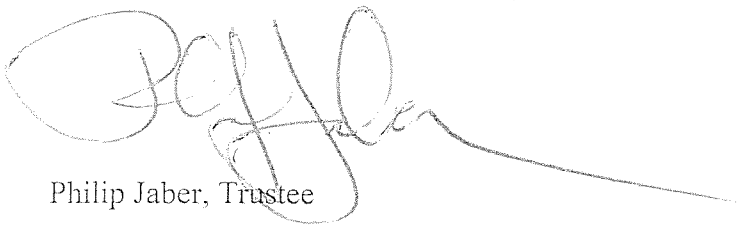
Mr. Mark Detterman
Alameda County Environmental Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: Former Olympic Service Station
1436 Grant Avenue
San Lorenzo, California
ACEHD Case No. RO0000373, GeoTacker No. T0600102256

Dear Mr. Detterman:

I declare, under penalty of perjury, that the information and or recommendations contained in the attached document are true and correct to the best of my knowledge.

Sincerely,
George and Frida Jaber 1989 Family Trust



Philip Jaber, Trustee

STRATUS
ENVIRONMENTAL, INC.

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February 21, 2012
Project No. 2115-1436-01

Mr. Mark Detterman
Alameda County Environmental Health Department
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: Ozone Injection Pilot Test Report, Former Olympic Service Station, 1436 Grant Avenue, San Lorenzo, California (ACEHD Case No. RO0000373)

Dear Mr. Detterman:

Stratus Environmental, Inc. (Stratus) has prepared this *Ozone Injection Pilot Test Report* on behalf of Mr. Philip Jaber, for the Former Olympic Service Station (the site) located at 1436 Grant Avenue, San Lorenzo, California (Figure 1). Petroleum hydrocarbon impact has been identified in the soil and groundwater beneath the site. This report presents the results of ozone (O_3) injection pilot testing performed at the site in September and October 2011.

The scope of the work discussed in this report was originally proposed in the *Feasibility Analysis/Interim Remedial Action Plan*[1] (FA/IRAP) and two associated addenda.[2,3] Combined, these documents proposed to assess the viability of using dual-phase extraction (DPE) and in-situ chemical oxidation (ISCO) by ozone injection to remediate petroleum hydrocarbon impact to the soil and groundwater beneath the site. The scope of work also included installation of an additional soil vapor sampling point to further evaluate soil vapor migration via a water line that transects the area of petroleum hydrocarbon impact. Alameda County Environmental Health Department (ACEHD) approved the proposed scope of work in a letter dated May 13, 2011.

Stratus installed the proposed DPE extraction wells, ozone injection wells, and soil vapor sampling point in May 2011; the 5-day DPE pilot test was completed in June 2011. Well installation and DPE test results were discussed in a separate report.[4] This report presents data collected during the O_3 test performed from September 29 through October 31, 2011. Details associated with the pilot test, including descriptions of the injection

[1] *Feasibility Analysis/Interim Remedial Action Plan*, Stratus Environmental, Inc., dated March 15, 2011.
[2] *Interim Remedial Action Plan Addendum*, Stratus Environmental, Inc., dated April 22, 2011.
[3] *Interim Remedial Action Plan Addendum 2*, Stratus Environmental, Inc., dated May 3, 2011.
[4] *Dual Phase Extraction Pilot Test Report,* Stratus Environmental, dated November 3, 2011.

equipment, operation details, monitoring protocol, and an evaluation of field and analytical data are discussed in the subsequent sections of this document.

SITE DESCRIPTION

The subject site is located on the southern corner of the intersection of Grant Avenue and Channel Street in San Lorenzo, California. The site was previously developed as an Olympic service station; it is currently operated as San Lorenzo Auto Repair. The current and former station facilities are shown on Figure 2.

The adjoining property to the southwest, south, and southeast is developed as a strip mall (Arroyo Center). Properties to the northwest (across Grant Avenue) are developed as single family detached residences, and the property to the northeast (across Channel Street) has been developed as multi-family housing units (apartments or condominiums). A parking lot and athletic fields for Arroyo High School are situated on property north of Grant Avenue, across the intersection.

This description of the project background was developed from information contained in reports prepared by Reese Construction, Aqua Science Engineers, Inc. (ASE), and Conestoga-Rovers & Associates (CRA). Locations of the service station building, the former underground storage tanks (USTs), and the former dispenser islands are shown on Figure 2.

The former USTs and product dispensers were removed in 1998. Four groundwater monitoring wells (MW-1 through MW-4), five soil vapor sampling points (SV-1 through SV-5), three extraction wells (EX-1 through EX-3), two injection wells (IW-1 and IW-2), and nineteen exploratory soil borings (BH-A through BH-C, B-1 through B-13, and B-13A through B-13C) were installed between 1999 and 2011. The locations of the wells, vapor sample points, and soil borings are shown on Figure 2. Historical groundwater monitoring, groundwater analytical, soil analytical, and soil vapor analytical data are summarized in tables included in Appendix A. Drilling and well construction details are summarized in Table 1.

UST Removal Activities

Three gasoline USTs (10,000-gallon, 8,000-gallon, and 5,000-gallon) were located between the station building and Channel Street. The former waste oil UST (250 gallons) was located behind the station building. Six fuel dispensers were situated on two dispenser islands located adjacent to Grant Avenue. The USTs, dispensers, and associated product piping were removed on July 10, 1998, by Reese Construction.[5] A total of eleven compliance soil samples were collected from the UST pits, the product

[5] *Tank Closure Report*, Reese Construction, dated September 14, 1998.

piping trenches, and beneath the dispensers. Groundwater was encountered in the gasoline UST pit, and on September 8, 1998, approximately 5,000 gallons of groundwater was pumped from the pit and transported off-site for disposal.[6] Soil and backfill material excavated during UST removal were sampled, and with approval of ACEHD, this material was utilized to backfill the excavations.[7]

Based on analytical results from samples collected during UST removal activities, additional excavation was performed at the waste oil UST pit and the northern dispenser island. The waste oil UST pit was deepened from 8 to 12 feet below ground surface (bgs), and the dispenser excavation was extended to 3.5 feet bgs. A confirmation soil sample was collected from the base of each excavation; hydrocarbons were reported in the sample from the base of the waste oil UST pit.[8]

Site Characterization Activities

Wells MW-1 through MW-3 were installed by ASE on September 24, 1999.[9] These wells were situated to evaluate groundwater conditions downgradient of the gasoline UST pit, the waste oil UST pit, and the dispenser islands. One soil sample from 10 feet bgs in each boring was submitted for analysis, and petroleum hydrocarbon impact was reported in all soil samples. Groundwater in the wells was measured at approximately 8 feet bgs. The wells were sampled on October 6, 1999, and petroleum hydrocarbon impact was reported in all three water samples.

To further assess the downgradient extent of petroleum hydrocarbon impact to soil and groundwater, ASE advanced three exploratory soil borings (BH-A through BH-C) on April 30, 2002.[10] The borings were advanced to 20 feet bgs, and were situated southwest of the subject site, on the adjacent shopping center property. One soil sample from 11.5 feet bgs and a groundwater sample from each boring were submitted for analysis. Petroleum hydrocarbon impact was reported in each of the soil and groundwater samples.

To further characterize the downgradient and lateral extent of petroleum hydrocarbon impact, and to evaluate if preferential pathways were influencing hydrocarbon migration, CRA advanced three exploratory soil borings on the subject property (B-1, B-2, and B-4), four additional soil borings on the shopping center property (B-3 and B-5 through B-7), and one boring in the sidewalk along Grant Avenue (B-8) on February 25 and 26, 2008.[11]

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[6] *Report of Excavation Dewatering Activities*, Foss Environmental Services, dated September 21, 1998.
[7] *Stockpiled Soil Sampling Results*, Aqua Science Engineers, Inc., dated November 24, 1998.
[8] *Report Detailing Former Waste-Oil UST Overexcavation Activities*, Aqua Science Engineers, Inc., dated January 7, 1999.
[9] *Report of Soil and Groundwater Assessment*, Aqua Science Engineers, Inc., dated November 12, 1999.
[10] *Report of Soil and Groundwater Assessment*, Aqua Science Engineers, Inc., dated May 31, 2002.
[11] *Site Investigation, Preferential Pathway, and Workplan Report*, Conestoga-Rovers & Associates, dated April 29, 2008.

CRA concluded that additional assessment was required to further characterize petroleum hydrocarbon impact east of the former UST pit (in Channel Street) and to the southwest, downgradient of the site (in Grant Avenue). This phase of the investigation also included a well search, and CRA concluded that it was unlikely that any of the identified wells would be impacted by petroleum hydrocarbons from the site. Finally, this phase of the investigation also included an evaluation of subsurface utilities in the site vicinity, and CRA concluded that the sanitary sewer lines in Grant Avenue and the storm drain in Channel Street were potential preferential pathways for hydrocarbon migration.

CRA completed additional site assessment work in 2010.[12] Five exploratory soil borings (B-9 through B-13) were installed in Grant Avenue to evaluate hydrocarbon concentrations in backfill material around the sanitary sewer lines, and to assess if these sewer lines were acting as preferential petroleum hydrocarbon migration pathways. An additional groundwater monitoring well (MW-4) was installed adjacent to the northern dispenser island to assess the groundwater impact identified earlier in boring B-1. Four soil vapor sampling probes (SV-1 through SV-4) were installed to assess the petroleum hydrocarbon concentrations in soil vapors. CRA concluded that the sanitary sewer lines in Grant Avenue may be acting as a preferential migration pathway for petroleum hydrocarbons dissolved in groundwater, that petroleum hydrocarbon concentrations in the soil vapor samples exceed applicable Environmental Screening Levels (ESLs),[13] and that the lateral and vertical extent of soil impact that exceeds applicable ESLs is limited.

Stratus installed extraction wells EX-1 through EX-3, injection wells IW-1 and IW-2, and soil vapor point SV-5 in May 2011. Wells EX-1 through EX-3 were installed to facilitate the DPE pilot test, wells IW-1 and IW-2 were installed to facilitate the ISCO pilot test, and soil vapor sampling point SV-5 was installed to evaluate soil vapor concentrations in the vicinity of the subsurface water line that transects the area impacted by petroleum hydrocarbons.

