolved	1.45	ug/L	Z	0.462	Yes	Yes (▼)
MW-34C	Compliance	Iron, dissolved	1.65	mg/L	LN	0.30	Yes	No
MW-34C	Compliance	Manganese, dissolved	1.06	mg/L	LN	0.05	Yes	No
MW-34C	Compliance	cis-1,2-dichloroethene	0.81	ug/L	A*	35	No	No
MW-34C	Compliance	Ethyl ether	0.72	ug/L	A*	50	No	No
MW-34C	Compliance	Trichloroethene	0.46	ug/L	B	1.0	No	No
MW-34C	Compliance	Vinyl Chloride	0.28	ug/L	LN	0.20	Yes	No
MW-34C	Compliance	Ammonia as N	0.09	mg/L	LN	0.19	No	No
MW-39	Compliance	1,1-Dichloroethane	0.75	ug/L	B	50	No	No
MW-39	Compliance	1,4-Dichlorobenzene	0.84	ug/L	B	2.0	No	No
MW-39	Compliance	Arsenic, dissolved	2.04	ug/L	N	0.462	Yes	No
MW-39	Compliance	Iron, dissolved	40.4	mg/L	Z	0.30	Yes	No
MW-39	Compliance	Manganese, dissolved	0.58	mg/L	Z	0.05	Yes	No
MW-39	Compliance	cis-1,2-dichloroethene	0.81	ug/L	B	35	No	No
MW-39	Compliance	Ethyl ether	0.72	ug/L	B	50	No	No
MW-39	Compliance	Trichloroethene	0.46	ug/L	B	1.0	No	No
MW-39	Compliance	Vinyl Chloride	0.02	ug/L	B	0.20	No	No
MW-39	Compliance	Ammonia as N	0.49	mg/L	N	0.19	Yes	No
MW-42	Compliance	1,1-Dichloroethane	0.75	ug/L	B	50	No	No
MW-42	Compliance	1,4-Dichlorobenzene	0.84	ug/L	A*	2.0	No	No
MW-42	Compliance	Arsenic, dissolved	1.64	ug/L	LN	0.462	Yes	No
MW-42	Compliance	Iron, dissolved	26.7	mg/L	Z	0.30	Yes	No
MW-42	Compliance	Manganese, dissolved	5.32	mg/L	LN	0.05	Yes	No
MW-42	Compliance	cis-1,2-dichloroethene	0.81	ug/L	A*	35	No	No
MW-42	Compliance	Ethyl ether	0.72	ug/L	B	50	No	No
MW-42	Compliance	Trichloroethene	0.51	ug/L	A	1.0	No	No
MW-42	Compliance	Vinyl Chloride	0.44	ug/L	LN	0.20	Yes	No
MW-42	Compliance	Ammonia as N	7.65	mg/L	LN	0.19	Yes	No

Table 6. 2010 MTCA Parameter Exceedances in Groundwater for Compliance and Downgradient Wells, OVSL

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-43	Compliance	1,1-Dichloroethane	0.75	ug/L	B	50	No	No
MW-43	Compliance	1,4-Dichlorobenzene	0.84	ug/L	B	2.0	No	No
MW-43	Compliance	Arsenic, dissolved	0.07	ug/L	Z	0.462	No	No
MW-43	Compliance	Iron, dissolved	2.0	mg/L	A	0.30	Yes	No
MW-43	Compliance	Manganese, dissolved	0.36	mg/L	Z	0.05	Yes	No
MW-43	Compliance	cis-1,2-dichloroethene	0.81	ug/L	B	35	No	No
MW-43	Compliance	Ethyl ether	0.72	ug/L	B	50	No	No
MW-43	Compliance	Trichloroethene	0.46	ug/L	B	1.0	No	No
MW-43	Compliance	Vinyl Chloride	0.02	ug/L	B	0.20	No	No
MW-43	Compliance	Ammonia as N	0.38	mg/L	LN	0.19	Yes	No
MW-9	Downgradient	1,1-Dichloroethane	0.75	ug/L	B	50	No	No
MW-9	Downgradient	1,4-Dichlorobenzene	0.84	ug/L	B	2.0	No	No
MW-9	Downgradient	Arsenic, dissolved	0.439	ug/L	Z	0.462	No	No
MW-9	Downgradient	Iron, dissolved	0.54	mg/L	LN	0.30	Yes	No
MW-9	Downgradient	Manganese, dissolved	0.040	mg/L	LN	0.05	No	No
MW-9	Downgradient	cis-1,2-dichloroethene	0.81	ug/L	B	35	No	No
MW-9	Downgradient	Ethyl ether	0.72	ug/L	B	50	No	No
MW-9	Downgradient	Trichloroethene	0.46	ug/L	B	1.0	No	No
MW-9	Downgradient	Vinyl Chloride	0.02	ug/L	B	0.20	No	No
MW-9	Downgradient	Ammonia as N	0.09	mg/L	LN	0.19	No	No
MW-29A	Downgradient	1,1-Dichloroethane	0.75	ug/L	B	50	No	No
MW-29A	Downgradient	1,4-Dichlorobenzene	0.84	ug/L	B	2.0	No	No
MW-29A	Downgradient	Arsenic, dissolved	1.77	ug/L	LN	0.462	Yes	No
MW-29A	Downgradient	Iron, dissolved	4.32	mg/L	Z	0.30	Yes	No
MW-29A	Downgradient	Manganese, dissolved	1.40	mg/L	Z	0.05	Yes	No
MW-29A	Downgradient	cis-1,2-dichloroethene	0.81	ug/L	B	35	No	No
MW-29A	Downgradient	Ethyl ether	0.72	ug/L	B	50	No	No
MW-29A	Downgradient	Trichloroethene	0.46	ug/L	B	1.0	No	No
MW-29A	Downgradient	Vinyl Chloride	0.02	ug/L	B	0.20	No	No
MW-29A	Downgradient	Ammonia as N	0.36	mg/L	LN	0.19	Yes	No
MW-32	Downgradient	1,1-Dichloroethane	0.75	ug/L	B	50	No	No
MW-32	Downgradient	1,4-Dichlorobenzene	0.84	ug/L	B	2.0	No	No
MW-32	Downgradient	Arsenic, dissolved	10.4	ug/L	LN	0.462	Yes	No
MW-32	Downgradient	Iron, dissolved	0.82	mg/L	LN	0.30	Yes	No
MW-32	Downgradient	Manganese, dissolved	2.60	mg/L	Z	0.05	Yes	No
MW-32	Downgradient	cis-1,2-dichloroethene	0.76	ug/L	LN	35	No	No
MW-32	Downgradient	Ethyl ether	0.72	ug/L	A*	50	No	No
MW-32	Downgradient	Trichloroethene	0.51	ug/L	LN	1.0	No	No
MW-32	Downgradient	Vinyl Chloride	0.43	ug/L	LN	0.20	Yes	No
MW-32	Downgradient	Ammonia as N	0.07	mg/L	LN	0.19	No	No
MW-33A	Downgradient	1,1-Dichloroethane	0.75	ug/L	B	50	No	No
MW-33A	Downgradient	1,4-Dichlorobenzene	0.84	ug/L	B	2.0	No	No
MW-33A	Downgradient	Arsenic, dissolved	0.19	ug/L	LN	0.462	No	No
MW-33A	Downgradient	Iron, dissolved	1.1	mg/L	N**	0.30	Yes	No
MW-33A	Downgradient	Manganese, dissolved	0.04	mg/L	N	0.05	No	No
MW-33A	Downgradient	cis-1,2-dichloroethene	0.81	ug/L	B	35	No	No
MW-33A	Downgradient	Ethyl ether	0.72	ug/L	B	50	No	No
MW-33A	Downgradient	Trichloroethene	0.46	ug/L	B	1.0	No	No
MW-33A	Downgradient	Vinyl Chloride	0.02	ug/L	B	0.20	No	No
MW-33A	Downgradient	Ammonia as N	0.15	mg/L	N	0.19	No	No

Table 6. 2010 MTCA Parameter Exceedances in Groundwater for Compliance and Downgradient Wells, OVSL

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-33C	Downgradient	1,1-Dichloroethane	0.75	ug/L	B	50	No	No
MW-33C	Downgradient	1,4-Dichlorobenzene	0.84	ug/L	B	2.0	No	No
MW-33C	Downgradient	Arsenic, dissolved	2.63	ug/L	LN	0.462	**Yes**	No
MW-33C	Downgradient	Iron, dissolved	0.06	mg/L	B	0.3	No	No
MW-33C	Downgradient	Manganese, dissolved	0.14	mg/L	Z	0.05	**Yes**	No
MW-33C	Downgradient	cis-1,2-dichloroethene	0.81	ug/L	B	35	No	No
MW-33C	Downgradient	Ethyl ether	0.72	ug/L	B	50	No	No
MW-33C	Downgradient	Trichloroethene	0.46	ug/L	B	1.0	No	No
MW-33C	Downgradient	Vinyl Chloride	0.02	ug/L	B	0.20	No	No
MW-33C	Downgradient	Ammonia as N	0.187	mg/L	LN	0.19	No	No
MW-36A	Downgradient	1,1-Dichloroethane	0.75	ug/L	B	50	No	No
MW-36A	Downgradient	1,4-Dichlorobenzene	0.84	ug/L	B	2.0	No	No
MW-36A	Downgradient	Arsenic, dissolved	1.05	ug/L	LN	0.462	**Yes**	No
MW-36A	Downgradient	Iron, dissolved	0.06	mg/L	B	0.3	No	No
MW-36A	Downgradient	Manganese, dissolved	0.02	mg/L	N**	0.05	No	No
MW-36A	Downgradient	cis-1,2-dichloroethene	0.81	ug/L	B	35	No	No
MW-36A	Downgradient	Ethyl ether	0.72	ug/L	B	50	No	No
MW-36A	Downgradient	Trichloroethene	0.46	ug/L	B	1.0	No	No
MW-36A	Downgradient	Vinyl Chloride	0.02	ug/L	B	0.20	No	No
MW-36A	Downgradient	Ammonia as N	0.20	mg/L	LN	0.19	**Yes**	**Yes (▼)**

NOTES:

[1] N = number of data points used for UCL calculation of the mean; only SIM results used for Vinyl Chloride (e.g., duplicate results with higher RLs by non-SIM were o

[2] MAX = maximum detected result in the data set; if no detected results, then = maximum reporting limit for non-detect results (indicated with ND).

[3] A 3-year moving data set is used for calculation of the UCL; duplicate values removed.

[4] ug/L - micrograms per liter; mg/L = milligrams per liter.

[5] Groundwater Cleanup Levels are listed on Table 3 of the October 2010 Draft Cleanup Action Plan.

[6] Trend analysis results are based on data for the period January 2005 through December 2009; arrows indicated increasing (▲) or decreasing (▼) trends.

[7] The March 2009 non-detected results for Vinyl Chloride (<0.24 ug/L) were excluded from the UCL calculation due to erroneously high reporting limits; all other resul

[8] This MAX result appears to be an outlier but was not removed from the data set since no specific cause was identified; therefore, the resulting UCL exceedance ma

A = Detection frequency of data set too low to calculate 95% UCL of mean; therefore, the highest detected result in the data set used to represent 95% UCL of mean

limit is used to represent the 95% UCL of the mean.

B = Detection frequency = 0; therefore, the highest reporting limit in the data set is used to represent the 95% UCL of mean.

LN = The 95% UCL of the mean is calculated using Land's formula since lognormal distribution is indicated.

N = The 95% UCL of the mean is calculated using a normal-based t-statistic since a normal distribution is indicated.

calculation is performed as described by note "N" in order to provide a meaningful UCL.

Z = the 95% UCL of the mean is calculated using the Z-score method in MTCAStat since neither normal nor lognormal distribution can be determine

Table 7. 2010 WAC 173-200, Federal MCL, and MTCA Exceedances in Groundwater, OVSL

Parameter	Well	Event	Result	WAC 173-200	Primary MCL	Secondary MCL	MTCA Cleanup Level
pH	MW-15R	Mar-10	6.43	6.5-8.5		6.5-8.5	
		Jun-10	6.13	6.5-8.5		6.5-8.5	
		Sep-10	6.27	6.5-8.5		6.5-8.5	
		Dec-10	6.37	6.5-8.5		6.5-8.5	
	MW-16	Mar-10	6.26	6.5-8.5		6.5-8.5	
		Jun-10	6.04	6.5-8.5		6.5-8.5	
		Sep-10	5.90	6.5-8.5		6.5-8.5	
		Dec-10	6.17	6.5-8.5		6.5-8.5	
	MW-19C	Sep-10	6.42	6.5-8.5		6.5-8.5	
	MW-20	Mar-10	6.27	6.5-8.5		6.5-8.5	
		Jun-10	6.37	6.5-8.5		6.5-8.5	
		Sep-10	6.01	6.5-8.5		6.5-8.5	
		Dec-10	6.32	6.5-8.5		6.5-8.5	
	MW-23A	Mar-10	6.13	6.5-8.5		6.5-8.5	
		Jun-10	5.96	6.5-8.5		6.5-8.5	
		Sep-10	5.89	6.5-8.5		6.5-8.5	
		Dec-10	6.03	6.5-8.5		6.5-8.5	
	MW-24	Mar-10	6.25	6.5-8.5		6.5-8.5	
		Jun-10	6.37	6.5-8.5		6.5-8.5	
		Sep-10	5.96	6.5-8.5		6.5-8.5	
		Dec-10	6.22	6.5-8.5		6.5-8.5	
	MW-29A	Mar-10	5.91	6.5-8.5		6.5-8.5	
		Sep-10	5.68	6.5-8.5		6.5-8.5	
	MW-2B1	Mar-10	6.35	6.5-8.5		6.5-8.5	
		Jun-10	6.41	6.5-8.5		6.5-8.5	
		Sep-10	5.82	6.5-8.5		6.5-8.5	
		Dec-10	5.87	6.5-8.5		6.5-8.5	
	MW-32	Jun-10	6.46	6.5-8.5		6.5-8.5	
	MW-33C	Sep-10	6.39	6.5-8.5		6.5-8.5	
	MW-34A	Mar-10	6.08	6.5-8.5		6.5-8.5	
		Jun-10	5.83	6.5-8.5		6.5-8.5	
		Sep-10	6.05	6.5-8.5		6.5-8.5	
		Dec-10	6.38	6.5-8.5		6.5-8.5	
	MW-34C	Mar-10	6.36	6.5-8.5		6.5-8.5	
		Jun-10	6.10	6.5-8.5		6.5-8.5	
		Sep-10	6.26	6.5-8.5		6.5-8.5	
		Dec-10	6.39	6.5-8.5		6.5-8.5	
	MW-36A	Mar-10	6.40	6.5-8.5		6.5-8.5	
		Jun-10	5.70	6.5-8.5		6.5-8.5	
	MW-39	Mar-10	6.03	6.5-8.5		6.5-8.5	
		Jun-10	6.16	6.5-8.5		6.5-8.5	
		Sep-10	6.22	6.5-8.5		6.5-8.5	
		Dec-10	5.97	6.5-8.5		6.5-8.5	
	MW-4	Mar-10	6.31	6.5-8.5		6.5-8.5	
		Jun-10	6.37	6.5-8.5		6.5-8.5	
		Sep-10	6.26	6.5-8.5		6.5-8.5	
		Dec-10	5.75	6.5-8.5		6.5-8.5	
	MW-42	Mar-10	6.32	6.5-8.5		6.5-8.5	
		Jun-10	6.30	6.5-8.5		6.5-8.5	
		Sep-10	6.40	6.5-8.5		6.5-8.5	
		Dec-10	6.34	6.5-8.5		6.5-8.5	
	MW-43	Mar-10	5.33	6.5-8.5		6.5-8.5	
		Jun-10	5.70	6.5-8.5		6.5-8.5	
		Sep-10	5.42	6.5-8.5		6.5-8.5	
		Dec-10	5.76	6.5-8.5		6.5-8.5	
	MW-9	Jun-10	6.33	6.5-8.5		6.5-8.5	

J result is an estimate, or elevated reporting limit

Table 7. 2010 WAC 173-200, Federal MCL, and MTCA Exceedances in Groundwater, OVSL

Parameter	Well	Event	Result	WAC 173-200	Primary MCL	Secondary MCL	MTCA Cleanup Level
Arsenic, Dissolved	MW-13A	Mar-10	0.0002	0.00005	0.01		0.000462
		Jun-10	0.00021	0.00005	0.01		0.000462
		Sep-10	0.00021	0.00005	0.01		0.000462
		Dec-10	0.00034	0.00005	0.01		0.000462
	MW-13B	Mar-10	0.00032	0.00005	0.01		0.000462
		Jun-10	0.00037	0.00005	0.01		0.000462
		Sep-10	0.00036	0.00005	0.01		0.000462
		Dec-10	0.0002	0.00005	0.01		0.000462
	MW-15R	Mar-10	0.00025	0.00005	0.01		0.000462
		Jun-10	0.00024	0.00005	0.01		0.000462
		Sep-10	0.0002	0.00005	0.01		0.000462
		Dec-10	0.00023	0.00005	0.01		0.000462
	MW-16	Mar-10	0.00035	0.00005	0.01		0.000462
		Jun-10	0.00034	0.00005	0.01		0.000462
		Sep-10	0.00033	0.00005	0.01		0.000462
		Dec-10	0.00032	0.00005	0.01		0.000462
	MW-19C	Mar-10	0.00394	0.00005	0.01		0.000462
		Jun-10	0.004 J	0.00005	0.01		0.000462
		Sep-10	0.00415 J	0.00005	0.01		0.000462
		Dec-10	0.00378	0.00005	0.01		0.000462
	MW-20	Mar-10	0.0002 J	0.00005	0.01		0.000462
		Jun-10	0.0002 J	0.00005	0.01		0.000462
		Sep-10	0.0003 J	0.00005	0.01		0.000462
		Dec-10	0.0002 J	0.00005	0.01		0.000462
	MW-23A	Mar-10	0.00037 J	0.00005	0.01		0.000462
		Jun-10	0.0007	0.00005	0.01		0.000462
		Sep-10	0.00075	0.00005	0.01		0.000462
		Dec-10	0.00014	0.00005	0.01		0.000462
	MW-24	Mar-10	0.00059	0.00005	0.01		0.000462
		Jun-10	0.00059	0.00005	0.01		0.000462
		Sep-10	0.00056	0.00005	0.01		0.000462
		Dec-10	0.00057	0.00005	0.01		0.000462
	MW-29A	Mar-10	0.00154	0.00005	0.01		0.000462
		Sep-10	0.00186 J	0.00005	0.01		0.000462
	MW-2B1	Mar-10	0.00033	0.00005	0.01		0.000462
		Jun-10	0.00049	0.00005	0.01		0.000462
		Sep-10	0.00042	0.00005	0.01		0.000462
		Dec-10	0.00015	0.00005	0.01		0.000462
	MW-32	Mar-10	0.0113 J	0.00005	0.01		0.000462
		Jun-10	0.0099 J	0.00005	0.01		0.000462
		Sep-10	0.0101 J	0.00005	0.01		0.000462
		Dec-10	0.0107 J	0.00005	0.01		0.000462
	MW-33A	Mar-10	0.00023	0.00005	0.01		0.000462
		Sep-10	0.00014 J	0.00005	0.01		0.000462
	MW-33C	Mar-10	0.0025 J	0.00005	0.01		0.000462
		Jun-10	0.00253	0.00005	0.01		0.000462
		Sep-10	0.0027 J	0.00005	0.01		0.000462
		Dec-10	0.00262	0.00005	0.01		0.000462
	MW-34A	Mar-10	0.00048	0.00005	0.01		0.000462
		Jun-10	0.00051	0.00005	0.01		0.000462
		Sep-10	0.00052	0.00005	0.01		0.000462
		Dec-10	0.0005 J	0.00005	0.01		0.000462
	MW-34C	Mar-10	0.0012	0.00005	0.01		0.000462
		Jun-10	0.0012	0.00005	0.01		0.000462
		Sep-10	0.0013 J	0.00005	0.01		0.000462
		Dec-10	0.0012 J	0.00005	0.01		0.000462
	MW-35	Mar-10	0.00013	0.00005	0.01		0.000462
		Jun-10	0.00016 J	0.00005	0.01		0.000462
		Sep-10	0.00014	0.00005	0.01		0.000462
		Dec-10	0.00013	0.00005	0.01		0.000462
	MW-36A	Mar-10	0.0009 J	0.00005	0.01		0.000462
		Jun-10	0.0009 J	0.00005	0.01		0.000462
		Sep-10	0.00102	0.00005	0.01		0.000462
		Dec-10	0.00094	0.00005	0.01		0.000462
	MW-39	Mar-10	0.00102	0.00005	0.01		0.000462
		Jun-10	0.0028 J	0.00005	0.01		0.000462
		Sep-10	0.0015 J	0.00005	0.01		0.000462
		Dec-10	0.0023 J	0.00005	0.01		0.000462
	MW-4	Mar-10	0.0005	0.00005	0.01		0.000462
		Jun-10	0.00062	0.00005	0.01		0.000462
		Sep-10	0.00099 J	0.00005	0.01		0.000462
		Dec-10	0.00052	0.00005	0.01		0.000462
	MW-42	Mar-10	0.0016 J	0.00005	0.01		0.000462
		Jun-10	0.0013 J	0.00005	0.01		0.000462
		Sep-10	0.0017 J	0.00005	0.01		0.000462
		Dec-10	0.0017 J	0.00005	0.01		0.000462
	MW-9	Mar-10	0.00041	0.00005	0.01		0.000462
		Jun-10	0.0003 J	0.00005	0.01		0.000462

J result is an estimate, or elevated reporting limit

Table 7. 2010 WAC 173-200, Federal MCL, and MTCA Exceedances in Groundwater, OVSL

Parameter	Well	Event	Result	WAC 173-200	Primary MCL	Secondary MCL	MTCA Cleanup Level
Iron, Dissolved	MW-23A	Mar-10	0.73	0.3		0.3	0.3
		Jun-10	0.99	0.3		0.3	0.3
		Sep-10	1.4	0.3		0.3	0.3
	MW-29A	Mar-10	4.6	0.3		0.3	0.3
		Sep-10	3.7	0.3		0.3	0.3
	MW-32	Mar-10	0.66	0.3		0.3	0.3
		Jun-10	0.68	0.3		0.3	0.3
		Sep-10	0.89	0.3		0.3	0.3
		Dec-10	0.7	0.3		0.3	0.3
	MW-33A	Mar-10	1.2	0.3		0.3	0.3
	MW-34C	Mar-10	1.4	0.3		0.3	0.3
		Jun-10	1.4 J	0.3		0.3	0.3
		Sep-10	1.2	0.3		0.3	0.3
		Dec-10	1.1	0.3		0.3	0.3
	MW-39	Mar-10	34	0.3		0.3	0.3
		Jun-10	45	0.3		0.3	0.3
		Sep-10	33	0.3		0.3	0.3
		Dec-10	42	0.3		0.3	0.3
	MW-42	Mar-10	27	0.3		0.3	0.3
		Jun-10	26 J	0.3		0.3	0.3
		Sep-10	23	0.3		0.3	0.3
		Dec-10	26	0.3		0.3	0.3
	MW-9	Mar-10	0.45	0.3		0.3	0.3
		Jun-10	0.42	0.3		0.3	0.3
Manganese, Dissolved	MW-19C	Mar-10	0.95	0.05		0.05	0.05
		Jun-10	1.1	0.05		0.05	0.05
		Sep-10	1.1	0.05		0.05	0.05
		Dec-10	1.1	0.05		0.05	0.05
	MW-23A	Mar-10	2.3	0.05		0.05	0.05
		Jun-10	2.3	0.05		0.05	0.05
		Sep-10	2.4 J	0.05		0.05	0.05
		Dec-10	1.5	0.05		0.05	0.05
	MW-24	Mar-10	1.7	0.05		0.05	0.05
		Jun-10	1.2	0.05		0.05	0.05
		Sep-10	1.9	0.05		0.05	0.05
		Dec-10	2.1	0.05		0.05	0.05
	MW-29A	Mar-10	1.5	0.05		0.05	0.05
		Sep-10	1.2	0.05		0.05	0.05
	MW-2B1	Jun-10	2.4	0.05		0.05	0.05
		Sep-10	2.5 J	0.05		0.05	0.05
		Dec-10	0.5	0.05		0.05	0.05
	MW-32	Mar-10	2.1	0.05		0.05	0.05
		Jun-10	2.1	0.05		0.05	0.05
		Sep-10	2.9	0.05		0.05	0.05
		Dec-10	2.1	0.05		0.05	0.05
	MW-33C	Mar-10	0.13	0.05		0.05	0.05
		Jun-10	0.13	0.05		0.05	0.05
		Sep-10	0.14	0.05		0.05	0.05
		Dec-10	0.14	0.05		0.05	0.05
	MW-34C	Mar-10	0.96	0.05		0.05	0.05
		Jun-10	0.9	0.05		0.05	0.05
		Sep-10	0.85 J	0.05		0.05	0.05
		Dec-10	0.86	0.05		0.05	0.05
	MW-39	Mar-10	0.46	0.05		0.05	0.05
		Jun-10	0.47	0.05		0.05	0.05
		Sep-10	0.49	0.05		0.05	0.05
		Dec-10	0.92	0.05		0.05	0.05
	MW-4	Mar-10	0.7	0.05		0.05	0.05
		Jun-10	1	0.05		0.05	0.05
		Sep-10	1.1	0.05		0.05	0.05
		Dec-10	0.16	0.05		0.05	0.05
	MW-42	Mar-10	5.4	0.05		0.05	0.05
		Jun-10	5.3	0.05		0.05	0.05
		Sep-10	4.3	0.05		0.05	0.05
		Dec-10	5.1	0.05		0.05	0.05
	MW-43	Mar-10	0.22	0.05		0.05	0.05
		Jun-10	0.26	0.05		0.05	0.05
		Sep-10	0.11	0.05		0.05	0.05

J result is an estimate, or elevated reporting limit

Table 7. 2010 WAC 173-200, Federal MCL, and MTCA Exceedances in Groundwater, OVSL

Parameter	Well	Event	Result	WAC 173-200	Primary MCL	Secondary MCL	MTCA Cleanup Level
Ammonia	MW-19C	Mar-10	0.43				0.19
		Jun-10	0.32				0.19
		Sep-10	0.5				0.19
		Dec-10	0.43				0.19
	MW-2B1	Mar-10	1.7				0.19
		Jun-10	2.2				0.19
		Sep-10	1.4				0.19
	MW-39	Mar-10	0.28				0.19
		Jun-10	0.24				0.19
		Sep-10	0.39				0.19
		Dec-10	0.48				0.19
	MW-42	Mar-10	5.5				0.19
		Jun-10	3.7				0.19
		Sep-10	4.7				0.19
		Dec-10	4.5				0.19
Vinyl chloride	MW-15R	Mar-10	0.08	0.02	2		0.2
		Jun-10	0.16	0.02	2		0.2
		Sep-10	0.06	0.02	2		0.2
	MW-19C	Mar-10	0.08	0.02	2		0.2
		Jun-10	0.09	0.02	2		0.2
		Sep-10	0.11	0.02	2		0.2
		Dec-10	0.12	0.02	2		0.2
	MW-20	Jun-10	0.25	0.02	2		0.2
		Sep-10	0.11	0.02	2		0.2
		Dec-10	0.12	0.02	2		0.2
	MW-23A	Mar-10	0.03	0.02	2		0.2
		Jun-10	0.05	0.02	2		0.2
		Sep-10	0.04	0.02	2		0.2
	MW-32	Mar-10	0.4	0.02	2		0.2
		Jun-10	0.49	0.02	2		0.2
		Sep-10	0.31	0.02	2		0.2
		Dec-10	0.45	0.02	2		0.2
	MW-34C	Mar-10	0.24	0.02	2		0.2
		Jun-10	0.32	0.02	2		0.2
		Sep-10	0.26	0.02	2		0.2
		Dec-10	0.19	0.02	2		0.2
	MW-4	Mar-10	0.05	0.02	2		0.2
		Jun-10	0.11	0.02	2		0.2
		Sep-10	0.06	0.02	2		0.2
	MW-42	Mar-10	0.05	0.02	2		0.2
		Sep-10	0.04	0.02	2		0.2
		Dec-10	0.09	0.02	2		0.2

J result is an estimate, or elevated reporting limit

Table 8. 2010 Prediction Limit Exceedances in Groundwater, OVSL

Well	Parameter	Unit	Date Sampled	Latest Result	Prediction Limit
MW-15R	Alkalinity, bicarbonate (as caco3)	MG/L	12/08/2010	130	92
MW-15R	Alkalinity, total (as caco3)	MG/L	12/08/2010	130	92
MW-15R	Barium, dissolved	MG/L	12/08/2010	0.0067	0.0042
MW-15R	Calcium, dissolved	MG/L	12/08/2010	24	17.1
MW-15R	Chloride	MG/L	12/08/2010	3.9	3.5097
MW-15R	Magnesium, dissolved	MG/L	12/08/2010	14	10.06
MW-15R	Manganese, dissolved	MG/L	12/08/2010	0.0026	0.001
MW-15R	Sodium, dissolved	MG/L	12/08/2010	7.3	6.2
MW-15R	Specific conductivity	mS/cm	12/08/2010	0.248	0.174
MW-15R	Sulfate	MG/L	12/08/2010	5.3	5.2935
MW-29A	Arsenic, dissolved	UG/L	09/23/2010	1.86	0.4662
MW-29A	Barium, dissolved	MG/L	09/23/2010	0.013	0.0042
MW-29A	Iron, dissolved	MG/L	09/23/2010	3.7	0.097
MW-29A	Manganese, dissolved	MG/L	09/23/2010	1.2	0.001
MW-29A	pH	pH Units	09/23/2010	5.68	6.27 - 7.85
MW-32	Alkalinity, bicarbonate (as caco3)	MG/L	12/09/2010	150	92
MW-32	Alkalinity, total (as caco3)	MG/L	12/09/2010	150	92
MW-32	Arsenic, dissolved	UG/L	12/09/2010	10.7	0.4662
MW-32	Barium, dissolved	MG/L	12/09/2010	0.0052	0.0042
MW-32	Calcium, dissolved	MG/L	12/09/2010	26	17.1
MW-32	Chloride	MG/L	12/09/2010	9	3.5097
MW-32	Iron, dissolved	MG/L	12/09/2010	0.7	0.097
MW-32	Magnesium, dissolved	MG/L	12/09/2010	14	10.06
MW-32	Manganese, dissolved	MG/L	12/09/2010	2.1	0.001
MW-32	Sodium, dissolved	MG/L	12/09/2010	16	6.2
MW-32	Specific conductivity	mS/cm	12/09/2010	0.314	0.174
MW-32	Sulfate	MG/L	12/09/2010	15	5.2935
MW-32	Temperature	deg C	12/09/2010	11.83	11.2306
MW-32	Total dissolved solids (tds)	MG/L	12/09/2010	200	175
MW-33A	Manganese, dissolved	MG/L	09/22/2010	0.0015	0.001
MW-33C	Arsenic, dissolved	UG/L	12/09/2010	2.62	0.4662
MW-33C	Chloride	MG/L	12/09/2010	3.9	3.5097
MW-33C	Manganese, dissolved	MG/L	12/09/2010	0.14	0.001
MW-33C	Potassium, dissolved	MG/L	12/09/2010	1.2	1.0
MW-33C	Sulfate	MG/L	12/09/2010	8.1	5.2935
MW-34A	Alkalinity, bicarbonate (as caco3)	MG/L	12/08/2010	120	92
MW-34A	Alkalinity, total (as caco3)	MG/L	12/08/2010	120	92
MW-34A	Arsenic, dissolved	UG/L	12/08/2010	0.5	0.4662
MW-34A	Barium, dissolved	MG/L	12/08/2010	0.0054	0.0042
MW-34A	Calcium, dissolved	MG/L	12/08/2010	22	17.1
MW-34A	Chloride	MG/L	12/08/2010	6.7	3.5097
MW-34A	Magnesium, dissolved	MG/L	12/08/2010	11	10.06
MW-34A	Sodium, dissolved	MG/L	12/08/2010	12	6.2
MW-34A	Specific conductivity	mS/cm	12/08/2010	0.279	0.174
MW-34C	Alkalinity, bicarbonate (as caco3)	MG/L	12/08/2010	170	92
MW-34C	Alkalinity, total (as caco3)	MG/L	12/08/2010	170	92
MW-34C	Arsenic, dissolved	UG/L	12/08/2010	1.2	0.4662
MW-34C	Barium, dissolved	MG/L	12/08/2010	0.014	0.0042
MW-34C	Calcium, dissolved	MG/L	12/08/2010	35	17.1
MW-34C	Chloride	MG/L	12/08/2010	9.4	3.5097
MW-34C	Iron, dissolved	MG/L	12/08/2010	1.1	0.097
MW-34C	Magnesium, dissolved	MG/L	12/08/2010	15	10.06
MW-34C	Manganese, dissolved	MG/L	12/08/2010	0.86	0.001

Table 8. 2010 Prediction Limit Exceedances in Groundwater, OVSL

Well	Parameter	Unit	Date Sampled	Latest Result	Prediction Limit
MW-34C	Potassium, dissolved	MG/L	12/08/2010	1.2	1.0
MW-34C	Sodium, dissolved	MG/L	12/08/2010	17	6.2
MW-34C	Specific conductivity	mS/cm	12/08/2010	0.366	0.174
MW-34C	Sulfate	MG/L	12/08/2010	6	5.2935
MW-34C	Temperature	deg C	12/08/2010	11.77	11.2306
MW-34C	Total dissolved solids (tds)	MG/L	12/08/2010	220	175
MW-36A	Arsenic, dissolved	UG/L	12/08/2010	0.94	0.4662
MW-39	Alkalinity, bicarbonate (as caco3)	MG/L	12/09/2010	130	92
MW-39	Alkalinity, total (as caco3)	MG/L	12/09/2010	130	92
MW-39	Ammonia (as n)	MG/L	12/09/2010	0.48	0.146
MW-39	Arsenic, dissolved	UG/L	12/09/2010	2.3	0.4662
MW-39	Barium, dissolved	MG/L	12/09/2010	0.016	0.0042
MW-39	Chloride	MG/L	12/09/2010	3.7	3.5097
MW-39	Cobalt, dissolved	MG/L	12/09/2010	0.008	0.003
MW-39	Iron, dissolved	MG/L	12/09/2010	42	0.097
MW-39	Manganese, dissolved	MG/L	12/09/2010	0.92	0.001
MW-39	pH	pH Units	12/09/2010	5.97	6.27 - 7.85
MW-39	Sodium, dissolved	MG/L	12/09/2010	6.6	6.2
MW-39	Specific conductivity	mS/cm	12/09/2010	0.256	0.174
MW-39	Temperature	deg C	12/09/2010	11.61	11.2306
MW-42	Alkalinity, bicarbonate (as caco3)	MG/L	12/08/2010	260	92
MW-42	Alkalinity, total (as caco3)	MG/L	12/08/2010	260	92
MW-42	Ammonia (as n)	MG/L	12/08/2010	4.5	0.146
MW-42	Arsenic, dissolved	UG/L	12/08/2010	1.7	0.4662
MW-42	Barium, dissolved	MG/L	12/08/2010	0.13	0.0042
MW-42	Calcium, dissolved	MG/L	12/08/2010	40	17.1
MW-42	Chloride	MG/L	12/08/2010	12	3.5097
MW-42	Cobalt, dissolved	MG/L	12/08/2010	0.0033	0.003
MW-42	Iron, dissolved	MG/L	12/08/2010	26	0.097
MW-42	Magnesium, dissolved	MG/L	12/08/2010	17	10.06
MW-42	Manganese, dissolved	MG/L	12/08/2010	5.1	0.001
MW-42	Potassium, dissolved	MG/L	12/08/2010	6.7	1.0
MW-42	Sodium, dissolved	MG/L	12/08/2010	26	6.2
MW-42	Specific conductivity	mS/cm	12/08/2010	0.262	0.174
MW-42	Sulfate	MG/L	12/08/2010	13	5.2935
MW-42	Temperature	deg C	12/08/2010	12.47	11.2306
MW-42	Total dissolved solids (tds)	MG/L	12/08/2010	260	175
MW-42	Total organic carbon (toc)	MG/L	12/08/2010	7.5	6.0
MW-43	Manganese, dissolved	MG/L	12/08/2010	0.042	0.001
MW-43	pH	pH Units	12/08/2010	5.76	6.27 - 7.85
MW-9	Iron, dissolved	MG/L	06/24/2010	0.42	0.097
MW-9	Manganese, dissolved	MG/L	06/24/2010	0.032	0.001

Notes:

[1] for wells not sampled in current quarter, exceedances shown are from the most recent sampling event

- Compliance Wells MW-39, MW-15R, MW-34A, MW-34C, MW-42, MW-43

- Downgradient Wells MW-36A, MW-33A, MW-33C, MW-32, MW-29A, MW-9

Table 9. Summary of 2010 Increasing and Decreasing Parameter Trends in Groundwater: January 2005 - December 2010, OVSL

Sen's Trend Test A *= all organic parameters listed in Appendix I and Appendix II of WAC 173-351-990 that have been detected at least once in at least one of 22 wells comprising the network of 1) compliance, 2) performance, 3) downgradient, and 4) upgradient site monitoring wells, during the trend test period. This includes the following constituents:*

Parameter	**Significant Increasing Trends**	**Significant Decreasing Trends**
1,1-Dichloroethane	None	None
1,2-Dichloroethene (total)	None	None
1,2-Dichlorobenzene	None	None
1,4-Dichlorobenzene	None	None
Acetone	None	None
Benzene	None	None
Carbon Disulfide	None	None
Chlorobenzene	None	None
Chlorodifluoromethane	None	None
Chloroethane	None	None
Chloroform	None	None
Chloromethane	None	None
cis-1,2-dichloroethene	None	None
Dichlorodifluoromethane	None	None
Ethyl Ether	None	None
Methylene Chloride	None	None
Naphthalene	None	None
n-Butyl Alcohol	None	None
tert-Butyl Alcohol	None	None
Tetrachloroethene	None	None
Tetrahydrofuran	None	None
Toluene	None	None
trans-1,2-Dichloroethene	None	None
Trichloroethene	None	None
Vinyl Chloride	None	Well MW-23A (graph 535) Well MW-24 (graph 536)

Trend Test Wells:

- Compliance Wells MW-39, MW-15R, MW-34A, MW-34C, MW-42, MW-43
- Performance Wells MW-24, MW-23A, MW-2B1, MW-20, MW-19C, MW-4
- Downgradient Wells MW-36A, MW-33A, MW-33C, MW-32, MW-29A, MW-9
- Upgradient Wells MW-13A, MW-13B, MW-35, MW-16

Table 9. Summary of 2010 Increasing and Decreasing Parameter Trends in Groundwater: January 2005 - December 2010, OVSL

Sen's Trend Test B *= all metals and groundwater quality parameters listed in Appendix I and Appendix II of WAC (173-351-990)*

Parameter	Significant Increasing Trends	Significant Decreasing Trends
Antimony, dissolved	None	None
Arsenic, dissolved	None	MW-19C (graph 93) MW-24 (graph 96) MW-34C (graph 103)
Barium, dissolved	None	MW-24 (graph 118) MW-29A (graph 119) MW-36A (graph 127)
Beryllium, dissolved	None	None
Cadmium, dissolved	None	None
Chromium, dissolved	None	None
Cobalt, dissolved	None	None
Copper, dissolved	None	None
Lead, dissolved	None	None
Nickel, dissolved	None	None
Selenium, dissolved	None	None
Silver, dissolved	None	None
Thallium, dissolved	None	None
Vanadium, dissolved	None	None
Zinc, dissolved	None	None
Nitrate (as N)	None	None
pH	None	None
Specific Conductivity	None	MW-19C (graph 533) MW-24 (graph 536) MW-36A (graph 545)
Temperature	None	MW-24 (graph 580)
Calcium, dissolved	None	MW-24 (graph 184) MW-29A (graph 185) MW-9 (graph 198)
Bicarbonate Alkalinity (as CaCO3)	MW-13A (graph 1), MW-13B (graph 2) , MW-34C (graph 15), MW-35 (graph 16)	None
Magnesium, dissolved	None	None
Sulfate	MW-24 (graph 558)	MW-13B (graph 552) MW-19C (graph 555)

Trend Test Wells:

- Compliance Wells MW-39, MW-15R, MW-34A, MW-34C, MW-42, MW-43
- Performance Wells MW-24, MW-23A, MW-2B1, MW-20, MW-19C, MW-4
- Downgradient Wells MW-36A, MW-33A, MW-33C, MW-32, MW-29A, MW-9
- Upgradient Wells MW-13A, MW-13B, MW-35, MW-16

Table 9. Summary of 2010 Increasing and Decreasing Parameter Trends in Groundwater: January 2005 - December 2010, OVSL

Sen's Trend Test B *= all metals and groundwater quality parameters listed in Appendix I and Appendix II of WAC (173-351-990)*

Parameter	Significant Increasing Trends	Significant Decreasing Trends
Sodium, dissolved	MW-32 (graph 517)	MW-19C (graph 511)
Chloride	None	None
Potassium, dissolved	None	MW-36A (graph 457)
Total Alkalinity as CaCO3	MW-13A (graph 23), MW-13B (graph 24), MW-34C (graph 37), MW-35 (graph 38)	None
Iron, dissolved	MW-23A (graph 293)	MW-19C (graph 291) MW-24 (graph 294)
Manganese, dissolved	None	MW-15R (graph 355) MW-24 (graph 360)
Ammonia (as N)	None	MW-36A (graph 61)
Total Organic Carbon	None	None
Total Dissolved Solids	None	MW-24 (graph 624) MW-33A (graph 628) MW-36A (graph 633)

Trend Test Wells:

- Compliance Wells MW-39, MW-15R, MW-34A, MW-34C, MW-42, MW-43
- Performance Wells MW-24, MW-23A, MW-2B1, MW-20, MW-19C, MW-4
- Downgradient Wells MW-36A, MW-33A, MW-33C, MW-32, MW-29A, MW-9
- Upgradient Wells MW-13A, MW-13B, MW-35, MW-16

Table 10. 2010 Leachate Leak Detection System Volumes, Olympic View Sanitary Landfill

Date	Totalizer Volume (Gals)	Comments
1/4/2010	0	
1/11/2010	0	
1/18/2010	0	
1/25/2010	0	
2/1/2010	0	Pump repaired to reflect accurate values
2/8/2010	2	
2/15/2010	0	
2/22/2010	0	
3/1/2010	15	
3/8/2010	0	
3/15/2010	0	
3/22/2010	0	
3/29/2010	33	
4/5/2010	4	
4/12/2010	2	
4/19/2010	4	
4/26/2010	1	
5/3/2010	5	
5/10/2010	0	
5/17/2010	0	
5/24/2010	0	
5/31/2010	18	
6/7/2010	0	
6/14/2010	0	
6/21/2010	1	
6/28/2010	9	
7/5/2010	4	
7/12/2010	1	
7/19/2010	1	
7/26/2010	58	
8/2/2010	6	
8/9/2010	14	
8/16/2010	3	
8/23/2010	5	
8/30/2010	2	
9/7/2010	4	
9/13/2010	0	
9/20/2010	2	
9/27/2010	3	
10/4/2010	1	
10/11/2010	3	
10/18/2010	0	
10/25/2010	4	
11/1/2010	9	
11/8/2010	15	
11/15/2010	1	
11/22/2010	63	
11/29/2010	0	
12/6/2010	10	
12/13/2010	11	
12/20/2010	0	
12/27/2010	0	
2010 TOTAL	136.0	

Table 11. Results of Landfill Gas Monitoring, Olympic View Sanitary Landfill

Results of Landfill Gas Monitoring

SCS Engineers

Landfill Gas Monitoring Network — 04204027.14

Olympic View Landfill

Waste Management Incorporated — 4th Quarter 2010

Location Reference Designation	Date	Time	Pressure (in. H2O)	CH4 (% vol.)	CO2 (% vol.)	O2 (% vol.)	Comments: Spike CH4 *Note 1* (% vol.)	Spike CO2 *Note 1* (% vol.)	Depth to Water TOP (ft)	Exposed Portion of Perforations *Note 2 & 3* (ft)	(%)	Other
Subsurface Gas Detection Wells (Gas Probes)												
GP-7	22-Dec	12:38	0.09	0.0	8.3	1.8			6.6	-0.5	0%	
GP-8	22-Dec	12:53	0.00	0.0	2.4	2.4			17.3	4.5	90%	
GP-9s	22-Dec	13:02	0.00	0.0	2.3	16.3						
GP-9d	22-Dec	13:04	0.00	0.0	1.7	17.8			27.8	4.1	82%	
GP-10s	23-Dec	9:22	0.00	0.0	3.2	11.1						
GP-10d	23-Dec	9:25	0.00	0.0	2.8	10.1			22.8	1.8	36%	
GP-11s	23-Dec	9:31	0.00	0.0	2.4	16.5						
GP-11d	23-Dec	9:34	0.00	0.0	2.1	16.4			22.6	0.3	6%	
GP-12s	23-Dec	9:48	0.00	0.0	2.2	17.0						
GP-12m	23-Dec	9:51	0.00	0.0	1.8	16.1						
GP-12d	23-Dec	9:57	0.00	0.0	1.0	18.8			35.1	-8.2	0%	
GP-13s	23-Dec	10:02	0.00	0.0	3.9	14.7						
GP-13m	23-Dec	10:05	0.00	0.0	3.5	14.5						
GP-13d	23-Dec	10:15	0.00	0.0	0.4	19.5			47.9	5.1	51%	
GP-14	23-Dec	11:43	0.00	0.0	3.4	18.6			12.5	4.6	92%	
GP-15	23-Dec	11:51	0.00	0.0	1.3	19.4			11.6	4.5	90%	
GP-16	23-Dec	12:03	0.00	0.0	6.7	11.2			11.9	4.5	90%	
Onsite Building Interiors												
MB-Of												Note 4.
MB-Ba												Note 4.
MB-Sh												Note 4.
WS-R1												Note 4.
WS-Of												Note 4.
WS-R2												Note 4.
OldTB												Note 4.
MN-Wh												Note 4.
SH-SS	22-Dec	13:28		0.0	0.0	20.0						
SH-NS	22-Dec	13:32		0.0	0.0	20.0						
SH-In	22-Dec	13:30		0.0	0.0	20.0						
SS-Wh	22-Dec	13:18		0.0	0.2	19.9						
WR-Sh												Note 4.

General Data

Date:	27-Sep-10	Weather Conditions	
Monitored by:	V. Shaffer	Sky Cover:	Mostly Cloudy
Instruments:	GEM 2000 & Water Level Indicator	Wind / Rain / Snow:	Wind ~ 5mph NE
Calibration Date:	27-Sep-10	Temperature:	67.5
		Preceding 24 hr Baro. Trend:	see graph

Notes

1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling
2. Exposed Perforation = perforated pipe section not submerged by water
3. Water levels not measured for shallow and middle monitoring zone pipes.
4. No monitoring at these locations. Building has been demolished, and no longer exists.

CH4 = Methane
CO2 = Carbon Dioxide
O2 = Oxygen
GP = Gas Probe
S = Shallow Monitoring Zone
M = Middle Monitoring Zone
D = Deep Monitoring Zone
TOP = from Top of Pipe
TOP = from Top of Pipe

MB-Of = Maintenance Building - Office
MB-Ba = Maintenance Building - Bathroom
MB-Sh = Maintenance Building - Shed
WS-R1 = Welding Shop - Storage Room 1
WS-Of = Welding Shop - Office
WS-R2 = Welding Shop - Storage Room 2

MN-WH = Main Well House
OldTB = Old Toll Booth
SH-SS = Scale House - South Side Exterior
SH-NS = Scale House - North Side Exterior
SH-Of = Scale House - Office Interior
SS-WH = South Slope Well House
WR-Sh = Wash Rack Shed

Table 12. Summary of 2010 Landfill Gas Monitoring Results, Olympic View Sanitary Landfill

Location	Date	Pressure (in. H2O)	CH4 (% vol.)	CO2 (% vol.)	O2 (% vol.)
GP-7	Mar-10	0.00	0.0	5.1	3.0
	Jun-10	0.00	0.0	8.0	3.5
	Sep-10	0.00	0.0	11.0	6.6
	Dec-10	0.09	0.0	8.3	1.8
GP-8	Mar-10	-0.01	0.0	2.1	8.5
	Jun-10	-0.02	0.0	0.2	20.1
	Sep-10	0.00	0.0	4.1	9.7
	Dec-10	0.00	0.0	2.4	2.4
GP-9s	Mar-10	-0.01	0.0	2.5	18.4
	Jun-10	2.09	0.0	3.5	16.6
	Sep-10	0.00	0.0	2.1	18.5
	Dec-10	0.00	0.0	2.3	16.3
GP-9d	Mar-10	0.00	0.0	1.7	19.3
	Jun-10	0.00	0.0	1.6	18.0
	Sep-10	0.00	0.0	1.5	19.0
	Dec-10	0.00	0.0	1.7	17.8
GP-10s	Mar-10	-0.01	0.0	0.2	21.6
	Jun-10	0.00	0.0	0.9	19.3
	Sep-10	0.00	0.0	0.9	20.5
	Dec-10	0.00	0.0	3.2	11.1
GP-10d	Mar-10	0.09	0.0	0.7	19.3
	Jun-10	0.06	0.0	0.7	18.3
	Sep-10	0.00	0.0	1.0	20.6
	Dec-10	0.00	0.0	2.8	10.1
GP-11s	Mar-10	0.01	0.0	1.9	18.0
	Jun-10	0.00	0.0	2.5	17.3
	Sep-10	0.00	0.0	2.0	19.1
	Dec-10	0.00	0.0	2.4	16.5
GP-11d	Mar-10	-0.02	0.0	1.7	18.9
	Jun-10	0.00	0.0	1.6	18.1
	Sep-10	0.00	0.0	0.4	20.5
	Dec-10	0.00	0.0	2.1	16.4
GP-12s	Mar-10	-0.05	0.0	1.5	20.7
	Jun-10	0.00	0.0	2.3	17.5
	Sep-10	0.00	0.0	1.9	18.7
	Dec-10	0.00	0.0	2.2	17.0
GP-12m	Mar-10	-0.13	0.0	1.3	20.9
	Jun-10	0.00	0.0	2.2	16.8
	Sep-10	0.00	0.0	1.3	19.0
	Dec-10	0.00	0.0	1.8	16.1
GP-12d	Mar-10	-2.71	0.0	1.4	18.0
	Jun-10	0.00	0.0	0.7	18.4
	Sep-10	0.00	0.0	0.7	19.4
	Dec-10	0.00	0.0	1.0	18.8

Table 12. Summary of 2010 Landfill Gas Monitoring Results, Olympic View Sanitary Landfill

Location	Date	Pressure (in. H2O)	CH4 (% vol.)	CO2 (% vol.)	O2 (% vol.)
GP-13s	Mar-10	-0.05	0.0	1.2	17.0
	Jun-10	-0.02	0.0	2.7	15.8
	Sep-10	0.00	0.0	1.1	17.5
	Dec-10	0.00	0.0	3.9	14.7
GP-13m	Mar-10	0.52	0.0	3.2	12.7
	Jun-10	0.00	0.0	3.0	13.4
	Sep-10	0.00	0.0	3.2	15.3
	Dec-10	0.00	0.0	3.5	14.5
GP-13d	Mar-10	0.00	0.0	2.5	15.6
	Jun-10	-0.06	0.0	2.4	14.9
	Sep-10	0.00	0.0	0.3	20.7
	Dec-10	0.00	0.0	0.4	19.5
GP-14	Mar-10	0.00	0.0	6.0	2.8
	Jun-10	-0.02	0.0	7.3	4.5
	Sep-10	0.00	0.0	10.2	8.2
	Dec-10	0.00	0.0	3.4	18.6
GP-15	Mar-10	2.29	0.2	1.9	10.0
	Jun-10	0.01	0.0	0.2	19.6
	Sep-10	0.00	0.0	0.8	20.3
	Dec-10	0.00	0.0	1.3	19.4
GP-16	Mar-10	0.54	0.0	7.0	10.4
	Jun-10	0.07	0.0	9.3	9.2
	Sep-10	0.00	0.0	7.4	12.6
	Dec-10	0.00	0.0	6.7	11.2

SCS FIELD SERVICES

DAILY LOG

JOB NO.	07207006.02	**TASK NO.**	3	**DATE**	3-16-10	**PROJECT NAME**	OVSL
TEMP	32	**BARO**	29.99	**WIND**	N. 4	**WEATHER**	Clouds, fog 46 F

SCS-FS LABOR	HOURS	OT		HOURS	OT
V.L.Shaffer	9.5				
			DAILY TOTAL		

EQUIP, SVCS, MTLS, MLG	QTY	UNITS		QTY	UNITS
F- 250	1				

INSTRUMENT CALIBRATION (CAL. GAS)		CH4 (%-VOL)	CH4 (%-LEL)	02 LOW SCALE (%-VOL)	CO2 (%-VOL)	H2S (PPM)
MODEL	S/N					
Gem 2000 7:45	11600	50.0		20.9	35.0	

Flare Data	Temp	CH4	CO2	O2	Flow	L.E.U.
ON -13.5	1534	45.8	28.9	1.3	724	OFF

SUMMARY Calibrate Gem 2000

Sample blower flare and make adjustments.

Sample well field and adjust well field.

Dewatering well field and pumping on E.W. 78

Cycle counter 9928 and 2" flow meter @ 4660 gals

Sample Gas Probes and depth to water measurements.

HIGH WINDS AND POWER OUTAGE: FLARE DOWN @ 14:15

Restart flare skid @ 15:12, after, reset of the beaker box and air compressor. Build up of air pressure was needed to open the actuator Valve.

9.5 hours

PREPARED BY: V.L.Shaffer ACCEPTED BY: _____

SCS FIELD SERVICES

DAILY LOG

JOB NO.	07207006.02	**TASK NO.**	1 & 3	**DATE**	3-17-10	**PROJECT NAME**	OVSL
TEMP	36	**BARO**	30.23	**WIND**	N. 10	**WEATHER**	Clouds , fog 48 F

SCS-FS LABOR	HOURS	OT		HOURS	OT
V.L.Shaffer	8				
			DAILY TOTAL		

EQUIP, SVCS, MTLS, MLG	QTY	UNITS		QTY	UNITS
F- 250	1				

INSTRUMENT CALIBRATION (CAL. GAS)		CH4 (%-VOL)	CH4 (%-LEL)	02 LOW SCALE (%-VOL)	CO2 (%-VOL)	H2S (PPM)
MODEL	S/N					
Gem 2000 7:05	11600	50.0		20.9	35.0	

Flare Data	Temp	CH4	CO2	O2	Flow	L.E.U.
ON -13.1	1532	43.9	27.8	1.8	724	OFF

SUMMARY Calibrate Gem 2000

Sample blowers flare M.S.-inlet and make adjustments.

Sample well field and adjust well field.

Upload Gas Probes into L.G.M.S.

Install new check valve in line to the discharge side of the Barney White flow meter.

Install rebuilt flow meter and check valve in line on the Condensate trap discharge line.

8 hours

PREPARED BY: V.L.Shaffer ACCEPTED BY: _____

SCS FIELD SERVICES

DAILY LOG

JOB NO.	07207006.02	**TASK NO.**	3 & 4	**DATE**	3-23-10	**PROJECT NAME**	OVSL
TEMP	37	**BARO**	30.28	**WIND**	N. 5	**WEATHER**	Clouds , fog 41 F

SCS-FS LABOR	HOURS	OT		HOURS	OT
V.L.Shaffer	8				
			DAILY TOTAL		

EQUIP, SVCS, MTLS, MLG	QTY	UNITS		QTY	UNITS
F- 250	1				

INSTRUMENT CALIBRATION (CAL. GAS)		CH4 (%-VOL)	CH4 (%-LEL)	02 LOW SCALE (%-VOL)	CO2 (%-VOL)	H2S (PPM)
MODEL	S/N					
Gem 2000 7:05	11600	50.0		20.9	35.0	

Flare Data	Temp	CH4	CO2	O2	Flow	L.E.U.
ON -13.3	1532	42.7	28.3	1.4	718	OFF

SUMMARY Sample flare skid and make adjustments.

Sample G-P's, collect water level data and sample out buildings. Sample interior and exterior of the out build. Interior reading stored first.

Start air compressor and dewater well field. Pneumatic pump in E.W. 79 well is pumped dry.

Check L.R.'s in hand mode: flow and pumps are in good working order.

E.W. 82: replace 2" flex hose and 2" clamps

Work on moving the 2" discharge line from E.W. 79 TO E.W. 71, add 80ft.

8 hours

PREPARED BY: V.L.Shaffer ACCEPTED BY: _____

LANDFILL GAS MONITORING
GEM 2000 CALIBRATION AND PERTINENT DATA

Date: 3-16-2010 Site Name O.V.S.L.

Technician: V.L.S. Job No. 07207006.02

WEATHER OBSERVATIONS

Wind Speed: 12 MPH Wind Direction: N.E. 12 Barometric Pressure: 30.28"Hg

Air Temperature: 37 o F General Weather Conditions: Clouds, 54 F

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 2% of the calibration gas value.

Instrument Serial No. 11600

Calibration Gas: %CH4 50.0% %CO2 35.0% %O2 20.9%

Time	CH4	CO2	O2
7:45	50.0	35.0	20.9

Post-monitoring Calibration Check

Time	CH4	CO2	O2

NOTES:

Zeroed : instrument traducers after each gas reading.

LANDFILL GAS MONITORING
GEM 2000 CALIBRATION AND PERTINENT DATA

Date: 3 -17-2010 Site Name O.V.S.L.

Technician: V.L.S. Job No. 07207006.02

WEATHER OBSERVATIONS (COLD FRONT)

Wind Speed: 15 MPH Wind Direction: N. 20 Barometric Pressure: 30.56 ”Hg

Air Temperature: 37 o F General Weather Conditions: Clouds, 40 F

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 2% of the calibration gas value.

Instrument Serial No. 11600

Calibration Gas: %CH4 50.0% %CO2 35.0% %O2 20.9%

Time	CH4	CO2	O2
7:05	50.0	35.0	20.9

Post-monitoring Calibration Check

Time	CH4	CO2	O2

NOTES:

Zeroed instrument traducers after each gas reading.

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FOI

	Conductivity	pH 7	pH4	ORP/Eh	DO	Turbidity
Date	3.24.10					
Time	0948	0950	0951		0959	0956
Weather (sky or precip, temp)	Over cast ~ 45° F					
Barometric Pressure (*)						
Type of Calibration	std					
Standard Value	0.445	7.00	3.99		100%	813, 105, 0.25, 20.5
Pre-Cal Reading	0.446	7.02	4.00		8.14	800, 100 20, 10.1
Post Cal Reading	0.445	7.00	4.01		8.49	
Descrepancy	n					
Calib. Successful?	y					
Calibration by	CRM					
Instrument Type, ID	MP20					HACH 2100P
Calibration Location	trailer					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FOI

	Conductivity	pH 7	pH4	ORP/Eh	DO	Turbidity
Date	3.25.10					
Time	0822	0824	0826		0844	0831
Weather (sky or precip, temp)	Overcast, drizzle					
Barometric Pressure (*)						
Type of Calibration	std.					
Standard Value	0.445	7.00	4.01		100%	800, 100 20, 10.1
Pre-Cal Reading	0.483	7.08	3.98		74.6%	814, 100 25.19, 10.40
Post Cal Reading	0.445	7.00	4.01		99%	
Descrepancy	n					
Calib. Successful?	y					
Calibration by	am					
Instrument Type, ID	YSI 556					HACH 2100P
Calibration Location	trailer					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FOI

	Conductivity	pH 7	pH4	ORP/Eh	DO	Turbidity
Date	3-25-2010	→	→	→	→	
Time	0820	0824	0824	0835	0830	
Weather (sky or precip, temp)	overcast 47° drizzle	→	→	→	→	
Barometric Pressure (*)	760	→	→	→	→	
Type of Calibration	Std sol	→	→	Sat. Air	Cal check gels.	
Standard Value	0.445	7.00	4.01	100%	0-1000, 0-100 0-10	
Pre-Cal Reading	0.408	7.08	3.93	100% 8.83	507 62 9	
Post Cal Reading	0.445	7.00	4.01	100%	NA	
Descrepancy	N	→	→	→	N	
Calib. Successful?	Y	→	→	→	Y	
Calibration by	B Dean	→	→	→	→	
Instrument Type, ID	MP20	→	→	→	Mach 2100P	
Calibration Location	trailer	→	→	→	→	

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FOI

	Conductivity	pH 7	pH4	ORP/Eh	DO	Turbidity
Date	3-26-10	→	→	→	→	→
Time	0822	0824	0826		0834	0829
Weather (sky or precip, temp)	mostly clear ~42°	→	→	→	→	→
Barometric Pressure (*)	~760	→	→	→	→	→
Type of Calibration	std sol	→	→		Sat. Air	Cal check gels
Standard Value	0.445	7.00	4.01		100%	0-1000 0-100 0-10
Pre-Cal Reading	0.419	7.10	4.01		100% 11.64	500 61.2 8.63
Post Cal Reading	0.445	7.00	4.01		100%	N/A
Descrepancy	No	→	→	→	→	→
Calib. Successful?	Yes	→	→	→	→	→
Calibration by	B Doan	→	→	→	→	→
Instrument Type, ID	MP20	→	→			Hach 2100P
Calibration Location	trailer	→	→	→	→	→

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FOI

	Conductivity	pH 7	pH4	ORP/Eh DU	~~DO~~	Turbidity
Date	3.24.10					
Time	0822	0824	0827	0842		0830
Weather (sky or precip, temp)	43° F	sunny				
Barometric Pressure (*)						
Type of Calibration	std.					
Standard Value	0.445	7.00	4.01	100%		800, 100 20, 40.1
Pre-Cal Reading	0.220	6.88	4.02	117.9%		818, 105 19.4, 0.35
Post Cal Reading	0.445	7.00	4.01	99%		
Descrepancy	N					
Calib. Successful?	Y					
Calibration by	CM					
Instrument Type, ID	~~MP 20~~ YSI 556					HACH 2100P
Calibration Location	trailer					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS FIELD SERVICES

DAILY LOG

JOB NO.	07207006.02	**TASK NO.**	3	**DATE**	3-16-10	**PROJECT NAME**	OVSL
TEMP	32	**BARO**	29.99	**WIND**	N. 4	**WEATHER**	Clouds, fog 46 F

SCS-FS LABOR	HOURS	OT		HOURS	OT
V.L.Shaffer	9.5				
			DAILY TOTAL		

EQUIP, SVCS, MTLS, MLG	QTY	UNITS		QTY	UNITS
F- 250	1				

INSTRUMENT CALIBRATION (CAL. GAS)		CH4 (%-VOL)	CH4 (%-LEL)	02 LOW SCALE (%-VOL)	CO2 (%-VOL)	H2S (PPM)
MODEL	S/N					
Gem 2000 7:45	11600	50.0		20.9	35.0	

Flare Data	Temp	CH4	CO2	O2	Flow	L.E.U.
ON -13.5	1534	45.8	28.9	1.3	724	OFF

SUMMARY Calibrate Gem 2000

Sample blower flare and make adjustments.

Sample well field and adjust well field.

Dewatering well field and pumping on E.W. 78

Cycle counter 9928 and 2" flow meter @ 4660 gals

Sample Gas Probes and depth to water measurements.

HIGH WINDS AND POWER OUTAGE: FLARE DOWN @ 14:15

Restart flare skid @ 15:12, after, reset of the beaker box and air compressor. Build up of air pressure was needed to open the actuator Valve.

9.5 hours

PREPARED BY: V.L.Shaffer ACCEPTED BY: _____

SCS FIELD SERVICES

DAILY LOG

JOB NO.	07207006.02	**TASK NO.**	1 & 3	**DATE**	3-17-10	**PROJECT NAME**	OVSL
TEMP	36	**BARO**	30.23	**WIND**	N. 10	**WEATHER**	Clouds , fog 48 F

SCS-FS LABOR	HOURS	OT		HOURS	OT
V.L.Shaffer	8				
			DAILY TOTAL		

EQUIP, SVCS, MTLS, MLG	QTY	UNITS		QTY	UNITS
F- 250	1				

INSTRUMENT CALIBRATION (CAL. GAS)		CH4 (%-VOL)	CH4 (%-LEL)	02 LOW SCALE (%-VOL)	CO2 (%-VOL)	H2S (PPM)
MODEL	S/N					
Gem 2000 7:05	11600	50.0		20.9	35.0	

Flare Data	Temp	CH4	CO2	O2	Flow	L.E.U.
ON -13.1	1532	43.9	27.8	1.8	724	OFF

SUMMARY Calibrate Gem 2000

Sample blowers flare M.S.-inlet and make adjustments.

Sample well field and adjust well field.

Upload Gas Probes into L.G.M.S.

Install new check valve in line to the discharge side of the Barney White flow meter.

Install rebuilt flow meter and check valve in line on the Condensate trap discharge line.

8 hours

PREPARED BY: V.L.Shaffer ACCEPTED BY: _____

SCS FIELD SERVICES

DAILY LOG

JOB NO.	07207006.02	**TASK NO.**	3 & 4	**DATE**	3-23-10	**PROJECT NAME**	OVSL
TEMP	37	**BARO**	30.28	**WIND**	N. 5	**WEATHER**	Clouds , fog 41 F

SCS-FS LABOR	HOURS	OT		HOURS	OT
V.L.Shaffer	8				
			DAILY TOTAL		

EQUIP, SVCS, MTLS, MLG	QTY	UNITS		QTY	UNITS
F- 250	1				

INSTRUMENT CALIBRATION (CAL. GAS)		CH4 (%-VOL)	CH4 (%-LEL)	02 LOW SCALE (%-VOL)	CO2 (%-VOL)	H2S (PPM)
MODEL	S/N					
Gem 2000 7:05	11600	50.0		20.9	35.0	

Flare Data	Temp	CH4	CO2	O2	Flow	L.E.U.
ON -13.3	1532	42.7	28.3	1.4	718	OFF

SUMMARY Sample flare skid and make adjustments.

Sample G-P's, collect water level data and sample out buildings. Sample interior and exterior of the out build. Interior reading stored first.

Start air compressor and dewater well field. Pneumatic pump in E.W. 79 well is pumped dry.

Check L.R.'s in hand mode: flow and pumps are in good working order.

E.W. 82: replace 2" flex hose and 2" clamps

Work on moving the 2" discharge line from E.W. 79 TO E.W. 71, add 80ft.

8 hours

PREPARED BY: V.L.Shaffer ACCEPTED BY: _____

LANDFILL GAS MONITORING
GEM 2000 CALIBRATION AND PERTINENT DATA

Date: 3-16-2010 Site Name O.V.S.L.

Technician: V.L.S. Job No. 07207006.02

WEATHER OBSERVATIONS

Wind Speed: 12 MPH Wind Direction: N.E. 12 Barometric Pressure: 30.28"Hg

Air Temperature: 37 o F General Weather Conditions: Clouds, 54 F

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 2% of the calibration gas value.

Instrument Serial No. 11600

Calibration Gas: %CH4 50.0% %CO2 35.0% %O2 20.9%

Time	CH4	CO2	O2
7:45	50.0	35.0	20.9

Post-monitoring Calibration Check

Time	CH4	CO2	O2

NOTES:

Zeroed : instrument traducers after each gas reading.

LANDFILL GAS MONITORING
GEM 2000 CALIBRATION AND PERTINENT DATA

Date: 3 -17-2010 Site Name O.V.S.L.

Technician: V.L.S. Job No. 07207006.02

WEATHER OBSERVATIONS (COLD FRONT)

Wind Speed: 15 MPH Wind Direction: N. 20 Barometric Pressure: 30.56 ”Hg

Air Temperature: 37 o F General Weather Conditions: Clouds, 40 F

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 2% of the calibration gas value.

Instrument Serial No. 11600

Calibration Gas: %CH4 50.0% %CO2 35.0% %O2 20.9%

Time	CH4	CO2	O2
7:05	50.0	35.0	20.9

Post-monitoring Calibration Check

Time	CH4	CO2	O2

NOTES:

Zeroed instrument traducers after each gas reading.

SCS FIELD SERVICES

DAILY LOG

JOB NO.	07207006.02	**TASK NO.**	1 & 3	**DATE**	6-29-2010	**PROJECT NAME**	OVSL
TEMP	56	**BARO**	29.76	**WIND**	SE 5	**WEATHER**	Clouds 64 : L.t. rain

SCS-FS LABOR	HOURS	OT		HOURS	OT
V.L.Shaffer	8				
			DAILY TOTAL		

EQUIP, SVCS, MTLS, MLG	QTY	UNITS		QTY	UNITS
F- 250	1				

INSTRUMENT CALIBRATION (CAL. GAS)		CH4 (%-VOL)	CH4 (%-LEL)	02 LOW SCALE (%-VOL)	CO2 (%-VOL)	H2S (PPM)
MODEL	S/N					
Gem 2000 7:41	10922	50.0		20.9	35.0	

Flare Data	Temp	CH4	CO2	O2	Flow	L.E.U.
ON	1322	38.3	25.8	3	369	OFF

SUMMARY	Sample MS-IN and make flow adjustments. -22.14
Blower #1:ON	
Pump down EW 73: fill up with gas and check oil level	
Replace gas ports and temperature gauge on the OV-MS-IN	
Order new back up equipment for the flare skid: internal and external electrical surge suppressors.	
Work on wed control around the land fill.	
Repair roof over the flare's control panels.	
Sample gas probes: GP-7 15.1 DTW	
GP-8 17.6 DTW	
GP-9 30.11 DTW	
GP-10 27.10 DTW	
GP-11 26.7 DTW	
GP-12 46.1 DTW	
GP-13 49.1 DTW	
GP-14 12.9 DTW	
GP-15 14.10 DTW	
8 hours GP-16 14.3 DTW	

PREPARED BY: V.L.Shaffer ACCEPTED BY: _____

LANDFILL GAS MONITORING
GEM 2000 CALIBRATION AND PERTINENT DATA

Date: 6-29-2010 Site Name O.V.S.L.

Technician: V.L.S. Job No. 07207006.02

WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: NE. Barometric Pressure: 29.74"Hg

Air Temperature: 56 o F General Weather Conditions: Clouds, 64 F

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 2% of the calibration gas value.

Instrument Serial No. 10922

Calibration Gas: %CH4 50.0% %CO2 35.0% %O2 20.9%

Time	CH4	CO2	O2
10:02	50.0	35.0	20.9

Post-monitoring Calibration Check

Time	CH4	CO2	O2

NOTES:

Zeroed instrument traducers after each gas reading.

SCS ENGINEERS

Quarterly well cycle RECORD OF WATER LEVEL READINGS

Olympic View Sanitary Landfill

04204027.11

Well ID	Date	Time	DTW	Measured by (initials)	Comments
MW-1			12.05	BD	
MW-10	6.14		4.33	BD	
MW-11	6.14		4.24	BD	
MW-12					
MW-13	6.14		31.29	am	
MW-13A	6.14		47.80	am	
MW-13B	6.14	6.14	62.28	am	
MW-14			47.38	BD	
MW-15R	6.14		18.89	BD	
MW-16			57.45	BD	
MW-17			33.57	BD	
MW-18					
MW-19A			32.71	am	
MW-19B			32.85	am	
MW-19C			34.03	am	
MW-19D			32.98	am	
MW-20			30.06	am	
MW-21	6.14		5.40	BD	
MW-23A			13.20	BD	
MW-23B			13.05	BD	
MW-23C			12.83	BD	
MW-24			30.15	am	
MW-26	6.14		11.35	am	
MW-27	6.14		21.71	am	
MW-28	6.14		6.39	BD	
MW-29C	6.14		12.05	BD	
MW-29B	6.14		7.44	BD	
MW-29A	6.14		13.73	BD	
MW-2A1			8.20	BD	
MW-2B1			7.07	BD	
MW-30A			24.23	BD	
MW-30B			24.07	BD	
MW-31	6.14		2.89	BD	
MW-32			1.63	BD	
MW-33A	6.14		5.50	am	
MW-33B	6.14		2.42	am	
MW-33C	6.14		2.91	am	
MW-34A	6.14		39.42	BD	
MW-34B	6.14		39.47	BD	
MW-34C	6.14		11.20	BD	
MW-35			12.07	am	
MW-36			31.19	BD	
MW-36A			30.99	BD	
MW-37			4.64	BD	
MW-38	6.14		4.39	BD	
MW-39	6.15		14.40	am	
MW-4			14.27		
MW-40A	6.14		13.24	BD	
MW-40B	6.14		13.35	am	
MW-40C	6.14		15.96	BD	
MW-41A	"		24.57	BD	
MW-41B	"		24.95	BD	
MW-41C	"		26.42	BD	
MW-42	6.14		21.81	am	
MW-43	6.14		24.97	am	
MW-5	6.14		3.74	BD	
MW-9			3.33	BD	
P-1					not located 3-10
P-9					not located 3-10

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 7	pH4	DO	Turbidity	Comments/Exceptions
Date	6.15.10					
Time	0745	0748	0749	0801	0753	
Weather (sky or precip, temp)	Overcast, 50° F					
Barometric Pressure (*)						
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	0.445	7	4.01	100% or ~8.5	~~800, 100, 20, <0.1~~	
Pre-Cal Reading	0.365	7.00	4.01	98.9	0-1000, 0-500, 0-10	
Post Cal Reading	0.445	7.00	4.01	102.2	551, 57.3, 7.10	
Descrepancy	n					
Calib. Successful?	y					
Calibration by	am					
Instrument Type, ID	MP20	MP20	MP20	MP20	HACH 2100P	
Calibration Location	trailer					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 7	pH4	DO	Turbidity	Comments/Exceptions
Date	6-14-10	"	"	"	"	
Time	0939	0945	0946	0957	0954	
Weather (sky or precip, temp)	Clouds + Sun S breeze 60°	"	"	"	"	
Barometric Pressure (*)	~~760~~ 779	"	"	"	"	
Type of Calibration	Standard	Standard	Standard	~~Standard~~ Saturated air Standard	Standard	
Standard Value	0.445	7	4.01	100% or ~8.5	800, 100, 20, <0.1	
Pre-Cal Reading	0.383	6.90	4.03	100.7 9.67	875 111 23.0 0.1	
Post Cal Reading	0.445	7.0	4.01	102.6	NA	
Descrepancy	No	"	"	"	"	
Calib. Successful?	Yes	"	"	"	"	
Calibration by	B Doan	"	"	"	"	
Instrument Type, ID	YSI 556-02 MP20	" MP20	" MP20	" MP20	" HACH 2100P	
Calibration Location						

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 7	pH4	DO	Turbidity	Comments/Exceptions
Date	6-15-10	"	"	"	"	
Time	0747	0749	0752		0802	
Weather (sky or precip, temp)	Overcast calm 50°	"	"	"	"	
Barometric Pressure (*)	775	"	"	"	"	
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	0.445	7	4.01	100% or ~8.5	800, 100, 20, <0.1	
Pre-Cal Reading	0.446	6.98	3.89	99%	~~800~~ 110 23.2 0.09	
Post Cal Reading	0.445	7.00	4.01	102%	NA	
Descrepancy	No	"	"	"	"	
Calib. Successful?	Yes	"	"	"	"	
Calibration by	BDoan	"	"	"	"	
Instrument Type, ID	MP20	MP20	MP20	MP20	HACH 2100P	
Calibration Location	OUSL Trailer	"	"	"	"	

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

0920- ATV unloaded.