Pilot Testing

To evaluate potential remedial options for the site, Stratus conducted a DPE pilot test in June 2011.[4] Soil vapor and groundwater were extracted from wells EX-1 through EX-3 for a period of 5 days. Approximately 29,450 gallons of water were extracted during the DPE test. A radius of influence of at least 25 feet developed around each of the extraction wells. The test achieved GRO extraction rates up to 64 pounds (lb)/day in soil vapor, and 94 lb/day in groundwater. During the course of the test approximately 441 lb

[12] *Additional Site Investigation Report*, Conestoga-Rovers & Associates, dated June 14, 2010.
[13] *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final-November 2007*, San Francisco Bay Regional Water Quality Control Board, revised May 2008 [Table E].

of GRO, 6.4 lb of MTBE, and 1.2 lb of benzene were removed, demonstrating that DPE is a viable remedial option for the site conditions.

GEOLOGY, HYDROGEOLOGY, AND EXTENT OF IMPACT

Geology

The subject site is situated on the East Bay Plain approximately 1¼ miles northeast of San Francisco Bay. The site vicinity is underlain by unconsolidated Holocene-age alluvium consisting of moderately to poorly sorted silt and clay up to 10 feet thick, overlying well bedded, moderately sorted fine sand, silt, and clayey silt with occasional thin beds of coarse sand.[14]

These general conditions are reflected in the boring logs prepared by ASE and CRA, and in cross-section interpretations prepared by CRA.[11] The shallow sedimentary material beneath the site consists predominantly of a sandy stratum to depths between approximately 2 and 6 feet bgs, overlying a stratum of fine-grained sediment, overlying a second sandy stratum. The upper sandy stratum is interpreted to be fill in some locations, and consists predominantly of fine to coarse sand, with up to 35% silt, and in some locations, up to 50% gravel. The fine-grained sediment consists of apparently interfingered layers of silt, clay, clayey silt, and silty clay in varying proportions, sometimes with fine to medium sand (up to 35%). The lower sandy stratum appears to consist predominantly of fine to medium sand with 10% to 40% silt. The lower sandy stratum is encountered in some, but not all, of the borings advanced at the site, at depths between 16 and 24 feet bgs.

Based on the borings advanced to date, the lateral and vertical extent of the lower sandy stratum has not been characterized, and its potential effect on the migration of dissolved hydrocarbons cannot be evaluated.

Hydrogeology

The site is situated within the East Bay Plain Groundwater Sub Basin.[15] The nearest surface water is San Lorenzo Creek, which flows in a concrete-lined channel approximately ¼-mile north of the site. A total of twenty-one groundwater monitoring events have been performed between the fourth quarter 1999 and third quarter 2011. During this time, groundwater has been measured between 5.25 and 8.35 feet bgs (Appendix A).

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[14] *Flatland Deposits of the San Francisco Bay Region, California-Their Geology and Engineering Properties, and Their Importance to Comprehensive Planning*, E.J. Helley, K.R. LaJoie, W.E. Spangle and M.L. Blair, US Geological Survey Professional Paper 943, 1979.

[15] California Department of Water Resources Bulletin 118, dated 2004.

Data from the December 12, 2011[16] monitoring and sampling event (indicate groundwater flow was to the southwest at a gradient of approximately 0.005 ft/ft. Historically, groundwater flow has been predominantly to the west-southwest, and during the historical monitoring period, groundwater flow has fluctuated from south-southwest to west.

Groundwater beneath the site is shallow (approximately 6.14 to 8.08 feet bgs based on historical monitoring data). Based on our understanding of general construction practices, electrical, communications, water service, and natural gas service lines are generally not installed deep enough to intersect the water table beneath the site. Storm drain and sanitary sewer lines generally are installed deep enough to intersect the water table beneath the site, and these piping excavations can locally affect groundwater flow. Sewer lines installed in Grant Avenue do intersect the water table, and the sewer lateral behind the Arroyo Center building is also likely installed deep enough to intersect the water table.

Extent of Impact in Soil

Residual petroleum hydrocarbons remain in the vicinity of the former USTs and dispenser islands. High concentrations were reported in sample T-3E (Appendix A) from 7 feet bgs in the northern corner of the former fuel UST pit, where total petroleum hydrocarbons as gasoline (TPHg) was reported at a concentration of 3,800 milligrams per kilogram (mg/Kg), benzene was reported at 30 mg/Kg, and methyl tert butyl ether (MTBE) was reported at 27 mg/Kg. Low concentrations of petroleum hydrocarbons were also reported in the three other samples collected from the walls of the former UST pit. High petroleum hydrocarbon concentrations were also reported beneath the southwestern end of the former dispenser nearest to the station building (inner dispenser island). This area was excavated, and a sample from the base of the excavation (3.5 feet bgs) did not contain residual petroleum hydrocarbons. Finally, petroleum hydrocarbons were not reported in the sample collected from the base of the former waste oil UST pit after it was excavated to 12 feet bgs.

Residual petroleum hydrocarbons in soil have been reported at depths up to 24.5 feet bgs (Appendix A) from borings advanced during site assessment activities implemented subsequent to UST and dispenser removal. The highest concentrations of diesel-range organics (DRO), gasoline-range organics (GRO), benzene, and MTBE are generally found in samples collected at depths from approximately 7 to 12 feet bgs. The highest concentrations of DRO (up to 1,800 mg/Kg) and GRO (up to 360 mg/Kg) were reported in samples collected from borings B-1 and MW-4 (adjacent to the outer dispenser island), and from boring B-4 (adjacent to the former gasoline UST pit where high concentrations

[16] *Quarterly Groundwater Monitoring Report-Fourth Quarter 2011*, Stratus Environmental, Inc., dated February 16, 2012.

were reported in compliance samples). The highest benzene concentration (0.72 mg/Kg) was reported in boring B-8, and the highest MTBE concentration (1.8 mg/Kg) was reported in a sample from boring B-4.

Away from the source areas (UST excavations and dispenser islands), the highest residual concentrations of DRO (up to 320 mg/Kg), GRO (up to 290 mg/Kg), and benzene (up to 0.72 mg/Kg) were reported southwest of the site in samples collected at 11.5 feet bgs in borings BH-A, BH-B, BH-C, and B-8, and the highest MTBE concentrations were reported in boring B-5 (up to 0.022 mg/Kg). The presence of hydrocarbons in soils away from the source areas is attributed to transport by groundwater.

Extent of Impact in Groundwater

The current analytical suite for groundwater includes GRO, benzene, toluene, ethylbenzene, and xylenes (BTEX), and MTBE. DRO analysis was discontinued after third quarter 2009. During the most recent full groundwater sampling event prior to the DPE pilot test (February 4, 2011), GRO was reported only in wells MW-3 (220 micrograms/liter [µg/L]) and MW-4 (4,800 µg/L). Benzene concentrations in these wells were reported at 64 µg/L and 350 µg/L, respectively, and in well MW-1 (0.90 µg/L). MTBE was reported in all wells, at concentrations ranging from 4.4 µg/L to 440 µg/L, with the highest concentration reported in well MW-4 (Appendix A).

Historical analytical data for grab groundwater samples collected from the exploratory soil borings (Appendix A) indicate that characterization of the lateral extent of dissolved hydrocarbons in groundwater is adequate to begin interim remediation. Off-site migration of the dissolved petroleum hydrocarbon plume is to the west and southwest. CRA concluded[11] that the sanitary sewer lines in Grant Avenue may be acting as a preferential pathway for dissolved petroleum hydrocarbon migration. GRO and benzene were reported in grab groundwater samples collected adjacent to the first sewer line (borings B-11 and B-13), but were not reported in water samples collected adjacent to the second sewer line (borings B-10 and B-12), suggesting that once the dissolved hydrocarbons reach the first sewer line, they preferentially migrate in the backfill of the pipe trench instead of continuing to the northwest. MTBE concentrations in these grab groundwater samples from borings B-10 through B-13 show a similar pattern.

Potential Upgradient Hydrocarbon Source

A review of GeoTracker records indicates three former UST sites are situated upgradient (northeast) of the former Olympic site:

- One diesel and one gasoline UST were removed at Arroyo High School in January 1991 (northeast corner of campus, approximate 0.3 miles north-northeast

of the Olympic site). Low levels of DRO and BTEX compounds were reported in samples from groundwater wells. This site was closed by a letter from ACEHD dated January 18, 2000.

- A leaking UST was removed from former Chevron #9-5630, located at 997 Grant Avenue (northeast corner of Grant and Washington Avenues, approximately 0.4 miles from the site). Monitoring data on file with Alameda County indicate GRO, BTEX, and MTBE were reported in groundwater samples from this site. This site was closed by a letter from ACEHD dated September 19, 1997.

Based on the groundwater elevation and analytical data for these sites available in the ACEHD files, and the distances of these sites from the Olympic site, it appears unlikely hydrocarbons from either of these site contributed to the hydrocarbon plume beneath the Olympic site.

Petroleum Hydrocarbons in Soil Vapors

Soil vapor samples were collected from SV-1 through SV-4 on February 25, 2010. GRO (36,000,000 micrograms/cubic meter [µg/m3] to 52,000,000 µg/m3) and benzene (18,000 µg/m3 to 160,000 µg/m3) were reported in all samples. MTBE was reported only in the sample from SV-4 (5,400 µg/m3). Soil vapor analytical data are included in Appendix A. All reported GRO and benzene concentrations were above their respective current ESLs for commercial land use. Due to the shallow groundwater, high soil vapor concentrations are likely to be found across the former Olympic station site and the portion of the adjoining property overlying the dissolved hydrocarbon plume.

OZONE INJECTION PILOT TEST

The O_3 injection pilot test was conducted from September 29 through October 31, 2011 (total duration 32 days). Details regarding the test wells, injection equipment, test protocol/procedures, analytical methods, and results of the test are presented in the following sub-sections. A summary of system operational data and field data collected periodically throughout the pilot test are included as Tables 2 and 3, respectively; field data sheets are included in Appendix B. Analytical data collected during the pilot test are summarized in Tables 4 and 5; laboratory reports and chain-of-custody documentation are presented in Appendix C.

Injection and Observation Wells

O_3-enriched air was injected through wells IW-1 and IW-2 (screened from 9.5 to 11.5 and 14 to 16 feet bgs, respectively). Wells MW-3, MW-4, and EX-1 served as observation points to monitor the performance of the O_3 injection system. Well locations are shown on

Figure 2. Refer to Table 1 for details regarding construction details of the injection and observation wells.

Test Equipment

The remediation equipment utilized during the pilot test consisted of O_3 generating and injection equipment housed in an enclosed, trailer-mounted cabinet. O_3 was generated using an oxygen concentrator and O_3 generator, followed by a compressor to inject the O_3-enriched air into the wells. The O_3 generation system was capable of generating up to 2.75 lb/day of O_3 at a concentration of 6% by weight, with injection flow rates up to 12 standard cubic feet per hour (scfh) at 12 pounds per square inch (psi) pressure. The O_3 injection system alternated between wells IW-1 and IW-2 in 30-minute cycles. Based on the system's O_3 generation capabilities, approximately 1.38 lbs of O_3 per well per day were injected during the pilot test. Based on system operational uptime (766 total hours of system operation, approximately 383 hours/well), approximately 87.7 lbs of O_3 were injected into the subsurface during the pilot test.