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 7	pH4	DO	Turbidity	Comments/Exceptions
Date	6.14.10					
Time	0939	0941	0942	0950	0945	
Weather (sky or precip, temp)	m. sunny	65F				
Barometric Pressure (*)						
Type of Calibration	Standard	Standard	Standard	~~Standard~~	Cal. check standards ~~Standard~~	
Standard Value	0.445	7	4.01	100% or ~8.5	0 1000 0-10 0-10 ~~800~~, 100, 20, <0.1	
Pre-Cal Reading	0.372	7.10	3.86	112.8%	540 , 59.4 , 7.3	
Post Cal Reading	0.446	7.00	4.01	102.6%		
Descrepancy						
Calib. Successful?						
Calibration by						
Instrument Type, ID	YSI-556 ~~MP20~~	-02 ~~MP20~~	~~MP20~~	~~MP20~~	HACH 2100P	
Calibration Location						

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS FIELD SERVICES

DAILY LOG

JOB NO.	07207006.10	**TASK NO.**	1	**DATE**	9-27-10	**PROJECT NAME**	OVSL
TEMP	62	**BARO**	29.72	**WIND**	SE 2	**WEATHER**	Lt. rain 76

SCS-FS LABOR	HOURS	OT			HOURS	OT
V.L.Shaffer	8					
				DAILY TOTAL		

EQUIP, SVCS, MTLS, MLG	QTY	UNITS		QTY	UNITS
F- 150	1				

INSTRUMENT CALIBRATION (CAL. GAS)		CH4 (%-VOL)	CH4 (%-LEL)	02 LOW SCALE (%-VOL)	CO2 (%-VOL)	H2S (PPM)
MODEL	S/N					
Gem 2000 8:37 AM	08571	50.0		20.8	35.0	

Flare Data	Temp	CH4	CO2	O2	Flow	L.E.U.
ON	1296	38	27	2.4	368	OFF

SUMMARY	Sample MS-IN : -21.8
Work on GHG Data.	
Check L.R.'s and flow meters	
Sample G.Probes and out buildings	
Check all pumps and sumps.	
Check the flare skid and blowers	
GP 7- 11.9 D-W	
GP 8- 17.5 D-W	
GP 9- 30.8 D-W	
GP 10- 25.1 D-W	
GP- 11- 29.8 D-W	
GP- 12- 46.9 D-W	
GP- 13- 50.1 D-W	
GP- 14- 14.6 D-W	
GP- 15- 11.9 D-W	
GP-16- 12.6 D-W	
8 hours	

PREPARED BY: V.L.Shaffer ACCEPTED BY: _____

LANDFILL GAS MONITORING
GEM 2000 CALIBRATION AND PERTINENT DATA

Date: 9-271-2010 Site Name O.V.S.L.

Technician: V.L.S. Job No. 07207006.10

WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Directions: NE. Clouds Barometric Pressure: 29.72"Hg

Air Temperature: 62 o F General Weather Conditions: Clouds, 76 F

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 2% of the calibration gas value.

Instrument Serial No. 08751

Calibration Gas: %CH4 50.0% %CO2 35.0% %O2 20.9%

Time	CH4	CO2	O2
`8:32	50.0	35.0	20.8

Post-monitoring Calibration Check

Time	CH4	CO2	O2
8:21	49.8	34.9	20.8

NOTES:

Zeroed instrument traducers after each gas reading.

9 TB

SCS ENGINEERS

RECORD OF WATER LEVEL READINGS
Olympic View Sanitary Landfill
04204027.14

Well ID	Date	Time	DTW	Measured by (initials)	Equipment Used	Comments	Last Quarter DTW
mw-1	9-24 D		76.32				
MW-2A1	9/24/10		9.12				
MW-2B1	9/24/10		97.89				
MW-4							
MW-5	9.24 10		3.78				
MW-9	9/22/10	1602	3.61	EM		#2	
MW-10	9/23/10		4.98	SA			
MW-11						COVERED	
MW-12							
MW-13	9/23		32.47	SA			
MW-13A	9/23		63.56	EM			
MW-13B							
MW-14			50.67				
MW-15R							
MW-16	9/24		60.79				
MW-17							
MW-18							
MW-19A	9/23		34.11	Sam			
MW-19B	9/23		34.17	Sam			
MW-19C	9/23		35.41	EM			
MW-19D			34.41				
MW-20	9/23		37.21			#4	
MW-21	9/23		6.16				
MW-23A	9/24		13.97	EM			
MW-23B	9/24		14.22	EM			
MW-23C	9/24		14.48	EM			
MW-24	9/23		35.35				
MW-26	9/24		13.32				
MW-27	9/24		24.22				

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 7	pH4	DO	Turbidity	Comments/Exceptions
Date	9.23.10					
Time	0742	0746	0749	0754	0750	
Weather (sky or precip, temp)	Overcast					
Barometric Pressure (*)						
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	0.445	7	4.01	100% or ~8.5	800, 100, 20, <0.1	
Pre-Cal Reading	0.313	6.91	3.99	99.1		
Post Cal Reading	0.442	7.01	3.97	101.4	800, 112, 20.4, 0.55	
Descrepancy	n					
Calib. Successful?	y					
Calibration by					SAM	
Instrument Type, ID	YSI 556 ~~MP20~~	~~MP20~~	~~MP20~~	~~MP20~~	~~HACH 2100P~~	
Calibration Location					L-INF	

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 7	pH4	DO	Turbidity	Comments/Exceptions
Date	9/22/10	—	—	—	—	—
Time	1124	1126	1129	1134	1132	
Weather (sky or precip, temp)	overcast	—	—	—	—	
Barometric Pressure (*)	—	—	—	—	—	
Type of Calibration	Std	—	—	—	—	
Standard Value	0.445	7.00	4.01	100%	rental - range	
Pre-Cal Reading	0.443	7.01	4.00	84.8%	5.46/5.67/5.17	
Post Cal Reading	0.445	7.00	4.01	100%	—	
Descrepancy	n	—	—	—	—	
Calib. Successful?	y	—	—	—	—	
Calibration by	CM	—	—	—	—	
Instrument Type, ID	MP20	—	—	—	HACH 2100P	
Calibration Location	OOSL	Trailer	—	—	—	

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 7	pH4	DO	Turbidity	Comments/Exceptions
Date	9.23.10					
Time	0740	0741	0743	0754	0745	
Weather (sky or precip, temp)	Over cast					
Barometric Pressure (*)						
Type of Calibration	std					
Standard Value	0.445	7.00	4.01	100%	~~000,100~~ 0-100 0-1000 ~~20, 40,~~ 0-10	
Pre-Cal Reading	0.429	7.12	4.03	96.4%	32.2 ; 541, 5.47	
Post Cal Reading						
Descrepancy	n					
Calib. Successful?	y					
Calibration by	SAM					
Instrument Type, ID	MP20				HACH 2100P	
Calibration Location	L-INF					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 7	pH4	DO	Turbidity	Comments/Exceptions
Date	9.24.10					
Time	0710	0711	0713	0723	0716	
Weather (sky or precip, temp)	Overcast 50° F					
Barometric Pressure (*)						
Type of Calibration	standard					
Standard Value	0.445	7.00	4.01	100%		
Pre-Cal Reading	0.430	7.03	3.98	99.4%		
Post Cal Reading	0.445	7.00	4.01	100%	0211, 113, 04.4, 0.41	
Descrepancy	n					
Calib. Successful?	y					
Calibration by	SAM					
Instrument Type, ID	mp30				HACH 2100P	
Calibration Location	MW - 1U					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS FIELD SERVICES

DAILY LOG

JOB NO.	07207006.10	**TASK NO.**	1	**DATE**	12-22-10	**PROJECT NAME**	OVSL
TEMP	38	**BARO**	29.36	**WIND**	SE 4	**WEATHER**	Clouds 45

SCS-FS LABOR	HOURS	OT		HOURS	OT
V.L.Shaffer	8				
			DAILY TOTAL		

EQUIP, SVCS, MTLS, MLG	QTY	UNITS		QTY	UNITS
F- 150	1				

INSTRUMENT CALIBRATION (CAL. GAS)		CH4 (%-VOL)	CH4 (%-LEL)	02 LOW SCALE (%-VOL)	CO2 (%-VOL)	H2S (PPM)
MODEL	S/N					
Gem 2000 7:35 AM	05749	50.0		20.8	35.0	

Flare Data	Temp	CH4	CO2	O2	Flow	L.E.U.
ON	1322	35.3	26.4	1.9	381	OFF

SUMMARY	Sample the MS-IN
Clear fallen tree from around the G.P.'s.	
Work on sampling the gas probes.	
Clean up the land fill.	
Sample the Barney White V.G.W.'s and upload into L.G.M.S.	
8 hours	

PREPARED BY: V.L.Shaffer ACCEPTED BY: _____

LANDFILL GAS MONITORING
GEM 2000 CALIBRATION AND PERTINENT DATA

Date: 12-22-2010 Site Name O.V.S.L.

Technician: V.L.S. Job No. 07207006.10

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Directions: SE. Clouds Barometric Pressure: 29.36"Hg

Air Temperature: 36 F General Weather Conditions: rain 36F

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 2% of the calibration gas value.

Instrument Serial No. 05749

Calibration Gas: %CH4 50.0% %CO2 35.0% %O2 20.9%

Time	CH4	CO2	O2
`11:40	50.0	35.0	20.8

Post-monitoring Calibration Check

Time	CH4	CO2	O2
11:38	49.8	34.9	20.8

NOTES:

Zeroed instrument traducers after each gas reading.

SCS FIELD SERVICES

DAILY LOG

JOB NO.	07207006.10	**TASK NO.**	1	**DATE**	12-23-10	**PROJECT NAME**	OVSL
TEMP	38	**BARO**	29.47	**WIND**	SE 4	**WEATHER**	Clouds 45

SCS-FS LABOR	HOURS	OT		HOURS	OT
V.L.Shaffer	8				
			DAILY TOTAL		

EQUIP, SVCS, MTLS, MLG	QTY	UNITS		QTY	UNITS
F- 150	1				

INSTRUMENT CALIBRATION (CAL. GAS)		CH4 (%-VOL)	CH4 (%-LEL)	02 LOW SCALE (%-VOL)	CO2 (%-VOL)	H2S (PPM)
MODEL	S/N					
Gem 2000 9:00 AM	05749	50.0		20.8	35.0	

Flare Data	Temp	CH4	CO2	O2	Flow	L.E.U.
ON	1312				378	OFF

SUMMARY	Sample the MS-IN
Clear fallen tree from around the G.P.'s.	
Work on sampling the gas probes and out buildings.	
Clean up the land fill.	
Drain the flare stack and flame arrestor.	
Drain the flow meter vault.	
.	
8 hours	

PREPARED BY: V.L.Shaffer ACCEPTED BY: _____

LANDFILL GAS MONITORING
GEM 2000 CALIBRATION AND PERTINENT DATA

Date: 12-23-2010 Site Name O.V.S.L.

Technician: V.L.S. Job No. 07207006.10

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Directions: SE. Clouds Barometric Pressure: 29.47"Hg

Air Temperature: 38 F General Weather Conditions: rain, 45 F

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 2% of the calibration gas value.

Instrument Serial No. 05749

Calibration Gas: %CH4 50.0% %CO2 35.0% %O2 20.9%

Time	CH4	CO2	O2
`9:10	50.0	35.0	20.8

Post-monitoring Calibration Check

Time	CH4	CO2	O2
9:01	49.9	34.9	20.8

NOTES:

Zeroed instrument traducers after each gas reading.

SCS ENGINEERS

Olympic View Sanitary Landfill
04204027.14

Well	Date	Time	DTW	Measured by (initials)	Equipment Used	Comments	Last Quarter DTW
MW-1	12/8		75.43	ES			
MW-10	12/8		2.60	ES			
MW-11	12.8		2.47	SA			
~~MW-12~~							
MW-13	12.8		31.41				
MW-13A	12.8		63.15				
MW-13B	12.8		48.18				
MW-14	12/8		51.02	ES			
MW-15R	12/9		18.83	SA			
MW-16	12/9		61.56	SA			
~~MW-17~~							
~~MW-18~~							
MW-19A	12/8		33.38	ES			
MW-19B	12/8		33.44	ES			
MW-19C						—	
MW-19D	12/8		33.72	ES			
MW-20						dry	
MW-21	12/8		4.0	ES			
MW-23A						—	
MW-23B	12/9		13.69	SA			
MW-23C	12/9		14.21	SA			
MW-24						dry	
MW-26			13.38				
MW-27			24.72				
MW-28							
MW-29A	12/8		11.75	ES			
MW-29B	12/8		16.68	ES			
MW-29C	12/8		10.47	ES			

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 7	pH4	DO	Turbidity	Comments/Exceptions
Date	12.8.10					
Time	1040	1043	1044	1049	1050	
Weather (sky or precip, temp)	P. Cloudy, 50° F					
Barometric Pressure (*)						
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	0.445	7	4.01	100% or ~8.5	800, 100, 20, <0.1	
Pre-Cal Reading	0.453 | 0.77	7.00 | 7.11	3.98 | 3.96	9.38 | 114.3%	565 53.1 | 564 534.1, 4.5 / 5.62	
Post Cal Reading	0.443 | 0.444	6.96 | 7.00	4.01 | 3.99	9.30 | 101.3%		
Descrepancy						
Calib. Successful?						
Calibration by						
Instrument Type, ID	MP20	MP20	MP20	MP20	HACH 2100P	
Calibration Location						

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

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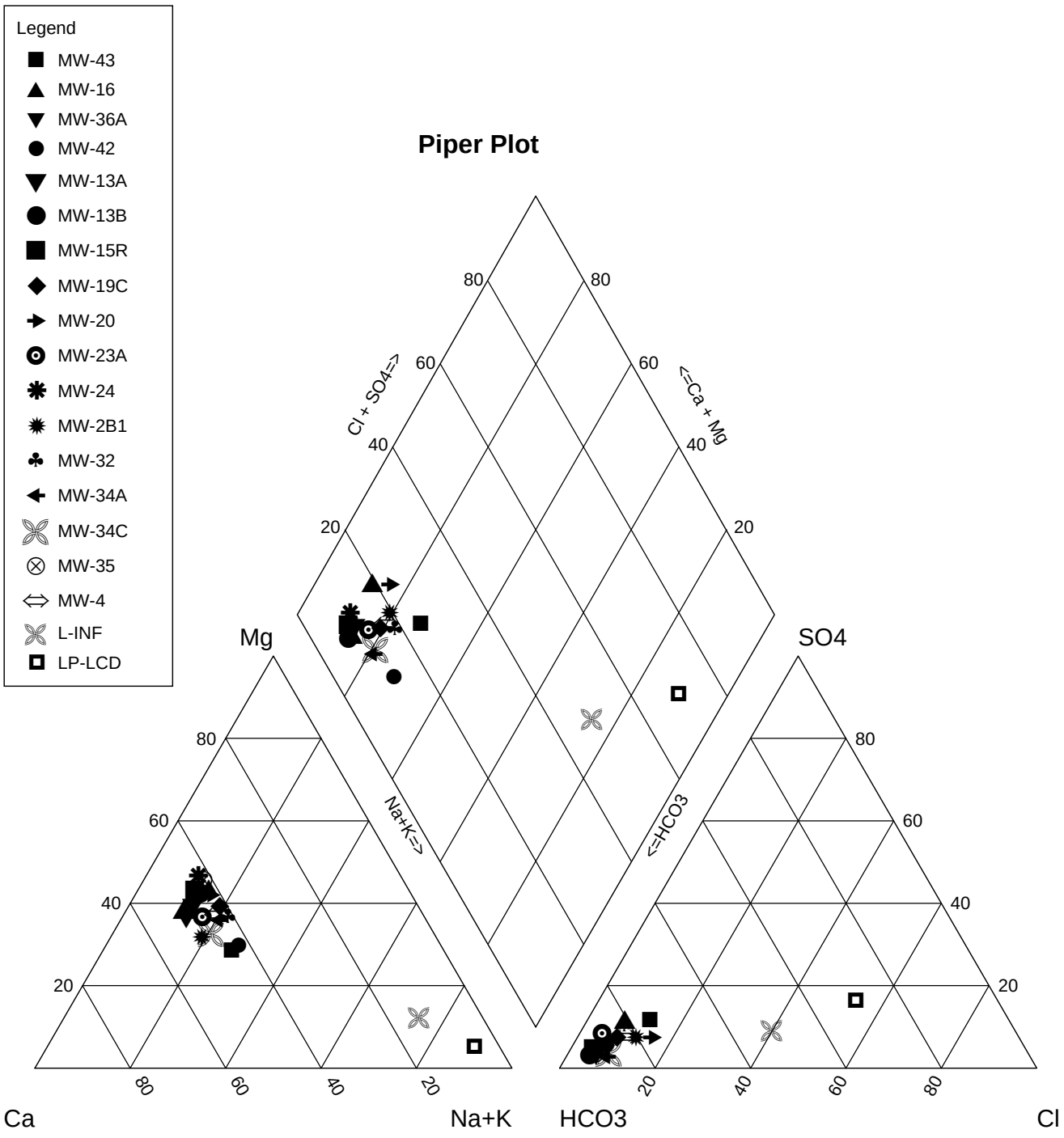
GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 7	pH4	DO	Turbidity	Comments/Exceptions
Date	12.9.10	~	~	~	~	
Time	0700	0704	0708	0718	0710	
Weather (sky or precip, temp)	m. cloudy, rain	~	~	~	~	
Barometric Pressure (*)	~	0	~	~	~	
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	0.445	7	4.01	100% or ~8.5	800, 100, 20, <0.1	
Pre-Cal Reading	0.142 / 0.445	7.04 / 7.12	3.99 / 3.90	86.6 / 9.97	545, 52.1, 4.38 / 544, 53.2, 5.56	
Post Cal Reading	0.445 / 0.444	7.00 / 6.99	4.00 / 4.01	101.4 / 9.94		
Descrepancy	N / N	N	0.01	1.4		
Calib. Successful?						
Calibration by	ams /	SA ~	~	~	~	
Instrument Type, ID	MP20	MP20	MP20	MP20	HACH 2100P	
Calibration Location	trailer					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)



Description: Piper Plot		
	PROJECT: OVSL 2010 Annual Report	PROJECT NO: 04204027.14
	CLIENT: Waste Management	DATE: December 2010

Cation/Anion Balance

Location	MW-13A
Sample Date	12/8/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	5.2	0.2261875	
K	0.02258			
Ca	0.04990	16	0.7984431	
Mg	0.08229	8.1	0.6665295	
		Sum of Cations	1.69116	meq/L
Cl	0.02821	2.9	8.179913E-02	
SO4	0.02082	3.7	7.708333E-02	
NO3	0.01613	0.49	7.903226E-03	
HCO3	0.01639	82	1.343885	
		Sum of Anions	1.51067	meq/L
Balance (% difference) *			5.637081	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-13B
Sample Date	12/8/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	5.6	0.2435866	
K	0.02258			
Ca	0.04990	16	0.7984431	
Mg	0.08229	9.3	0.7652746	
		Sum of Cations	1.807304	meq/L
Cl	0.02821	2.5	7.051648E-02	
SO4	0.02082	2.4	0.05	
NO3	0.01613	0.5	8.064516E-03	
HCO3	0.01639	88	1.442218	
		Sum of Anions	1.570799	meq/L
Balance (% difference) *			7.001141	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-15R
Sample Date	12/8/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	7.3	0.3175325	
K	0.02258			
Ca	0.04990	24	1.197665	
Mg	0.08229	14	1.152026	
		Sum of Cations	2.667223	meq/L
Cl	0.02821	3.9	0.1100057	
SO4	0.02082	5.3	0.1104167	
NO3	0.01613	0.16	2.580645E-03	
HCO3	0.01639	130	2.130549	
		Sum of Anions	2.353552	meq/L
Balance (% difference) *			6.247473	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-16
Sample Date	12/9/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	5.2	0.2261875	
K	0.02258			
Ca	0.04990	13	0.648735	
Mg	0.08229	8.3	0.682987	
		Sum of Cations	1.55791	meq/L
Cl	0.02821	2.3	6.487516E-02	
SO4	0.02082	2.7	0.05625	
NO3	0.01613	0.9	1.451613E-02	
HCO3	0.01639	72	1.179996	
		Sum of Anions	1.315637	meq/L
Balance (% difference) *			8.431118	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-19C
Sample Date	12/9/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	5.9	0.2566359	
K	0.02258	1.4	3.580718E-02	
Ca	0.04990	13	0.648735	
Mg	0.08229	7.4	0.6089282	
		Sum of Cations	1.550106	meq/L
Cl	0.02821	4.2	0.1184677	
SO4	0.02082	5.3	0.1104167	
NO3	0.01613			
HCO3	0.01639	76	1.245552	
		Sum of Anions	1.474436	meq/L
Balance (% difference) *			2.501878	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-20
Sample Date	12/9/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	14	0.6089665	
K	0.02258	4	0.1023062	
Ca	0.04990	38	1.896302	
Mg	0.08229	23	1.892615	
		Sum of Cations	4.50019	meq/L
Cl	0.02821	20	0.5641319	
SO4	0.02082	13	0.2708333	
NO3	0.01613	2.6	4.193548E-02	
HCO3	0.01639	170	2.786102	
		Sum of Anions	3.663003	meq/L
Balance (% difference) *			10.25563	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-23A
Sample Date	12/9/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	7.2	0.3131828	
K	0.02258	1.1	2.813422E-02	
Ca	0.04990	19	0.9481512	
Mg	0.08229	9.1	0.7488171	
		Sum of Cations	2.038285	meq/L
Cl	0.02821	3	8.461978E-02	
SO4	0.02082	7.3	0.1520833	
NO3	0.01613	0.17	2.741935E-03	
HCO3	0.01639	96	1.573328	
		Sum of Anions	1.812773	meq/L
Balance (% difference) *			5.855839	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-24
Sample Date	12/9/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	5.2	0.2261875	
K	0.02258			
Ca	0.04990	18	0.8982484	
Mg	0.08229	12	0.9874511	
		Sum of Cations	2.111887	meq/L
Cl	0.02821	3.9	0.1100057	
SO4	0.02082	4.5	0.09375	
NO3	0.01613			
HCO3	0.01639	100	1.638884	
		Sum of Anions	1.842639	meq/L
Balance (% difference) *			6.808591	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-2B1
Sample Date	12/9/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	3.6	0.1565914	
K	0.02258			
Ca	0.04990	8.2	0.4092021	
Mg	0.08229	3.2	0.2633203	
		Sum of Cations	0.8291137	meq/L
Cl	0.02821	3.4	9.590242E-02	
SO4	0.02082	2.8	5.833333E-02	
NO3	0.01613	0.55	8.870968E-03	
HCO3	0.01639	39	0.6391646	
		Sum of Anions	0.8022714	meq/L
Balance (% difference) *			1.645372	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-32
Sample Date	12/9/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	16	0.6959617	
K	0.02258			
Ca	0.04990	26	1.29747	
Mg	0.08229	14	1.152026	
		Sum of Cations	3.145458	meq/L
Cl	0.02821	9	0.2538593	
SO4	0.02082	15	0.3125	
NO3	0.01613			
HCO3	0.01639	150	2.458326	
		Sum of Anions	3.024685	meq/L
Balance (% difference) *			1.957379	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-33C
Sample Date	12/9/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	3.7	0.1609412	
K	0.02258	1.2	3.069187E-02	
Ca	0.04990	16	0.7984431	
Mg	0.08229	7.5	0.617157	
		Sum of Cations	1.607233	meq/L
Cl	0.02821	3.9	0.1100057	
SO4	0.02082	8.1	0.16875	
NO3	0.01613			
HCO3	0.01639	70	1.147219	
		Sum of Anions	1.425974	meq/L
Balance (% difference) *			5.975809	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-34A
Sample Date	12/8/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	12	0.5219713	
K	0.02258			
Ca	0.04990	22	1.097859	
Mg	0.08229	11	0.9051635	
		Sum of Cations	2.524994	meq/L
Cl	0.02821	6.7	0.1889842	
SO4	0.02082	2.8	5.833333E-02	
NO3	0.01613	0.6	9.677419E-03	
HCO3	0.01639	120	1.96666	
		Sum of Anions	2.223655	meq/L
Balance (% difference) *			6.345771	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-34C
Sample Date	12/8/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	17	0.7394593	
K	0.02258	1.2	3.069187E-02	
Ca	0.04990	35	1.746594	
Mg	0.08229	15	1.234314	
		Sum of Cations	3.751059	meq/L
Cl	0.02821	9.4	0.265142	
SO4	0.02082	6	0.125	
NO3	0.01613			
HCO3	0.01639	170	2.786102	
		Sum of Anions	3.176244	meq/L
Balance (% difference) *			8.297818	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-35
Sample Date	12/9/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	4.8	0.2087885	
K	0.02258			
Ca	0.04990	14	0.6986377	
Mg	0.08229	9.3	0.7652746	
		Sum of Cations	1.672701	meq/L
Cl	0.02821	2.7	7.615781E-02	
SO4	0.02082	2.2	4.583333E-02	
NO3	0.01613	0.39	6.290322E-03	
HCO3	0.01639	74	1.212774	
		Sum of Anions	1.341055	meq/L
Balance (% difference) *			11.00439	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-36A
Sample Date	12/8/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	5	0.217488	
K	0.02258			
Ca	0.04990	16	0.7984431	
Mg	0.08229	7	0.5760131	
		Sum of Cations	1.591944	meq/L
Cl	0.02821	2.9	8.179913E-02	
SO4	0.02082	2	4.166667E-02	
NO3	0.01613	0.59	9.516128E-03	
HCO3	0.01639	75	1.229163	
		Sum of Anions	1.362145	meq/L
Balance (% difference) *			7.779032	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-39
Sample Date	12/9/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	6.6	0.2870842	
K	0.02258			
Ca	0.04990	12	0.5988323	
Mg	0.08229	8.8	0.7241309	
		Sum of Cations	1.610047	meq/L
Cl	0.02821	3.7	0.1043644	
SO4	0.02082			
NO3	0.01613			
HCO3	0.01639	130	2.130549	
		Sum of Anions	2.234913	meq/L
Balance (% difference) *			-16.25155	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-4
Sample Date	12/9/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	3.6	0.1565914	
K	0.02258			
Ca	0.04990	6.9	0.3443286	
Mg	0.08229	3.6	0.2962353	
		Sum of Cations	0.7971553	meq/L
Cl	0.02821	2.6	7.333715E-02	
SO4	0.02082	2.7	0.05625	
NO3	0.01613	0.13	2.096774E-03	
HCO3	0.01639	37	0.606387	
		Sum of Anions	0.7380708	meq/L
Balance (% difference) *			3.848581	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-42
Sample Date	12/8/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	26	1.130938	
K	0.02258	6.7	0.171363	
Ca	0.04990	40	1.996108	
Mg	0.08229	17	1.398889	
		Sum of Cations	4.697298	meq/L
Cl	0.02821	12	0.3384791	
SO4	0.02082	13	0.2708333	
NO3	0.01613			
HCO3	0.01639	260	4.261098	
		Sum of Anions	4.87041	meq/L
Balance (% difference) *			-1.809345	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-43
Sample Date	12/8/2010

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581			
Na	0.04350	2.5	0.108744	
K	0.02258			
Ca	0.04990	3.6	0.1796497	
Mg	0.08229	1.4	0.1152026	
		Sum of Cations	0.4035963	meq/L
Cl	0.02821	1.7	4.795121E-02	
SO4	0.02082	2.1	0.04375	
NO3	0.01613	0.46	7.419355E-03	
HCO3	0.01639	17	0.2786102	
		Sum of Anions	0.3777308	meq/L
Balance (% difference) *			3.310464	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Olympic View Sanitary Landfill

Annual Statistical Evaluation & Summary

2010 Monitoring Year

Prepared for:

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1. Statistical Trend Analysis

- Trend Results Summary Table (Table 1)
- Time-Series Graphs Depicting Significant Trends for “Trend Test A”
- Time-Series Graphs Depicting Significant Trends for “Trend Test B”

TABLE 1

Results of Sen's Non-Parametric Test for Trend

FOURTH QUARTER 2010 Report

Trend Test Period: January 2005 through December 2010

Trend Test Wells:

- Compliance Wells MW-39, MW-15R, MW-34A, MW-34C, MW-42, MW-43
- Performance Wells MW-24, MW-23A, MW-2B1, MW-20, MW-19C, MW-4
- Downgradient Wells MW-36A, MW-33A*, MW-33C, MW-32, MW-29A*, MW-9*
- Upgradient Wells MW-13A, MW-13B, MW-35, MW-16

* = wells sampled on semi-annual schedule during Q1 and Q3 of each monitoring year

Trend Test A *= all organic parameters listed in Appendix I and Appendix II of WAC 173-351-990 that have been detected at least once in at least one of 22 wells comprising the network of 1) compliance, 2) performance, 3) downgradient, and 4) upgradient site monitoring wells, during the trend test period. This includes the following constituents:*

	Significant Increasing Trends	Significant Decreasing Trends
1,1-Dichloroethane	None	None
1,2-Dichloroethene (total)	None	None
1,2-Dichlorobenzene	None	None
1,4-Dichlorobenzene	None	None
Acetone	None	None
Benzene	None	None
Carbon Disulfide	None	None
Chlorobenzene	None	None
Chlorodifluoromethane	None	None
Chloroethane	None	None
Chloroform	None	None
Chloromethane	None	None
cis-1,2-dichloroethene	None	None
Dichlorodifluoromethane	None	None
Ethyl Ether	None	None
Methylene Chloride	None	None
Naphthalene	None	None
n-Butyl Alcohol	None	None
tert-Butyl Alcohol	None	None
Tetrachloroethene	None	None
Tetrahydrofuran	None	None
Toluene	None	None
trans-1,2-Dichloroethene	None	None
Trichloroethene	None	None
Vinyl Chloride	None	Well MW-23A (graph 535) Well MW-24 (graph 536)

TABLE 1

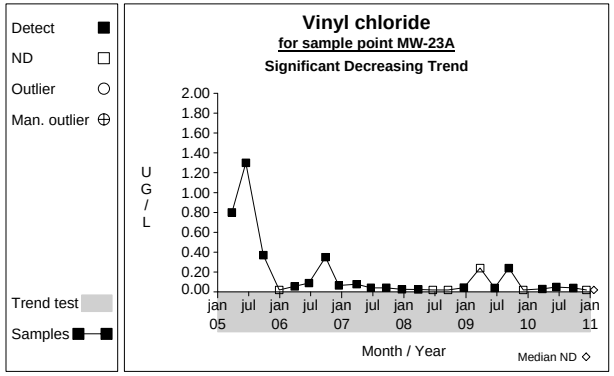
Trend Test B *= all metals and groundwater quality parameters listed in Appendix I and Appendix II of WAC (173-351-990)*

	Significant Increasing Trends	Significant Decreasing Trends
Antimony, dissolved	None	None
Arsenic, dissolved	None	MW-19C (graph 93) MW-24 (graph 96) MW-34C (graph 103)
Barium, dissolved	None	MW-24 (graph 118) MW-29A (graph 119) MW-36A (graph 127)
Beryllium, dissolved	None	None
Cadmium, dissolved	None	None
Chromium, dissolved	None	None
Cobalt, dissolved	None	None
Copper, dissolved	None	None
Lead, dissolved	None	None
Nickel, dissolved	None	None
Selenium, dissolved	None	None
Silver, dissolved	None	None
Thallium, dissolved	None	None
Vanadium, dissolved	None	None
Zinc, dissolved	None	None
Nitrate (as N)	None	None
pH	None	None
Specific Conductivity	None	MW-19C (graph 533) MW-24 (graph 536) MW-36A (graph 545)
Temperature	None	MW-24 (graph 580)
Calcium, dissolved	None	MW-24 (graph 184) MW-29A (graph 185) MW-9 (graph 198)
Bicarbonate Alkalinity (as CaCO3)	MW-13A (graph 1) MW-13B (graph 2) MW-34C (graph 15) MW-35 (graph 16)	None
Magnesium, dissolved	None	None
Sulfate	MW-24 (graph 558)	MW-13B (graph 552) MW-19C (graph 555)
Sodium, dissolved	MW-32 (graph 517)	MW-19C (graph 511)
Chloride	None	None

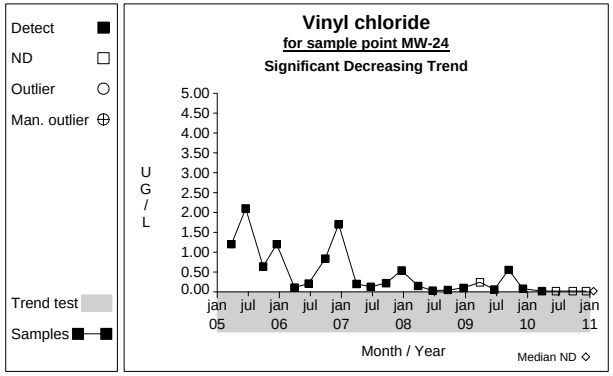
TABLE 1

Potassium, dissolved	None	MW-36A (graph 457)
Total Alkalinity as CaCO3	MW-13A (graph 23) MW-13B (graph 24) MW-34C (graph 37) MW-35 (graph 38)	None
Iron, dissolved	MW-23A (graph 293)	MW-19C (graph 291) MW-24 (graph 294)
Manganese, dissolved	None	MW-15R (graph 355) MW-24 (graph 360)
Ammonia (as N)	None	MW-36A (graph 61)
Total Organic Carbon	None	None
Total Dissolved Solids	None	MW-24 (graph 624) MW-33A (graph 628) MW-36A (graph 633)

Time Series

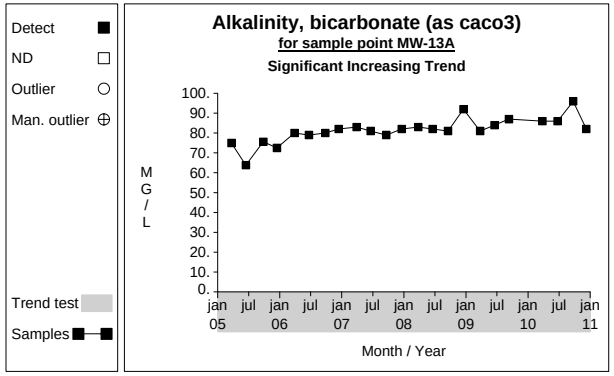


Graph 535

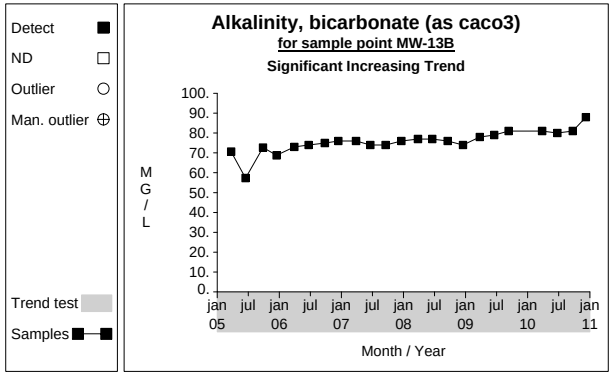


Graph 536

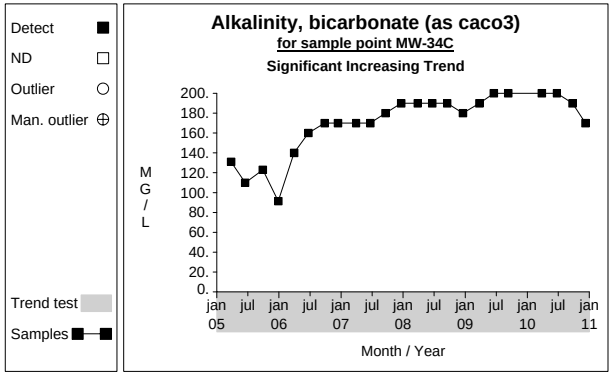
Time Series



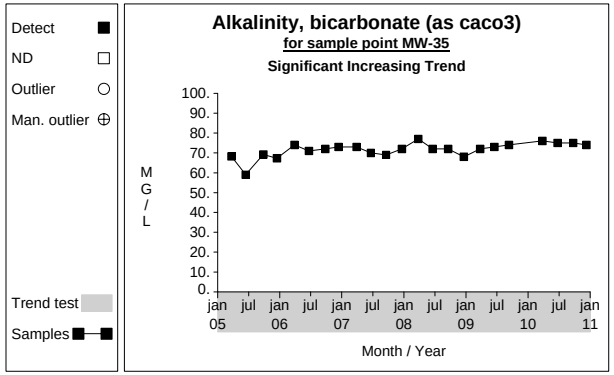
Graph 1



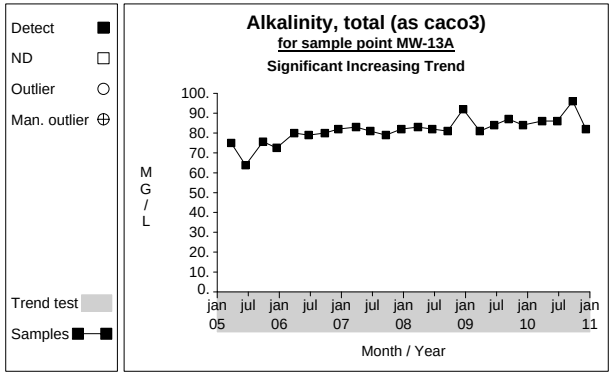
Graph 2



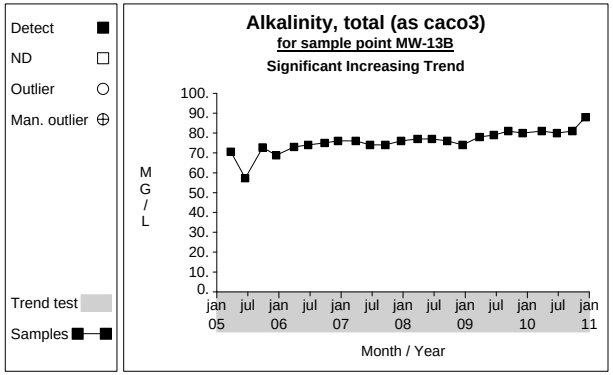
Graph 15



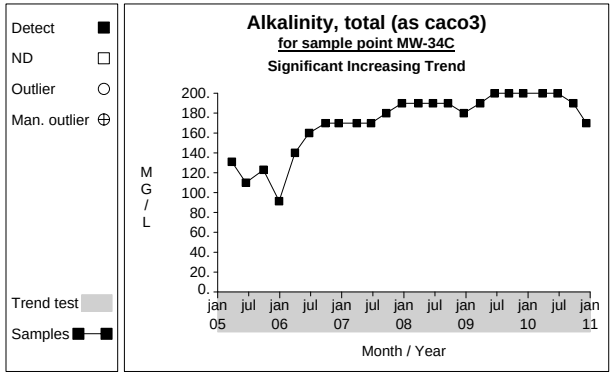
Graph 16



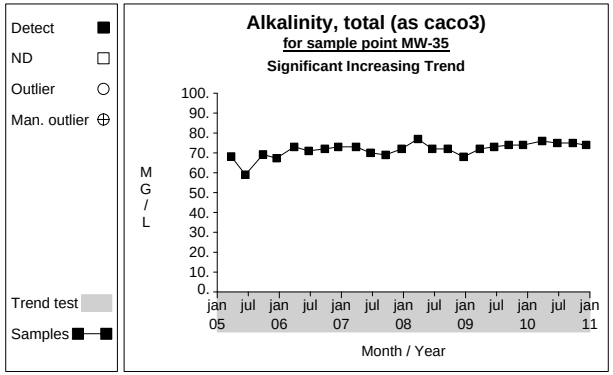
Graph 23



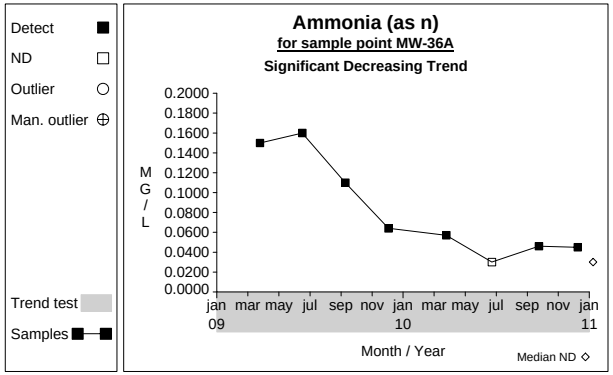
Graph 24



Graph 37

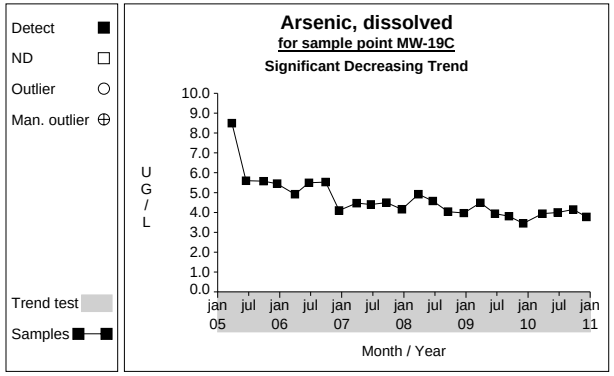


Graph 38

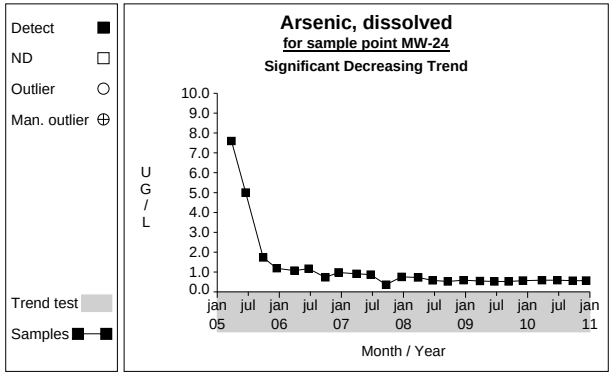


Graph 61

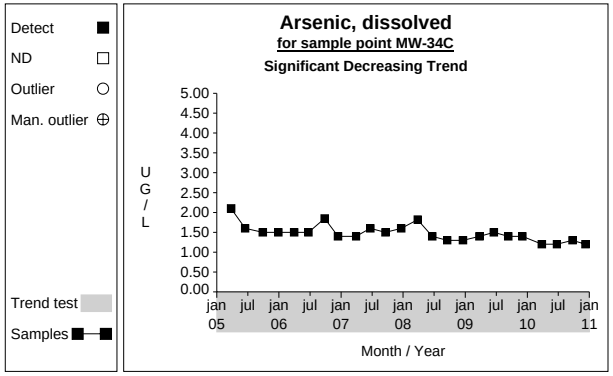
Time Series



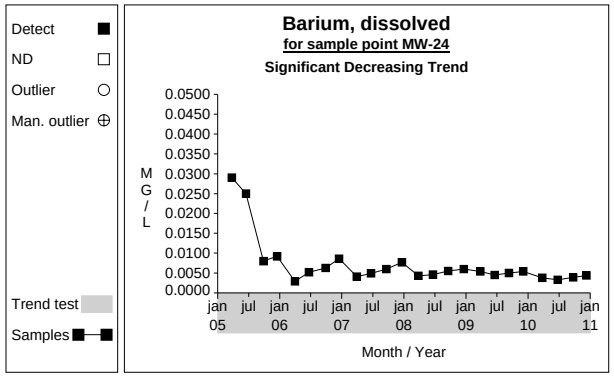
Graph 93



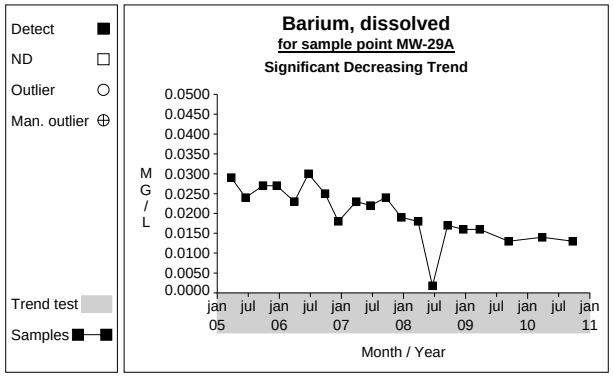
Graph 96



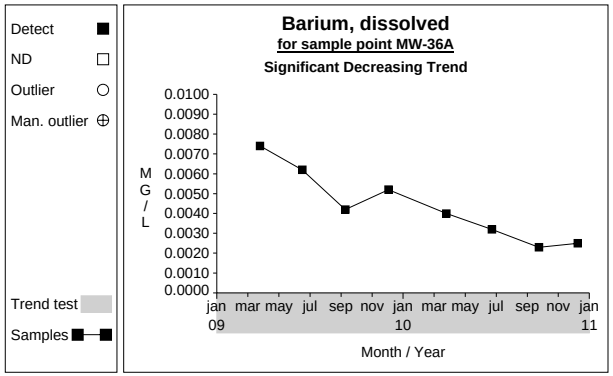
Graph 103



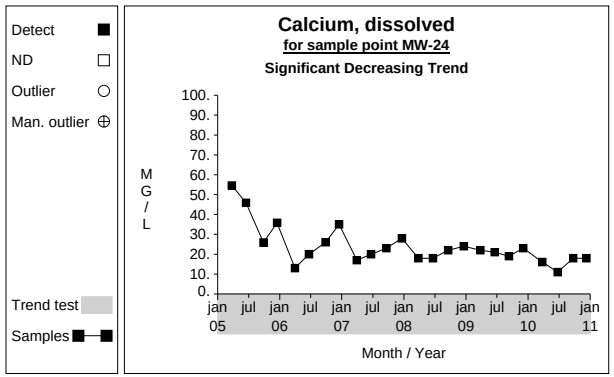
Graph 118



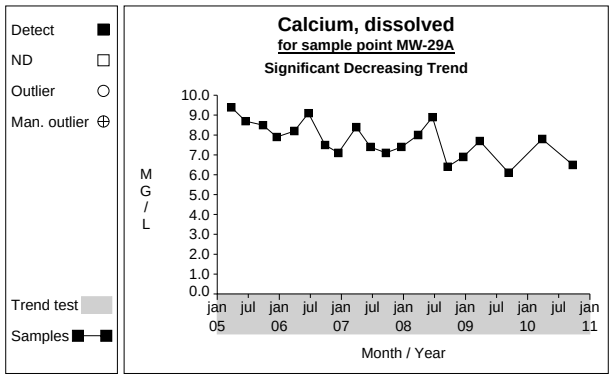
Graph 119



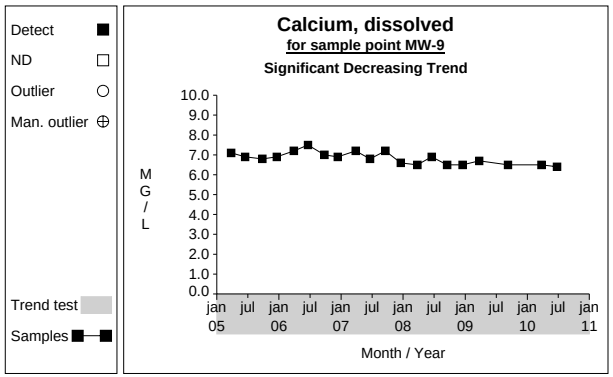
Graph 127



Graph 184

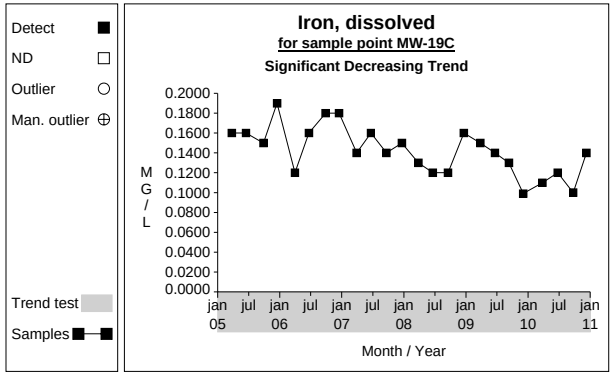


Graph 185

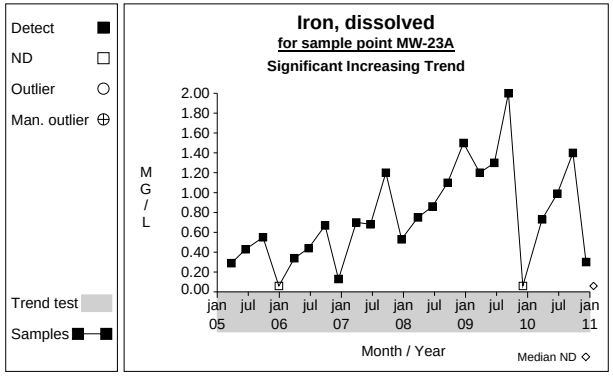


Graph 198

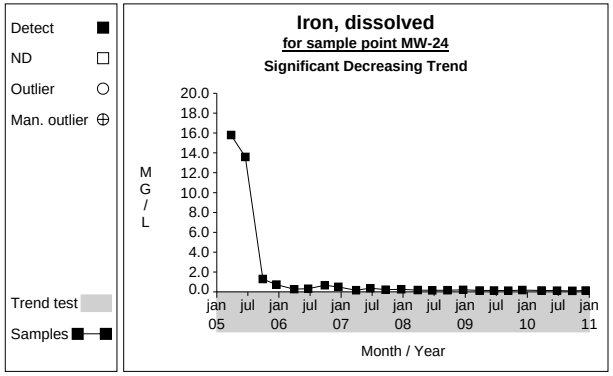
Time Series



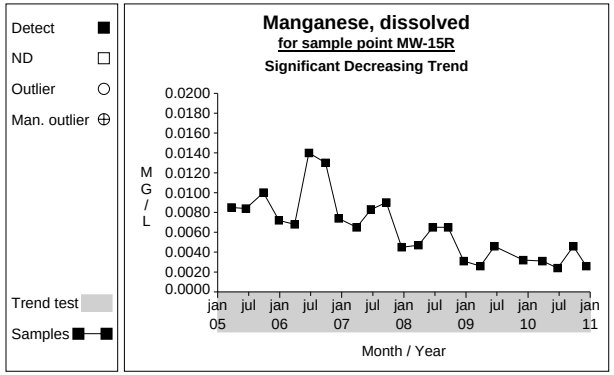
Graph 291



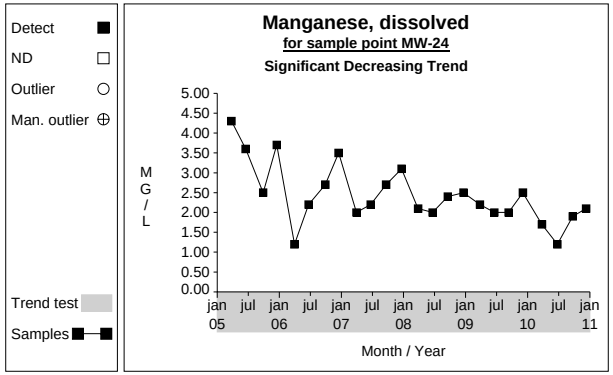
Graph 293



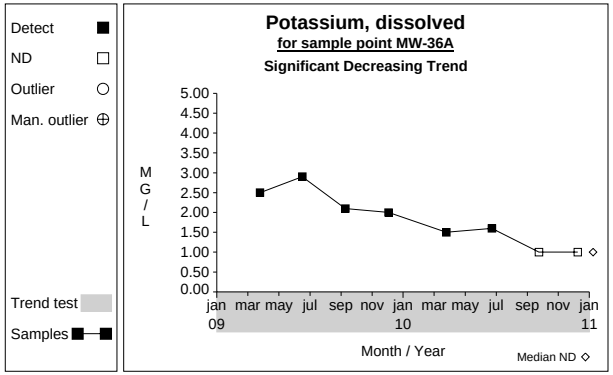
Graph 294



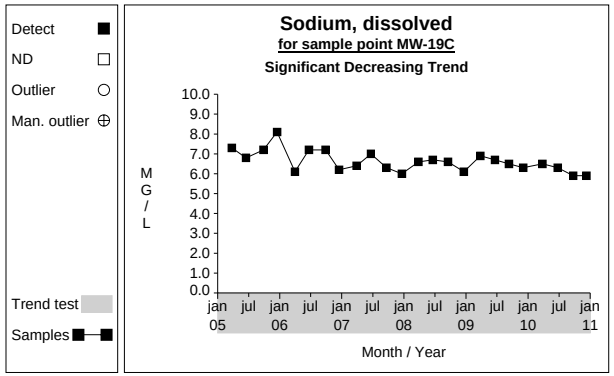
Graph 355



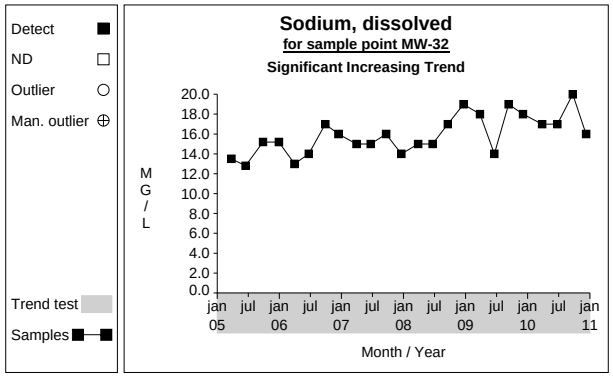
Graph 360



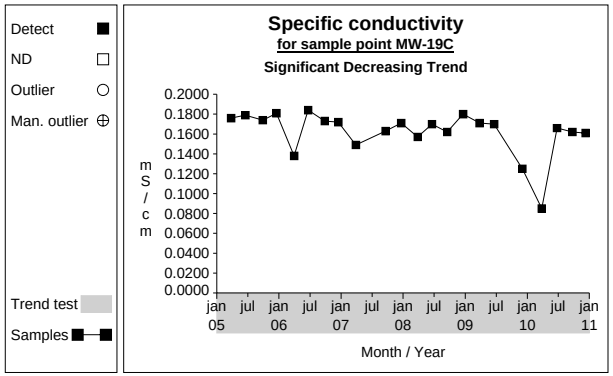
Graph 457



Graph 511

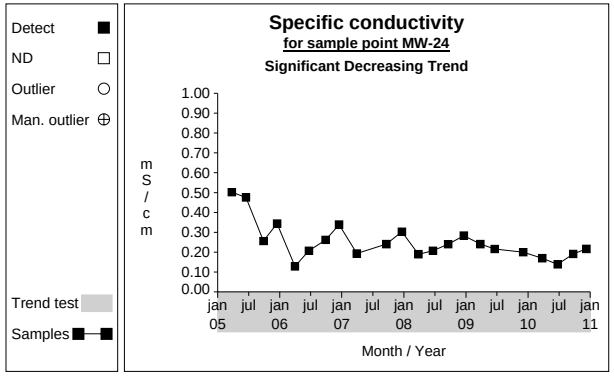


Graph 517

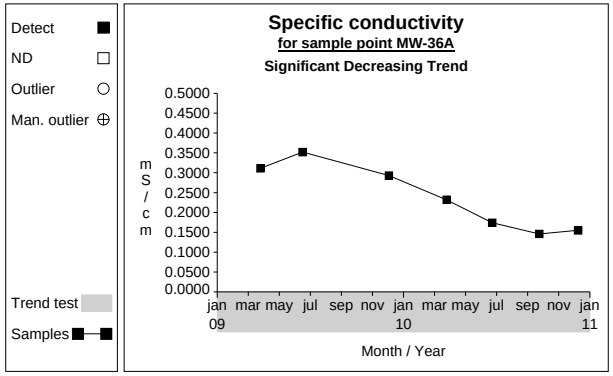


Graph 533

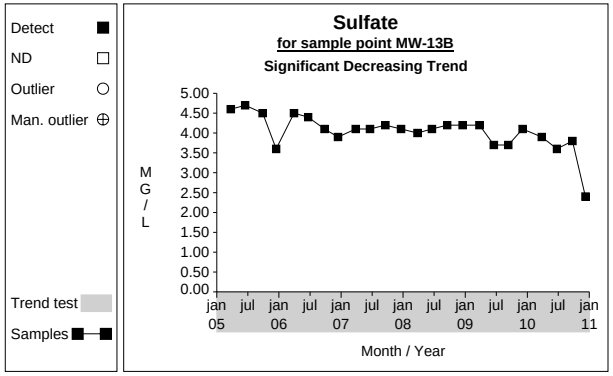
Time Series



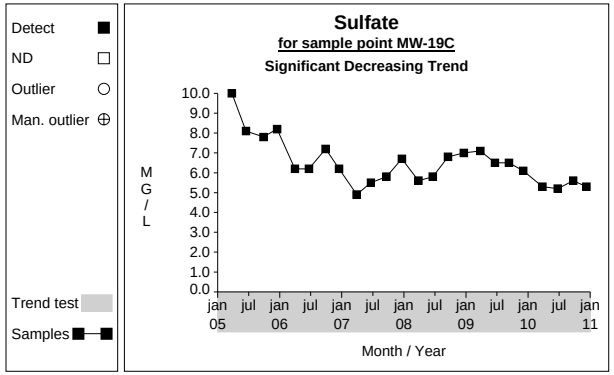
Graph 536



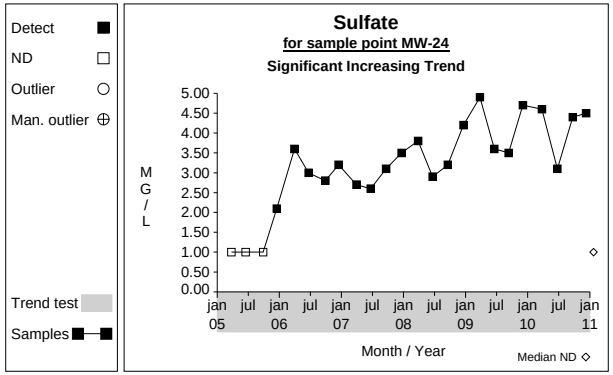
Graph 545



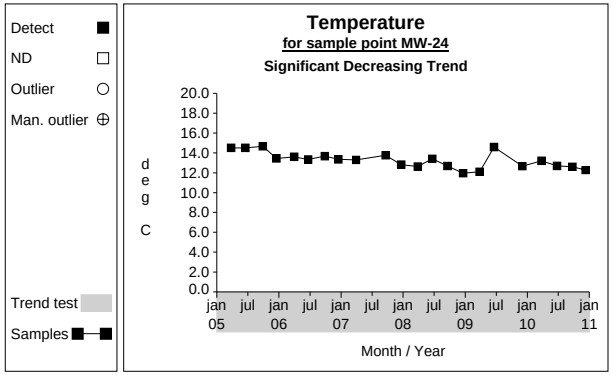
Graph 552



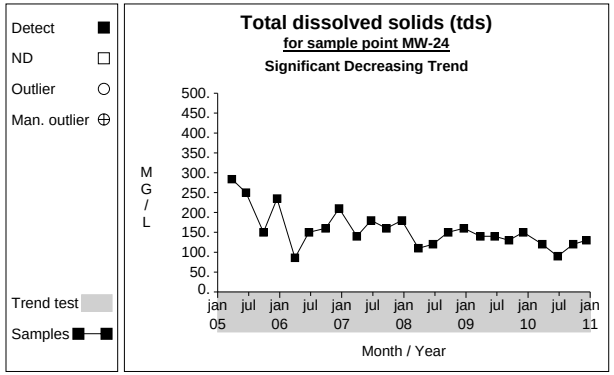
Graph 555



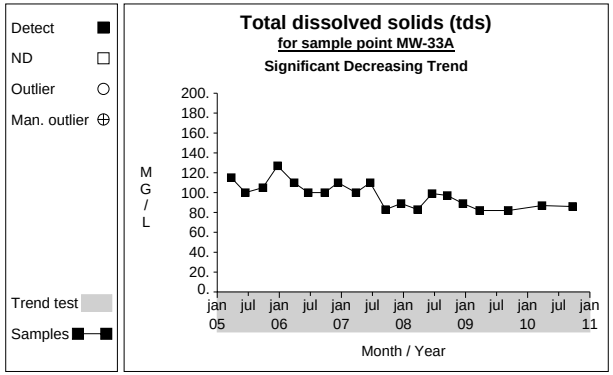
Graph 558



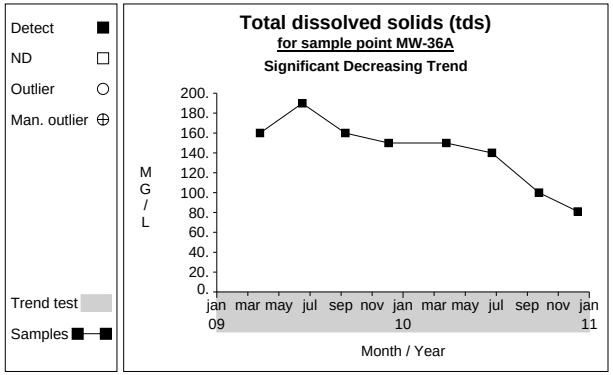
Graph 580



Graph 624



Graph 628



Graph 633

2. Prediction Limits for Detection Monitoring

- 2010 Prediction Limits and Q4 2010 Exeedance Summary Table (Table 1)
- Updated Prediction Limits for Use During 2011 Monitoring Year (Table 2)
- Upgradient Data used in Prediction Limit Calculations (Table 3)
- Results of Shapiro-Wilk Test for Normality (Table 4)

TABLE 1
SUMMARY OF CURRENT[1] PREDICTION LIMIT EXCEEDANCES
Q4 2010
Olympic View Sanitary Landfill

Statistical Methodology:

1. Inter-Well Prediction Limits using DUMPStat
2. Upgradient Data Set: pooled data from wells 13A, 13B, 16, and 35
3. "Detection Monitoring" well comparisons:
   - compliance wells: MW-39, MW-15R, MW-34A, MW-34C, MW-42, MW-43
   - downgradient wells: MW-36A, MW-33A*, MW-33C, MW-32, MW-29A*, MW-9*
4. Parameters: all Appendix I and II inorganic and ground water quality parameters
5. Background Data Sets: January 2005 - December 2009 (updated annually)
6. Arsenic: only low-level Method 200.8 data used
7. Units: MG/L = milligrams per liter; mS/cm = millisiemens per centimeter; deg C = degrees Celcius

Parameter	Unit	Well	Latest Result[1]	Date Sampled	Prediction Limit
Alkalinity, bicarbonate (as caco3)	MG/L	MW-15R	130	12/08/2010	92
Alkalinity, bicarbonate (as caco3)	MG/L	MW-32	150	12/09/2010	92
Alkalinity, bicarbonate (as caco3)	MG/L	MW-34A	120	12/08/2010	92
Alkalinity, bicarbonate (as caco3)	MG/L	MW-34C	170	12/08/2010	92
Alkalinity, bicarbonate (as caco3)	MG/L	MW-39	130	12/09/2010	92
Alkalinity, bicarbonate (as caco3)	MG/L	MW-42	260	12/08/2010	92
Alkalinity, total (as caco3)	MG/L	MW-15R	130	12/08/2010	92
Alkalinity, total (as caco3)	MG/L	MW-32	150	12/09/2010	92
Alkalinity, total (as caco3)	MG/L	MW-34A	120	12/08/2010	92
Alkalinity, total (as caco3)	MG/L	MW-34C	170	12/08/2010	92
Alkalinity, total (as caco3)	MG/L	MW-39	130	12/09/2010	92
Alkalinity, total (as caco3)	MG/L	MW-42	260	12/08/2010	92
Ammonia (as n)	MG/L	MW-39	0.48	12/09/2010	0.146
Ammonia (as n)	MG/L	MW-42	4.5	12/08/2010	0.146
Arsenic, dissolved	UG/L	MW-29A	1.86	09/23/2010	0.4662
Arsenic, dissolved	UG/L	MW-32	10.7	12/09/2010	0.4662
Arsenic, dissolved	UG/L	MW-33C	2.62	12/09/2010	0.4662
Arsenic, dissolved	UG/L	MW-34A	0.5	12/08/2010	0.4662
Arsenic, dissolved	UG/L	MW-34C	1.2	12/08/2010	0.4662
Arsenic, dissolved	UG/L	MW-36A	0.94	12/08/2010	0.4662
Arsenic, dissolved	UG/L	MW-39	2.3	12/09/2010	0.4662
Arsenic, dissolved	UG/L	MW-42	1.7	12/08/2010	0.4662
Barium, dissolved	MG/L	MW-15R	0.0067	12/08/2010	0.0042
Barium, dissolved	MG/L	MW-29A	0.013	09/23/2010	0.0042
Barium, dissolved	MG/L	MW-32	0.0052	12/09/2010	0.0042
Barium, dissolved	MG/L	MW-34A	0.0054	12/08/2010	0.0042
Barium, dissolved	MG/L	MW-34C	0.014	12/08/2010	0.0042
Barium, dissolved	MG/L	MW-39	0.016	12/09/2010	0.0042
Barium, dissolved	MG/L	MW-42	0.13	12/08/2010	0.0042

Parameter	Unit	Well	Latest Result[1]	Date Sampled	Prediction Limit
Calcium, dissolved	MG/L	MW-15R	24	12/08/2010	17.1
Calcium, dissolved	MG/L	MW-32	26	12/09/2010	17.1
Calcium, dissolved	MG/L	MW-34A	22	12/08/2010	17.1
Calcium, dissolved	MG/L	MW-34C	35	12/08/2010	17.1
Calcium, dissolved	MG/L	MW-42	40	12/08/2010	17.1
Chloride	MG/L	MW-15R	3.9	12/08/2010	3.5097
Chloride	MG/L	MW-32	9	12/09/2010	3.5097
Chloride	MG/L	MW-33C	3.9	12/09/2010	3.5097
Chloride	MG/L	MW-34A	6.7	12/08/2010	3.5097
Chloride	MG/L	MW-34C	9.4	12/08/2010	3.5097
Chloride	MG/L	MW-39	3.7	12/09/2010	3.5097
Chloride	MG/L	MW-42	12	12/08/2010	3.5097
Cobalt, dissolved	MG/L	MW-39	0.008	12/09/2010	0.003
Cobalt, dissolved	MG/L	MW-42	0.0033	12/08/2010	0.003
Iron, dissolved	MG/L	MW-29A	3.7	09/23/2010	0.097
Iron, dissolved	MG/L	MW-32	0.7	12/09/2010	0.097
Iron, dissolved	MG/L	MW-34C	1.1	12/08/2010	0.097
Iron, dissolved	MG/L	MW-39	42	12/09/2010	0.097
Iron, dissolved	MG/L	MW-42	26	12/08/2010	0.097
Iron, dissolved	MG/L	MW-9	0.42	06/24/2010	0.097
Magnesium, dissolved	MG/L	MW-15R	14	12/08/2010	10.06
Magnesium, dissolved	MG/L	MW-32	14	12/09/2010	10.06
Magnesium, dissolved	MG/L	MW-34A	11	12/08/2010	10.06
Magnesium, dissolved	MG/L	MW-34C	15	12/08/2010	10.06
Magnesium, dissolved	MG/L	MW-42	17	12/08/2010	10.06
Manganese, dissolved	MG/L	MW-15R	0.0026	12/08/2010	0.001
Manganese, dissolved	MG/L	MW-29A	1.2	09/23/2010	0.001
Manganese, dissolved	MG/L	MW-32	2.1	12/09/2010	0.001
Manganese, dissolved	MG/L	MW-33A	0.0015	09/22/2010	0.001
Manganese, dissolved	MG/L	MW-33C	0.14	12/09/2010	0.001
Manganese, dissolved	MG/L	MW-34C	0.86	12/08/2010	0.001
Manganese, dissolved	MG/L	MW-39	0.92	12/09/2010	0.001
Manganese, dissolved	MG/L	MW-42	5.1	12/08/2010	0.001
Manganese, dissolved	MG/L	MW-43	0.042	12/08/2010	0.001
Manganese, dissolved	MG/L	MW-9	0.032	06/24/2010	0.001
pH	pH Units	MW-29A	5.68	09/23/2010	6.27 - 7.85
pH	pH Units	MW-39	5.97	12/09/2010	6.27 - 7.85
pH	pH Units	MW-43	5.76	12/08/2010	6.27 - 7.85
Potassium, dissolved	MG/L	MW-33C	1.2	12/09/2010	1.0
Potassium, dissolved	MG/L	MW-34C	1.2	12/08/2010	1.0
Potassium, dissolved	MG/L	MW-42	6.7	12/08/2010	1.0
Sodium, dissolved	MG/L	MW-15R	7.3	12/08/2010	6.2
Sodium, dissolved	MG/L	MW-32	16	12/09/2010	6.2
Sodium, dissolved	MG/L	MW-34A	12	12/08/2010	6.2
Sodium, dissolved	MG/L	MW-34C	17	12/08/2010	6.2

Parameter	Unit	Well	Latest Result[1]	Date Sampled	Prediction Limit
Sodium, dissolved	MG/L	MW-39	6.6	12/09/2010	6.2
Sodium, dissolved	MG/L	MW-42	26	12/08/2010	6.2
Specific conductivity	mS/cm	MW-15R	0.248	12/08/2010	0.174
Specific conductivity	mS/cm	MW-32	0.314	12/09/2010	0.174
Specific conductivity	mS/cm	MW-34A	0.279	12/08/2010	0.174
Specific conductivity	mS/cm	MW-34C	0.366	12/08/2010	0.174
Specific conductivity	mS/cm	MW-39	0.256	12/09/2010	0.174
Specific conductivity	mS/cm	MW-42	0.262	12/08/2010	0.174
Sulfate	MG/L	MW-15R	5.3	12/08/2010	5.2935
Sulfate	MG/L	MW-32	15	12/09/2010	5.2935
Sulfate	MG/L	MW-33C	8.1	12/09/2010	5.2935
Sulfate	MG/L	MW-34C	6	12/08/2010	5.2935
Sulfate	MG/L	MW-42	13	12/08/2010	5.2935
Temperature	deg C	MW-32	11.83	12/09/2010	11.2306
Temperature	deg C	MW-34C	11.77	12/08/2010	11.2306
Temperature	deg C	MW-39	11.61	12/09/2010	11.2306
Temperature	deg C	MW-42	12.47	12/08/2010	11.2306
Total dissolved solids (tds)	MG/L	MW-32	200	12/09/2010	175
Total dissolved solids (tds)	MG/L	MW-34C	220	12/08/2010	175
Total dissolved solids (tds)	MG/L	MW-42	260	12/08/2010	175
Total organic carbon (toc)	MG/L	MW-42	7.5	12/08/2010	6.0

Notes:

* = wells sampled on semi-annual schedule during Q1 and Q3 of each monitoring year

[1] for wells not sampled in current quarter, exceedances shown are from the most recent sampling event

TABLE 2
STATISTICAL PREDICTION LIMITS UPDATED FOR 2011 MONITORING YEAR
Olympic View Sanitary Landfill

Statistical Methodology:

1. Inter-Well Prediction Limits using DUMPStat
2. Upgradient Data Set: pooled data from wells 13A, 13B, 16, and 35
3. "Detection Monitoring" well comparisons:
   - complance wells: MW-39, MW-15R, MW-34A, MW-34C, MW-42, MW-43
   - downgradient wells: MW-36A, MW-33A*, MW-33C, MW-32, MW-29A*, MW-9*
4. Parameters: all Appendix I and II inorganic and ground water quality parameters
5. Background Data Sets: January 2005 - December 2010 (updated annually)
6. Arsenic: only low-level Method 200.8 data used
7. Units: MG/L = milligrams per liter; mS/cm = millisiemens per centimeter; deg C = degrees Celcius

Constituent	Units	Distributional Assumption[1]	Total N[2]	Detected N	Mean	Standard Deviation	Prediction Limit[3]	Nonparametric Confidence[4]
Alkalinity, bicarbonate (as $CaCO_3$)	MG/L	nonparametric	76	76			96	0.99
Alkalinity, total (as $CaCO_3$)	MG/L	nonparametric	80	80			96	0.99
Ammonia (as N)	MG/L	nonparametric	78	48			0.170	0.99
Antimony, dissolved	MG/L	nonparametric	80	0			Current RL**	0.99
Arsenic, dissolved	UG/L	nonparametric	77	77			0.380	0.99
Barium, dissolved	MG/L	nonparametric	80	80			0.0052	0.99
Beryllium, dissolved	MG/L	nonparametric	80	0			Current RL**	0.99
Cadmium, dissolved	MG/L	nonparametric	80	0			Current RL**	0.99
Calcium, dissolved	MG/L	nonparametric	80	80			17.10	0.99
Chloride	MG/L	normal	80	80	2.5513	0.399	3.51	
Chromium, dissolved	MG/L	nonparametric	80	23			0.033	0.99
Cobalt, dissolved	MG/L	nonparametric	80	0			Current RL**	0.99
Copper, dissolved	MG/L	nonparametric	80	2			0.0094	0.99
Iron, dissolved	MG/L	nonparametric	80	3			0.097	0.99
Lead, dissolved	MG/L	nonparametric	80	0			Current RL**	0.99
Magnesium, dissolved	MG/L	normal	80	80	8.4475	0.7637	10.29	
Manganese, dissolved	MG/L	nonparametric	80	4			0.0067	0.99
Nickel, dissolved	MG/L	nonparametric	80	0			Current RL**	0.99
Nitrate (as N)	MG/L	nonparametric	80	80			1.80	0.99
pH	pH Units	nonparametric	73	73			5.90 - 7.85	0.99
Potassium, dissolved	MG/L	nonparametric	80	12			1.00	0.99
Selenium, dissolved	MG/L	nonparametric	80	2			0.0011	0.99
Silver, dissolved	MG/L	nonparametric	80	0			Current RL**	0.99
Sodium, dissolved	MG/L	normal	80	80	5.15	0.3334	5.95	
Specific conductivity	mS/cm	nonparametric	73	73			0.174	0.99
Sulfate	MG/L	nonparametric	80	79			9.90	0.99
Temperature	deg C	normal	73	73	9.3814	0.706	11.09	
Thallium, dissolved	MG/L	nonparametric	80	0			Current RL**	0.99
Total dissolved solids (tds)	MG/L	nonparametric	80	80			175	0.99
Total organic carbon (toc)	MG/L	nonparametric	80	7			6.0	0.99
Vanadium, dissolved	MG/L	nonparametric	80	80			0.0066	0.99
Zinc, dissolved	MG/L	nonparametric	47	1			0.0096	0.99

[1] Distributional Assumption based on Multiple Group Shapiro-Wilk Test (results presented on Table 4 herein).

[2] N = number of background data points from the pooled upgradient well data set AFTER removal of outliers (see Table 3 herein).

[3] Prediction Limit calculated at 95% confidence level and adjusted for multiple comparisons and one verification resample per Unified Guidance (USEPA, March 2009).

[4] Nonparametric confidence level as calculated by DUMPStat.

* = wells sampled on semi-annual schedule during Q1 and Q3 of each monitoring year

**Current RL: in cases where all background data are non-detected, a nonparametric prediction limit is set at the current constituent-specific laboratory reporting limit (RL).