Monitoring Protocol

An array of four existing groundwater wells was used as observation points to monitor conditions at background and performance indicator points:

Background	MW-2
Performance Indicator	MW-3, MW-4, & EX-1
Compliance	6.5 < pH < 8.5 in PI wells

The background well was used to monitor the natural changes in groundwater geochemistry. Performance indicator wells were used to evaluate the effectiveness of O_3 injection in reducing gasoline hydrocarbon concentrations, and to monitor potential changes in groundwater geochemistry that could be attributed to O_3 injection. Injection well IW-1 was installed approximately 20 feet upgradient of groundwater monitoring well MW-4 and extraction well EX-1. Injection well IW-2 was situated approximately 20 feet upgradient of groundwater monitoring well MW-3.

Baseline Conditions

On September 29, 2011 (prior to starting O_3 injection), Stratus collected groundwater samples from the background and performance indicator wells to establish baseline conditions. Field instruments were used to measure depth to water (DTW), pH, temperature, dissolved oxygen (DO), oxygen reduction potential (ORP), and specific conductivity (SC) in the site wells (Table 3).

Injection Conditions

During the O_3 injection period, Stratus conducted weekly visits to verify system operation, optimize system performance, conduct maintenance as warranted, and measure field parameters (DTW, pH, temperature, DO, ORP, and SC). On October 12, 2011, a second round of groundwater samples were collected from the background and performance indicator wells to assess the interim progress of the pilot test.

Post Injection

The O_3 injection equipment was shut down and removed from the site on October 31, 2011. Post injection monitoring and sampling was performed on November 9, 2011, which included a final round of field parameter measurements (DTW, pH, temperature, DO, ORP, and SC) and a third round of groundwater samples collected from the background and performance indicator wells.

Laboratory Analytical Methods

All samples collected during the pilot test were handled and transported under strict chain-of-custody protocol. Samples were submitted to Alpha Analytical, Inc., a California-certified analytical laboratory (ELAP #2019). Laboratory reports with chain-of-custody records are presented in Appendix C. Groundwater samples were analyzed for the following gasoline hydrocarbon compounds (results are summarized in Table 4):

- GRO using United States Environmental Protection Agency (USEPA) Method SW8015B,
- BTEX, MTBE, tert butyl alcohol (TBA), tert amyl methyl ether (TAME), di-isopropyl ether (DIPE), ethyl tert butyl ether (ETBE), and 1,2-dichloroethane (1,2-DCA) using USEPA Method SW8260B.

Samples were also analyzed for the following inorganic compounds (results are summarized in Table 5):

- Metals (Be, Ca, Cr, Co, Cu, total Fe, dissolved Fe, Pb, Mg, Mn, Ni, Na, V, Cd, and Zn) by USEPA Method SW6020/SW6020A
- Hexavalent chromium (Cr^{+6}) using USEPA Method 7199 or 218.6
- Ferrous iron (Fe^{+2}) using USEPA Method SM3500-Fe B
- Ferric iron (Fe^{+3}) using USEPA Method SM3500-Fe B/EPA Method 6020A
- Total phosphorus (P) using USEPA Method 365.3/SM4500PE

- Chemical oxygen demand (COD) using USEPA Method 410.4
- Total organic carbon (TOC) using USEPA Method SW9060/SM3510C
- Bromate (BrO^{-3}) by USEPA Method 317

Pilot Test Results

System operation data and field parameter measurements collected periodically throughout the pilot test are summarized in Tables 2 and 3, respectively. The analytical data collected during the pilot test are summarized in Tables 4 and 5.

Summary of Field Parameters

- Baseline DO measurements in the background and performance indicator wells ranged from 1.07 to 1.57 milligrams/liter (mg/L). DO concentrations in the well network fluctuated from 0.00 to 2.03 mg/L during the course of the pilot test. DO concentrations in the performance indicator wells and do not indicate an influence from ozone injection (Figure 3).

- Temperature measurements ranged from 15.0 to 21.0 degrees Celsius (°C) during the test period. Measurements remained relatively steady in performance indicator wells do not indicate an influence from ozone injection (Figure 4).

- Measurements of the pH ranged from 6.63 to 7.58. Measurements remained relatively steady in performance indicator wells and do not indicate an influence from ozone injection (Figure 5).

- Specific conductivity (SC) measurements ranged from 1,112 to 1,366 microsiemens/centimeter (µS/cm). SC measurements varied only slightly during the test period. SC measurements during the pilot test do not indicate an influence from ozone injection (Figure 6).

- ORP measurements ranged from 247 to 405 millivolts (mV). Little variation in ORP values was observed during the test, and do not indicate an influence from ozone injection (Figure 7).

Gasoline Hydrocarbon Analytical Results

Graphs depicting the variations in gasoline hydrocarbon concentrations in the wells during the pilot test are shown in Figures 8 through 11. The following results/observations regarding the effects of O_3 injection are noted:

Background Well

- MW-2 - GRO, BTEX, DIPE, ETBE, TAME, TBA, and 1,2-DCA were not reported in the baseline, midpoint, or post-injection samples. MTBE was reported in all three samples; concentrations exhibited a decreasing trend, from 41 to 33 µg/L.

Performance Indicator Wells

- Well MW-3 –GRO, toluene, ethylbenzene, xylenes, DIPE, ETBE, TAME, TBA, and 1,2-DCA were not reported in the baseline, midpoint or post-injection samples. Low concentrations of benzene were reported in the midpoint sample (0.91 µg/L) and post-injections sample (1.8 µg/L). MTBE was reported in all three samples, exhibiting a slight increase from 28 to 32 µg/L.
- Well MW-4 – DIPE, ETBE, and 1,2-DCA were not reported in the baseline, midpoint, or post-injection samples. GRO concentrations decreased from 8,700 µg/L in the baseline sample to 1,500 µg/L in the midpoint sample, then increased to 2,800 µg/L in the post-injection sample. Benzene concentrations exhibited a similar trend, decreasing from an initial concentration of 590 to 160 µg/L, then rebounding to 190 µg/L. Concentrations of MTBE decreased steadily from 1,500 to 720 µg/L; TAME concentrations decreased from 28 to 3.6 µg/L. TBA in the baseline sample was below the laboratory reporting limit of <100 µg/L, but was reported in the midpoint sample at 42 µg/L, and increased in the post-injection sample to 270 µg/L. TBA is a known byproduct of the oxidation of MTBE.
- Well EX-1 – DIPE, ETBE, TBA and 1,2-DCA were not reported in the baseline, midpoint, or post-injection samples. GRO concentrations initially increased from 150 to 180 µg/L, then decreased to <50 µg/L. Benzene concentrations exhibited a similar trend, initially increasing from 13 to 23 µg/L, then decreasing to 4.3 µg/L. MTBE concentrations in this well increased from 23 to 34 µg/L. TAME concentrations decreased from 1.2 to <1.0 µg/L.

Metals and Inorganic Compounds

The following results/observations regarding the effects of O_3 injection on metals and inorganic compounds are noted:

Background Well

- Well MW-2 - Be, BrO^{-3}, Cd, Cr^{+6}, Fe^{+2}, and Zn were not reported in any of the samples. Concentrations of Co, total Cr, Cu, total Fe, dissolved Fe, Fe^{+3}, Mn, Ni, P, TOC, and V decreased during the test. Concentrations of Ca, Mg, and Na exhibited increases. COD was reported at 7,100 µg/L in the baseline sample.

Performance Indicator Wells

- Well MW-3 – Be, Cd, Co, Cr^{+6}, Fe^{+2}, Pb, and Zn were not reported in any of the samples. Concentrations of Ca and Na fluctuated down, then up, but exhibited no overall change. Concentrations of total Cr, total Fe, Fe^{+3}, and V exhibited an initial increase from baseline conditions, then a decrease to concentration to near or below the baseline. Concentrations of Mg, Ni, and P exhibited initial decreases from baseline, followed by an increase. Concentrations of BrO^{3-} exhibited an increase from <1.0 in the baseline sample to 68 µg/L in the post-injection sample. Concentrations of Cu, dissolved Fe, Mn, and TOC decreased during the test. COD was reported at 7,900 µg/L in the baseline sample.

- Well MW-4 – Be, BrO^{-3}, Cd, Co, Cr^{+6}, Cu, Pb, and Zn were not reported in any of the samples. Concentrations of total Cr, total Fe, Fe^{+3}, Mg, Mn, Na, P, and V decreased during the test. TOC concentrations increased during the test. Concentrations of Ca and Fe^{+2} exhibited an initial increase followed by a decrease, while concentrations of dissolved Fe and Ni initially decreased, then increased. COD was reported at 80,000 µg/L in the baseline sample.

- Well EX-1 – Be, BrO^{-3}, Cd, Cr^{+6}, Fe^{+2}, Pb, and Zn were not reported in any of the samples. Concentrations of dissolved Fe and Mn decreased during the test. Concentrations of Co, Cu, Mg, TOC, and V increased during the test. Concentrations of Ca initially increased, then decreased, while concentrations of total Cr, total Fe, Fe^{+3}, Na, Ni, and P initially decreased, then increased. COD was reported at <5,000 µg/L in the baseline sample.

Discussion

Radius of Influence

The radius of influence (ROI) around an O_3 injection well is based on the observed effects on groundwater chemistry measured at various distances and directions around the injection well. However, these observations are influenced by effects of heterogeneity in the subsurface (variations in permeability and porosity of the sediments, localized variations in the chemistry of the sediments, non-homogenous distributions of gasoline hydrocarbons in the subsurface, etc). For these reasons, estimates of ROI are often inexact, and are a judgment call by the supervising engineer. Based on the field parameters and the chemical analytical data, the ROI for injection wells IW-1 and IW-2 was approximately 20 feet.

Effects of O_3 Injection

Strong oxidation effects from the injected O_3 were not observed in the field measurements. Trends in the field data were not consistent between wells MW-3 and MW-4, both situated approximately 20 feet downgradient from injections wells. Trends in the DO, pH, and temperature measurements were similar in both wells over the course of the test, while the SC and ORP measurements were dissimilar. Likewise, the pH and SC measurement trends in adjacent wells MW-4 and EX-1 were similar, but dissimilar for DO, ORP, and temperature measurements.