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	03/22/2005		75.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	06/15/2005		63.8000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	09/27/2005		75.6000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	12/15/2005		72.5000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	03/28/2006		80.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	06/21/2006		79.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	09/26/2006		80.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	12/13/2006		82.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	03/27/2007		83.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	06/19/2007		81.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	09/19/2007		79.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	12/19/2007		82.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	03/25/2008		83.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	06/18/2008		82.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	09/17/2008		81.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	12/17/2008		92.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	03/24/2009		81.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	06/17/2009		84.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	09/10/2009		87.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	03/25/2010		86.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	06/23/2010		86.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	09/23/2010		96.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13A	12/08/2010		82.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	03/22/2005		70.6000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	06/15/2005		57.3000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	09/27/2005		72.7000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	12/15/2005		68.8000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	03/29/2006		73.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	06/21/2006		74.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	09/26/2006		75.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	12/13/2006		76.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	03/27/2007		76.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	06/19/2007		74.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	09/18/2007		74.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	12/19/2007		76.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	03/25/2008		77.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	06/18/2008		77.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	09/17/2008		76.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	12/16/2008		74.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	03/24/2009		78.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	06/17/2009		79.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	09/10/2009		81.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	03/25/2010		81.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	06/23/2010		80.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	09/23/2010		81.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-13B	12/08/2010		88.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-16	03/24/2009		66.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-16	06/16/2009		59.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-16	09/09/2009		66.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-16	03/25/2010		46.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-16	06/24/2010		71.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-16	09/24/2010		74.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-16	12/09/2010		72.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	03/22/2005		68.2000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	06/14/2005		59.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	09/27/2005		69.2000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	12/15/2005		67.3000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	03/28/2006		74.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	06/21/2006		71.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	09/26/2006		72.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	12/12/2006		73.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	03/27/2007		73.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	06/20/2007		70.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	09/18/2007		69.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	12/20/2007		72.0000	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	03/25/2008		77.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	06/18/2008		72.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	09/18/2008		72.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	12/19/2008		68.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	03/24/2009		72.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	06/16/2009		73.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	09/10/2009		74.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	03/25/2010		76.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	06/23/2010		75.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	09/23/2010		75.0000	
Alkalinity, bicarbonate (as caco3)	MG/L	MW-35	12/09/2010		74.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	03/22/2005		75.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	06/15/2005		63.8000	
Alkalinity, total (as caco3)	MG/L	MW-13A	09/27/2005		75.6000	
Alkalinity, total (as caco3)	MG/L	MW-13A	12/15/2005		72.5000	
Alkalinity, total (as caco3)	MG/L	MW-13A	03/28/2006		80.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	06/21/2006		79.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	09/26/2006		80.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	12/13/2006		82.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	03/27/2007		83.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	06/19/2007		81.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	09/19/2007		79.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	12/19/2007		82.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	03/25/2008		83.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	06/18/2008		82.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	09/17/2008		81.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	12/17/2008		92.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	03/24/2009		81.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	06/17/2009		84.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	09/10/2009		87.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	12/03/2009		84.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	03/25/2010		86.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	06/23/2010		86.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	09/23/2010		96.0000	
Alkalinity, total (as caco3)	MG/L	MW-13A	12/08/2010		82.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	03/22/2005		70.6000	
Alkalinity, total (as caco3)	MG/L	MW-13B	06/15/2005		57.3000	
Alkalinity, total (as caco3)	MG/L	MW-13B	09/27/2005		72.7000	
Alkalinity, total (as caco3)	MG/L	MW-13B	12/15/2005		68.8000	
Alkalinity, total (as caco3)	MG/L	MW-13B	03/29/2006		73.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	06/21/2006		74.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	09/26/2006		75.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	12/13/2006		76.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	03/27/2007		76.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	06/19/2007		74.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	09/18/2007		74.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	12/19/2007		76.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	03/25/2008		77.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	06/18/2008		77.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	09/17/2008		76.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	12/16/2008		74.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	03/24/2009		78.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	06/17/2009		79.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	09/10/2009		81.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	12/03/2009		80.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	03/25/2010		81.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	06/23/2010		80.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	09/23/2010		81.0000	
Alkalinity, total (as caco3)	MG/L	MW-13B	12/08/2010		88.0000	
Alkalinity, total (as caco3)	MG/L	MW-16	03/24/2009		66.0000	
Alkalinity, total (as caco3)	MG/L	MW-16	06/16/2009		59.0000	
Alkalinity, total (as caco3)	MG/L	MW-16	09/09/2009		66.0000	
Alkalinity, total (as caco3)	MG/L	MW-16	12/03/2009		77.0000	
Alkalinity, total (as caco3)	MG/L	MW-16	03/25/2010		46.0000	
Alkalinity, total (as caco3)	MG/L	MW-16	06/24/2010		71.0000	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Alkalinity, total (as caco3)	MG/L	MW-16	09/24/2010		74.0000	
Alkalinity, total (as caco3)	MG/L	MW-16	12/09/2010		72.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	03/22/2005		68.2000	
Alkalinity, total (as caco3)	MG/L	MW-35	06/14/2005		59.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	09/27/2005		69.2000	
Alkalinity, total (as caco3)	MG/L	MW-35	12/15/2005		67.3000	
Alkalinity, total (as caco3)	MG/L	MW-35	03/28/2006		73.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	06/21/2006		71.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	09/26/2006		72.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	12/12/2006		73.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	03/27/2007		73.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	06/20/2007		70.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	09/18/2007		69.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	12/20/2007		72.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	03/25/2008		77.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	06/18/2008		72.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	09/18/2008		72.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	12/19/2008		68.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	03/24/2009		72.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	06/16/2009		73.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	09/10/2009		74.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	12/03/2009		74.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	03/25/2010		76.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	06/23/2010		75.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	09/23/2010		75.0000	
Alkalinity, total (as caco3)	MG/L	MW-35	12/09/2010		74.0000	
Ammonia (as n)	MG/L	MW-13A	03/22/2005		0.0200	
Ammonia (as n)	MG/L	MW-13A	06/15/2005		0.1300	
Ammonia (as n)	MG/L	MW-13A	09/27/2005		0.0210	
Ammonia (as n)	MG/L	MW-13A	12/15/2005	ND	0.0200	
Ammonia (as n)	MG/L	MW-13A	03/28/2006		0.0490	
Ammonia (as n)	MG/L	MW-13A	06/21/2006		0.0680	
Ammonia (as n)	MG/L	MW-13A	09/26/2006		0.0360	
Ammonia (as n)	MG/L	MW-13A	12/13/2006	ND	0.0300	
Ammonia (as n)	MG/L	MW-13A	03/27/2007	ND	0.0300	
Ammonia (as n)	MG/L	MW-13A	06/19/2007	ND	0.0300	
Ammonia (as n)	MG/L	MW-13A	09/19/2007	ND	0.0300	
Ammonia (as n)	MG/L	MW-13A	12/19/2007		0.0420	
Ammonia (as n)	MG/L	MW-13A	03/25/2008		0.0500	
Ammonia (as n)	MG/L	MW-13A	06/18/2008	ND	0.0300	
Ammonia (as n)	MG/L	MW-13A	09/17/2008	ND	0.0300	
Ammonia (as n)	MG/L	MW-13A	12/17/2008		0.0630	
Ammonia (as n)	MG/L	MW-13A	03/24/2009		0.0830	
Ammonia (as n)	MG/L	MW-13A	06/17/2009		0.0930	
Ammonia (as n)	MG/L	MW-13A	09/10/2009	ND	0.0300	
Ammonia (as n)	MG/L	MW-13A	12/03/2009		0.0590	
Ammonia (as n)	MG/L	MW-13A	03/25/2010		0.0460	
Ammonia (as n)	MG/L	MW-13A	06/23/2010	ND	0.0300	
Ammonia (as n)	MG/L	MW-13A	09/23/2010		0.0490	
Ammonia (as n)	MG/L	MW-13A	12/08/2010		0.0610	
Ammonia (as n)	MG/L	MW-13B	03/22/2005	ND	0.0200	
Ammonia (as n)	MG/L	MW-13B	06/15/2005		0.1200	
Ammonia (as n)	MG/L	MW-13B	09/27/2005		0.1700	
Ammonia (as n)	MG/L	MW-13B	12/15/2005	ND	0.0200	
Ammonia (as n)	MG/L	MW-13B	03/29/2006		0.0360	
Ammonia (as n)	MG/L	MW-13B	06/21/2006	ND	0.0300	
Ammonia (as n)	MG/L	MW-13B	09/26/2006		0.0300	
Ammonia (as n)	MG/L	MW-13B	12/13/2006	ND	0.0300	
Ammonia (as n)	MG/L	MW-13B	03/27/2007	ND	0.0300	
Ammonia (as n)	MG/L	MW-13B	06/19/2007		0.0300	
Ammonia (as n)	MG/L	MW-13B	12/19/2007		0.1100	
Ammonia (as n)	MG/L	MW-13B	03/25/2008		0.0600	
Ammonia (as n)	MG/L	MW-13B	06/18/2008	ND	0.0300	
Ammonia (as n)	MG/L	MW-13B	09/17/2008	ND	0.0300	
Ammonia (as n)	MG/L	MW-13B	12/16/2008		0.0560	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Ammonia (as n)	MG/L	MW-13B	03/24/2009		0.0630	
Ammonia (as n)	MG/L	MW-13B	06/17/2009		0.0870	
Ammonia (as n)	MG/L	MW-13B	09/10/2009		0.0450	
Ammonia (as n)	MG/L	MW-13B	12/03/2009	ND	0.0300	
Ammonia (as n)	MG/L	MW-13B	03/25/2010		0.0440	
Ammonia (as n)	MG/L	MW-13B	06/23/2010	ND	0.0300	
Ammonia (as n)	MG/L	MW-13B	09/23/2010		0.0450	
Ammonia (as n)	MG/L	MW-13B	12/08/2010		0.0520	
Ammonia (as n)	MG/L	MW-16	03/24/2009		0.0620	
Ammonia (as n)	MG/L	MW-16	06/16/2009		0.0930	
Ammonia (as n)	MG/L	MW-16	09/09/2009		0.0360	
Ammonia (as n)	MG/L	MW-16	12/03/2009		0.0580	
Ammonia (as n)	MG/L	MW-16	03/25/2010		0.0460	
Ammonia (as n)	MG/L	MW-16	06/24/2010	ND	0.0300	
Ammonia (as n)	MG/L	MW-16	09/24/2010	ND	0.0300	
Ammonia (as n)	MG/L	MW-16	12/09/2010		0.0590	
Ammonia (as n)	MG/L	MW-35	03/22/2005	ND	0.0200	
Ammonia (as n)	MG/L	MW-35	06/14/2005		0.1200	
Ammonia (as n)	MG/L	MW-35	09/27/2005		0.1500	
Ammonia (as n)	MG/L	MW-35	12/15/2005	ND	0.0200	
Ammonia (as n)	MG/L	MW-35	03/28/2006	ND	0.0300	
Ammonia (as n)	MG/L	MW-35	06/21/2006	ND	0.0300	
Ammonia (as n)	MG/L	MW-35	09/26/2006		0.0330	
Ammonia (as n)	MG/L	MW-35	12/12/2006	ND	0.0300	
Ammonia (as n)	MG/L	MW-35	03/27/2007	ND	0.0300	
Ammonia (as n)	MG/L	MW-35	06/20/2007		0.0420	
Ammonia (as n)	MG/L	MW-35	12/20/2007		0.0600	
Ammonia (as n)	MG/L	MW-35	03/25/2008		0.0590	
Ammonia (as n)	MG/L	MW-35	06/18/2008	ND	0.0300	
Ammonia (as n)	MG/L	MW-35	09/18/2008	ND	0.0300	
Ammonia (as n)	MG/L	MW-35	12/19/2008		0.0810	
Ammonia (as n)	MG/L	MW-35	03/24/2009		0.0600	
Ammonia (as n)	MG/L	MW-35	06/16/2009		0.0660	
Ammonia (as n)	MG/L	MW-35	09/10/2009	ND	0.0300	
Ammonia (as n)	MG/L	MW-35	12/03/2009		0.0760	
Ammonia (as n)	MG/L	MW-35	03/25/2010		0.0410	
Ammonia (as n)	MG/L	MW-35	06/23/2010	ND	0.0300	
Ammonia (as n)	MG/L	MW-35	09/23/2010		0.0530	
Ammonia (as n)	MG/L	MW-35	12/09/2010		0.0550	
Antimony, dissolved	MG/L	MW-13A	03/22/2005	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	06/15/2005	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	09/27/2005	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	12/15/2005	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	03/28/2006	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	06/21/2006	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	09/26/2006	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	12/13/2006	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	03/27/2007	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	06/19/2007	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	09/19/2007	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	09/10/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	12/03/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-13A	12/08/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	03/22/2005	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	06/15/2005	ND	0.0010	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Antimony, dissolved	MG/L	MW-13B	09/27/2005	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	12/15/2005	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	03/29/2006	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	06/21/2006	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	09/26/2006	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	12/13/2006	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	03/27/2007	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	06/19/2007	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	09/18/2007	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	12/19/2007	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	03/25/2008	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	09/17/2008	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	12/16/2008	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	03/24/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	06/17/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	09/10/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	12/03/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	03/25/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	06/23/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	09/23/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-13B	12/08/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-16	03/24/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-16	06/16/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-16	09/09/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-16	12/03/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-16	03/25/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-16	06/24/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-16	09/24/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-16	12/09/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	03/22/2005	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	06/14/2005	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	09/27/2005	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	12/15/2005	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	03/28/2006	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	06/21/2006	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	09/26/2006	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	12/12/2006	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	03/27/2007	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	06/20/2007	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	09/18/2007	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	12/20/2007	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	03/25/2008	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	06/18/2008	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	09/18/2008	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	12/19/2008	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	03/24/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	06/16/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	09/10/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	12/03/2009	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	03/25/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	06/23/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	09/23/2010	ND	0.0010	
Antimony, dissolved	MG/L	MW-35	12/09/2010	ND	0.0010	
Arsenic, dissolved	UG/L	MW-13A	03/22/2005	ND	1.0000	*
Arsenic, dissolved	UG/L	MW-13A	06/15/2005		0.2100	
Arsenic, dissolved	UG/L	MW-13A	09/27/2005		0.2200	
Arsenic, dissolved	UG/L	MW-13A	12/15/2005		0.2100	
Arsenic, dissolved	UG/L	MW-13A	03/28/2006		0.2000	
Arsenic, dissolved	UG/L	MW-13A	06/21/2006		0.2100	
Arsenic, dissolved	UG/L	MW-13A	09/26/2006		0.1900	
Arsenic, dissolved	UG/L	MW-13A	12/13/2006		0.2100	
Arsenic, dissolved	UG/L	MW-13A	03/27/2007		0.2100	
Arsenic, dissolved	UG/L	MW-13A	06/19/2007		0.1900	
Arsenic, dissolved	UG/L	MW-13A	09/19/2007		0.2100	

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Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Arsenic, dissolved	UG/L	MW-13A	12/19/2007		0.1800	
Arsenic, dissolved	UG/L	MW-13A	03/25/2008		0.2000	
Arsenic, dissolved	UG/L	MW-13A	06/18/2008		0.2000	
Arsenic, dissolved	UG/L	MW-13A	09/17/2008		0.1700	
Arsenic, dissolved	UG/L	MW-13A	12/17/2008		0.1900	
Arsenic, dissolved	UG/L	MW-13A	03/24/2009		0.2000	
Arsenic, dissolved	UG/L	MW-13A	06/17/2009		0.2100	
Arsenic, dissolved	UG/L	MW-13A	09/10/2009		0.2100	
Arsenic, dissolved	UG/L	MW-13A	12/03/2009		0.2000	
Arsenic, dissolved	UG/L	MW-13A	03/25/2010		0.2000	
Arsenic, dissolved	UG/L	MW-13A	06/23/2010		0.2100	
Arsenic, dissolved	UG/L	MW-13A	09/23/2010		0.2100	
Arsenic, dissolved	UG/L	MW-13A	12/08/2010		0.3400	
Arsenic, dissolved	UG/L	MW-13B	03/22/2005	ND	1.0000	*
Arsenic, dissolved	UG/L	MW-13B	06/15/2005		0.3700	
Arsenic, dissolved	UG/L	MW-13B	09/27/2005		0.3700	
Arsenic, dissolved	UG/L	MW-13B	12/15/2005		0.3500	
Arsenic, dissolved	UG/L	MW-13B	03/29/2006		0.3300	
Arsenic, dissolved	UG/L	MW-13B	06/21/2006		0.3500	
Arsenic, dissolved	UG/L	MW-13B	09/26/2006		0.3100	
Arsenic, dissolved	UG/L	MW-13B	12/13/2006		0.3300	
Arsenic, dissolved	UG/L	MW-13B	03/27/2007		0.3400	
Arsenic, dissolved	UG/L	MW-13B	06/19/2007		0.3300	
Arsenic, dissolved	UG/L	MW-13B	09/18/2007		0.3600	
Arsenic, dissolved	UG/L	MW-13B	12/19/2007		0.3100	
Arsenic, dissolved	UG/L	MW-13B	03/25/2008		0.3400	
Arsenic, dissolved	UG/L	MW-13B	06/18/2008		0.3300	
Arsenic, dissolved	UG/L	MW-13B	09/17/2008		0.3000	
Arsenic, dissolved	UG/L	MW-13B	12/16/2008		0.3200	
Arsenic, dissolved	UG/L	MW-13B	03/24/2009		0.3300	
Arsenic, dissolved	UG/L	MW-13B	06/17/2009		0.3400	
Arsenic, dissolved	UG/L	MW-13B	09/10/2009		0.3500	
Arsenic, dissolved	UG/L	MW-13B	12/03/2009		0.3500	
Arsenic, dissolved	UG/L	MW-13B	03/25/2010		0.3200	
Arsenic, dissolved	UG/L	MW-13B	06/23/2010		0.3700	
Arsenic, dissolved	UG/L	MW-13B	09/23/2010		0.3600	
Arsenic, dissolved	UG/L	MW-13B	12/08/2010		0.2000	
Arsenic, dissolved	UG/L	MW-16	03/24/2009		0.3500	
Arsenic, dissolved	UG/L	MW-16	06/16/2009		0.3800	
Arsenic, dissolved	UG/L	MW-16	09/09/2009		0.3500	
Arsenic, dissolved	UG/L	MW-16	12/03/2009		0.3300	
Arsenic, dissolved	UG/L	MW-16	03/25/2010		0.3500	
Arsenic, dissolved	UG/L	MW-16	06/24/2010		0.3400	
Arsenic, dissolved	UG/L	MW-16	09/24/2010		0.3300	
Arsenic, dissolved	UG/L	MW-16	12/09/2010		0.3200	
Arsenic, dissolved	UG/L	MW-35	03/22/2005	ND	1.0000	*
Arsenic, dissolved	UG/L	MW-35	06/14/2005		0.1400	
Arsenic, dissolved	UG/L	MW-35	09/27/2005		0.1500	
Arsenic, dissolved	UG/L	MW-35	12/15/2005		0.1400	
Arsenic, dissolved	UG/L	MW-35	03/28/2006		0.1200	
Arsenic, dissolved	UG/L	MW-35	06/21/2006		0.1300	
Arsenic, dissolved	UG/L	MW-35	09/26/2006		0.1200	
Arsenic, dissolved	UG/L	MW-35	12/12/2006		0.1300	
Arsenic, dissolved	UG/L	MW-35	03/27/2007		0.1500	
Arsenic, dissolved	UG/L	MW-35	06/20/2007		0.1200	
Arsenic, dissolved	UG/L	MW-35	09/18/2007		0.1400	
Arsenic, dissolved	UG/L	MW-35	12/20/2007		0.1300	
Arsenic, dissolved	UG/L	MW-35	03/25/2008		0.1300	
Arsenic, dissolved	UG/L	MW-35	06/18/2008		0.1200	
Arsenic, dissolved	UG/L	MW-35	09/18/2008		0.1300	
Arsenic, dissolved	UG/L	MW-35	12/19/2008		0.1300	
Arsenic, dissolved	UG/L	MW-35	03/24/2009		0.1300	
Arsenic, dissolved	UG/L	MW-35	06/16/2009		0.1600	
Arsenic, dissolved	UG/L	MW-35	09/10/2009		0.1400	
Arsenic, dissolved	UG/L	MW-35	12/03/2009		0.1300	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Arsenic, dissolved	UG/L	MW-35	03/25/2010		0.1300	
Arsenic, dissolved	UG/L	MW-35	06/23/2010		0.1600	
Arsenic, dissolved	UG/L	MW-35	09/23/2010		0.1400	
Arsenic, dissolved	UG/L	MW-35	12/09/2010		0.1300	
Barium, dissolved	MG/L	MW-13A	03/22/2005		0.0029	
Barium, dissolved	MG/L	MW-13A	06/15/2005		0.0025	
Barium, dissolved	MG/L	MW-13A	09/27/2005		0.0025	
Barium, dissolved	MG/L	MW-13A	12/15/2005		0.0026	
Barium, dissolved	MG/L	MW-13A	03/28/2006		0.0028	
Barium, dissolved	MG/L	MW-13A	06/21/2006		0.0030	
Barium, dissolved	MG/L	MW-13A	09/26/2006		0.0028	
Barium, dissolved	MG/L	MW-13A	12/13/2006		0.0026	
Barium, dissolved	MG/L	MW-13A	03/27/2007		0.0028	
Barium, dissolved	MG/L	MW-13A	06/19/2007		0.0027	
Barium, dissolved	MG/L	MW-13A	09/19/2007		0.0035	
Barium, dissolved	MG/L	MW-13A	12/19/2007		0.0028	
Barium, dissolved	MG/L	MW-13A	03/25/2008		0.0028	
Barium, dissolved	MG/L	MW-13A	06/18/2008		0.0027	
Barium, dissolved	MG/L	MW-13A	09/17/2008		0.0029	
Barium, dissolved	MG/L	MW-13A	12/17/2008		0.0029	
Barium, dissolved	MG/L	MW-13A	03/24/2009		0.0030	
Barium, dissolved	MG/L	MW-13A	06/17/2009		0.0029	
Barium, dissolved	MG/L	MW-13A	09/10/2009		0.0029	
Barium, dissolved	MG/L	MW-13A	12/03/2009		0.0028	
Barium, dissolved	MG/L	MW-13A	03/25/2010		0.0031	
Barium, dissolved	MG/L	MW-13A	06/23/2010		0.0029	
Barium, dissolved	MG/L	MW-13A	09/23/2010		0.0028	
Barium, dissolved	MG/L	MW-13A	12/08/2010		0.0044	
Barium, dissolved	MG/L	MW-13B	03/22/2005		0.0036	
Barium, dissolved	MG/L	MW-13B	06/15/2005		0.0033	
Barium, dissolved	MG/L	MW-13B	09/27/2005		0.0034	
Barium, dissolved	MG/L	MW-13B	12/15/2005		0.0031	
Barium, dissolved	MG/L	MW-13B	03/29/2006		0.0034	
Barium, dissolved	MG/L	MW-13B	06/21/2006		0.0034	
Barium, dissolved	MG/L	MW-13B	09/26/2006		0.0033	
Barium, dissolved	MG/L	MW-13B	12/13/2006		0.0033	
Barium, dissolved	MG/L	MW-13B	03/27/2007		0.0034	
Barium, dissolved	MG/L	MW-13B	06/19/2007		0.0032	
Barium, dissolved	MG/L	MW-13B	09/18/2007		0.0037	
Barium, dissolved	MG/L	MW-13B	12/19/2007		0.0034	
Barium, dissolved	MG/L	MW-13B	03/25/2008		0.0033	
Barium, dissolved	MG/L	MW-13B	06/18/2008		0.0033	
Barium, dissolved	MG/L	MW-13B	09/17/2008		0.0034	
Barium, dissolved	MG/L	MW-13B	12/16/2008		0.0037	
Barium, dissolved	MG/L	MW-13B	03/24/2009		0.0034	
Barium, dissolved	MG/L	MW-13B	06/17/2009		0.0034	
Barium, dissolved	MG/L	MW-13B	09/10/2009		0.0035	
Barium, dissolved	MG/L	MW-13B	12/03/2009		0.0035	
Barium, dissolved	MG/L	MW-13B	03/25/2010		0.0036	
Barium, dissolved	MG/L	MW-13B	06/23/2010		0.0034	
Barium, dissolved	MG/L	MW-13B	09/23/2010		0.0034	
Barium, dissolved	MG/L	MW-13B	12/08/2010		0.0029	
Barium, dissolved	MG/L	MW-16	03/24/2009		0.0044	
Barium, dissolved	MG/L	MW-16	06/16/2009		0.0037	
Barium, dissolved	MG/L	MW-16	09/09/2009		0.0040	
Barium, dissolved	MG/L	MW-16	12/03/2009		0.0051	
Barium, dissolved	MG/L	MW-16	03/25/2010		0.0033	
Barium, dissolved	MG/L	MW-16	06/24/2010		0.0046	
Barium, dissolved	MG/L	MW-16	09/24/2010		0.0052	
Barium, dissolved	MG/L	MW-16	12/09/2010		0.0045	
Barium, dissolved	MG/L	MW-35	03/22/2005		0.0030	
Barium, dissolved	MG/L	MW-35	06/14/2005		0.0027	
Barium, dissolved	MG/L	MW-35	09/27/2005		0.0030	
Barium, dissolved	MG/L	MW-35	12/15/2005		0.0026	
Barium, dissolved	MG/L	MW-35	03/28/2006		0.0030	

* - Outlier for that well and constituent.
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Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Barium, dissolved	MG/L	MW-35	06/21/2006		0.0030	
Barium, dissolved	MG/L	MW-35	09/26/2006		0.0030	
Barium, dissolved	MG/L	MW-35	12/12/2006		0.0027	
Barium, dissolved	MG/L	MW-35	03/27/2007		0.0030	
Barium, dissolved	MG/L	MW-35	06/20/2007		0.0032	
Barium, dissolved	MG/L	MW-35	09/18/2007		0.0035	
Barium, dissolved	MG/L	MW-35	12/20/2007		0.0033	
Barium, dissolved	MG/L	MW-35	03/25/2008		0.0028	
Barium, dissolved	MG/L	MW-35	06/18/2008		0.0029	
Barium, dissolved	MG/L	MW-35	09/18/2008		0.0029	
Barium, dissolved	MG/L	MW-35	12/19/2008		0.0029	
Barium, dissolved	MG/L	MW-35	03/24/2009		0.0029	
Barium, dissolved	MG/L	MW-35	06/16/2009		0.0028	
Barium, dissolved	MG/L	MW-35	09/10/2009		0.0031	
Barium, dissolved	MG/L	MW-35	12/03/2009		0.0031	
Barium, dissolved	MG/L	MW-35	03/25/2010		0.0030	
Barium, dissolved	MG/L	MW-35	06/23/2010		0.0029	
Barium, dissolved	MG/L	MW-35	09/23/2010		0.0028	
Barium, dissolved	MG/L	MW-35	12/09/2010		0.0031	
Beryllium, dissolved	MG/L	MW-13A	03/22/2005	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	06/15/2005	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	09/27/2005	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	12/15/2005	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	03/28/2006	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	06/21/2006	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	09/26/2006	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	12/13/2006	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	03/27/2007	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	06/19/2007	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	09/19/2007	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	09/10/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	12/03/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13A	12/08/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	03/22/2005	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	06/15/2005	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	09/27/2005	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	12/15/2005	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	03/29/2006	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	06/21/2006	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	09/26/2006	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	12/13/2006	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	03/27/2007	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	06/19/2007	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	09/18/2007	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	12/19/2007	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	03/25/2008	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	09/17/2008	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	12/16/2008	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	03/24/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	06/17/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	09/10/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	12/03/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	03/25/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	06/23/2010	ND	0.0010	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Beryllium, dissolved	MG/L	MW-13B	09/23/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-13B	12/08/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-16	03/24/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-16	06/16/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-16	09/09/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-16	12/03/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-16	03/25/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-16	06/24/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-16	09/24/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-16	12/09/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	03/22/2005	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	06/14/2005	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	09/27/2005	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	12/15/2005	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	03/28/2006	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	06/21/2006	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	09/26/2006	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	12/12/2006	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	03/27/2007	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	06/20/2007	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	09/18/2007	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	12/20/2007	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	03/25/2008	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	06/18/2008	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	09/18/2008	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	12/19/2008	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	03/24/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	06/16/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	09/10/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	12/03/2009	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	03/25/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	06/23/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	09/23/2010	ND	0.0010	
Beryllium, dissolved	MG/L	MW-35	12/09/2010	ND	0.0010	
Cadmium, dissolved	MG/L	MW-13A	03/22/2005	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	06/15/2005	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	09/27/2005	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	12/15/2005	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	03/28/2006	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	06/21/2006	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	09/26/2006	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	12/13/2006	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	03/27/2007	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	06/19/2007	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	09/19/2007	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	09/10/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	12/03/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13A	12/08/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	03/22/2005	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	06/15/2005	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	09/27/2005	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	12/15/2005	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	03/29/2006	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	06/21/2006	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	09/26/2006	ND	0.0002	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Cadmium, dissolved	MG/L	MW-13B	12/13/2006	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	03/27/2007	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	06/19/2007	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	09/18/2007	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	12/19/2007	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	03/25/2008	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	09/17/2008	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	12/16/2008	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	03/24/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	06/17/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	09/10/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	12/03/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	03/25/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	06/23/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	09/23/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-13B	12/08/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-16	03/24/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-16	06/16/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-16	09/09/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-16	12/03/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-16	03/25/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-16	06/24/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-16	09/24/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-16	12/09/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	03/22/2005	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	06/14/2005	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	09/27/2005	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	12/15/2005	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	03/28/2006	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	06/21/2006	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	09/26/2006	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	12/12/2006	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	03/27/2007	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	06/20/2007	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	09/18/2007	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	12/20/2007	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	03/25/2008	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	06/18/2008	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	09/18/2008	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	12/19/2008	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	03/24/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	06/16/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	09/10/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	12/03/2009	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	03/25/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	06/23/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	09/23/2010	ND	0.0002	
Cadmium, dissolved	MG/L	MW-35	12/09/2010	ND	0.0002	
Calcium, dissolved	MG/L	MW-13A	03/22/2005		15.7000	
Calcium, dissolved	MG/L	MW-13A	06/15/2005		14.2000	
Calcium, dissolved	MG/L	MW-13A	09/27/2005		14.2000	
Calcium, dissolved	MG/L	MW-13A	12/15/2005		15.1000	
Calcium, dissolved	MG/L	MW-13A	03/28/2006		16.0000	
Calcium, dissolved	MG/L	MW-13A	06/21/2006		16.0000	
Calcium, dissolved	MG/L	MW-13A	09/26/2006		15.0000	
Calcium, dissolved	MG/L	MW-13A	12/13/2006		15.0000	
Calcium, dissolved	MG/L	MW-13A	03/27/2007		15.0000	
Calcium, dissolved	MG/L	MW-13A	06/19/2007		16.0000	
Calcium, dissolved	MG/L	MW-13A	09/19/2007		16.0000	
Calcium, dissolved	MG/L	MW-13A	12/19/2007		15.0000	
Calcium, dissolved	MG/L	MW-13A	03/25/2008		16.0000	
Calcium, dissolved	MG/L	MW-13A	06/18/2008		16.0000	
Calcium, dissolved	MG/L	MW-13A	09/17/2008		15.0000	
Calcium, dissolved	MG/L	MW-13A	12/17/2008		16.0000	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Calcium, dissolved	MG/L	MW-13A	03/24/2009		15.0000	
Calcium, dissolved	MG/L	MW-13A	06/17/2009		17.0000	
Calcium, dissolved	MG/L	MW-13A	09/10/2009		15.0000	
Calcium, dissolved	MG/L	MW-13A	12/03/2009		15.0000	
Calcium, dissolved	MG/L	MW-13A	03/25/2010		16.0000	
Calcium, dissolved	MG/L	MW-13A	06/23/2010		15.0000	
Calcium, dissolved	MG/L	MW-13A	09/23/2010		15.0000	
Calcium, dissolved	MG/L	MW-13A	12/08/2010		16.0000	
Calcium, dissolved	MG/L	MW-13B	03/22/2005		16.9000	
Calcium, dissolved	MG/L	MW-13B	06/15/2005		16.0000	
Calcium, dissolved	MG/L	MW-13B	09/27/2005		17.1000	
Calcium, dissolved	MG/L	MW-13B	12/15/2005		16.1000	
Calcium, dissolved	MG/L	MW-13B	03/29/2006		17.0000	
Calcium, dissolved	MG/L	MW-13B	06/21/2006		17.0000	
Calcium, dissolved	MG/L	MW-13B	09/26/2006		16.0000	
Calcium, dissolved	MG/L	MW-13B	12/13/2006		17.0000	
Calcium, dissolved	MG/L	MW-13B	03/27/2007		16.0000	
Calcium, dissolved	MG/L	MW-13B	06/19/2007		16.0000	
Calcium, dissolved	MG/L	MW-13B	09/18/2007		17.0000	
Calcium, dissolved	MG/L	MW-13B	12/19/2007		15.0000	
Calcium, dissolved	MG/L	MW-13B	03/25/2008		16.0000	
Calcium, dissolved	MG/L	MW-13B	06/18/2008		17.0000	
Calcium, dissolved	MG/L	MW-13B	09/17/2008		16.0000	
Calcium, dissolved	MG/L	MW-13B	12/16/2008		16.0000	
Calcium, dissolved	MG/L	MW-13B	03/24/2009		16.0000	
Calcium, dissolved	MG/L	MW-13B	06/17/2009		17.0000	
Calcium, dissolved	MG/L	MW-13B	09/10/2009		16.0000	
Calcium, dissolved	MG/L	MW-13B	12/03/2009		16.0000	
Calcium, dissolved	MG/L	MW-13B	03/25/2010		17.0000	
Calcium, dissolved	MG/L	MW-13B	06/23/2010		16.0000	
Calcium, dissolved	MG/L	MW-13B	09/23/2010		16.0000	
Calcium, dissolved	MG/L	MW-13B	12/08/2010		16.0000	
Calcium, dissolved	MG/L	MW-16	03/24/2009		12.0000	
Calcium, dissolved	MG/L	MW-16	06/16/2009		10.0000	
Calcium, dissolved	MG/L	MW-16	09/09/2009		11.0000	
Calcium, dissolved	MG/L	MW-16	12/03/2009		14.0000	
Calcium, dissolved	MG/L	MW-16	03/25/2010		9.6000	
Calcium, dissolved	MG/L	MW-16	06/24/2010		12.0000	
Calcium, dissolved	MG/L	MW-16	09/24/2010		13.0000	
Calcium, dissolved	MG/L	MW-16	12/09/2010		13.0000	
Calcium, dissolved	MG/L	MW-35	03/22/2005		13.9000	
Calcium, dissolved	MG/L	MW-35	06/14/2005		12.9000	
Calcium, dissolved	MG/L	MW-35	09/27/2005		14.8000	
Calcium, dissolved	MG/L	MW-35	12/15/2005		13.2000	
Calcium, dissolved	MG/L	MW-35	03/28/2006		14.0000	
Calcium, dissolved	MG/L	MW-35	06/21/2006		14.0000	
Calcium, dissolved	MG/L	MW-35	09/26/2006		13.0000	
Calcium, dissolved	MG/L	MW-35	12/12/2006		14.0000	
Calcium, dissolved	MG/L	MW-35	03/27/2007		13.0000	
Calcium, dissolved	MG/L	MW-35	06/20/2007		14.0000	
Calcium, dissolved	MG/L	MW-35	09/18/2007		14.0000	
Calcium, dissolved	MG/L	MW-35	12/20/2007		13.0000	
Calcium, dissolved	MG/L	MW-35	03/25/2008		13.0000	
Calcium, dissolved	MG/L	MW-35	06/18/2008		13.0000	
Calcium, dissolved	MG/L	MW-35	09/18/2008		13.0000	
Calcium, dissolved	MG/L	MW-35	12/19/2008		12.0000	
Calcium, dissolved	MG/L	MW-35	03/24/2009		13.0000	
Calcium, dissolved	MG/L	MW-35	06/16/2009		13.0000	
Calcium, dissolved	MG/L	MW-35	09/10/2009		12.0000	
Calcium, dissolved	MG/L	MW-35	12/03/2009		13.0000	
Calcium, dissolved	MG/L	MW-35	03/25/2010		13.0000	
Calcium, dissolved	MG/L	MW-35	06/23/2010		13.0000	
Calcium, dissolved	MG/L	MW-35	09/23/2010		13.0000	
Calcium, dissolved	MG/L	MW-35	12/09/2010		14.0000	
Chloride	MG/L	MW-13A	03/22/2005		2.6000	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Chloride	MG/L	MW-13A	06/15/2005		1.9000	
Chloride	MG/L	MW-13A	09/27/2005		2.4000	
Chloride	MG/L	MW-13A	12/15/2005		2.1000	
Chloride	MG/L	MW-13A	03/28/2006		3.0000	
Chloride	MG/L	MW-13A	06/21/2006		2.4000	
Chloride	MG/L	MW-13A	09/26/2006		2.6000	
Chloride	MG/L	MW-13A	12/13/2006		3.0000	
Chloride	MG/L	MW-13A	03/27/2007		2.8000	
Chloride	MG/L	MW-13A	06/19/2007		2.6000	
Chloride	MG/L	MW-13A	09/19/2007		2.6000	
Chloride	MG/L	MW-13A	12/19/2007		2.6000	
Chloride	MG/L	MW-13A	03/25/2008		2.5000	
Chloride	MG/L	MW-13A	06/18/2008		2.6000	
Chloride	MG/L	MW-13A	09/17/2008		2.5000	
Chloride	MG/L	MW-13A	12/17/2008		3.1000	
Chloride	MG/L	MW-13A	03/24/2009		2.7000	
Chloride	MG/L	MW-13A	06/17/2009		2.4000	
Chloride	MG/L	MW-13A	09/10/2009		2.1000	
Chloride	MG/L	MW-13A	12/03/2009		3.4000	
Chloride	MG/L	MW-13A	03/25/2010		2.2000	
Chloride	MG/L	MW-13A	06/23/2010		2.6000	
Chloride	MG/L	MW-13A	09/23/2010		2.8000	
Chloride	MG/L	MW-13A	12/08/2010		2.9000	
Chloride	MG/L	MW-13B	03/22/2005		3.0000	
Chloride	MG/L	MW-13B	06/15/2005		2.3000	
Chloride	MG/L	MW-13B	09/27/2005		2.8000	
Chloride	MG/L	MW-13B	12/15/2005		2.4000	
Chloride	MG/L	MW-13B	03/29/2006		3.2000	
Chloride	MG/L	MW-13B	06/21/2006		2.9000	
Chloride	MG/L	MW-13B	09/26/2006		2.7000	
Chloride	MG/L	MW-13B	12/13/2006		3.3000	
Chloride	MG/L	MW-13B	03/27/2007		3.0000	
Chloride	MG/L	MW-13B	06/19/2007		2.8000	
Chloride	MG/L	MW-13B	09/18/2007		2.8000	
Chloride	MG/L	MW-13B	12/19/2007		2.8000	
Chloride	MG/L	MW-13B	03/25/2008		2.7000	
Chloride	MG/L	MW-13B	06/18/2008		2.8000	
Chloride	MG/L	MW-13B	09/17/2008		2.7000	
Chloride	MG/L	MW-13B	12/16/2008		3.2000	
Chloride	MG/L	MW-13B	03/24/2009		2.6000	
Chloride	MG/L	MW-13B	06/17/2009		3.0000	
Chloride	MG/L	MW-13B	09/10/2009		2.3000	
Chloride	MG/L	MW-13B	12/03/2009		2.9000	
Chloride	MG/L	MW-13B	03/25/2010		2.5000	
Chloride	MG/L	MW-13B	06/23/2010		2.8000	
Chloride	MG/L	MW-13B	09/23/2010		3.0000	
Chloride	MG/L	MW-13B	12/08/2010		2.5000	
Chloride	MG/L	MW-16	03/24/2009		2.1000	
Chloride	MG/L	MW-16	06/16/2009		2.2000	
Chloride	MG/L	MW-16	09/09/2009		1.3000	
Chloride	MG/L	MW-16	12/03/2009		1.9000	
Chloride	MG/L	MW-16	03/25/2010		1.7000	
Chloride	MG/L	MW-16	06/24/2010		1.6000	
Chloride	MG/L	MW-16	09/24/2010		1.7000	
Chloride	MG/L	MW-16	12/09/2010		2.3000	
Chloride	MG/L	MW-35	03/22/2005		2.2000	
Chloride	MG/L	MW-35	06/14/2005		2.2000	
Chloride	MG/L	MW-35	09/27/2005		2.6000	
Chloride	MG/L	MW-35	12/15/2005		1.9000	
Chloride	MG/L	MW-35	03/28/2006		2.9000	
Chloride	MG/L	MW-35	06/21/2006		2.8000	
Chloride	MG/L	MW-35	09/26/2006		2.5000	
Chloride	MG/L	MW-35	12/12/2006		3.0000	
Chloride	MG/L	MW-35	03/27/2007		2.8000	
Chloride	MG/L	MW-35	06/20/2007		2.6000	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Chloride	MG/L	MW-35	09/18/2007		2.4000	
Chloride	MG/L	MW-35	12/20/2007		2.3000	
Chloride	MG/L	MW-35	03/25/2008		2.4000	
Chloride	MG/L	MW-35	06/18/2008		2.6000	
Chloride	MG/L	MW-35	09/18/2008		2.4000	
Chloride	MG/L	MW-35	12/19/2008		2.9000	
Chloride	MG/L	MW-35	03/24/2009		2.3000	
Chloride	MG/L	MW-35	06/16/2009		2.4000	
Chloride	MG/L	MW-35	09/10/2009		2.5000	
Chloride	MG/L	MW-35	12/03/2009		2.8000	
Chloride	MG/L	MW-35	03/25/2010		2.0000	
Chloride	MG/L	MW-35	06/23/2010		2.1000	
Chloride	MG/L	MW-35	09/23/2010		2.6000	
Chloride	MG/L	MW-35	12/09/2010		2.7000	
Chromium, dissolved	MG/L	MW-13A	03/22/2005	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	06/15/2005	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	09/27/2005	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	12/15/2005	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	03/28/2006	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	06/21/2006	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	09/26/2006	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	12/13/2006	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	03/27/2007	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	06/19/2007	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	09/19/2007	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	09/10/2009	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	12/03/2009	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0030	
Chromium, dissolved	MG/L	MW-13A	12/08/2010		0.0032	
Chromium, dissolved	MG/L	MW-13B	03/22/2005		0.0035	
Chromium, dissolved	MG/L	MW-13B	06/15/2005	ND	0.0030	
Chromium, dissolved	MG/L	MW-13B	09/27/2005		0.0031	
Chromium, dissolved	MG/L	MW-13B	12/15/2005	ND	0.0030	
Chromium, dissolved	MG/L	MW-13B	03/29/2006		0.0035	
Chromium, dissolved	MG/L	MW-13B	06/21/2006		0.0032	
Chromium, dissolved	MG/L	MW-13B	09/26/2006	ND	0.0030	
Chromium, dissolved	MG/L	MW-13B	12/13/2006	ND	0.0030	
Chromium, dissolved	MG/L	MW-13B	03/27/2007		0.0033	
Chromium, dissolved	MG/L	MW-13B	06/19/2007		0.0031	
Chromium, dissolved	MG/L	MW-13B	09/18/2007		0.0030	
Chromium, dissolved	MG/L	MW-13B	12/19/2007		0.0031	
Chromium, dissolved	MG/L	MW-13B	03/25/2008		0.0032	
Chromium, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0030	
Chromium, dissolved	MG/L	MW-13B	09/17/2008	ND	0.0030	
Chromium, dissolved	MG/L	MW-13B	12/16/2008	ND	0.0030	
Chromium, dissolved	MG/L	MW-13B	03/24/2009		0.0030	
Chromium, dissolved	MG/L	MW-13B	06/17/2009	ND	0.0030	
Chromium, dissolved	MG/L	MW-13B	09/10/2009		0.0031	
Chromium, dissolved	MG/L	MW-13B	12/03/2009		0.0030	
Chromium, dissolved	MG/L	MW-13B	03/25/2010		0.0031	
Chromium, dissolved	MG/L	MW-13B	06/23/2010	ND	0.0030	
Chromium, dissolved	MG/L	MW-13B	09/23/2010	ND	0.0030	
Chromium, dissolved	MG/L	MW-13B	12/08/2010	ND	0.0030	
Chromium, dissolved	MG/L	MW-16	03/24/2009		0.0100	
Chromium, dissolved	MG/L	MW-16	06/16/2009		0.0082	
Chromium, dissolved	MG/L	MW-16	09/09/2009		0.0094	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Chromium, dissolved	MG/L	MW-16	12/03/2009		0.0094	
Chromium, dissolved	MG/L	MW-16	03/25/2010		0.0062	
Chromium, dissolved	MG/L	MW-16	06/24/2010		0.0088	
Chromium, dissolved	MG/L	MW-16	09/24/2010		0.0099	
Chromium, dissolved	MG/L	MW-16	12/09/2010		0.0088	
Chromium, dissolved	MG/L	MW-35	03/22/2005	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	06/14/2005	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	09/27/2005	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	12/15/2005	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	03/28/2006	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	06/21/2006	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	09/26/2006	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	12/12/2006	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	03/27/2007	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	06/20/2007	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	09/18/2007	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	12/20/2007	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	03/25/2008	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	06/18/2008	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	09/18/2008	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	12/19/2008	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	03/24/2009	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	06/16/2009		0.0330	
Chromium, dissolved	MG/L	MW-35	09/10/2009	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	12/03/2009	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	03/25/2010	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	06/23/2010	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	09/23/2010	ND	0.0030	
Chromium, dissolved	MG/L	MW-35	12/09/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	03/22/2005	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	06/15/2005	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	09/27/2005	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	12/15/2005	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	03/28/2006	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	06/21/2006	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	09/26/2006	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	12/13/2006	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	03/27/2007	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	06/19/2007	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	09/19/2007	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	09/10/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	12/03/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13A	12/08/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	03/22/2005	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	06/15/2005	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	09/27/2005	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	12/15/2005	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	03/29/2006	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	06/21/2006	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	09/26/2006	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	12/13/2006	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	03/27/2007	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	06/19/2007	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	09/18/2007	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	12/19/2007	ND	0.0030	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Cobalt, dissolved	MG/L	MW-13B	03/25/2008	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	09/17/2008	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	12/16/2008	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	03/24/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	06/17/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	09/10/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	12/03/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	03/25/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	06/23/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	09/23/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-13B	12/08/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-16	03/24/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-16	06/16/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-16	09/09/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-16	12/03/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-16	03/25/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-16	06/24/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-16	09/24/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-16	12/09/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	03/22/2005	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	06/14/2005	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	09/27/2005	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	12/15/2005	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	03/28/2006	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	06/21/2006	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	09/26/2006	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	12/12/2006	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	03/27/2007	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	06/20/2007	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	09/18/2007	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	12/20/2007	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	03/25/2008	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	06/18/2008	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	09/18/2008	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	12/19/2008	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	03/24/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	06/16/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	09/10/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	12/03/2009	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	03/25/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	06/23/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	09/23/2010	ND	0.0030	
Cobalt, dissolved	MG/L	MW-35	12/09/2010	ND	0.0030	
Copper, dissolved	MG/L	MW-13A	03/22/2005	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	06/15/2005	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	09/27/2005	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	12/15/2005	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	03/28/2006	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	06/21/2006		0.0094	
Copper, dissolved	MG/L	MW-13A	09/26/2006	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	12/13/2006	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	03/27/2007	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	06/19/2007	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	09/19/2007	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	09/10/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	12/03/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0020	

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Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Copper, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-13A	12/08/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	03/22/2005	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	06/15/2005	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	09/27/2005	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	12/15/2005	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	03/29/2006	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	06/21/2006	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	09/26/2006	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	12/13/2006	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	03/27/2007	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	06/19/2007	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	09/18/2007		0.0040	
Copper, dissolved	MG/L	MW-13B	12/19/2007	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	03/25/2008	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	09/17/2008	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	12/16/2008	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	03/24/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	06/17/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	09/10/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	12/03/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	03/25/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	06/23/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	09/23/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-13B	12/08/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-16	03/24/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-16	06/16/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-16	09/09/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-16	12/03/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-16	03/25/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-16	06/24/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-16	09/24/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-16	12/09/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-35	03/22/2005	ND	0.0020	
Copper, dissolved	MG/L	MW-35	06/14/2005	ND	0.0020	
Copper, dissolved	MG/L	MW-35	09/27/2005	ND	0.0020	
Copper, dissolved	MG/L	MW-35	12/15/2005	ND	0.0020	
Copper, dissolved	MG/L	MW-35	03/28/2006	ND	0.0020	
Copper, dissolved	MG/L	MW-35	06/21/2006	ND	0.0020	
Copper, dissolved	MG/L	MW-35	09/26/2006	ND	0.0020	
Copper, dissolved	MG/L	MW-35	12/12/2006	ND	0.0020	
Copper, dissolved	MG/L	MW-35	03/27/2007	ND	0.0020	
Copper, dissolved	MG/L	MW-35	06/20/2007	ND	0.0020	
Copper, dissolved	MG/L	MW-35	09/18/2007	ND	0.0020	
Copper, dissolved	MG/L	MW-35	12/20/2007	ND	0.0020	
Copper, dissolved	MG/L	MW-35	03/25/2008	ND	0.0020	
Copper, dissolved	MG/L	MW-35	06/18/2008	ND	0.0020	
Copper, dissolved	MG/L	MW-35	09/18/2008	ND	0.0020	
Copper, dissolved	MG/L	MW-35	12/19/2008	ND	0.0020	
Copper, dissolved	MG/L	MW-35	03/24/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-35	06/16/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-35	09/10/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-35	12/03/2009	ND	0.0020	
Copper, dissolved	MG/L	MW-35	03/25/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-35	06/23/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-35	09/23/2010	ND	0.0020	
Copper, dissolved	MG/L	MW-35	12/09/2010	ND	0.0020	
Iron, dissolved	MG/L	MW-13A	03/22/2005	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	06/15/2005	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	09/27/2005	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	12/15/2005	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	03/28/2006	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	06/21/2006	ND	0.0600	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Iron, dissolved	MG/L	MW-13A	09/26/2006	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	12/13/2006	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	03/27/2007	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	06/19/2007	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	09/19/2007	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	09/10/2009		0.0630	
Iron, dissolved	MG/L	MW-13A	12/03/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-13A	12/08/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	03/22/2005	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	06/15/2005	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	09/27/2005	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	12/15/2005	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	03/29/2006	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	06/21/2006	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	09/26/2006	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	12/13/2006	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	03/27/2007	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	06/19/2007	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	09/18/2007	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	12/19/2007	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	03/25/2008	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	09/17/2008	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	12/16/2008	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	03/24/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	06/17/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	09/10/2009		0.0970	
Iron, dissolved	MG/L	MW-13B	12/03/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	03/25/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	06/23/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	09/23/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-13B	12/08/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-16	03/24/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-16	06/16/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-16	09/09/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-16	12/03/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-16	03/25/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-16	06/24/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-16	09/24/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-16	12/09/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-35	03/22/2005	ND	0.0600	
Iron, dissolved	MG/L	MW-35	06/14/2005	ND	0.0600	
Iron, dissolved	MG/L	MW-35	09/27/2005	ND	0.0600	
Iron, dissolved	MG/L	MW-35	12/15/2005	ND	0.0600	
Iron, dissolved	MG/L	MW-35	03/28/2006	ND	0.0600	
Iron, dissolved	MG/L	MW-35	06/21/2006	ND	0.0600	
Iron, dissolved	MG/L	MW-35	09/26/2006	ND	0.0600	
Iron, dissolved	MG/L	MW-35	12/12/2006	ND	0.0600	
Iron, dissolved	MG/L	MW-35	03/27/2007	ND	0.0600	
Iron, dissolved	MG/L	MW-35	06/20/2007	ND	0.0600	
Iron, dissolved	MG/L	MW-35	09/18/2007	ND	0.0600	
Iron, dissolved	MG/L	MW-35	12/20/2007	ND	0.0600	
Iron, dissolved	MG/L	MW-35	03/25/2008		0.0740	
Iron, dissolved	MG/L	MW-35	06/18/2008	ND	0.0600	
Iron, dissolved	MG/L	MW-35	09/18/2008	ND	0.0600	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Iron, dissolved	MG/L	MW-35	12/19/2008	ND	0.0600	
Iron, dissolved	MG/L	MW-35	03/24/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-35	06/16/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-35	09/10/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-35	12/03/2009	ND	0.0600	
Iron, dissolved	MG/L	MW-35	03/25/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-35	06/23/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-35	09/23/2010	ND	0.0600	
Iron, dissolved	MG/L	MW-35	12/09/2010	ND	0.0600	
Lead, dissolved	MG/L	MW-13A	03/22/2005	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	06/15/2005	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	09/27/2005	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	12/15/2005	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	03/28/2006	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	06/21/2006	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	09/26/2006	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	12/13/2006	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	03/27/2007	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	06/19/2007	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	09/19/2007	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	09/10/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	12/03/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-13A	12/08/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	03/22/2005	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	06/15/2005	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	09/27/2005	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	12/15/2005	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	03/29/2006	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	06/21/2006	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	09/26/2006	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	12/13/2006	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	03/27/2007	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	06/19/2007	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	09/18/2007	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	12/19/2007	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	03/25/2008	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	09/17/2008	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	12/16/2008	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	03/24/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	06/17/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	09/10/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	12/03/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	03/25/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	06/23/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	09/23/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-13B	12/08/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-16	03/24/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-16	06/16/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-16	09/09/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-16	12/03/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-16	03/25/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-16	06/24/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-16	09/24/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-16	12/09/2010	ND	0.0010	

* - Outlier for that well and constituent.
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Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Lead, dissolved	MG/L	MW-35	03/22/2005	ND	0.0010	
Lead, dissolved	MG/L	MW-35	06/14/2005	ND	0.0010	
Lead, dissolved	MG/L	MW-35	09/27/2005	ND	0.0010	
Lead, dissolved	MG/L	MW-35	12/15/2005	ND	0.0010	
Lead, dissolved	MG/L	MW-35	03/28/2006	ND	0.0010	
Lead, dissolved	MG/L	MW-35	06/21/2006	ND	0.0010	
Lead, dissolved	MG/L	MW-35	09/26/2006	ND	0.0010	
Lead, dissolved	MG/L	MW-35	12/12/2006	ND	0.0010	
Lead, dissolved	MG/L	MW-35	03/27/2007	ND	0.0010	
Lead, dissolved	MG/L	MW-35	06/20/2007	ND	0.0010	
Lead, dissolved	MG/L	MW-35	09/18/2007	ND	0.0010	
Lead, dissolved	MG/L	MW-35	12/20/2007	ND	0.0010	
Lead, dissolved	MG/L	MW-35	03/25/2008	ND	0.0010	
Lead, dissolved	MG/L	MW-35	06/18/2008	ND	0.0010	
Lead, dissolved	MG/L	MW-35	09/18/2008	ND	0.0010	
Lead, dissolved	MG/L	MW-35	12/19/2008	ND	0.0010	
Lead, dissolved	MG/L	MW-35	03/24/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-35	06/16/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-35	09/10/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-35	12/03/2009	ND	0.0010	
Lead, dissolved	MG/L	MW-35	03/25/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-35	06/23/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-35	09/23/2010	ND	0.0010	
Lead, dissolved	MG/L	MW-35	12/09/2010	ND	0.0010	
Magnesium, dissolved	MG/L	MW-13A	03/22/2005		9.2000	
Magnesium, dissolved	MG/L	MW-13A	06/15/2005		8.2000	
Magnesium, dissolved	MG/L	MW-13A	09/27/2005		8.4000	
Magnesium, dissolved	MG/L	MW-13A	12/15/2005		8.6000	
Magnesium, dissolved	MG/L	MW-13A	03/28/2006		9.2000	
Magnesium, dissolved	MG/L	MW-13A	06/21/2006		9.1000	
Magnesium, dissolved	MG/L	MW-13A	09/26/2006		9.2000	
Magnesium, dissolved	MG/L	MW-13A	12/13/2006		9.3000	
Magnesium, dissolved	MG/L	MW-13A	03/27/2007		9.3000	
Magnesium, dissolved	MG/L	MW-13A	06/19/2007		9.0000	
Magnesium, dissolved	MG/L	MW-13A	09/19/2007		9.4000	
Magnesium, dissolved	MG/L	MW-13A	12/19/2007		8.6000	
Magnesium, dissolved	MG/L	MW-13A	03/25/2008		9.1000	
Magnesium, dissolved	MG/L	MW-13A	06/18/2008		9.3000	
Magnesium, dissolved	MG/L	MW-13A	09/17/2008		9.2000	
Magnesium, dissolved	MG/L	MW-13A	12/17/2008		9.3000	
Magnesium, dissolved	MG/L	MW-13A	03/24/2009		9.6000	
Magnesium, dissolved	MG/L	MW-13A	06/17/2009		9.6000	
Magnesium, dissolved	MG/L	MW-13A	09/10/2009		9.3000	
Magnesium, dissolved	MG/L	MW-13A	12/03/2009		9.1000	
Magnesium, dissolved	MG/L	MW-13A	03/25/2010		8.7000	
Magnesium, dissolved	MG/L	MW-13A	06/23/2010		9.7000	
Magnesium, dissolved	MG/L	MW-13A	09/23/2010		9.4000	
Magnesium, dissolved	MG/L	MW-13A	12/08/2010		8.1000	
Magnesium, dissolved	MG/L	MW-13B	03/22/2005		8.6000	
Magnesium, dissolved	MG/L	MW-13B	06/15/2005		8.0000	
Magnesium, dissolved	MG/L	MW-13B	09/27/2005		8.7000	
Magnesium, dissolved	MG/L	MW-13B	12/15/2005		8.0000	
Magnesium, dissolved	MG/L	MW-13B	03/29/2006		8.1000	
Magnesium, dissolved	MG/L	MW-13B	06/21/2006		8.3000	
Magnesium, dissolved	MG/L	MW-13B	09/26/2006		8.5000	
Magnesium, dissolved	MG/L	MW-13B	12/13/2006		8.7000	
Magnesium, dissolved	MG/L	MW-13B	03/27/2007		8.4000	
Magnesium, dissolved	MG/L	MW-13B	06/19/2007		7.9000	
Magnesium, dissolved	MG/L	MW-13B	09/18/2007		8.7000	
Magnesium, dissolved	MG/L	MW-13B	12/19/2007		7.6000	
Magnesium, dissolved	MG/L	MW-13B	03/25/2008		8.0000	
Magnesium, dissolved	MG/L	MW-13B	06/18/2008		8.2000	
Magnesium, dissolved	MG/L	MW-13B	09/17/2008		8.3000	
Magnesium, dissolved	MG/L	MW-13B	12/16/2008		8.3000	
Magnesium, dissolved	MG/L	MW-13B	03/24/2009		8.5000	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Magnesium, dissolved	MG/L	MW-13B	06/17/2009		8.5000	
Magnesium, dissolved	MG/L	MW-13B	09/10/2009		8.3000	
Magnesium, dissolved	MG/L	MW-13B	12/03/2009		8.0000	
Magnesium, dissolved	MG/L	MW-13B	03/25/2010		8.1000	
Magnesium, dissolved	MG/L	MW-13B	06/23/2010		8.7000	
Magnesium, dissolved	MG/L	MW-13B	09/23/2010		8.3000	
Magnesium, dissolved	MG/L	MW-13B	12/08/2010		9.3000	
Magnesium, dissolved	MG/L	MW-16	03/24/2009		7.2000	
Magnesium, dissolved	MG/L	MW-16	06/16/2009		5.9000	
Magnesium, dissolved	MG/L	MW-16	09/09/2009		6.9000	
Magnesium, dissolved	MG/L	MW-16	12/03/2009		8.0000	
Magnesium, dissolved	MG/L	MW-16	03/25/2010		5.1000	
Magnesium, dissolved	MG/L	MW-16	06/24/2010		6.9000	
Magnesium, dissolved	MG/L	MW-16	09/24/2010		7.4000	
Magnesium, dissolved	MG/L	MW-16	12/09/2010		8.3000	
Magnesium, dissolved	MG/L	MW-35	03/22/2005		8.6000	
Magnesium, dissolved	MG/L	MW-35	06/14/2005		8.1000	
Magnesium, dissolved	MG/L	MW-35	09/27/2005		9.2000	
Magnesium, dissolved	MG/L	MW-35	12/15/2005		8.0000	
Magnesium, dissolved	MG/L	MW-35	03/28/2006		8.3000	
Magnesium, dissolved	MG/L	MW-35	06/21/2006		8.4000	
Magnesium, dissolved	MG/L	MW-35	09/26/2006		8.2000	
Magnesium, dissolved	MG/L	MW-35	12/12/2006		8.8000	
Magnesium, dissolved	MG/L	MW-35	03/27/2007		8.6000	
Magnesium, dissolved	MG/L	MW-35	06/20/2007		8.4000	
Magnesium, dissolved	MG/L	MW-35	09/18/2007		9.1000	
Magnesium, dissolved	MG/L	MW-35	12/20/2007		8.1000	
Magnesium, dissolved	MG/L	MW-35	03/25/2008		8.2000	
Magnesium, dissolved	MG/L	MW-35	06/18/2008		8.1000	
Magnesium, dissolved	MG/L	MW-35	09/18/2008		8.1000	
Magnesium, dissolved	MG/L	MW-35	12/19/2008		8.1000	
Magnesium, dissolved	MG/L	MW-35	03/24/2009		8.7000	
Magnesium, dissolved	MG/L	MW-35	06/16/2009		8.1000	
Magnesium, dissolved	MG/L	MW-35	09/10/2009		8.1000	
Magnesium, dissolved	MG/L	MW-35	12/03/2009		8.3000	
Magnesium, dissolved	MG/L	MW-35	03/25/2010		7.9000	
Magnesium, dissolved	MG/L	MW-35	06/23/2010		8.8000	
Magnesium, dissolved	MG/L	MW-35	09/23/2010		8.7000	
Magnesium, dissolved	MG/L	MW-35	12/09/2010		9.3000	
Manganese, dissolved	MG/L	MW-13A	03/22/2005	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	06/15/2005	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	09/27/2005	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	12/15/2005	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	03/28/2006	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	06/21/2006	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	09/26/2006	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	12/13/2006	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	03/27/2007	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	06/19/2007	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	09/19/2007	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	09/10/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	12/03/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0010	
Manganese, dissolved	MG/L	MW-13A	12/08/2010	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	03/22/2005	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	06/15/2005	ND	0.0010	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Manganese, dissolved	MG/L	MW-13B	09/27/2005	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	12/15/2005	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	03/29/2006	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	06/21/2006	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	09/26/2006	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	12/13/2006	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	03/27/2007	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	06/19/2007	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	09/18/2007	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	12/19/2007	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	03/25/2008	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	09/17/2008	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	12/16/2008	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	03/24/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	06/17/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	09/10/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	12/03/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	03/25/2010	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	06/23/2010	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	09/23/2010	ND	0.0010	
Manganese, dissolved	MG/L	MW-13B	12/08/2010	ND	0.0010	
Manganese, dissolved	MG/L	MW-16	03/24/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-16	06/16/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-16	09/09/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-16	12/03/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-16	03/25/2010		0.0027	
Manganese, dissolved	MG/L	MW-16	06/24/2010		0.0067	
Manganese, dissolved	MG/L	MW-16	09/24/2010		0.0027	
Manganese, dissolved	MG/L	MW-16	12/09/2010		0.0021	
Manganese, dissolved	MG/L	MW-35	03/22/2005	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	06/14/2005	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	09/27/2005	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	12/15/2005	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	03/28/2006	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	06/21/2006	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	09/26/2006	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	12/12/2006	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	03/27/2007	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	06/20/2007	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	09/18/2007	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	12/20/2007	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	03/25/2008	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	06/18/2008	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	09/18/2008	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	12/19/2008	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	03/24/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	06/16/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	09/10/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	12/03/2009	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	03/25/2010	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	06/23/2010	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	09/23/2010	ND	0.0010	
Manganese, dissolved	MG/L	MW-35	12/09/2010	ND	0.0010	
Nickel, dissolved	MG/L	MW-13A	03/22/2005	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	06/15/2005	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	09/27/2005	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	12/15/2005	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	03/28/2006	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	06/21/2006	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	09/26/2006	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	12/13/2006	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	03/27/2007	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	06/19/2007	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	09/19/2007	ND	0.0040	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Nickel, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	09/10/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	12/03/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-13A	12/08/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	03/22/2005	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	06/15/2005	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	09/27/2005	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	12/15/2005	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	03/29/2006	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	06/21/2006	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	09/26/2006	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	12/13/2006	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	03/27/2007	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	06/19/2007	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	09/18/2007	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	12/19/2007	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	03/25/2008	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	09/17/2008	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	12/16/2008	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	03/24/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	06/17/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	09/10/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	12/03/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	03/25/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	06/23/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	09/23/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-13B	12/08/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-16	03/24/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-16	06/16/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-16	09/09/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-16	12/03/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-16	03/25/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-16	06/24/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-16	09/24/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-16	12/09/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	03/22/2005	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	06/14/2005	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	09/27/2005	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	12/15/2005	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	03/28/2006	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	06/21/2006	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	09/26/2006	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	12/12/2006	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	03/27/2007	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	06/20/2007	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	09/18/2007	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	12/20/2007	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	03/25/2008	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	06/18/2008	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	09/18/2008	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	12/19/2008	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	03/24/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	06/16/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	09/10/2009	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	12/03/2009	ND	0.0040	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Nickel, dissolved	MG/L	MW-35	03/25/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	06/23/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	09/23/2010	ND	0.0040	
Nickel, dissolved	MG/L	MW-35	12/09/2010	ND	0.0040	
Nitrate (as n)	MG/L	MW-13A	03/22/2005		0.5100	
Nitrate (as n)	MG/L	MW-13A	06/15/2005		0.4400	
Nitrate (as n)	MG/L	MW-13A	09/27/2005		1.8000	
Nitrate (as n)	MG/L	MW-13A	12/15/2005		0.4700	
Nitrate (as n)	MG/L	MW-13A	03/28/2006		0.4400	
Nitrate (as n)	MG/L	MW-13A	06/21/2006		0.5400	
Nitrate (as n)	MG/L	MW-13A	09/26/2006		0.4400	
Nitrate (as n)	MG/L	MW-13A	12/13/2006		0.4600	
Nitrate (as n)	MG/L	MW-13A	03/27/2007		0.4200	
Nitrate (as n)	MG/L	MW-13A	06/19/2007		0.4600	
Nitrate (as n)	MG/L	MW-13A	09/19/2007		0.4600	
Nitrate (as n)	MG/L	MW-13A	12/19/2007		0.4100	
Nitrate (as n)	MG/L	MW-13A	03/25/2008		0.4900	
Nitrate (as n)	MG/L	MW-13A	06/18/2008		0.5100	
Nitrate (as n)	MG/L	MW-13A	09/17/2008		0.4400	
Nitrate (as n)	MG/L	MW-13A	12/17/2008		0.4800	
Nitrate (as n)	MG/L	MW-13A	03/24/2009		0.4700	
Nitrate (as n)	MG/L	MW-13A	06/17/2009		0.4900	
Nitrate (as n)	MG/L	MW-13A	09/10/2009		0.4500	
Nitrate (as n)	MG/L	MW-13A	12/03/2009		0.4100	
Nitrate (as n)	MG/L	MW-13A	03/25/2010		0.4800	
Nitrate (as n)	MG/L	MW-13A	06/23/2010		0.4700	
Nitrate (as n)	MG/L	MW-13A	09/23/2010		0.5100	
Nitrate (as n)	MG/L	MW-13A	12/08/2010		0.4900	
Nitrate (as n)	MG/L	MW-13B	03/22/2005		0.5000	
Nitrate (as n)	MG/L	MW-13B	06/15/2005		0.7400	
Nitrate (as n)	MG/L	MW-13B	09/27/2005		0.4600	
Nitrate (as n)	MG/L	MW-13B	12/15/2005		0.4900	
Nitrate (as n)	MG/L	MW-13B	03/29/2006		0.4400	
Nitrate (as n)	MG/L	MW-13B	06/21/2006		0.5600	
Nitrate (as n)	MG/L	MW-13B	09/26/2006		0.4400	
Nitrate (as n)	MG/L	MW-13B	12/13/2006		0.4000	
Nitrate (as n)	MG/L	MW-13B	03/27/2007		0.4300	
Nitrate (as n)	MG/L	MW-13B	06/19/2007		0.4800	
Nitrate (as n)	MG/L	MW-13B	09/18/2007		0.4800	
Nitrate (as n)	MG/L	MW-13B	12/19/2007		0.8900	
Nitrate (as n)	MG/L	MW-13B	03/25/2008		0.4800	
Nitrate (as n)	MG/L	MW-13B	06/18/2008		0.9500	
Nitrate (as n)	MG/L	MW-13B	09/17/2008		0.4600	
Nitrate (as n)	MG/L	MW-13B	12/16/2008		0.5300	
Nitrate (as n)	MG/L	MW-13B	03/24/2009		0.4600	
Nitrate (as n)	MG/L	MW-13B	06/17/2009		0.4900	
Nitrate (as n)	MG/L	MW-13B	09/10/2009		0.4600	
Nitrate (as n)	MG/L	MW-13B	12/03/2009		0.4000	
Nitrate (as n)	MG/L	MW-13B	03/25/2010		0.4600	
Nitrate (as n)	MG/L	MW-13B	06/23/2010		0.4500	
Nitrate (as n)	MG/L	MW-13B	09/23/2010		0.4800	
Nitrate (as n)	MG/L	MW-13B	12/08/2010		0.5000	
Nitrate (as n)	MG/L	MW-16	03/24/2009		0.2800	
Nitrate (as n)	MG/L	MW-16	06/16/2009		0.3300	
Nitrate (as n)	MG/L	MW-16	09/09/2009		0.3100	
Nitrate (as n)	MG/L	MW-16	12/03/2009		0.4000	
Nitrate (as n)	MG/L	MW-16	03/25/2010		0.2900	
Nitrate (as n)	MG/L	MW-16	06/24/2010		0.1600	
Nitrate (as n)	MG/L	MW-16	09/24/2010		0.5100	
Nitrate (as n)	MG/L	MW-16	12/09/2010		0.9000	
Nitrate (as n)	MG/L	MW-35	03/22/2005		0.3700	
Nitrate (as n)	MG/L	MW-35	06/14/2005		0.3300	
Nitrate (as n)	MG/L	MW-35	09/27/2005		0.9600	
Nitrate (as n)	MG/L	MW-35	12/15/2005		0.2900	
Nitrate (as n)	MG/L	MW-35	03/28/2006		0.3400	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Nitrate (as n)	MG/L	MW-35	06/21/2006		0.4000	
Nitrate (as n)	MG/L	MW-35	09/26/2006		0.3100	
Nitrate (as n)	MG/L	MW-35	12/12/2006		0.3500	
Nitrate (as n)	MG/L	MW-35	03/27/2007		0.3000	
Nitrate (as n)	MG/L	MW-35	06/20/2007		0.3400	
Nitrate (as n)	MG/L	MW-35	09/18/2007		0.3200	
Nitrate (as n)	MG/L	MW-35	12/20/2007		0.3200	
Nitrate (as n)	MG/L	MW-35	03/25/2008		0.3000	
Nitrate (as n)	MG/L	MW-35	06/18/2008		1.0000	
Nitrate (as n)	MG/L	MW-35	09/18/2008		0.3500	
Nitrate (as n)	MG/L	MW-35	12/19/2008		0.3700	
Nitrate (as n)	MG/L	MW-35	03/24/2009		0.3500	
Nitrate (as n)	MG/L	MW-35	06/16/2009		0.3700	
Nitrate (as n)	MG/L	MW-35	09/10/2009		0.3500	
Nitrate (as n)	MG/L	MW-35	12/03/2009		0.5200	
Nitrate (as n)	MG/L	MW-35	03/25/2010		0.3600	
Nitrate (as n)	MG/L	MW-35	06/23/2010		0.3200	
Nitrate (as n)	MG/L	MW-35	09/23/2010		0.4000	
Nitrate (as n)	MG/L	MW-35	12/09/2010		0.3900	
pH	pH Units	MW-13A	03/22/2005		7.0100	
pH	pH Units	MW-13A	06/15/2005		7.2100	
pH	pH Units	MW-13A	09/27/2005		7.1000	
pH	pH Units	MW-13A	12/15/2005		6.3400	
pH	pH Units	MW-13A	03/28/2006		6.9000	
pH	pH Units	MW-13A	06/21/2006		7.2500	
pH	pH Units	MW-13A	09/26/2006		7.2500	
pH	pH Units	MW-13A	12/13/2006		6.8700	
pH	pH Units	MW-13A	03/27/2007		7.3200	
pH	pH Units	MW-13A	09/19/2007		6.6800	
pH	pH Units	MW-13A	12/19/2007		7.2900	
pH	pH Units	MW-13A	03/25/2008		7.1200	
pH	pH Units	MW-13A	06/18/2008		7.1900	
pH	pH Units	MW-13A	09/17/2008		7.0000	
pH	pH Units	MW-13A	12/17/2008		6.5100	
pH	pH Units	MW-13A	03/24/2009		6.8500	
pH	pH Units	MW-13A	06/17/2009		7.0700	
pH	pH Units	MW-13A	12/03/2009		7.0300	
pH	pH Units	MW-13A	03/25/2010		6.9600	
pH	pH Units	MW-13A	06/23/2010		6.9900	
pH	pH Units	MW-13A	09/23/2010		6.7800	
pH	pH Units	MW-13A	12/08/2010		7.4800	
pH	pH Units	MW-13B	03/22/2005		7.4900	
pH	pH Units	MW-13B	06/15/2005		7.8100	
pH	pH Units	MW-13B	09/27/2005		7.7300	
pH	pH Units	MW-13B	12/15/2005		6.9300	
pH	pH Units	MW-13B	03/29/2006		7.4500	
pH	pH Units	MW-13B	06/21/2006		7.7600	
pH	pH Units	MW-13B	09/26/2006		7.7800	
pH	pH Units	MW-13B	12/13/2006		7.3200	
pH	pH Units	MW-13B	03/27/2007		7.7600	
pH	pH Units	MW-13B	09/18/2007		7.4800	
pH	pH Units	MW-13B	12/19/2007		7.8500	
pH	pH Units	MW-13B	03/25/2008		7.7800	
pH	pH Units	MW-13B	06/18/2008		7.7400	
pH	pH Units	MW-13B	09/17/2008		7.5700	
pH	pH Units	MW-13B	12/16/2008		7.2300	
pH	pH Units	MW-13B	03/24/2009		7.3700	
pH	pH Units	MW-13B	06/17/2009		7.5600	
pH	pH Units	MW-13B	12/03/2009		6.9300	
pH	pH Units	MW-13B	03/25/2010		7.4900	
pH	pH Units	MW-13B	06/23/2010		7.2700	
pH	pH Units	MW-13B	09/23/2010		7.1100	
pH	pH Units	MW-13B	12/08/2010		7.0500	
pH	pH Units	MW-16	03/24/2009		6.2700	
pH	pH Units	MW-16	06/16/2009		6.3300	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
pH	pH Units	MW-16	12/03/2009		6.2700	
pH	pH Units	MW-16	03/25/2010		6.2600	
pH	pH Units	MW-16	06/24/2010		6.0400	
pH	pH Units	MW-16	09/24/2010		5.9000	
pH	pH Units	MW-16	12/09/2010		6.1700	
pH	pH Units	MW-35	03/22/2005		7.0600	
pH	pH Units	MW-35	06/14/2005		7.4300	
pH	pH Units	MW-35	09/27/2005		7.3900	
pH	pH Units	MW-35	12/15/2005		6.4100	
pH	pH Units	MW-35	03/28/2006		7.1000	
pH	pH Units	MW-35	06/21/2006		7.4600	
pH	pH Units	MW-35	09/26/2006		7.5000	
pH	pH Units	MW-35	12/12/2006		6.9900	
pH	pH Units	MW-35	03/27/2007		7.5100	
pH	pH Units	MW-35	09/18/2007		6.9700	
pH	pH Units	MW-35	12/20/2007		7.2500	
pH	pH Units	MW-35	03/25/2008		7.4000	
pH	pH Units	MW-35	06/18/2008		7.4400	
pH	pH Units	MW-35	09/18/2008		7.4200	
pH	pH Units	MW-35	12/19/2008		7.1900	
pH	pH Units	MW-35	03/24/2009		7.2100	
pH	pH Units	MW-35	06/16/2009		7.1500	
pH	pH Units	MW-35	12/03/2009		7.2200	
pH	pH Units	MW-35	03/25/2010		7.2400	
pH	pH Units	MW-35	06/23/2010		7.3700	
pH	pH Units	MW-35	09/23/2010		6.8500	
pH	pH Units	MW-35	12/09/2010		7.3900	
Potassium, dissolved	MG/L	MW-13A	03/22/2005		0.5700	
Potassium, dissolved	MG/L	MW-13A	06/15/2005		0.5200	
Potassium, dissolved	MG/L	MW-13A	09/27/2005		0.4800	
Potassium, dissolved	MG/L	MW-13A	12/15/2005		0.5000	
Potassium, dissolved	MG/L	MW-13A	03/28/2006	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	06/21/2006	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	09/26/2006	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	12/13/2006	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	03/27/2007	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	06/19/2007	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	09/19/2007	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	12/19/2007	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	03/25/2008	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	06/18/2008	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	09/17/2008	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	12/17/2008	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	03/24/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	06/17/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	09/10/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	12/03/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	03/25/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	06/23/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	09/23/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-13A	12/08/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	03/22/2005		0.6000	
Potassium, dissolved	MG/L	MW-13B	06/15/2005		0.5500	
Potassium, dissolved	MG/L	MW-13B	09/27/2005		0.5500	
Potassium, dissolved	MG/L	MW-13B	12/15/2005		0.5200	
Potassium, dissolved	MG/L	MW-13B	03/29/2006	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	06/21/2006	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	09/26/2006	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	12/13/2006	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	03/27/2007	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	06/19/2007	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	09/18/2007	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	12/19/2007	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	03/25/2008	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	06/18/2008	ND	1.0000	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Potassium, dissolved	MG/L	MW-13B	09/17/2008	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	12/16/2008	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	03/24/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	06/17/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	09/10/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	12/03/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	03/25/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	06/23/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	09/23/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-13B	12/08/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-16	03/24/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-16	06/16/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-16	09/09/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-16	12/03/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-16	03/25/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-16	06/24/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-16	09/24/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-16	12/09/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	03/22/2005		0.5200	
Potassium, dissolved	MG/L	MW-35	06/14/2005		0.4800	
Potassium, dissolved	MG/L	MW-35	09/27/2005		0.5200	
Potassium, dissolved	MG/L	MW-35	12/15/2005		0.4600	
Potassium, dissolved	MG/L	MW-35	03/28/2006	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	06/21/2006	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	09/26/2006	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	12/12/2006	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	03/27/2007	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	06/20/2007	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	09/18/2007	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	12/20/2007	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	03/25/2008	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	06/18/2008	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	09/18/2008	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	12/19/2008	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	03/24/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	06/16/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	09/10/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	12/03/2009	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	03/25/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	06/23/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	09/23/2010	ND	1.0000	
Potassium, dissolved	MG/L	MW-35	12/09/2010	ND	1.0000	
Selenium, dissolved	MG/L	MW-13A	03/22/2005	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	06/15/2005	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	09/27/2005	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	12/15/2005	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	03/28/2006	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	06/21/2006	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	09/26/2006	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	12/13/2006	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	03/27/2007	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	06/19/2007	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	09/19/2007	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	09/10/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	12/03/2009		0.0010	
Selenium, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0010	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Selenium, dissolved	MG/L	MW-13A	12/08/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	03/22/2005	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	06/15/2005	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	09/27/2005	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	12/15/2005	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	03/29/2006	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	06/21/2006	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	09/26/2006	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	12/13/2006	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	03/27/2007	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	06/19/2007	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	09/18/2007	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	12/19/2007	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	03/25/2008	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	09/17/2008	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	12/16/2008	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	03/24/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	06/17/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	09/10/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	12/03/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	03/25/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	06/23/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	09/23/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-13B	12/08/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-16	03/24/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-16	06/16/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-16	09/09/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-16	12/03/2009		0.0011	
Selenium, dissolved	MG/L	MW-16	03/25/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-16	06/24/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-16	09/24/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-16	12/09/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	03/22/2005	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	06/14/2005	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	09/27/2005	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	12/15/2005	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	03/28/2006	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	06/21/2006	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	09/26/2006	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	12/12/2006	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	03/27/2007	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	06/20/2007	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	09/18/2007	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	12/20/2007	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	03/25/2008	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	06/18/2008	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	09/18/2008	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	12/19/2008	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	03/24/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	06/16/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	09/10/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	12/03/2009	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	03/25/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	06/23/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	09/23/2010	ND	0.0010	
Selenium, dissolved	MG/L	MW-35	12/09/2010	ND	0.0010	
Silver, dissolved	MG/L	MW-13A	03/22/2005	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	06/15/2005	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	09/27/2005	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	12/15/2005	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	03/28/2006	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	06/21/2006	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	09/26/2006	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	12/13/2006	ND	0.0020	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Silver, dissolved	MG/L	MW-13A	03/27/2007	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	06/19/2007	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	09/19/2007	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	09/10/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	12/03/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-13A	12/08/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	03/22/2005	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	06/15/2005	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	09/27/2005	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	12/15/2005	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	03/29/2006	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	06/21/2006	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	09/26/2006	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	12/13/2006	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	03/27/2007	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	06/19/2007	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	09/18/2007	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	12/19/2007	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	03/25/2008	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	09/17/2008	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	12/16/2008	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	03/24/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	06/17/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	09/10/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	12/03/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	03/25/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	06/23/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	09/23/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-13B	12/08/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-16	03/24/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-16	06/16/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-16	09/09/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-16	12/03/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-16	03/25/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-16	06/24/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-16	09/24/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-16	12/09/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-35	03/22/2005	ND	0.0020	
Silver, dissolved	MG/L	MW-35	06/14/2005	ND	0.0020	
Silver, dissolved	MG/L	MW-35	09/27/2005	ND	0.0020	
Silver, dissolved	MG/L	MW-35	12/15/2005	ND	0.0020	
Silver, dissolved	MG/L	MW-35	03/28/2006	ND	0.0020	
Silver, dissolved	MG/L	MW-35	06/21/2006	ND	0.0020	
Silver, dissolved	MG/L	MW-35	09/26/2006	ND	0.0020	
Silver, dissolved	MG/L	MW-35	12/12/2006	ND	0.0020	
Silver, dissolved	MG/L	MW-35	03/27/2007	ND	0.0020	
Silver, dissolved	MG/L	MW-35	06/20/2007	ND	0.0020	
Silver, dissolved	MG/L	MW-35	09/18/2007	ND	0.0020	
Silver, dissolved	MG/L	MW-35	12/20/2007	ND	0.0020	
Silver, dissolved	MG/L	MW-35	03/25/2008	ND	0.0020	
Silver, dissolved	MG/L	MW-35	06/18/2008	ND	0.0020	
Silver, dissolved	MG/L	MW-35	09/18/2008	ND	0.0020	
Silver, dissolved	MG/L	MW-35	12/19/2008	ND	0.0020	
Silver, dissolved	MG/L	MW-35	03/24/2009	ND	0.0020	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Silver, dissolved	MG/L	MW-35	06/16/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-35	09/10/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-35	12/03/2009	ND	0.0020	
Silver, dissolved	MG/L	MW-35	03/25/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-35	06/23/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-35	09/23/2010	ND	0.0020	
Silver, dissolved	MG/L	MW-35	12/09/2010	ND	0.0020	
Sodium, dissolved	MG/L	MW-13A	03/22/2005		5.4000	
Sodium, dissolved	MG/L	MW-13A	06/15/2005		4.4000	
Sodium, dissolved	MG/L	MW-13A	09/27/2005		4.5000	
Sodium, dissolved	MG/L	MW-13A	12/15/2005		4.8000	
Sodium, dissolved	MG/L	MW-13A	03/28/2006		5.4000	
Sodium, dissolved	MG/L	MW-13A	06/21/2006		5.2000	
Sodium, dissolved	MG/L	MW-13A	09/26/2006		5.5000	
Sodium, dissolved	MG/L	MW-13A	12/13/2006		4.8000	
Sodium, dissolved	MG/L	MW-13A	03/27/2007		5.4000	
Sodium, dissolved	MG/L	MW-13A	06/19/2007		5.5000	
Sodium, dissolved	MG/L	MW-13A	09/19/2007		5.4000	
Sodium, dissolved	MG/L	MW-13A	12/19/2007		4.9000	
Sodium, dissolved	MG/L	MW-13A	03/25/2008		5.5000	
Sodium, dissolved	MG/L	MW-13A	06/18/2008		5.5000	
Sodium, dissolved	MG/L	MW-13A	09/17/2008		5.2000	
Sodium, dissolved	MG/L	MW-13A	12/17/2008		5.5000	
Sodium, dissolved	MG/L	MW-13A	03/24/2009		5.3000	
Sodium, dissolved	MG/L	MW-13A	06/17/2009		5.4000	
Sodium, dissolved	MG/L	MW-13A	09/10/2009		5.2000	
Sodium, dissolved	MG/L	MW-13A	12/03/2009		5.6000	
Sodium, dissolved	MG/L	MW-13A	03/25/2010		6.1000	
Sodium, dissolved	MG/L	MW-13A	06/23/2010		5.7000	
Sodium, dissolved	MG/L	MW-13A	09/23/2010		5.0000	
Sodium, dissolved	MG/L	MW-13A	12/08/2010		5.2000	
Sodium, dissolved	MG/L	MW-13B	03/22/2005		5.3000	
Sodium, dissolved	MG/L	MW-13B	06/15/2005		4.8000	
Sodium, dissolved	MG/L	MW-13B	09/27/2005		5.0000	
Sodium, dissolved	MG/L	MW-13B	12/15/2005		4.8000	
Sodium, dissolved	MG/L	MW-13B	03/29/2006		4.9000	
Sodium, dissolved	MG/L	MW-13B	06/21/2006		5.0000	
Sodium, dissolved	MG/L	MW-13B	09/26/2006		5.5000	
Sodium, dissolved	MG/L	MW-13B	12/13/2006		4.8000	
Sodium, dissolved	MG/L	MW-13B	03/27/2007		5.2000	
Sodium, dissolved	MG/L	MW-13B	06/19/2007		5.2000	
Sodium, dissolved	MG/L	MW-13B	09/18/2007		5.2000	
Sodium, dissolved	MG/L	MW-13B	12/19/2007		4.9000	
Sodium, dissolved	MG/L	MW-13B	03/25/2008		5.3000	
Sodium, dissolved	MG/L	MW-13B	06/18/2008		5.3000	
Sodium, dissolved	MG/L	MW-13B	09/17/2008		5.0000	
Sodium, dissolved	MG/L	MW-13B	12/16/2008		5.1000	
Sodium, dissolved	MG/L	MW-13B	03/24/2009		5.1000	
Sodium, dissolved	MG/L	MW-13B	06/17/2009		5.3000	
Sodium, dissolved	MG/L	MW-13B	09/10/2009		5.1000	
Sodium, dissolved	MG/L	MW-13B	12/03/2009		5.3000	
Sodium, dissolved	MG/L	MW-13B	03/25/2010		5.3000	
Sodium, dissolved	MG/L	MW-13B	06/23/2010		5.3000	
Sodium, dissolved	MG/L	MW-13B	09/23/2010		4.8000	
Sodium, dissolved	MG/L	MW-13B	12/08/2010		5.6000	
Sodium, dissolved	MG/L	MW-16	03/24/2009		5.4000	
Sodium, dissolved	MG/L	MW-16	06/16/2009		5.3000	
Sodium, dissolved	MG/L	MW-16	09/09/2009		5.4000	
Sodium, dissolved	MG/L	MW-16	12/03/2009		6.2000	
Sodium, dissolved	MG/L	MW-16	03/25/2010		4.9000	
Sodium, dissolved	MG/L	MW-16	06/24/2010		5.7000	
Sodium, dissolved	MG/L	MW-16	09/24/2010		5.7000	
Sodium, dissolved	MG/L	MW-16	12/09/2010		5.2000	
Sodium, dissolved	MG/L	MW-35	03/22/2005		5.1000	
Sodium, dissolved	MG/L	MW-35	06/14/2005		4.5000	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Sodium, dissolved	MG/L	MW-35	09/27/2005		5.1000	
Sodium, dissolved	MG/L	MW-35	12/15/2005		4.6000	
Sodium, dissolved	MG/L	MW-35	03/28/2006		5.0000	
Sodium, dissolved	MG/L	MW-35	06/21/2006		4.9000	
Sodium, dissolved	MG/L	MW-35	09/26/2006		5.1000	
Sodium, dissolved	MG/L	MW-35	12/12/2006		4.7000	
Sodium, dissolved	MG/L	MW-35	03/27/2007		5.1000	
Sodium, dissolved	MG/L	MW-35	06/20/2007		5.2000	
Sodium, dissolved	MG/L	MW-35	09/18/2007		5.2000	
Sodium, dissolved	MG/L	MW-35	12/20/2007		4.8000	
Sodium, dissolved	MG/L	MW-35	03/25/2008		5.1000	
Sodium, dissolved	MG/L	MW-35	06/18/2008		4.9000	
Sodium, dissolved	MG/L	MW-35	09/18/2008		4.8000	
Sodium, dissolved	MG/L	MW-35	12/19/2008		4.7000	
Sodium, dissolved	MG/L	MW-35	03/24/2009		5.0000	
Sodium, dissolved	MG/L	MW-35	06/16/2009		5.1000	
Sodium, dissolved	MG/L	MW-35	09/10/2009		4.9000	
Sodium, dissolved	MG/L	MW-35	12/03/2009		5.3000	
Sodium, dissolved	MG/L	MW-35	03/25/2010		5.0000	
Sodium, dissolved	MG/L	MW-35	06/23/2010		5.1000	
Sodium, dissolved	MG/L	MW-35	09/23/2010		4.7000	
Sodium, dissolved	MG/L	MW-35	12/09/2010		4.8000	
Specific conductivity	mS/cm	MW-13A	03/22/2005		0.1580	
Specific conductivity	mS/cm	MW-13A	06/15/2005		0.1670	
Specific conductivity	mS/cm	MW-13A	09/27/2005		0.1610	
Specific conductivity	mS/cm	MW-13A	12/15/2005		0.1590	
Specific conductivity	mS/cm	MW-13A	03/28/2006		0.1520	
Specific conductivity	mS/cm	MW-13A	06/21/2006		0.1690	
Specific conductivity	mS/cm	MW-13A	09/26/2006		0.1710	
Specific conductivity	mS/cm	MW-13A	12/13/2006		0.1700	
Specific conductivity	mS/cm	MW-13A	03/27/2007		0.1670	
Specific conductivity	mS/cm	MW-13A	09/19/2007		0.1670	
Specific conductivity	mS/cm	MW-13A	12/19/2007		0.1690	
Specific conductivity	mS/cm	MW-13A	03/25/2008		0.1660	
Specific conductivity	mS/cm	MW-13A	06/18/2008		0.1700	
Specific conductivity	mS/cm	MW-13A	09/17/2008		0.1680	
Specific conductivity	mS/cm	MW-13A	12/17/2008		0.1390	
Specific conductivity	mS/cm	MW-13A	03/24/2009		0.1680	
Specific conductivity	mS/cm	MW-13A	06/17/2009		0.1740	
Specific conductivity	mS/cm	MW-13A	12/03/2009		0.1730	
Specific conductivity	mS/cm	MW-13A	03/25/2010		0.0930	
Specific conductivity	mS/cm	MW-13A	06/23/2010		0.1450	
Specific conductivity	mS/cm	MW-13A	09/23/2010		0.1700	
Specific conductivity	mS/cm	MW-13A	12/08/2010		0.0700	
Specific conductivity	mS/cm	MW-13B	03/22/2005		0.1550	
Specific conductivity	mS/cm	MW-13B	06/15/2005		0.1650	
Specific conductivity	mS/cm	MW-13B	09/27/2005		0.1590	
Specific conductivity	mS/cm	MW-13B	12/15/2005		0.1570	
Specific conductivity	mS/cm	MW-13B	03/29/2006		0.1510	
Specific conductivity	mS/cm	MW-13B	06/21/2006		0.1650	
Specific conductivity	mS/cm	MW-13B	09/26/2006		0.1680	
Specific conductivity	mS/cm	MW-13B	12/13/2006		0.1650	
Specific conductivity	mS/cm	MW-13B	03/27/2007		0.1610	
Specific conductivity	mS/cm	MW-13B	09/18/2007		0.1680	
Specific conductivity	mS/cm	MW-13B	12/19/2007		0.1640	
Specific conductivity	mS/cm	MW-13B	03/25/2008		0.1620	
Specific conductivity	mS/cm	MW-13B	06/18/2008		0.1650	
Specific conductivity	mS/cm	MW-13B	09/17/2008		0.1640	
Specific conductivity	mS/cm	MW-13B	12/16/2008		0.1630	
Specific conductivity	mS/cm	MW-13B	03/24/2009		0.1670	
Specific conductivity	mS/cm	MW-13B	06/17/2009		0.1690	
Specific conductivity	mS/cm	MW-13B	12/03/2009		0.1670	
Specific conductivity	mS/cm	MW-13B	03/25/2010		0.0900	
Specific conductivity	mS/cm	MW-13B	06/23/2010		0.1410	
Specific conductivity	mS/cm	MW-13B	09/23/2010		0.1620	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Specific conductivity	mS/cm	MW-13B	12/08/2010		0.0730	
Specific conductivity	mS/cm	MW-16	03/24/2009		0.1350	
Specific conductivity	mS/cm	MW-16	06/16/2009		0.1230	
Specific conductivity	mS/cm	MW-16	12/03/2009		0.1600	
Specific conductivity	mS/cm	MW-16	03/25/2010		0.1180	
Specific conductivity	mS/cm	MW-16	06/24/2010		0.1550	
Specific conductivity	mS/cm	MW-16	09/24/2010		0.1480	
Specific conductivity	mS/cm	MW-16	12/09/2010		0.1500	
Specific conductivity	mS/cm	MW-35	03/22/2005		0.1430	
Specific conductivity	mS/cm	MW-35	06/14/2005		0.1530	
Specific conductivity	mS/cm	MW-35	09/27/2005		0.1480	
Specific conductivity	mS/cm	MW-35	12/15/2005		0.1450	
Specific conductivity	mS/cm	MW-35	03/28/2006		0.1360	
Specific conductivity	mS/cm	MW-35	06/21/2006		0.1520	
Specific conductivity	mS/cm	MW-35	09/26/2006		0.1550	
Specific conductivity	mS/cm	MW-35	12/12/2006		0.1510	
Specific conductivity	mS/cm	MW-35	03/27/2007		0.1480	
Specific conductivity	mS/cm	MW-35	09/18/2007		0.1520	
Specific conductivity	mS/cm	MW-35	12/20/2007		0.1520	
Specific conductivity	mS/cm	MW-35	03/25/2008		0.1470	
Specific conductivity	mS/cm	MW-35	06/18/2008		0.1510	
Specific conductivity	mS/cm	MW-35	09/18/2008		0.1420	
Specific conductivity	mS/cm	MW-35	12/19/2008		0.1440	
Specific conductivity	mS/cm	MW-35	03/24/2009		0.1500	
Specific conductivity	mS/cm	MW-35	06/16/2009		0.1550	
Specific conductivity	mS/cm	MW-35	12/03/2009		0.1520	
Specific conductivity	mS/cm	MW-35	03/25/2010		0.0840	
Specific conductivity	mS/cm	MW-35	06/23/2010		0.1280	
Specific conductivity	mS/cm	MW-35	09/23/2010		0.1510	
Specific conductivity	mS/cm	MW-35	12/09/2010		0.1500	
Sulfate	MG/L	MW-13A	03/22/2005		2.8000	
Sulfate	MG/L	MW-13A	06/15/2005		2.9000	
Sulfate	MG/L	MW-13A	09/27/2005		3.2000	
Sulfate	MG/L	MW-13A	12/15/2005		2.1000	
Sulfate	MG/L	MW-13A	03/28/2006		3.2000	
Sulfate	MG/L	MW-13A	06/21/2006		3.1000	
Sulfate	MG/L	MW-13A	09/26/2006		2.5000	
Sulfate	MG/L	MW-13A	12/13/2006		2.3000	
Sulfate	MG/L	MW-13A	03/27/2007		2.5000	
Sulfate	MG/L	MW-13A	06/19/2007		2.5000	
Sulfate	MG/L	MW-13A	09/19/2007		2.5000	
Sulfate	MG/L	MW-13A	12/19/2007		2.5000	
Sulfate	MG/L	MW-13A	03/25/2008		2.4000	
Sulfate	MG/L	MW-13A	06/18/2008		2.6000	
Sulfate	MG/L	MW-13A	09/17/2008		2.4000	
Sulfate	MG/L	MW-13A	12/17/2008		2.4000	
Sulfate	MG/L	MW-13A	03/24/2009		2.5000	
Sulfate	MG/L	MW-13A	06/17/2009		2.1000	
Sulfate	MG/L	MW-13A	09/10/2009		2.2000	
Sulfate	MG/L	MW-13A	12/03/2009		2.3000	
Sulfate	MG/L	MW-13A	03/25/2010		2.3000	
Sulfate	MG/L	MW-13A	06/23/2010		2.1000	
Sulfate	MG/L	MW-13A	09/23/2010		2.3000	
Sulfate	MG/L	MW-13A	12/08/2010		3.7000	
Sulfate	MG/L	MW-13B	03/22/2005		4.6000	
Sulfate	MG/L	MW-13B	06/15/2005		4.7000	
Sulfate	MG/L	MW-13B	09/27/2005		4.5000	
Sulfate	MG/L	MW-13B	12/15/2005		3.6000	
Sulfate	MG/L	MW-13B	03/29/2006		4.5000	
Sulfate	MG/L	MW-13B	06/21/2006		4.4000	
Sulfate	MG/L	MW-13B	09/26/2006		4.1000	
Sulfate	MG/L	MW-13B	12/13/2006		3.9000	
Sulfate	MG/L	MW-13B	03/27/2007		4.1000	
Sulfate	MG/L	MW-13B	06/19/2007		4.1000	
Sulfate	MG/L	MW-13B	09/18/2007		4.2000	