Analytical data from the hydrocarbon analyses also exhibited dissimilar trends between the three performance indicator wells and the background well. GRO and benzene were not reported in background well MW-2, and MTBE concentrations decreased. At performance indicator well MW-3, benzene and MTBE concentrations increased. At performance indicator well MW-4, GRO, benzene, and MTBE concentrations all decreased during the test. At performance indicator well EX-1, GRO and benzene concentrations both exhibited similar trends of initial increasing from the baseline concentrations at the midpoint injection sampling event, then decreasing below baseline in the post-injection sampling event, while MTBE concentrations increased during the test.

O_3 injection does not appear to have significantly altered the groundwater geochemical environment to any significant degree. While changes in concentrations of metals are observed, and appear related to the injection of oxidizing compounds, the changes do not appear to have adversely affected groundwater quality. Significantly, Cr^{6+} was not reported in any of the samples collected during the pilot test. Of the inorganic indicators (COD, TOC, bromate), only bromate was reported. In performance indicator well MW-3, bromate was not reported in the baseline or midpoint injection samples (<1.0 µg/L), but it was reported in the post-injection sample (68 µg/L). The Maximum Contaminant Level for bromated is 10 µg/L.

Recommendations

Injection of O_3 generally appears to reduce the concentrations of gasoline hydrocarbons dissolved in the groundwater beneath the site, without generating harmful alterations to groundwater chemistry. Stratus recommends that a Corrective Action Plan (CAP) be prepared that compares the overall effectiveness of DPE and O_3 injection, analyzes the long-term projected costs associated with implementation of both approaches, and presents a plan to implement the technology that presents the most cost effective remedial approach for the site.

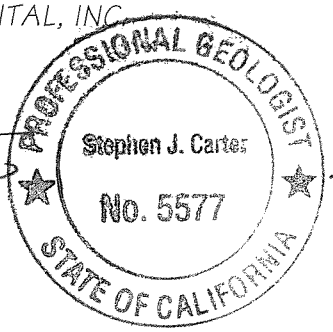
LIMITATIONS

This report was prepared in general accordance with accepted standards of care that existed at the time this work was performed. No other warranty, expressed or implied, is made. Conclusions and recommendations are based on field observations and data obtained from this work and previous investigations. It should be recognized that definition and evaluation of geologic conditions is a difficult and somewhat inexact science. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the subsurface conditions present. More extensive studies may be performed to reduce uncertainties. This report is solely for the use and information of our client unless otherwise noted.

Please contact Steve Carter by telephone at (530) 676-6008 or by electronic mail at scarter@stratusinc.net if you have any questions regarding this project.

Sincerely,

STRATUS ENVIRONMENTAL, INC.



Stephen J. Carter, P.G.
Project Manager

Gowri S. Kowtha, P.E.
Principal Engineeer

Attachments:

Table 1	Well Construction and Soil Boring Summary
Table 2	O_3 Injection Pilot Test - System Operational Summary
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Appendix B	Field Data Sheets
Appendix C	Laboratory Analytical Reports and Chain-of-Custody Documentation

cc: Mr. Philip Jaber

TABLES

TABLE 1

WELL CONSTRUCTION AND SOIL BORING SUMMARY
Former Olympic Station
1436 Grant Avenue, San Lorenzo, California

Well I.D.	Date	Boring Depth (feet)	Boring Diameter (inches)	Well Diameter (inches)	Well Depth (feet)	Screen Interval (feet bgs)	Slot Size (inches)	Drilling Method	Consultant
BH-A	04/30/02	20	2	--	--	--	--	Direct Push	Aqua Science Engineers, Inc.
BH-B	04/30/02	20	2	--	--	--	--	Direct Push	Aqua Science Engineers, Inc.
BH-C	04/30/02	20	2	--	--	--	--	Direct Push	Aqua Science Engineers, Inc.
B-1	02/25/08	25	3.25	--	--	--	--	Direct Push	Conestoga-Rovers & Assoc.
B-2	02/25/08	25	3.25	--	--	--	--	Direct Push	Conestoga-Rovers & Assoc.
B-3	02/26/08	25	3.25	--	--	--	--	Direct Push	Conestoga-Rovers & Assoc.
B-4	02/25/08	25	3.25	--	--	--	--	Direct Push	Conestoga-Rovers & Assoc.
B-5	02/26/08	25	3.25	--	--	--	--	Direct Push	Conestoga-Rovers & Assoc.
B-6	02/26/08	25	3.25	--	--	--	--	Direct Push	Conestoga-Rovers & Assoc.
B-7	02/26/08	25	3.25	--	--	--	--	Direct Push	Conestoga-Rovers & Assoc.
B-8	02/25/08	25	3.25	--	--	--	--	Direct Push	Conestoga-Rovers & Assoc.
B-9	02/11/10	25	2.5	--	--	--	--	Direct Push	Conestoga-Rovers & Assoc.
B-10	02/11/10	25	2.5	--	--	--	--	Direct Push	Conestoga-Rovers & Assoc.
B-11	02/10/10	11	2.5	--	--	--	--	Hand Auger	Conestoga-Rovers & Assoc.
B-12	02/11/10	25	2.5	--	--	--	--	Hand Auger	Conestoga-Rovers & Assoc.
B-13	02/10/10	4	3.25	--	--	--	--	Hand Auger	Conestoga-Rovers & Assoc.
B-13A	02/10/10	8	3.25	--	--	--	--	Hand Auger	Conestoga-Rovers & Assoc.
B-13B	02/10/10	9	3.25	--	--	--	--	Hand Auger	Conestoga-Rovers & Assoc.
B-13C	02/12/10	12	3.25	--	--	--	--	Hand Auger	Conestoga-Rovers & Assoc.
MW-1	09/24/99	26.5	8	2	26.5	5 - 26.5	0.020	HSA	Aqua Science Engineers, Inc.
MW-2	09/24/99	20	8	2	20	5 - 20	0.020	HSA	Aqua Science Engineers, Inc.
MW-3	09/24/99	21.5	8	2	21	5 - 21	0.020	HSA	Aqua Science Engineers, Inc.
MW-4	02/09/10	10	10	4	10	5 - 10	0.010	HSA	Conestoga-Rovers & Assoc.
EX-1	05/19/11	20	10	4	20	5 -20	0.020	HSA	Stratus Environmental, Inc.
EX-2	05/19/11	20	10	4	20	5 -20	0.020	HSA	Stratus Environmental, Inc.
EX-3	05/19/11	20	10	4	20	5 -20	0.020	HSA	Stratus Environmental, Inc.
IW-1	05/20/11	11.5	8	0.75	11.5	9.5 - 11.5	micro[1]	HSA	Stratus Environmental, Inc.
IW-2	05/20/11	16	8	0.75	16	14 - 16	micro[1]	HSA	Stratus Environmental, Inc.
SV-1	02/12/10	5.5	3.25	0.375	5	5[2]	0.002[2]	Hand Auger	Conestoga-Rovers & Assoc.
SV-2	02/09/10	5.5	3.25	0.375	5	5[2]	0.002[2]	Hand Auger	Conestoga-Rovers & Assoc.
SV-3	02/09/10	5.5	3.25	0.375	5	5[2]	0.002[2]	Hand Auger	Conestoga-Rovers & Assoc.
SV-4	02/09/10	5.5	3.25	0.375	5	5[2]	0.002[2]	Hand Auger	Conestoga-Rovers & Assoc.
SV-5	05/20/11	5.5	3.25	0.375	5	5[3]	0.002[3]	Hand Auger	Stratus Environmental, Inc.

Notes:
HSA = hollow stem auger

1 = Wells were constructed with 3/4-inch casing attached to a 2" diameter x 24" long ceramic microsparge unit.
2 = Vapor points were constructed with a 3/8" diameter x 1" long 40- to 60-micron (0.002 inch) pore polyethylene vapor probe.
3 = Vapor point was constructed with a 3/8" diameter x 1/2" long 50-micron (0.002 inch) pore stainless-steel vapor probe.

TABLE 2

O_3 Injection Pilot Test - System Operation Summary

Former Olympic Service Station

1436 Grant Avenue, San Lorenzo, California

Date	O_3 System Status	Elapsed Days Since Startup	Hour Meter (per well)	Injection Pressure (psi)		Air + O_3 Flowrate (scfm)	Injection Cycle Per Well (min/hr)
				IW-1	IW-2		
09/29/11	Start test	0	0	24	20	4.2	30
10/03/11	Injecting	4	48	10	10	4.0	30
10/12/11	Injecting	13	156	15	10	4.0	30
10/20/11	Injecting	21	254	9	9	4.1	30
10/25/11	Injecting	26	--	19	18	4.5	30
10/31/11	End test	32	383	18	19	4.4	30

Legend

psi = pounds per square inch

-- not measured

scfm = standard cubic feet per minute

min/hr = minutes per hour

TABLE 3

O_3 Injection Pilot Test - Field Data Summary

Former Olympic Service Station

1436 Grant Avenue, San Lorenzo, CA

Well Number	Date	Depth to Water (ft)	DO (mg/L)	Temperature (°C)	pH	Specific Conductivity (µS/cm)	ORP (mV)
Background Well							
MW-2	*Baseline*						
	09/29/11	7.39	1.07	20.0	6.79	1252	318
	Injection						
	10/03/11	7.32	0.71	19.6	7.07	1316	356
	10/12/11	6.62	0.95	19.7	6.86	1329	405
	10/20/11	7.07	0.24	20.1	7.02	1317	357
	10/25/11	7.17	1.08	18.4	7.39	1354	306
	10/31/11	7.18	1.07	18.8	7.25	1291	300
	Post Injection						
	11/09/11	7.11	1.25	17.3	7.58	1366	276
Performance Indicator Wells							
MW-3	*Baseline*						
	09/29/11	7.43	1.57	20.3	6.89	1315	263
	Injection						
	10/03/11	7.39	1.70	20.0	7.53	1296	314
	10/12/11	6.67	2.03	19.5	7.12	1112	339
	10/20/11	7.12	0.69	20.5	7.06	1228	324
	10/25/11	7.26	1.43	20.9	7.11	1197	357
	10/31/11	7.28	1.17	20.6	7.09	1261	367
	Post Injection						
	11/09/11	7.16	1.25	19.7	6.96	1245	365
MW-4	*Baseline*						
	09/29/11	7.37	1.12	19.8	6.95	314	291
	Injection						
	10/3/11[1]	--	--	--	--	--	--
	10/12/11	6.61	0.00	19.1	6.63	915	324
	10/20/11[1]	--	--	--	--	--	--
	10/25/11[1]	--	--	--	--	--	--
	10/31/11[1]	--	--	--	--	--	--
	Post Injection						
	11/09/11	7.18	0.72	19.6	6.66	881	299

TABLE 3

O_3 Injection Pilot Test - Field Data Summary

Former Olympic Service Station

1436 Grant Avenue, San Lorenzo, CA

Well Number	Date	Depth to Water (ft)	DO (mg/L)	Temperature (°C)	pH	Specific Conductivity (µS/cm)	ORP (mV)
EX-1	*Baseline*						
	09/29/11	7.53	1.11	19.5	7.11	1279	247
	Injection						
	10/03/11	7.48	1.06	19.1	7.35	1326	335
	10/12/11	6.63	1.46	19.4	6.97	1341	393
	10/20/11	7.22	0.60	19.1	7.37	1312	283
	10/25/11	7.35	1.23	21.0	7.02	1344	372
	10/31/11[1]	--	--	--	--	--	--
	Post Injection						
	11/09/11	7.28	1.65	15.0	7.02	1354	390

Legend

ft = feet

DO = dissolved oxygen

mg/L = milligrams per liter

Temp. = temperature

°C = degrees Celcius

µS/cm = microSiemens per centimeter

ORP = oxidation reduction potential

mV = millivolts

-- = Not measured or collected

[1] No measurements taken, due to car parked over well.

Notes

Temp., pH, specific conductance, and ORP measurements are all recorded without purging.

O_3 injection started September 29, 2011.

O_3 injection ended October 31, 2011.

TABLE 4

O_3 Injection Pilot Test - Groundwater Analytical Summary (Hydrocarbons)

Former Olympic Service Station

1436 Grant Avenue, San Lorenzo, CA

Well Number	Sample Date	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	1,2-DCA (µg/L)
Background Well												
MW-2	*Baseline*											
	09/29/11	<50	<0.50	<0.50	<0.50	<0.50	**41**	<1.0	<1.0	<1.0	<10	<1.0
	Injection											
	10/12/11	<50	<0.50	<0.50	<0.50	<0.50	**37**	<1.0	<1.0	<1.0	<10	<1.0
	Post Injection											
	11/09/11	<50	<0.50	<0.50	<0.50	<0.50	**33**	<1.0	<1.0	<1.0	<10	<1.0
Performance Indicator Wells												
MW-3	*Baseline*											
	09/29/11	<50	<0.50	<0.50	<0.50	<0.50	**28**	<1.0	<1.0	<1.0	<10	<1.0
	Injection											
	10/12/11	<50	**0.91**	<0.50	<0.50	<0.50	**32**	<1.0	<1.0	<1.0	<10	<1.0
	Post Injection											
	11/09/11	<50	**1.8**	<0.50	<0.50	<0.50	**31**	<1.0	<1.0	<1.0	<10	<1.0
MW-4	*Baseline*											
	09/29/11	**8,700**	**590**	<5.0 [1]	**34**	<5.0 [1]	**1,500**	<10 [1]	<10 [1]	**28**	<100 [1]	<10 [1]
	Injection											
	10/12/11	**1,500**	**160**	<1.0 [1]	**1.8**	<1.0 [1]	**1,300**	<2.0 [1]	<2.0 [1]	**8.6**	**42**	<2.0 [1]
	Post Injection											
	11/09/11	**2,800**	**190**	**1.4**	**9.6**	**1.3**	**720**	<2.0 [1]	<2.0 [1]	**3.6**	**270**	<2.0 [1]
EX-1	*Baseline*											
	09/29/11	**150**	**13**	<0.50	**3.2**	**1.1**	**23**	<1.0	<1.0	**1.2**	<10	<1.0
	Injection											
	10/12/11	**180**	**23**	**0.51**	**2.8**	**0.97**	**27**	<1.0	<1.0	**1.0**	<10	<1.0
	Post Injection											
	11/09/11	<50	**4.3**	<0.50	<0.50	<0.50	**34**	<1.0	<1.0	<1.0	<10	<1.0

Legend

GRO - Gasoline range organics (C4 - C13)

MTBE = Methyl tert-butyl ether

DIPE = Di-isopropyl ether

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

TBA = Tert-butyl alcohol

1,2-DCA = 1,2-Dichloroethane

µg/L = micrograms per liter

Analytical Methods

GRO - EPA Method SW8015B

VOCs - EPA Method SW8260B

[1] = Reporting limits increased due to high concentrations of target analytes

O_3 injection started September 29, 2011.

O_3 injection ended October 31, 2011.

TABLE 5

O_3 Injection Pilot Test - Groundwater Analytical Summary (Inorganics)

Former Olympic Service Station

1436 Grant Avenue, San Lorenzo, CA

Well ID	Sample Date	Be (µg/L)	BrO^{3-} (µg/L)	Ca (µg/L)	Cd (µg/L)	Co (µg/L)	COD (µg/L)	Cr Total (µg/L)	Cr^{6+} (µg/L)	Cr^{6+} Dissolved (µg/L)	Cu (µg/L)	Fe Total (µg/L)	Fe Dissolved[2] (µg/L)	Fe^{2+} (µg/L)	Fe^{3+} (µg/L)	Mg (µg/L)	Mn (µg/L)	Na (µg/L)	Ni (µg/L)	P (µg/L)	Pb (µg/L)	TOC (µg/L)	V (µg/L)	Zn (µg/L)
Background Well																								
MW-2	*Baseline*																							
	09/29/11	<4.0	<1.0	**100,000**	<5.0	**18**	**7,100**	**85**	<1.0	<1.0	**29**	**32,000**	**360**	<50	**32,000**	**72,000**	**2,100**	**210,000**	**93**	**1,300**	**9.4**	**3,400**	**96**	<100
	O_3 Injection																							
	10/12/11	<4.0	<1.0	**110,000**	<5.0	**11**	--	**65**	<1.0	<1.0	**18**	**22,000**	**370**	<50	**22,000**	**66,000**	**1,600**	**190,000**	**50**	**530**	**6.0**	**3,300**	**78**	<100
	Post Injection																							
	11/09/11	<4.0	<1.0	**110,000**	<5.0	**11**	--	**62**	<1.0	<1.0	**19**	**22,000**	<300	<50	**22,000**	**73,000**	**1,300**	**220,000**	**64**	**570**	**6.4**	**3,200**	**74**	<100
Performance Indicator Wells																								
MW-3	*Baseline*																							
	09/29/11	<4.0	<1.0	**85,000**	<5.0	<5.0	**7,900**	**20**	<1.0	<1.0	**44**	**5,500**	**330**	<50	**5,500**	**59,000**	**1,300**	**240,000**	**58**	**530**	<5.0	**3,500**	**22**	<100
	O_3 Injection																							
	10/12/11	<4.0	<1.0	**81,000**	<5.0	<5.0	--	**22**	<1.0	<1.0	<10	**6,900**	<300	<50	**6,900**	**50,000**	**1,000**	**180,000**	**19**	**280**	<5.0	**3,400**	**32**	<100
	Post Injection																							
	11/09/11	<4.0	**68**	**85,000**	<5.0	<5.0	--	**14**	<1.0	<1.0	<10	**3,900**	<300	<50	**3,900**	**60,000**	**1,000**	**240,000**	**20**	**340**	<5.0	**3,300**	**23**	<100
MW-4	*Baseline*																							
	09/29/11	<4.0	<1.0	**81,000**	<5.0	<5.0	**80,000**	**12**	<1.0	<1.0	<10	**14,000**	**400**	**790**	**13,000**	**80,000**	**4,500**	**90,000**	**30**	**2,400**	<5.0	**27,000**	**11**	<100
	O_3 Injection																							
	10/12/11	<4.0	<1.0	**85,000**	<5.0	<5.0	--	<5.0	<1.0	<1.0	<10	**7,000**	**330**	**2,700**	**4,300**	**77,000**	**4,300**	**83,000**	<10	**1,200**	<5.0	**27,000**	<5.0	<100
	Post Injection																							
	11/09/11	<4.0	<1.0	**77,000**	<5.0	<5.0	--	<5.0	<1.0	<1.0	<10	**4,300**	**1,100**	**330**	**4,000**	**70,000**	**3,100**	**67,000**	**13**	**1,100**	<5.0	**73,000**	<5.0	<100
EX-1	*Baseline*																							
	09/29/11	<4.0	<1.0	**89,000**	<5.0	<5.0	<5,000	**21**	<1.0	<1.0	<10	**7,500**	**360**	<50	**7,500**	**58,000**	**1,200**	**230,000**	**50**	**730**	<5.0	**3,300**	**29**	<100
	O_3 Injection																							
	10/12/11	<4.0	<1.0	**98,000**	<5.0	<5.0	--	**7.5**	<1.0	<1.0	<10	**3,400**	**330**	<50	**3,400**	**58,000**	**1,100**	**210,000**	**12**	**300**	<5.0	**3,400**	**29**	<100
	Post Injection																							
	11/09/11	<4.0	<1.0	**92,000**	<5.0	**5.0**	--	**33**	<1.0	<1.0	**11**	**11,000**	<300	<50	**11,000**	**64,000**	**1,000**	**240,000**	**40**	**490**	<5.0	**4,500**	**43**	<100

Legend

µg/L = micrograms per liter
Be = Beryllium
BrO^{3-} = bromate
Ca = Calcium
Cd = Cadmium
Co - Cobalt
COD = Chemical oxygen demand
Cr = Chromium
Cr^{6+} = hexavalent chromum
Cu = Copper
Fe = Iron
Fe^{2+} = Ferrous iron
Fe^{3+} = Ferric iron
Mg = Magnisium
Mn = Manganese
Na = Sodium
Ni = Nickel
P = Phosphorous
Pb = Lead
TOC = Total organic carbon
V = Vanadium
Zn = Zinc