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Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Sulfate	MG/L	MW-13B	12/19/2007		4.1000	
Sulfate	MG/L	MW-13B	03/25/2008		4.0000	
Sulfate	MG/L	MW-13B	06/18/2008		4.1000	
Sulfate	MG/L	MW-13B	09/17/2008		4.2000	
Sulfate	MG/L	MW-13B	12/16/2008		4.2000	
Sulfate	MG/L	MW-13B	03/24/2009		4.2000	
Sulfate	MG/L	MW-13B	06/17/2009		3.7000	
Sulfate	MG/L	MW-13B	09/10/2009		3.7000	
Sulfate	MG/L	MW-13B	12/03/2009		4.1000	
Sulfate	MG/L	MW-13B	03/25/2010		3.9000	
Sulfate	MG/L	MW-13B	06/23/2010		3.6000	
Sulfate	MG/L	MW-13B	09/23/2010		3.8000	
Sulfate	MG/L	MW-13B	12/08/2010		2.4000	
Sulfate	MG/L	MW-16	03/24/2009		3.0000	
Sulfate	MG/L	MW-16	06/16/2009		2.2000	
Sulfate	MG/L	MW-16	09/09/2009		4.3000	
Sulfate	MG/L	MW-16	12/03/2009		3.6000	
Sulfate	MG/L	MW-16	03/25/2010		9.9000	
Sulfate	MG/L	MW-16	06/24/2010		2.5000	
Sulfate	MG/L	MW-16	09/24/2010		2.3000	
Sulfate	MG/L	MW-16	12/09/2010		2.7000	
Sulfate	MG/L	MW-35	03/22/2005		2.5000	
Sulfate	MG/L	MW-35	06/14/2005		1.6000	
Sulfate	MG/L	MW-35	09/27/2005		1.3000	
Sulfate	MG/L	MW-35	12/15/2005	ND	1.0000	
Sulfate	MG/L	MW-35	03/28/2006		3.0000	
Sulfate	MG/L	MW-35	06/21/2006		3.0000	
Sulfate	MG/L	MW-35	09/26/2006		2.4000	
Sulfate	MG/L	MW-35	12/12/2006		2.2000	
Sulfate	MG/L	MW-35	03/27/2007		2.5000	
Sulfate	MG/L	MW-35	06/20/2007		2.4000	
Sulfate	MG/L	MW-35	09/18/2007		2.6000	
Sulfate	MG/L	MW-35	12/20/2007		2.4000	
Sulfate	MG/L	MW-35	03/25/2008		2.4000	
Sulfate	MG/L	MW-35	06/18/2008		2.6000	
Sulfate	MG/L	MW-35	09/18/2008		2.3000	
Sulfate	MG/L	MW-35	12/19/2008		2.6000	
Sulfate	MG/L	MW-35	03/24/2009		2.7000	
Sulfate	MG/L	MW-35	06/16/2009		2.2000	
Sulfate	MG/L	MW-35	09/10/2009		2.4000	
Sulfate	MG/L	MW-35	12/03/2009		2.5000	
Sulfate	MG/L	MW-35	03/25/2010		2.6000	
Sulfate	MG/L	MW-35	06/23/2010		2.3000	
Sulfate	MG/L	MW-35	09/23/2010		2.5000	
Sulfate	MG/L	MW-35	12/09/2010		2.2000	
Temperature	deg C	MW-13A	03/22/2005		9.0800	
Temperature	deg C	MW-13A	06/15/2005		9.3700	
Temperature	deg C	MW-13A	09/27/2005		9.6500	
Temperature	deg C	MW-13A	12/15/2005		8.6000	
Temperature	deg C	MW-13A	03/28/2006		9.4400	
Temperature	deg C	MW-13A	06/21/2006		9.4100	
Temperature	deg C	MW-13A	09/26/2006		9.7100	
Temperature	deg C	MW-13A	12/13/2006		8.7900	
Temperature	deg C	MW-13A	03/27/2007		9.1400	
Temperature	deg C	MW-13A	09/19/2007		9.2600	
Temperature	deg C	MW-13A	12/19/2007		8.1700	
Temperature	deg C	MW-13A	03/25/2008		8.4700	
Temperature	deg C	MW-13A	06/18/2008		9.3000	
Temperature	deg C	MW-13A	09/17/2008		8.8000	
Temperature	deg C	MW-13A	12/17/2008		8.7500	
Temperature	deg C	MW-13A	03/24/2009		8.3200	
Temperature	deg C	MW-13A	06/17/2009		9.8500	
Temperature	deg C	MW-13A	12/03/2009		8.9200	
Temperature	deg C	MW-13A	03/25/2010		9.2200	
Temperature	deg C	MW-13A	06/23/2010		9.5800	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Temperature	deg C	MW-13A	09/23/2010		9.4200	
Temperature	deg C	MW-13A	12/08/2010		9.4500	
Temperature	deg C	MW-13B	03/22/2005		9.5500	
Temperature	deg C	MW-13B	06/15/2005		9.9200	
Temperature	deg C	MW-13B	09/27/2005		10.7900	
Temperature	deg C	MW-13B	12/15/2005		8.1100	
Temperature	deg C	MW-13B	03/29/2006		8.8000	
Temperature	deg C	MW-13B	06/21/2006		9.7600	
Temperature	deg C	MW-13B	09/26/2006		10.3200	
Temperature	deg C	MW-13B	12/13/2006		8.8500	
Temperature	deg C	MW-13B	03/27/2007		9.0400	
Temperature	deg C	MW-13B	09/18/2007		10.0100	
Temperature	deg C	MW-13B	12/19/2007		8.0800	
Temperature	deg C	MW-13B	03/25/2008		8.0900	
Temperature	deg C	MW-13B	06/18/2008		9.2300	
Temperature	deg C	MW-13B	09/17/2008		9.0100	
Temperature	deg C	MW-13B	12/16/2008		8.4300	
Temperature	deg C	MW-13B	03/24/2009		8.3700	
Temperature	deg C	MW-13B	06/17/2009		10.8100	
Temperature	deg C	MW-13B	12/03/2009		8.7900	
Temperature	deg C	MW-13B	03/25/2010		9.2300	
Temperature	deg C	MW-13B	06/23/2010		9.9700	
Temperature	deg C	MW-13B	09/23/2010		9.6000	
Temperature	deg C	MW-13B	12/08/2010		9.2500	
Temperature	deg C	MW-16	03/24/2009		9.0800	
Temperature	deg C	MW-16	06/16/2009		9.9800	
Temperature	deg C	MW-16	12/03/2009		9.0800	
Temperature	deg C	MW-16	03/25/2010		9.1100	
Temperature	deg C	MW-16	06/24/2010		9.3900	
Temperature	deg C	MW-16	09/24/2010		9.4400	
Temperature	deg C	MW-16	12/09/2010		9.1300	
Temperature	deg C	MW-35	03/22/2005		9.8000	
Temperature	deg C	MW-35	06/14/2005		10.2800	
Temperature	deg C	MW-35	09/27/2005		10.4900	
Temperature	deg C	MW-35	12/15/2005		8.8600	
Temperature	deg C	MW-35	03/28/2006		9.5300	
Temperature	deg C	MW-35	06/21/2006		10.3100	
Temperature	deg C	MW-35	09/26/2006		10.6200	
Temperature	deg C	MW-35	12/12/2006		9.2600	
Temperature	deg C	MW-35	03/27/2007		9.4000	
Temperature	deg C	MW-35	09/18/2007		10.2400	
Temperature	deg C	MW-35	12/20/2007		8.6900	
Temperature	deg C	MW-35	03/25/2008		8.7500	
Temperature	deg C	MW-35	06/18/2008		9.7300	
Temperature	deg C	MW-35	09/18/2008		9.9800	
Temperature	deg C	MW-35	12/19/2008		8.5000	
Temperature	deg C	MW-35	03/24/2009		9.3200	
Temperature	deg C	MW-35	06/16/2009		11.7600	
Temperature	deg C	MW-35	12/03/2009		9.5700	
Temperature	deg C	MW-35	03/25/2010		9.8200	
Temperature	deg C	MW-35	06/23/2010		10.0700	
Temperature	deg C	MW-35	09/23/2010		10.0900	
Temperature	deg C	MW-35	12/09/2010		9.8500	
Thallium, dissolved	MG/L	MW-13A	03/22/2005	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	06/15/2005	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	09/27/2005	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	12/15/2005	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	03/28/2006	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	06/21/2006	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	09/26/2006	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	12/13/2006	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	03/27/2007	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	06/19/2007	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	09/19/2007	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0010	

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Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Thallium, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	09/10/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	12/03/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-13A	12/08/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	03/22/2005	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	06/15/2005	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	09/27/2005	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	12/15/2005	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	03/29/2006	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	06/21/2006	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	09/26/2006	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	12/13/2006	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	03/27/2007	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	06/19/2007	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	09/18/2007	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	12/19/2007	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	03/25/2008	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	09/17/2008	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	12/16/2008	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	03/24/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	06/17/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	09/10/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	12/03/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	03/25/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	06/23/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	09/23/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-13B	12/08/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-16	03/24/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-16	06/16/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-16	09/09/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-16	12/03/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-16	03/25/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-16	06/24/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-16	09/24/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-16	12/09/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	03/22/2005	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	06/14/2005	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	09/27/2005	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	12/15/2005	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	03/28/2006	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	06/21/2006	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	09/26/2006	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	12/12/2006	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	03/27/2007	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	06/20/2007	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	09/18/2007	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	12/20/2007	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	03/25/2008	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	06/18/2008	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	09/18/2008	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	12/19/2008	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	03/24/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	06/16/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	09/10/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	12/03/2009	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	03/25/2010	ND	0.0010	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Thallium, dissolved	MG/L	MW-35	06/23/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	09/23/2010	ND	0.0010	
Thallium, dissolved	MG/L	MW-35	12/09/2010	ND	0.0010	
Total dissolved solids (tds)	MG/L	MW-13A	03/22/2005		113.0000	
Total dissolved solids (tds)	MG/L	MW-13A	06/15/2005		111.0000	
Total dissolved solids (tds)	MG/L	MW-13A	09/27/2005		175.0000	
Total dissolved solids (tds)	MG/L	MW-13A	12/15/2005		166.0000	
Total dissolved solids (tds)	MG/L	MW-13A	03/28/2006		110.0000	
Total dissolved solids (tds)	MG/L	MW-13A	06/21/2006		120.0000	
Total dissolved solids (tds)	MG/L	MW-13A	09/26/2006		110.0000	
Total dissolved solids (tds)	MG/L	MW-13A	12/13/2006		100.0000	
Total dissolved solids (tds)	MG/L	MW-13A	03/27/2007		100.0000	
Total dissolved solids (tds)	MG/L	MW-13A	06/19/2007		100.0000	
Total dissolved solids (tds)	MG/L	MW-13A	09/19/2007		110.0000	
Total dissolved solids (tds)	MG/L	MW-13A	12/19/2007		84.0000	
Total dissolved solids (tds)	MG/L	MW-13A	03/25/2008		99.0000	
Total dissolved solids (tds)	MG/L	MW-13A	06/18/2008		110.0000	
Total dissolved solids (tds)	MG/L	MW-13A	09/17/2008		110.0000	
Total dissolved solids (tds)	MG/L	MW-13A	12/17/2008		90.0000	
Total dissolved solids (tds)	MG/L	MW-13A	03/24/2009		95.0000	
Total dissolved solids (tds)	MG/L	MW-13A	06/17/2009		110.0000	
Total dissolved solids (tds)	MG/L	MW-13A	09/10/2009		100.0000	
Total dissolved solids (tds)	MG/L	MW-13A	12/03/2009		100.0000	
Total dissolved solids (tds)	MG/L	MW-13A	03/25/2010		100.0000	
Total dissolved solids (tds)	MG/L	MW-13A	06/23/2010		120.0000	
Total dissolved solids (tds)	MG/L	MW-13A	09/23/2010		98.0000	
Total dissolved solids (tds)	MG/L	MW-13A	12/08/2010		90.0000	
Total dissolved solids (tds)	MG/L	MW-13B	03/22/2005		108.0000	
Total dissolved solids (tds)	MG/L	MW-13B	06/15/2005		114.0000	
Total dissolved solids (tds)	MG/L	MW-13B	09/27/2005		111.0000	
Total dissolved solids (tds)	MG/L	MW-13B	12/15/2005		130.0000	
Total dissolved solids (tds)	MG/L	MW-13B	03/29/2006		89.0000	
Total dissolved solids (tds)	MG/L	MW-13B	06/21/2006		110.0000	
Total dissolved solids (tds)	MG/L	MW-13B	09/26/2006		100.0000	
Total dissolved solids (tds)	MG/L	MW-13B	12/13/2006		98.0000	
Total dissolved solids (tds)	MG/L	MW-13B	03/27/2007		100.0000	
Total dissolved solids (tds)	MG/L	MW-13B	06/19/2007		99.0000	
Total dissolved solids (tds)	MG/L	MW-13B	09/18/2007		99.0000	
Total dissolved solids (tds)	MG/L	MW-13B	12/19/2007		91.0000	
Total dissolved solids (tds)	MG/L	MW-13B	03/25/2008		99.0000	
Total dissolved solids (tds)	MG/L	MW-13B	06/18/2008		120.0000	
Total dissolved solids (tds)	MG/L	MW-13B	09/17/2008		110.0000	
Total dissolved solids (tds)	MG/L	MW-13B	12/16/2008		93.0000	
Total dissolved solids (tds)	MG/L	MW-13B	03/24/2009		94.0000	
Total dissolved solids (tds)	MG/L	MW-13B	06/17/2009		100.0000	
Total dissolved solids (tds)	MG/L	MW-13B	09/10/2009		100.0000	
Total dissolved solids (tds)	MG/L	MW-13B	12/03/2009		110.0000	
Total dissolved solids (tds)	MG/L	MW-13B	03/25/2010		100.0000	
Total dissolved solids (tds)	MG/L	MW-13B	06/23/2010		110.0000	
Total dissolved solids (tds)	MG/L	MW-13B	09/23/2010		94.0000	
Total dissolved solids (tds)	MG/L	MW-13B	12/08/2010		94.0000	
Total dissolved solids (tds)	MG/L	MW-16	03/24/2009		87.0000	
Total dissolved solids (tds)	MG/L	MW-16	06/16/2009		85.0000	
Total dissolved solids (tds)	MG/L	MW-16	09/09/2009		89.0000	
Total dissolved solids (tds)	MG/L	MW-16	12/03/2009		97.0000	
Total dissolved solids (tds)	MG/L	MW-16	03/25/2010		83.0000	
Total dissolved solids (tds)	MG/L	MW-16	06/24/2010		95.0000	
Total dissolved solids (tds)	MG/L	MW-16	09/24/2010		120.0000	
Total dissolved solids (tds)	MG/L	MW-16	12/09/2010		100.0000	
Total dissolved solids (tds)	MG/L	MW-35	03/22/2005		100.0000	
Total dissolved solids (tds)	MG/L	MW-35	06/14/2005		88.0000	
Total dissolved solids (tds)	MG/L	MW-35	09/27/2005		123.0000	
Total dissolved solids (tds)	MG/L	MW-35	12/15/2005		87.0000	
Total dissolved solids (tds)	MG/L	MW-35	03/28/2006		91.0000	
Total dissolved solids (tds)	MG/L	MW-35	06/21/2006		110.0000	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Total dissolved solids (tds)	MG/L	MW-35	09/26/2006		110.0000	
Total dissolved solids (tds)	MG/L	MW-35	12/12/2006		90.0000	
Total dissolved solids (tds)	MG/L	MW-35	03/27/2007		93.0000	
Total dissolved solids (tds)	MG/L	MW-35	06/20/2007		110.0000	
Total dissolved solids (tds)	MG/L	MW-35	09/18/2007		90.0000	
Total dissolved solids (tds)	MG/L	MW-35	12/20/2007		120.0000	
Total dissolved solids (tds)	MG/L	MW-35	03/25/2008		76.0000	
Total dissolved solids (tds)	MG/L	MW-35	06/18/2008		93.0000	
Total dissolved solids (tds)	MG/L	MW-35	09/18/2008		92.0000	
Total dissolved solids (tds)	MG/L	MW-35	12/19/2008		93.0000	
Total dissolved solids (tds)	MG/L	MW-35	03/24/2009		84.0000	
Total dissolved solids (tds)	MG/L	MW-35	06/16/2009		95.0000	
Total dissolved solids (tds)	MG/L	MW-35	09/10/2009		83.0000	
Total dissolved solids (tds)	MG/L	MW-35	12/03/2009		85.0000	
Total dissolved solids (tds)	MG/L	MW-35	03/25/2010		96.0000	
Total dissolved solids (tds)	MG/L	MW-35	06/23/2010		100.0000	
Total dissolved solids (tds)	MG/L	MW-35	09/23/2010		86.0000	
Total dissolved solids (tds)	MG/L	MW-35	12/09/2010		97.0000	
Total organic carbon (toc)	MG/L	MW-13A	03/22/2005	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	06/15/2005	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	09/27/2005	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	12/15/2005	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	03/28/2006	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	06/21/2006		2.2000	
Total organic carbon (toc)	MG/L	MW-13A	09/26/2006		6.0000	
Total organic carbon (toc)	MG/L	MW-13A	12/13/2006	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	03/27/2007	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	06/19/2007	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	09/19/2007	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	12/19/2007	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	03/25/2008	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	06/18/2008	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	09/17/2008	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	12/17/2008		1.0000	
Total organic carbon (toc)	MG/L	MW-13A	03/24/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	06/17/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	09/10/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	12/03/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	03/25/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	06/23/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	09/23/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13A	12/08/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	03/22/2005	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	06/15/2005	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	09/27/2005	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	12/15/2005	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	03/29/2006	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	06/21/2006	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	09/26/2006		4.8000	
Total organic carbon (toc)	MG/L	MW-13B	12/13/2006	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	03/27/2007	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	06/19/2007	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	09/18/2007	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	12/19/2007	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	03/25/2008	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	06/18/2008	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	09/17/2008	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	12/16/2008	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	03/24/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	06/17/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	09/10/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	12/03/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	03/25/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	06/23/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-13B	09/23/2010	ND	1.0000	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Total organic carbon (toc)	MG/L	MW-13B	12/08/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-16	03/24/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-16	06/16/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-16	09/09/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-16	12/03/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-16	03/25/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-16	06/24/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-16	09/24/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-16	12/09/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	03/22/2005	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	06/14/2005	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	09/27/2005	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	12/15/2005	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	03/28/2006	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	06/21/2006		2.1000	
Total organic carbon (toc)	MG/L	MW-35	09/26/2006		4.3000	
Total organic carbon (toc)	MG/L	MW-35	12/12/2006	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	03/27/2007	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	06/20/2007	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	09/18/2007	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	12/20/2007	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	03/25/2008	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	06/18/2008	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	09/18/2008	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	12/19/2008		1.0000	
Total organic carbon (toc)	MG/L	MW-35	03/24/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	06/16/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	09/10/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	12/03/2009	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	03/25/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	06/23/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	09/23/2010	ND	1.0000	
Total organic carbon (toc)	MG/L	MW-35	12/09/2010	ND	1.0000	
Vanadium, dissolved	MG/L	MW-13A	03/22/2005		0.0042	
Vanadium, dissolved	MG/L	MW-13A	06/15/2005		0.0036	
Vanadium, dissolved	MG/L	MW-13A	09/27/2005		0.0036	
Vanadium, dissolved	MG/L	MW-13A	12/15/2005		0.0038	
Vanadium, dissolved	MG/L	MW-13A	03/28/2006		0.0041	
Vanadium, dissolved	MG/L	MW-13A	06/21/2006		0.0043	
Vanadium, dissolved	MG/L	MW-13A	09/26/2006		0.0041	
Vanadium, dissolved	MG/L	MW-13A	12/13/2006		0.0038	
Vanadium, dissolved	MG/L	MW-13A	03/27/2007		0.0041	
Vanadium, dissolved	MG/L	MW-13A	06/19/2007		0.0041	
Vanadium, dissolved	MG/L	MW-13A	09/19/2007		0.0039	
Vanadium, dissolved	MG/L	MW-13A	12/19/2007		0.0043	
Vanadium, dissolved	MG/L	MW-13A	03/25/2008		0.0040	
Vanadium, dissolved	MG/L	MW-13A	06/18/2008		0.0038	
Vanadium, dissolved	MG/L	MW-13A	09/17/2008		0.0040	
Vanadium, dissolved	MG/L	MW-13A	12/17/2008		0.0038	
Vanadium, dissolved	MG/L	MW-13A	03/24/2009		0.0039	
Vanadium, dissolved	MG/L	MW-13A	06/17/2009		0.0039	
Vanadium, dissolved	MG/L	MW-13A	09/10/2009		0.0041	
Vanadium, dissolved	MG/L	MW-13A	12/03/2009		0.0041	
Vanadium, dissolved	MG/L	MW-13A	03/25/2010		0.0039	
Vanadium, dissolved	MG/L	MW-13A	06/23/2010		0.0038	
Vanadium, dissolved	MG/L	MW-13A	09/23/2010		0.0038	
Vanadium, dissolved	MG/L	MW-13A	12/08/2010		0.0058	
Vanadium, dissolved	MG/L	MW-13B	03/22/2005		0.0066	
Vanadium, dissolved	MG/L	MW-13B	06/15/2005		0.0057	
Vanadium, dissolved	MG/L	MW-13B	09/27/2005		0.0058	
Vanadium, dissolved	MG/L	MW-13B	12/15/2005		0.0057	
Vanadium, dissolved	MG/L	MW-13B	03/29/2006		0.0061	
Vanadium, dissolved	MG/L	MW-13B	06/21/2006		0.0059	
Vanadium, dissolved	MG/L	MW-13B	09/26/2006		0.0058	
Vanadium, dissolved	MG/L	MW-13B	12/13/2006		0.0056	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