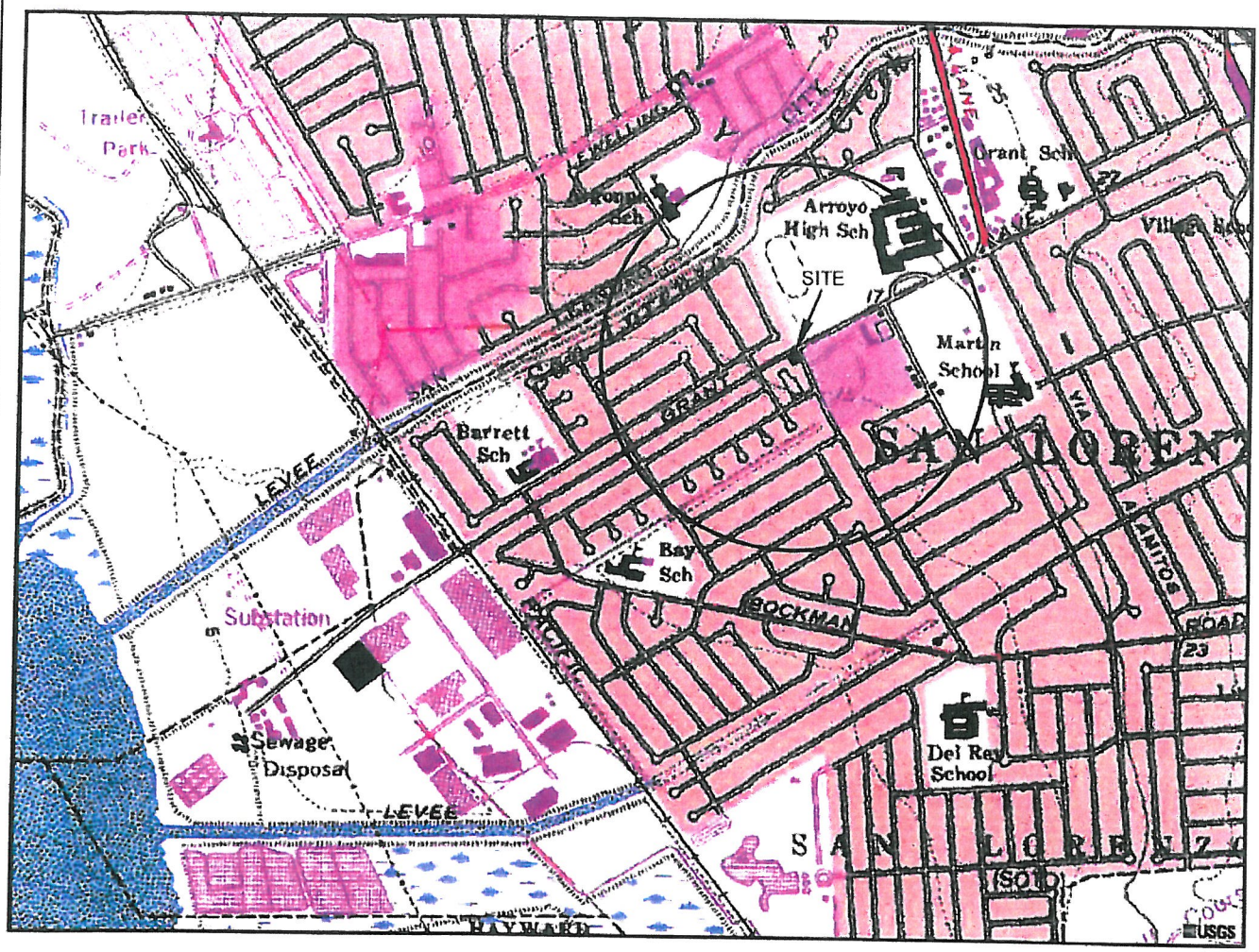
Analytical Methods

BrO^{3-} - EPA Method 317 (UV/VIS)
Metals - EPA Methods SW6020/SW6020A
Fe^{2+} - SM3500-Fe B
Fe^{3+} - SM3500-FeB/EPA 6020A
Dissolved Iron - EPA Method 6020
P - EPA Method 365.3/SM4500PE
COD - EPA Method 410.4
TOC - EPA Method SW9060/SM5310C
Cr^{6+} - EPA Method 7199 or 218.6

[2] = reported as dissolved metals (un-preserved in the field, lab-filtered then preserved)

O_3 injection started September 29, 2011.
O_3 injection ended October 31, 2011.

FIGURES



GENERAL NOTES:
BASE MAP FROM U.S.G.S.
SAN LORENZO, CA.
7.5 MINUTE TOPOGRAPHIC
PHOTOREVISED 1978

N

QUADRANGLE LOCATION

0 1800 FT

APPROXIMATE SCALE

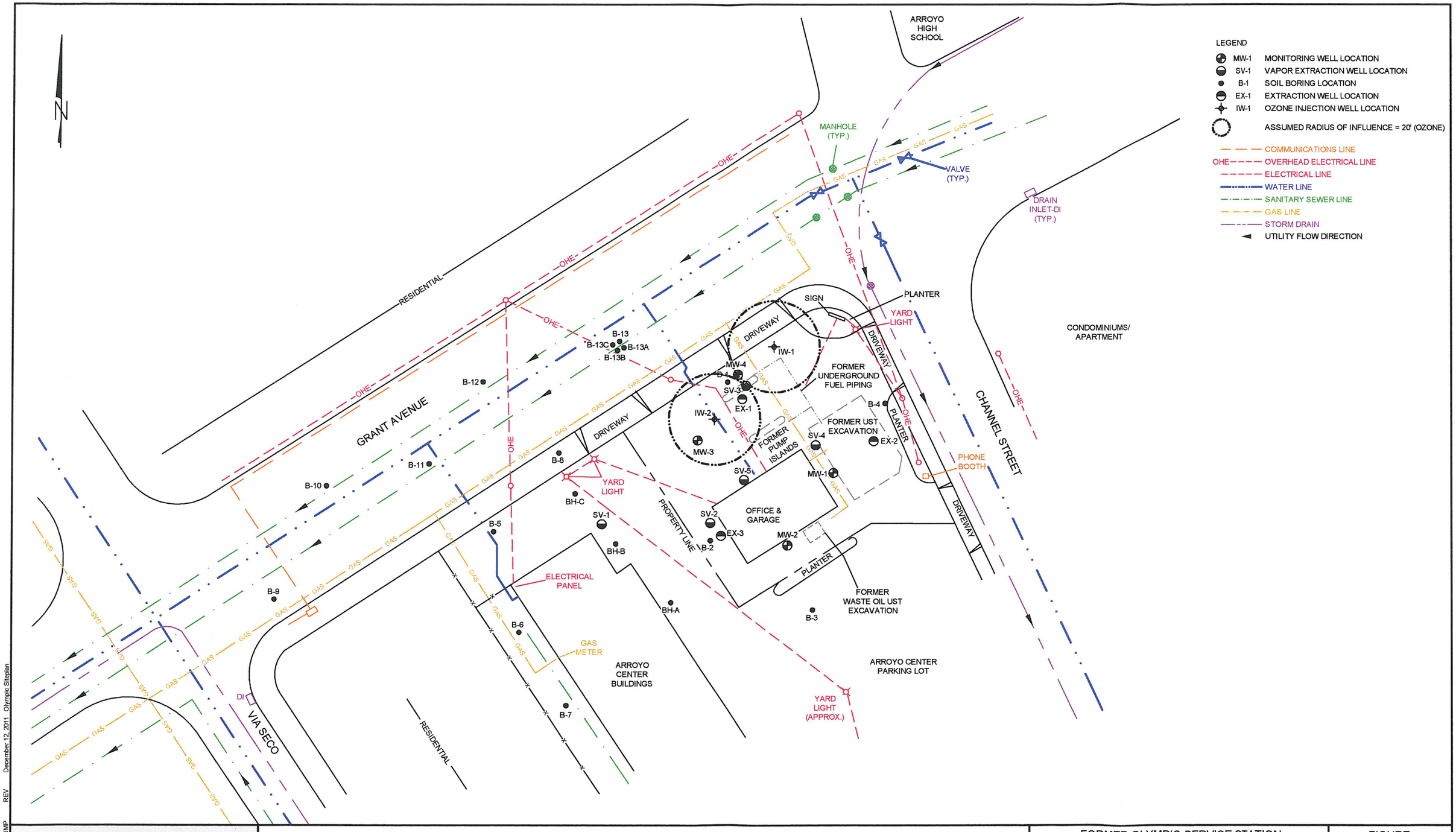
STRATUS ENVIRONMENTAL, INC.

FORMER OLYMPIC SERVICE STATION
1436 GRANT AVENUE
SAN LORENZO, CALIFORNIA

SITE LOCATION MAP

FIGURE
1

PROJECT NO.
2115-1436-01



Olympic Service Station JMP REV December 12, 2011 Olympic Siteplan

STRATUS ENVIRONMENTAL, INC.