Table 3

Upgradient Data

Constituent	Units	Well	Date		Result	
Vanadium, dissolved	MG/L	MW-13B	03/27/2007		0.0059	
Vanadium, dissolved	MG/L	MW-13B	06/19/2007		0.0060	
Vanadium, dissolved	MG/L	MW-13B	09/18/2007		0.0057	
Vanadium, dissolved	MG/L	MW-13B	12/19/2007		0.0060	
Vanadium, dissolved	MG/L	MW-13B	03/25/2008		0.0060	
Vanadium, dissolved	MG/L	MW-13B	06/18/2008		0.0054	
Vanadium, dissolved	MG/L	MW-13B	09/17/2008		0.0056	
Vanadium, dissolved	MG/L	MW-13B	12/16/2008		0.0058	
Vanadium, dissolved	MG/L	MW-13B	03/24/2009		0.0056	
Vanadium, dissolved	MG/L	MW-13B	06/17/2009		0.0059	
Vanadium, dissolved	MG/L	MW-13B	09/10/2009		0.0057	
Vanadium, dissolved	MG/L	MW-13B	12/03/2009		0.0062	
Vanadium, dissolved	MG/L	MW-13B	03/25/2010		0.0056	
Vanadium, dissolved	MG/L	MW-13B	06/23/2010		0.0055	
Vanadium, dissolved	MG/L	MW-13B	09/23/2010		0.0055	
Vanadium, dissolved	MG/L	MW-13B	12/08/2010		0.0038	
Vanadium, dissolved	MG/L	MW-16	03/24/2009		0.0035	
Vanadium, dissolved	MG/L	MW-16	06/16/2009		0.0036	
Vanadium, dissolved	MG/L	MW-16	09/09/2009		0.0036	
Vanadium, dissolved	MG/L	MW-16	12/03/2009		0.0034	
Vanadium, dissolved	MG/L	MW-16	03/25/2010		0.0036	
Vanadium, dissolved	MG/L	MW-16	06/24/2010		0.0038	
Vanadium, dissolved	MG/L	MW-16	09/24/2010		0.0041	
Vanadium, dissolved	MG/L	MW-16	12/09/2010		0.0037	
Vanadium, dissolved	MG/L	MW-35	03/22/2005		0.0047	
Vanadium, dissolved	MG/L	MW-35	06/14/2005		0.0039	
Vanadium, dissolved	MG/L	MW-35	09/27/2005		0.0044	
Vanadium, dissolved	MG/L	MW-35	12/15/2005		0.0041	
Vanadium, dissolved	MG/L	MW-35	03/28/2006		0.0048	
Vanadium, dissolved	MG/L	MW-35	06/21/2006		0.0046	
Vanadium, dissolved	MG/L	MW-35	09/26/2006		0.0046	
Vanadium, dissolved	MG/L	MW-35	12/12/2006		0.0044	
Vanadium, dissolved	MG/L	MW-35	03/27/2007		0.0047	
Vanadium, dissolved	MG/L	MW-35	06/20/2007		0.0046	
Vanadium, dissolved	MG/L	MW-35	09/18/2007		0.0050	
Vanadium, dissolved	MG/L	MW-35	12/20/2007		0.0045	
Vanadium, dissolved	MG/L	MW-35	03/25/2008		0.0046	
Vanadium, dissolved	MG/L	MW-35	06/18/2008		0.0047	
Vanadium, dissolved	MG/L	MW-35	09/18/2008		0.0045	
Vanadium, dissolved	MG/L	MW-35	12/19/2008		0.0042	
Vanadium, dissolved	MG/L	MW-35	03/24/2009		0.0043	
Vanadium, dissolved	MG/L	MW-35	06/16/2009		0.0041	
Vanadium, dissolved	MG/L	MW-35	09/10/2009		0.0047	
Vanadium, dissolved	MG/L	MW-35	12/03/2009		0.0048	
Vanadium, dissolved	MG/L	MW-35	03/25/2010		0.0043	
Vanadium, dissolved	MG/L	MW-35	06/23/2010		0.0044	
Vanadium, dissolved	MG/L	MW-35	09/23/2010		0.0043	
Vanadium, dissolved	MG/L	MW-35	12/09/2010		0.0045	
Zinc, dissolved	MG/L	MW-13A	12/19/2007	ND	0.0050	
Zinc, dissolved	MG/L	MW-13A	03/25/2008	ND	0.0050	
Zinc, dissolved	MG/L	MW-13A	06/18/2008	ND	0.0050	
Zinc, dissolved	MG/L	MW-13A	09/17/2008	ND	0.0050	
Zinc, dissolved	MG/L	MW-13A	12/17/2008	ND	0.0050	
Zinc, dissolved	MG/L	MW-13A	03/24/2009	ND	0.0050	
Zinc, dissolved	MG/L	MW-13A	06/17/2009	ND	0.0050	
Zinc, dissolved	MG/L	MW-13A	09/10/2009	ND	0.0050	
Zinc, dissolved	MG/L	MW-13A	12/03/2009	ND	0.0050	
Zinc, dissolved	MG/L	MW-13A	03/25/2010	ND	0.0050	
Zinc, dissolved	MG/L	MW-13A	06/23/2010	ND	0.0050	
Zinc, dissolved	MG/L	MW-13A	09/23/2010	ND	0.0050	
Zinc, dissolved	MG/L	MW-13A	12/08/2010	ND	0.0050	
Zinc, dissolved	MG/L	MW-13B	09/18/2007		0.0096	
Zinc, dissolved	MG/L	MW-13B	12/19/2007	ND	0.0050	
Zinc, dissolved	MG/L	MW-13B	03/25/2008	ND	0.0050	
Zinc, dissolved	MG/L	MW-13B	06/18/2008	ND	0.0050	

* - Outlier for that well and constituent.
ND = Not detected, result = detection limit.

TABLE 31: 2010 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCAStat
Data Input (general): 3-year "moving window", updated annually
Data Input (specific): January 1, 2008 through December 31, 2010

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-15R	Compliance	1,1-Dichloroethane	11	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-15R	Compliance	1,4-Dichlorobenzene	11	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-15R	Compliance	Arsenic, dissolved	11	100%	0.25	0.23	ug/L	Z	0.462	ug/L	No	No
MW-15R	Compliance	Iron, dissolved	11	0%	0.06 (ND)	0.06	mg/L	B	0.30	mg/L	No	No
MW-15R	Compliance	Manganese, dissolved	11	100%	0.0065	0.005	mg/L	LN	0.05	mg/L	No	Yes (▼)
MW-15R	Compliance	cis-1,2-dichloroethene	11	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-15R	Compliance	Ethyl ether	11	9.1%	0.23	0.72	ug/L	A*	50	ug/L	No	No
MW-15R	Compliance	Trichloroethene	11	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-15R	Compliance	Vinyl Chloride	11	81.8%	0.16	0.39	ug/L	LN	0.20	ug/L	Yes	No
MW-15R	Compliance	Ammonia as N	11	81.8%	0.072	0.05	mg/L	LN	0.19	mg/L	No	No
MW-34A	Compliance	1,1-Dichloroethane	12	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-34A	Compliance	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-34A	Compliance	Arsenic, dissolved	12	91.7%	0.52	0.456	ug/L	Z	0.462	ug/L	No	No
MW-34A	Compliance	Iron, dissolved	12	0%	0.06 (ND)	0.06	mg/L	B	0.30	mg/L	No	No
MW-34A	Compliance	Manganese, dissolved	12	16.7%	0.0015	0.0015	mg/L	A	0.05	mg/L	No	No
MW-34A	Compliance	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-34A	Compliance	Ethyl ether	11	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-34A	Compliance	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-34A	Compliance	Vinyl Chloride	12	0%	0.02 (ND)[7]	0.02	ug/L	B	0.20	ug/L	No	No
MW-34A	Compliance	Ammonia as N	12	58.3%	0.34[8]	0.34	mg/L	A	0.19	mg/L	Yes	No
MW-34C	Compliance	1,1-Dichloroethane	12	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-34C	Compliance	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-34C	Compliance	Arsenic, dissolved	12	100%	1.82	1.45	ug/L	Z	0.462	ug/L	Yes	Yes (▼)
MW-34C	Compliance	Iron, dissolved	12	100%	1.90	1.65	mg/L	LN	0.30	mg/L	Yes	No
MW-34C	Compliance	Manganese, dissolved	12	100%	1.20	1.06	mg/L	LN	0.05	mg/L	Yes	No

Table 4

Shapiro Wilk Test of Normality for Multiple Groups

Constituent	N (Detects)	Detect Freq	G raw	G log	Critical Value	Limit Type
Alkalinity, bicarbonate (as caco3)	76	1.000	3.417	4.453	2.326	nonpar
Alkalinity, total (as caco3)	80	1.000	3.483	4.612	2.326	nonpar
Ammonia (as n)	48	0.615	2.726	2.470	2.326	nonpar
Antimony, dissolved	0	0.000				nonpar
Arsenic, dissolved	77	1.000	6.506	6.485	2.326	nonpar
Barium, dissolved	80	1.000	3.306	3.304	2.326	nonpar
Beryllium, dissolved	0	0.000				nonpar
Cadmium, dissolved	0	0.000				nonpar
Calcium, dissolved	80	1.000	4.630	4.730	2.326	nonpar
Chloride	80	1.000	0.957	0.551	2.326	normal
Chromium, dissolved	23	0.288	2.532	2.534	2.326	nonpar
Cobalt, dissolved	0	0.000				nonpar
Copper, dissolved	2	0.025				nonpar
Iron, dissolved	3	0.038				nonpar
Lead, dissolved	0	0.000				nonpar
Magnesium, dissolved	80	1.000	2.067	2.230	2.326	normal
Manganese, dissolved	4	0.050	1.835	1.833	2.326	nonpar
Nickel, dissolved	0	0.000				nonpar
Nitrate (as n)	80	1.000	11.221	10.208	2.326	nonpar
pH	73	1.000	2.510	2.861	2.326	nonpar
Potassium, dissolved	12	0.150	0.153	0.091	2.326	nonpar
Selenium, dissolved	2	0.025				nonpar
Silver, dissolved	0	0.000				nonpar
Sodium, dissolved	80	1.000	0.899	0.981	2.326	normal
Specific conductivity	73	1.000	8.752	8.865	2.326	nonpar
Sulfate	79	0.988	5.861	5.836	2.326	nonpar
Temperature	73	1.000	1.163	0.971	2.326	normal
Thallium, dissolved	0	0.000				nonpar
Total dissolved solids (tds)	80	1.000	4.332	2.900	2.326	nonpar
Total organic carbon (toc)	7	0.088	0.146	1.287	2.326	nonpar
Vanadium, dissolved	80	1.000	4.624	4.625	2.326	nonpar
Zinc, dissolved	1	0.021				nonpar

Fit to distribution is confirmed if G < critical value.
If detection frequency is < 50% nonparametric limit is used
Data in table are based on pooled data shown in Table 3, outliers excluded

3. Annual UCL Calculations using Groundwater Cleanup Levels

- 2010 Annual Groundwater Cleanup Level Statistical Evaluation Summary (Table 1)

TABLE 1: 2010 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCAStat
Data Input (general): 3-year "moving window", updated annually
Data Input (specific): January 1, 2008 through December 31, 2010

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-15R	Compliance	1,1-Dichloroethane	11	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-15R	Compliance	1,4-Dichlorobenzene	11	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-15R	Compliance	Arsenic, dissolved	11	100%	0.25	0.23	ug/L	Z	0.462	ug/L	No	No
MW-15R	Compliance	Iron, dissolved	11	0%	0.06 (ND)	0.06	mg/L	B	0.30	mg/L	No	No
MW-15R	Compliance	Manganese, dissolved	11	100%	0.0065	0.005	mg/L	LN	0.05	mg/L	No	Yes (▼)
MW-15R	Compliance	cis-1,2-dichloroethene	11	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-15R	Compliance	Ethyl ether	11	9.1%	0.23	0.72	ug/L	A*	50	ug/L	No	No
MW-15R	Compliance	Trichloroethene	11	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-15R	Compliance	Vinyl Chloride	11	81.8%	0.16	0.39	ug/L	LN	0.20	ug/L	Yes	No
MW-15R	Compliance	Ammonia as N	11	81.8%	0.072	0.05	mg/L	LN	0.19	mg/L	No	No
MW-34A	Compliance	1,1-Dichloroethane	12	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-34A	Compliance	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-34A	Compliance	Arsenic, dissolved	12	91.7%	0.52	0.456	ug/L	Z	0.462	ug/L	No	No
MW-34A	Compliance	Iron, dissolved	12	0%	0.06 (ND)	0.06	mg/L	B	0.30	mg/L	No	No
MW-34A	Compliance	Manganese, dissolved	12	16.7%	0.0015	0.0015	mg/L	A	0.05	mg/L	No	No
MW-34A	Compliance	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-34A	Compliance	Ethyl ether	11	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-34A	Compliance	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-34A	Compliance	Vinyl Chloride	12	0%	0.02 (ND)[7]	0.02	ug/L	B	0.20	ug/L	No	No
MW-34A	Compliance	Ammonia as N	12	58.3%	0.34[8]	0.34	mg/L	A	0.19	mg/L	Yes	No
MW-34C	Compliance	1,1-Dichloroethane	12	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-34C	Compliance	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-34C	Compliance	Arsenic, dissolved	12	100%	1.82	1.45	ug/L	Z	0.462	ug/L	Yes	Yes (▼)
MW-34C	Compliance	Iron, dissolved	12	100%	1.90	1.65	mg/L	LN	0.30	mg/L	Yes	No
MW-34C	Compliance	Manganese, dissolved	12	100%	1.20	1.06	mg/L	LN	0.05	mg/L	Yes	No

TABLE 1: 2010 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCAStat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2008 through December 31, 2010

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-34C	Compliance	cis-1,2-dichloroethene	12	33.3%	0.54	0.81	ug/L	A*	35	ug/L	No	No
MW-34C	Compliance	Ethyl ether	12	25.0%	0.52	0.72	ug/L	A*	50	ug/L	No	No
MW-34C	Compliance	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-34C	Compliance	Vinyl Chloride	12	100%	0.36	0.28	ug/L	LN	0.20	ug/L	**Yes**	No
MW-34C	Compliance	Ammonia as N	12	83.3%	0.12	0.09	mg/L	LN	0.19	mg/L	No	No
MW-39	Compliance	1,1-Dichloroethane	12	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-39	Compliance	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-39	Compliance	Arsenic, dissolved	12	100%	2.80	2.04	ug/L	N	0.462	ug/L	**Yes**	No
MW-39	Compliance	Iron, dissolved	12	100%	45.0	40.4	mg/L	Z	0.30	mg/L	**Yes**	No
MW-39	Compliance	Manganese, dissolved	12	100%	0.92	0.58	mg/L	Z	0.05	mg/L	**Yes**	No
MW-39	Compliance	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-39	Compliance	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-39	Compliance	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-39	Compliance	Vinyl Chloride	12	0%	0.02 (ND)[7]	0.02	ug/L	B	0.20	ug/L	No	No
MW-39	Compliance	Ammonia as N	12	100%	0.62	0.49	mg/L	N	0.19	mg/L	**Yes**	No
MW-42	Compliance	1,1-Dichloroethane	8	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-42	Compliance	1,4-Dichlorobenzene	8	25.0%	0.50	0.84	ug/L	A*	2.0	ug/L	No	No
MW-42	Compliance	Arsenic, dissolved	8	100%	1.70	1.64	ug/L	LN	0.462	ug/L	**Yes**	No
MW-42	Compliance	Iron, dissolved	8	100%	28.0	26.7	mg/L	Z	0.30	mg/L	**Yes**	No
MW-42	Compliance	Manganese, dissolved	8	100%	5.60	5.32	mg/L	LN	0.05	mg/L	**Yes**	No
MW-42	Compliance	cis-1,2-dichloroethene	8	25.0%	0.42	0.81	ug/L	A*	35	ug/L	No	No
MW-42	Compliance	Ethyl ether	8	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-42	Compliance	Trichloroethene	8	25.0%	0.51	0.51	ug/L	A	1.0	ug/L	No	No
MW-42	Compliance	Vinyl Chloride	8	75.0%	0.16	0.44	ug/L	LN	0.20	ug/L	**Yes**	No
MW-42	Compliance	Ammonia as N	8	100%	8.90	7.65	mg/L	LN	0.19	mg/L	**Yes**	No

TABLE 1: 2010 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCAStat
Data Input (general): 3-year "moving window", updated annually
Data Input (specific): January 1, 2008 through December 31, 2010

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-43	Compliance	1,1-Dichloroethane	8	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-43	Compliance	1,4-Dichlorobenzene	8	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-43	Compliance	Arsenic, dissolved	8	88%	0.12	0.07	ug/L	Z	0.462	ug/L	No	No
MW-43	Compliance	Iron, dissolved	8	37.5%	2.0	2.0	mg/L	A	0.30	mg/L	**Yes**	No
MW-43	Compliance	Manganese, dissolved	8	100%	0.70	0.36	mg/L	Z	0.05	mg/L	**Yes**	No
MW-43	Compliance	cis-1,2-dichloroethene	8	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-43	Compliance	Ethyl ether	8	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-43	Compliance	Trichloroethene	8	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-43	Compliance	Vinyl Chloride	8	0%	0.02 (ND)[7]	0.02	ug/L	B	0.20	ug/L	No	No
MW-43	Compliance	Ammonia as N	8	87.5%	0.27	0.38	mg/L	LN	0.19	mg/L	**Yes**	No
MW-9	Downgradient	1,1-Dichloroethane	8	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-9	Downgradient	1,4-Dichlorobenzene	8	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-9	Downgradient	Arsenic, dissolved	8	100%	0.48	0.439	ug/L	Z	0.462	ug/L	No	No
MW-9	Downgradient	Iron, dissolved	8	100%	0.59	0.54	mg/L	LN	0.30	mg/L	**Yes**	No
MW-9	Downgradient	Manganese, dissolved	8	100%	0.042	0.040	mg/L	LN	0.05	mg/L	No	No
MW-9	Downgradient	cis-1,2-dichloroethene	8	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-9	Downgradient	Ethyl ether	8	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-9	Downgradient	Trichloroethene	8	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-9	Downgradient	Vinyl Chloride	8	0%	0.02 (ND)[7]	0.02	ug/L	B	0.20	ug/L	No	No
MW-9	Downgradient	Ammonia as N	8	75%	0.097	0.09	mg/L	LN	0.19	mg/L	No	No
MW-29A	Downgradient	1,1-Dichloroethane	8	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-29A	Downgradient	1,4-Dichlorobenzene	8	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-29A	Downgradient	Arsenic, dissolved	8	100%	1.86	1.77	ug/L	LN	0.462	ug/L	**Yes**	No
MW-29A	Downgradient	Iron, dissolved	8	88%	4.60	4.32	mg/L	Z	0.30	mg/L	**Yes**	No
MW-29A	Downgradient	Manganese, dissolved	8	100%	1.50	1.40	mg/L	Z	0.05	mg/L	**Yes**	No
MW-29A	Downgradient	cis-1,2-dichloroethene	8	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No

TABLE 1: 2010 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCAStat
Data Input (general): 3-year "moving window", updated annually
Data Input (specific): January 1, 2008 through December 31, 2010

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-29A	Downgradient	Ethyl ether	8	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-29A	Downgradient	Trichloroethene	8	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-29A	Downgradient	Vinyl Chloride	8	0%	0.02 (ND)[7]	0.02	ug/L	B	0.20	ug/L	No	No
MW-29A	Downgradient	Ammonia as N	8	88%	0.21	0.36	mg/L	LN	0.19	mg/L	**Yes**	No
MW-32	Downgradient	1,1-Dichloroethane	12	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-32	Downgradient	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-32	Downgradient	Arsenic, dissolved	12	100%	11.3	10.4	ug/L	LN	0.462	ug/L	**Yes**	No
MW-32	Downgradient	Iron, dissolved	12	100%	0.94	0.82	mg/L	LN	0.30	mg/L	**Yes**	No
MW-32	Downgradient	Manganese, dissolved	12	100%	3.20	2.60	mg/L	Z	0.05	mg/L	**Yes**	No
MW-32	Downgradient	cis-1,2-dichloroethene	12	75%	0.67	0.76	ug/L	LN	35	ug/L	No	No
MW-32	Downgradient	Ethyl ether	12	8.3%	0.24	0.72	ug/L	A*	50	ug/L	No	No
MW-32	Downgradient	Trichloroethene	12	67%	0.62	0.51	ug/L	LN	1.0	ug/L	No	No
MW-32	Downgradient	Vinyl Chloride	12	100%	0.49	0.43	ug/L	LN	0.20	ug/L	**Yes**	No
MW-32	Downgradient	Ammonia as N	12	83%	0.10	0.07	mg/L	LN	0.19	mg/L	No	No
MW-33A	Downgradient	1,1-Dichloroethane	8	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-33A	Downgradient	1,4-Dichlorobenzene	8	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-33A	Downgradient	Arsenic, dissolved	8	100%	0.23	0.19	ug/L	LN	0.462	ug/L	No	No
MW-33A	Downgradient	Iron, dissolved	8	50%	1.9	1.1	mg/L	N**	0.30	mg/L	**Yes**	No
MW-33A	Downgradient	Manganese, dissolved	8	75%	0.072	0.04	mg/L	N	0.05	mg/L	No	No
MW-33A	Downgradient	cis-1,2-dichloroethene	8	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-33A	Downgradient	Ethyl ether	8	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-33A	Downgradient	Trichloroethene	8	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-33A	Downgradient	Vinyl Chloride	8	0%	0.02 (ND)[7]	0.02	ug/L	B	0.20	ug/L	No	No
MW-33A	Downgradient	Ammonia as N	8	63%	0.25	0.15	mg/L	N	0.19	mg/L	No	No
MW-33C	Downgradient	1,1-Dichloroethane	8	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No

TABLE 1: 2010 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCAStat
Data Input (general): 3-year "moving window", updated annually
Data Input (specific): January 1, 2008 through December 31, 2010

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-33C	Downgradient	1,4-Dichlorobenzene	8	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-33C	Downgradient	Arsenic, dissolved	8	100%	2.7	2.63	ug/L	LN	0.462	ug/L	**Yes**	No
MW-33C	Downgradient	Iron, dissolved	8	0%	0.06(ND)	0.06	mg/L	B	0.3	mg/L	No	No
MW-33C	Downgradient	Manganese, dissolved	8	100%	0.14	0.14	mg/L	Z	0.05	mg/L	**Yes**	No
MW-33C	Downgradient	cis-1,2-dichloroethene	8	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-33C	Downgradient	Ethyl ether	8	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-33C	Downgradient	Trichloroethene	8	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-33C	Downgradient	Vinyl Chloride	8	0%	0.02 (ND)[7]	0.02	ug/L	B	0.20	ug/L	No	No
MW-33C	Downgradient	Ammonia as N	8	75%	0.21	0.187	mg/L	LN	0.19	mg/L	No	No
MW-36A	Downgradient	1,1-Dichloroethane	8	0%	0.75 (ND)	0.75	ug/L	B	50	ug/L	No	No
MW-36A	Downgradient	1,4-Dichlorobenzene	8	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-36A	Downgradient	Arsenic, dissolved	8	100%	1.16	1.05	ug/L	LN	0.462	ug/L	**Yes**	No
MW-36A	Downgradient	Iron, dissolved	8	0%	0.06 (ND)	0.06	mg/L	B	0.3	mg/L	No	No
MW-36A	Downgradient	Manganese, dissolved	8	75%	0.019	0.02	mg/L	N**	0.05	mg/L	No	No
MW-36A	Downgradient	cis-1,2-dichloroethene	8	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-36A	Downgradient	Ethyl ether	8	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-36A	Downgradient	Trichloroethene	8	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-36A	Downgradient	Vinyl Chloride	8	0%	0.02 (ND)[7]	0.02	ug/L	B	0.20	ug/L	No	No
MW-36A	Downgradient	Ammonia as N	8	88%	0.16	0.20	mg/L	LN	0.19	mg/L	**Yes**	**Yes (▼)**

NOTES:

[1] N = number of data points used for UCL calculation of the mean; only SIM results used for Vinyl Chloride (e.g., duplicate results with higher RLs by non-SIM were omitted).

[2] MAX = maximum detected result in the data set; if no detected results, then = maximum reporting limit for non-detect results (indicated with ND).

[3] A 3-year moving data set is used for calculation of the UCL; duplicate values removed.

[4] ug/L - micrograms per liter; mg/L = milligrams per liter.

[5] Groundwater Cleanup Levels are listed on Table 3 of the October 2010 Draft Cleanup Action Plan.

TABLE 1: 2010 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCAStat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2008 through December 31, 2010

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]

[6] Trend analysis results are based on data for the period January 2005 through December 2009; arrows indicated increasing (▲) or decreasing (▼) trends.

[7] The March 2009 non-detected results for Vinyl Chloride (<0.24 ug/L) were excluded from the UCL calculation due to erroneously high reporting limits; all other results are non-detects at <0.02 ug/L.

[8] This MAX result appears to be an outlier but was not removed from the data set since no specific cause was identified; therefore, the resulting UCL exceedance may not be reliable.

A = Detection frequency of data set too low to calculate 95% UCL of mean; therefore, the highest detected result in the data set used to represent 95% UCL of mean.

A* = Same as note "A" except that the highest value in the data set is below the reporting limit of one or more non-detected results; therefore, the highest reporting limit is used to represent the 95% UCL of the mean.

B = Detection frequency = 0; therefore, the highest reporting limit in the data set is used to represent the 95% UCL of mean.

LN = The 95% UCL of the mean is calculated using Land's formula since lognormal distribution is indicated.

N = The 95% UCL of the mean is calculated using a normal-based t-statistic since a normal distribution is indicated.

N** = MTCAStat suggests use of lognormal formula but calculation of 95% UCL of mean by Land's formula provides unrealistic result; therefore, a normal-based calculation is performed as described by note "N" in order to provide a meaningful UCL.

Z = the 95% UCL of the mean is calculated using the Z-score method in MTCAStat since neither normal nor lognormal distribution can be determined.

Historical Results of Methane (CH4) Measurements

Location	Mar-07	Sep-07	Jun-07	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10
OV-GP-07	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP-08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP-9S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP-9D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP10S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP10D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP11S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP11D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP12S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP12M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP12D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP13S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP13M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP13D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OV-GP15	6.2	9.3	7.6	5.7	9.4	4.9	5.8	1.4	0.9	0.0	1.0	1.7	0.2	0.0	0.0	0.0
OV-GP16	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OV-GP = Gas Probe
S = Shallow Monitoring Zone
M = Middle Monitoring Zone
D = Deep Monitoring Zone
Detected CH4>0.3% vol.

Historical Results of Carbon Dioxide (CO2) Measurements

Location	Mar-07	Sep-07	Jun-07	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10
OV-GP-07	4.7	11.7	8.1	7.7	4.9	8.5	10.3	9.2	7.7	7.6	11.3	6.9	5.1	8.0	11.0	8.3
OV-GP-08	0.8	7.1	4.3	1.2	2.6	4.6	6.2	7.0	2.8	4.9	6.8	6.1	2.1	0.2	4.1	2.4
OV-GP-9S	2.5	2.4	3.2	2.2	2.3	2.9	3.0	0.7	2.1	3.2	2.7	2.3	2.5	3.5	2.1	2.3
OV-GP-9D	2.0	1.6	1.7	1.8	1.6	1.6	1.9	0.7	1.4	1.9	2.0	1.7	1.7	1.6	1.5	1.7
OV-GP10S	0.7	1.0	0.9	0.9	0.6	0.8	1.0	2.9	0.6	0.6	0.9	0.1	0.2	0.9	0.9	3.2
OV-GP10D	0.7	0.7	0.7	0.8	0.7	0.7	0.8	1.7	0.6	0.6	0.9	0.4	0.7	0.7	1.0	2.8
OV-GP11S	1.8	2.7	2.7	2.3	2.0	2.5	2.8	2.0	1.6	2.2	2.6	1.8	1.9	2.5	2.0	2.4
OV-GP11D	1.5	1.7	1.5	1.9	1.7	1.8	2.1	1.6	1.4	1.6	2.0	0.2	1.7	1.6	0.4	2.1
OV-GP12S	2.2	2.7	2.7	5.3	1.0	1.8	3.1	2.3	1.5	2.3	2.4	1.5	1.5	2.3	1.9	2.2
OV-GP12M	2.1	3.1	2.5	5.3	0.8	2.0	2.6	2.3	1.4	2.3	2.7	1.8	1.3	2.2	1.3	1.8
OV-GP12D	1.1	2.2	0.6	2.2	1.1	1.0	2.3	1.8	1.3	1.5	2.2	0.2	1.4	0.7	0.7	1.0
OV-GP13S	2.7	4.4	3.6	2.9	2.3	3.4	4.2	2.9	2.1	2.9	3.4	1.5	1.2	2.7	1.1	3.9
OV-GP13M	7.5	5.9	6.6	5.7	4.7	4.4	4.7	4.2	4.0	3.8	3.8	3.3	3.2	3.0	3.2	3.5
OV-GP13D	8.2	6.0	6.6	4.2	5.0	4.3	3.9	12.4	3.6	12.4	13.9	3.3	15.6	14.9	20.7	19.5
OV-GP14	0.1	11.0	8.1	8.2	6.6	7.5	9.8	9.9	8.0	8.2	11.7	10.0	6.0	7.3	10.2	3.4
OV-GP15	8.8	18.1	12.5	8.5	8.9	12.4	14.3	2.9	2.4	2.4	5.1	2.8	1.9	0.2	0.8	1.3
OV-GP16	19.1	1.5	1.8	1.5	1.2	2.3	1.9	1.8	1.1	2.0	1.9	7.1	7.0	9.3	7.4	6.7

OV-GP = Gas Probe
S = Shallow Monitoring Zone
M = Middle Monitoring Zone
D = Deep Monitoring Zone
Detected CO2>0.3% vol.

Historical Results of Oxygen (O2) Measurements

Location	Mar-07	Sep-07	Jun-07	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10
OV-GP-07	4.6	6.2	4.8	3.9	4.0	6.0	6.8	1.4	2.9	2.4	7.5	2.5	3.0	3.5	6.6	1.8
OV-GP-08	6.8	5.7	7.2	5.7	13.6	10.8	8.0	1.0	7.5	3.4	6.4	6.0	8.5	20.1	9.7	2.4
OV-GP-9S	17.7	19.7	18.4	17.7	19.3	18.5	18.9	20.2	18.8	17.0	19.8	16.6	18.4	16.6	18.5	16.3
OV-GP-9D	18.1	19.3	18.8	18.9	19.5	19.3	19.3	19.6	18.9	18.3	19.8	18.8	19.3	18.0	19.0	17.8
OV-GP10S	19.9	20.0	20.1	20.3	20.2	20.1	20.5	17.6	20.4	20.1	21.1	21.3	21.6	19.3	20.5	11.1
OV-GP10D	18.4	19.5	18.9	19.0	18.7	19.3	19.7	19.1	18.9	18.9	20.2	21.6	19.3	18.3	20.6	10.1
OV-GP11S	17.7	19.2	18.1	18.8	18.8	18.9	19.1	18.9	18.8	18.3	20.1	19.3	18.0	17.3	19.1	16.5
OV-GP11D	16.7	19.6	18.8	18.5	18.2	19.2	19.4	19.1	19.3	19.0	19.6	21.7	18.9	18.1	20.5	16.4
OV-GP12S	17.1	16.4	17.7	15.0	20.0	17.5	17.1	16.5	19.0	16.3	15.9	17.9	20.9	16.8	19.0	16.1
OV-GP12M	17.1	13.9	17.7	15.0	20.0	17.5	17.1	16.5	19.0	16.3	15.9	17.9	20.9	16.8	19.0	16.1
OV-GP12D	17.0	12.2	18.4	15.3	18.4	18.1	14.4	15.2	16.7	17.0	14.3	20.1	18.0	18.4	19.4	18.8
OV-GP13S	12.7	14.5	15.3	14.7	15.4	16.3	15.8	16.4	16.3	15.3	17.3	17.9	17.0	15.8	17.5	14.7
OV-GP13M	2.5	7.8	6.6	6.0	8.8	11.3	11.7	13.1	13.4	12.6	14.3	15.2	12.7	13.4	15.3	14.5
OV-GP13D	2.1	6.5	5.5	10.6	8.5	10.5	13.0	12.4	13.7	12.4	13.9	15.7	15.6	14.9	20.7	19.5
OV-GP14	20.9	4.3	3.7	2.2	5.5	4.3	5.0	1.6	2.7	3.0	3.0	1.8	2.8	4.5	8.2	18.6
OV-GP15	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	6.2	3.3	5.3	10.0	19.6	20.3	19.4
OV-GP16	18.8	19.7	20.0	19.6	20.3	19.1	19.5	18.8	19.5	18.9	19.3	10.4	10.4	9.2	12.6	11.2

OV-GP = Gas Probe
S = Shallow Monitoring Zone
M = Middle Monitoring Zone
D = Deep Monitoring Zone
Depressed O2<20.3% vol.