0 40 FT

APPROXIMATE SCALE

FORMER OLYMPIC SERVICE STATION
1436 GRANT AVENUE
SAN LORENZO, CALIFORNIA

SITE PLAN

FIGURE
2

PROJECT NO.
2115-1436-01

Figure 3: Dissolved Oxygen (DO) Over Time

90-Day O_3 Injection Pilot Test --- Former Olympic Service Station

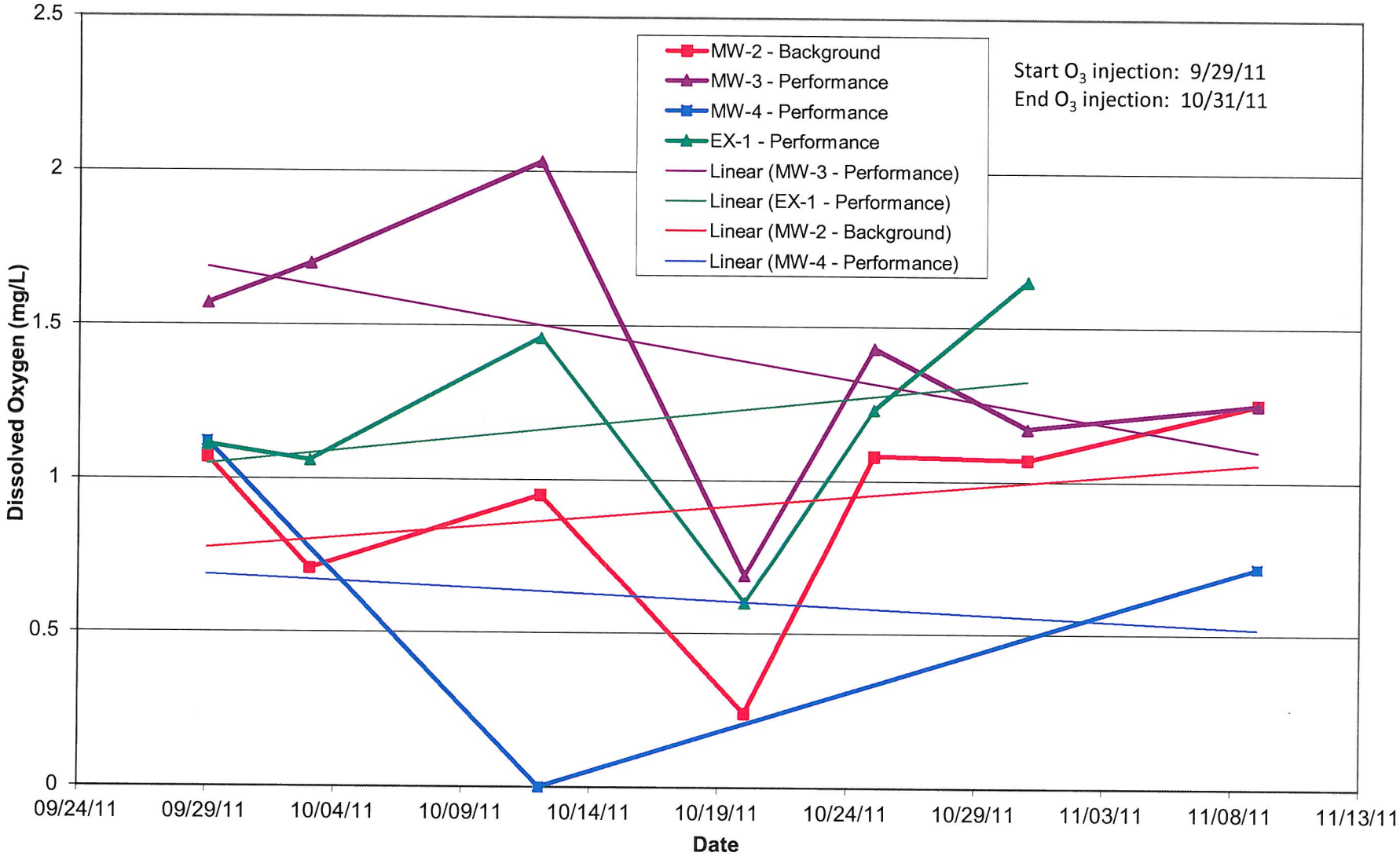


Figure 4: Temperature Over Time

90-Day O_3 Injection Pilot Test --- Former Olympic Service Station

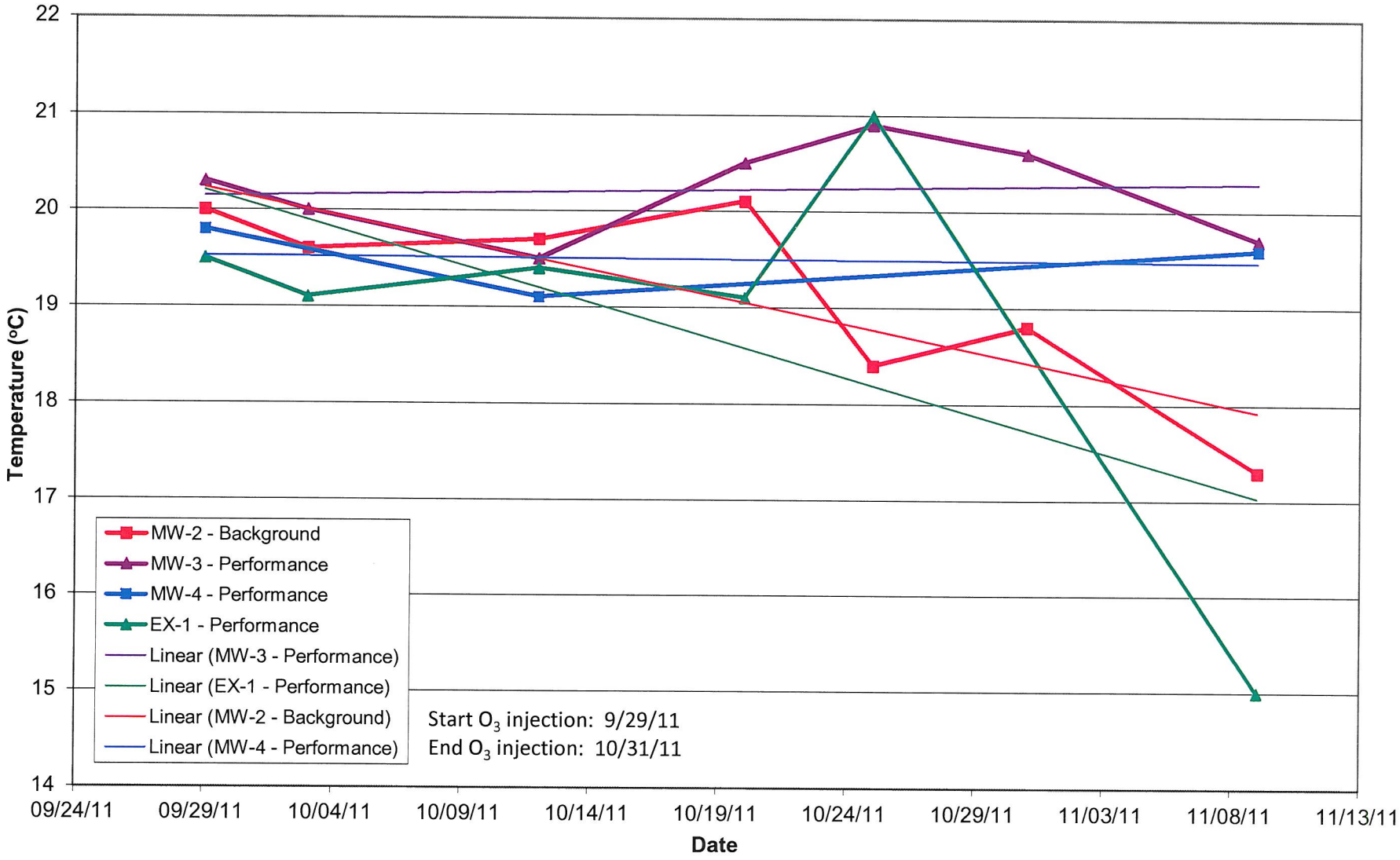


Figure 5: pH Over Time

90-Day O_3 Injection Pilot Test --- Former Olympic Service Station

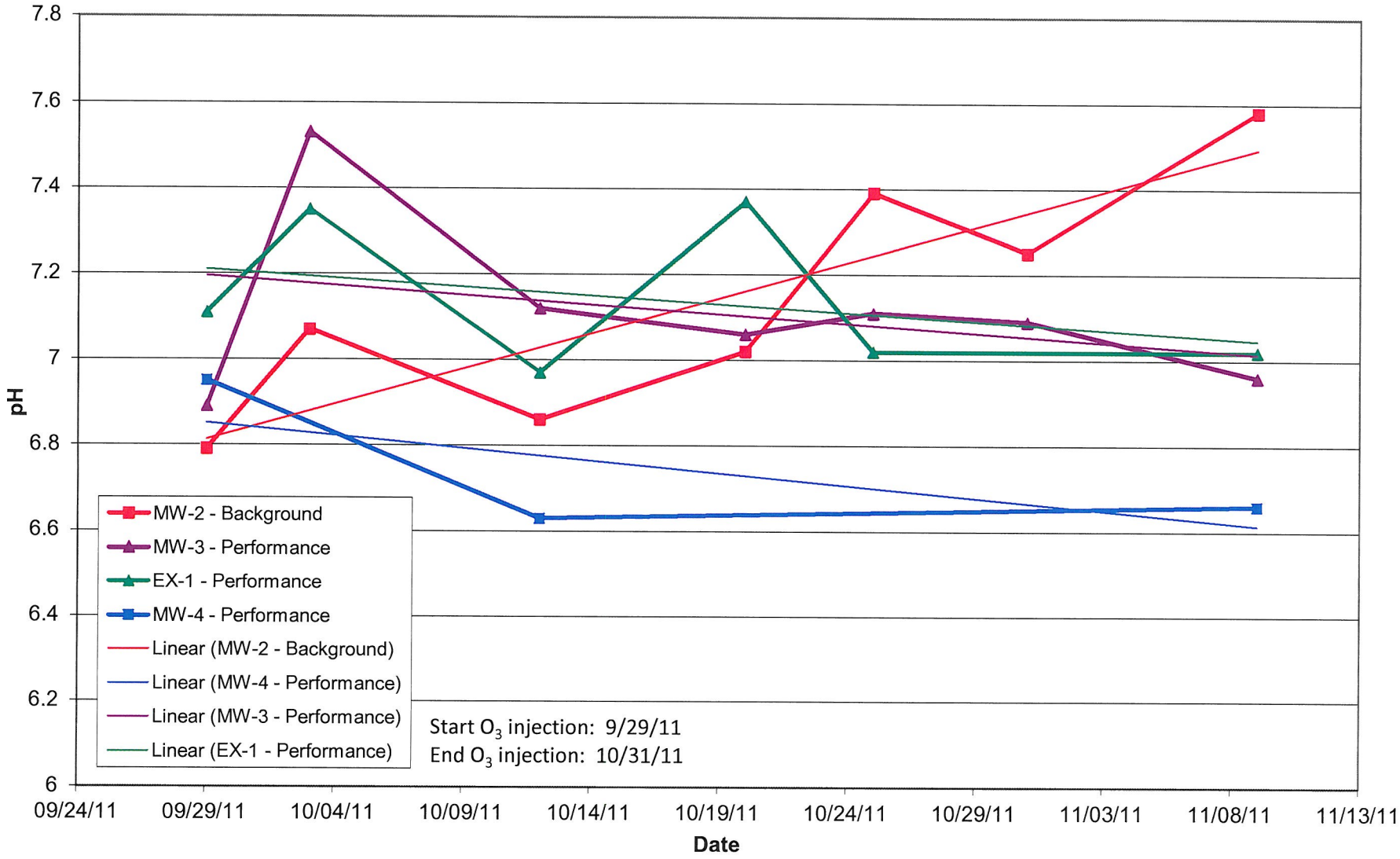


Figure 6: Specific Conductivity Over Time

90-Day O_3 Injection Pilot Test --- Former Olympic Service Station

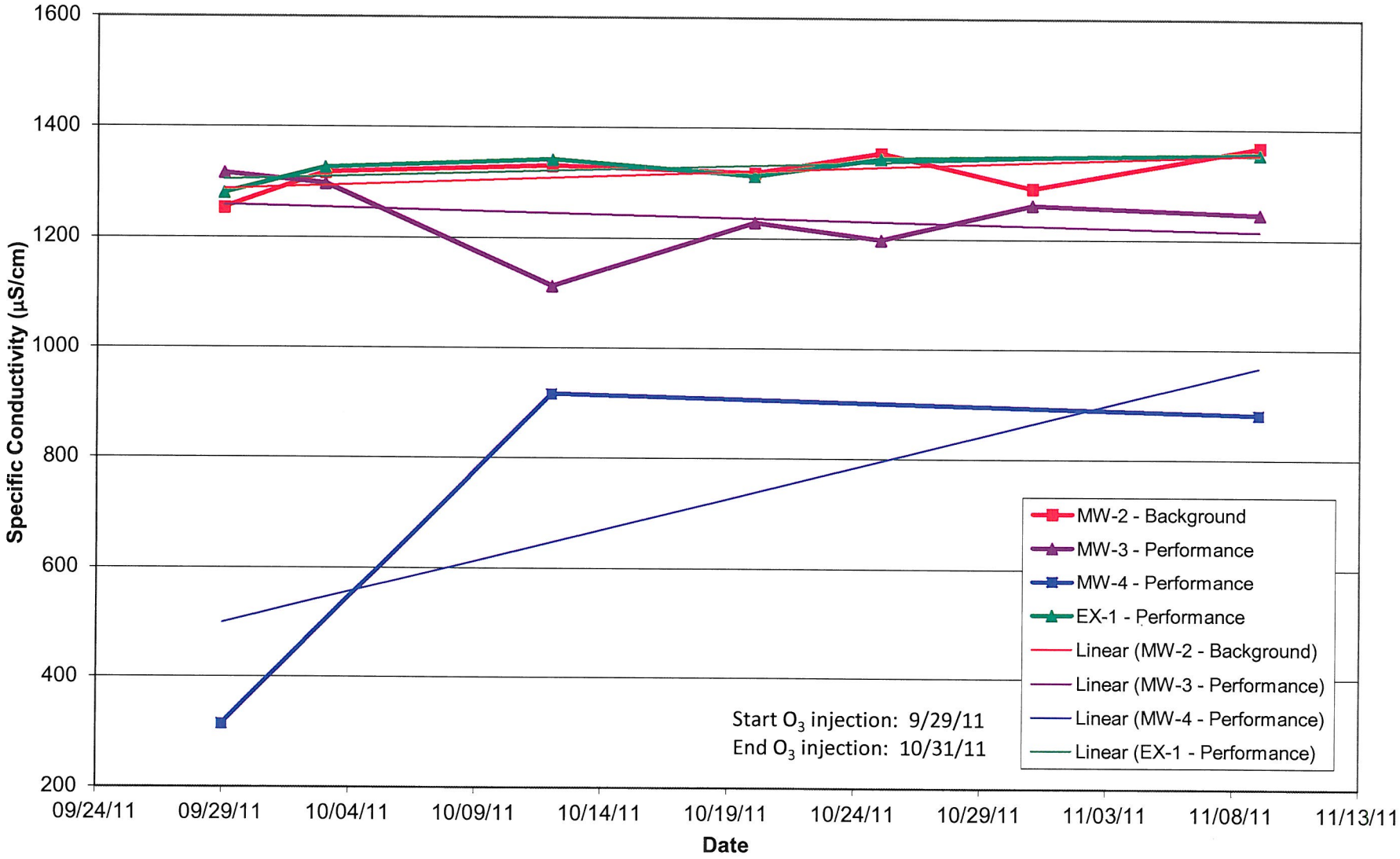


Figure 7: ORP Over Time

90-Day O_3 Injection Pilot Test --- Former Olympic Service Station

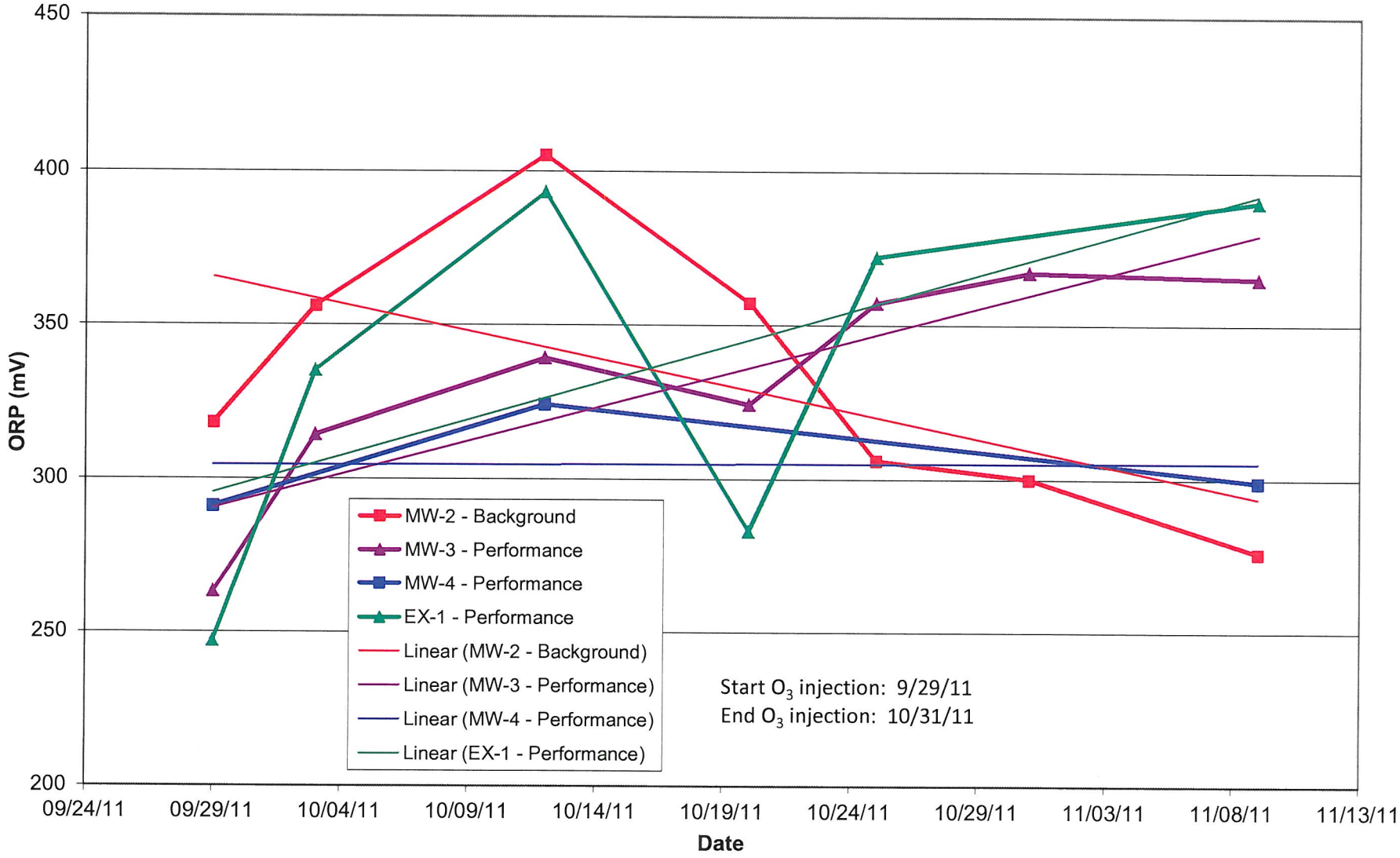


Figure 8: Hydrocarbon Concentrations, Well MW-2

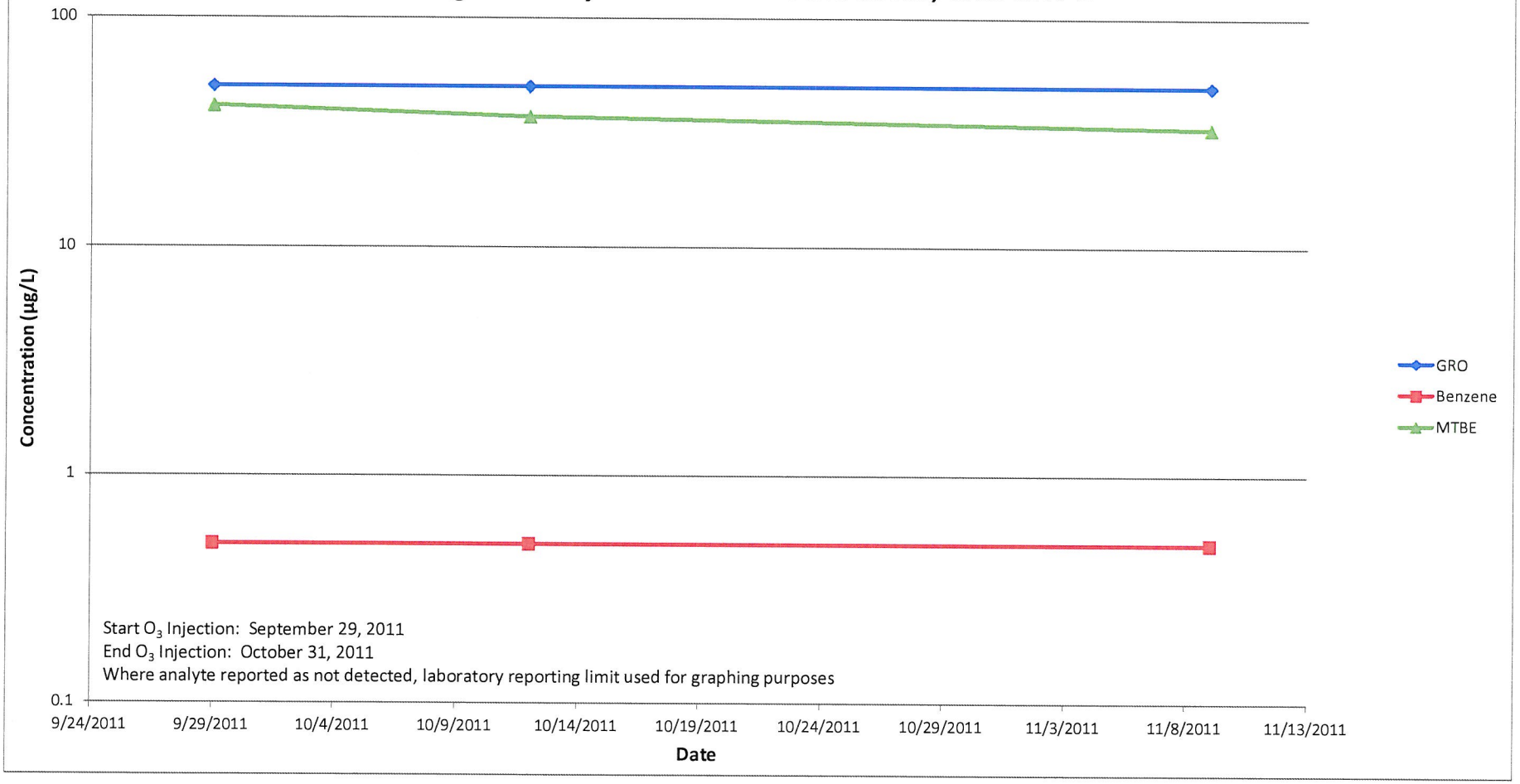


Figure 9: Hydrocarbon Concentrations, Well MW-3

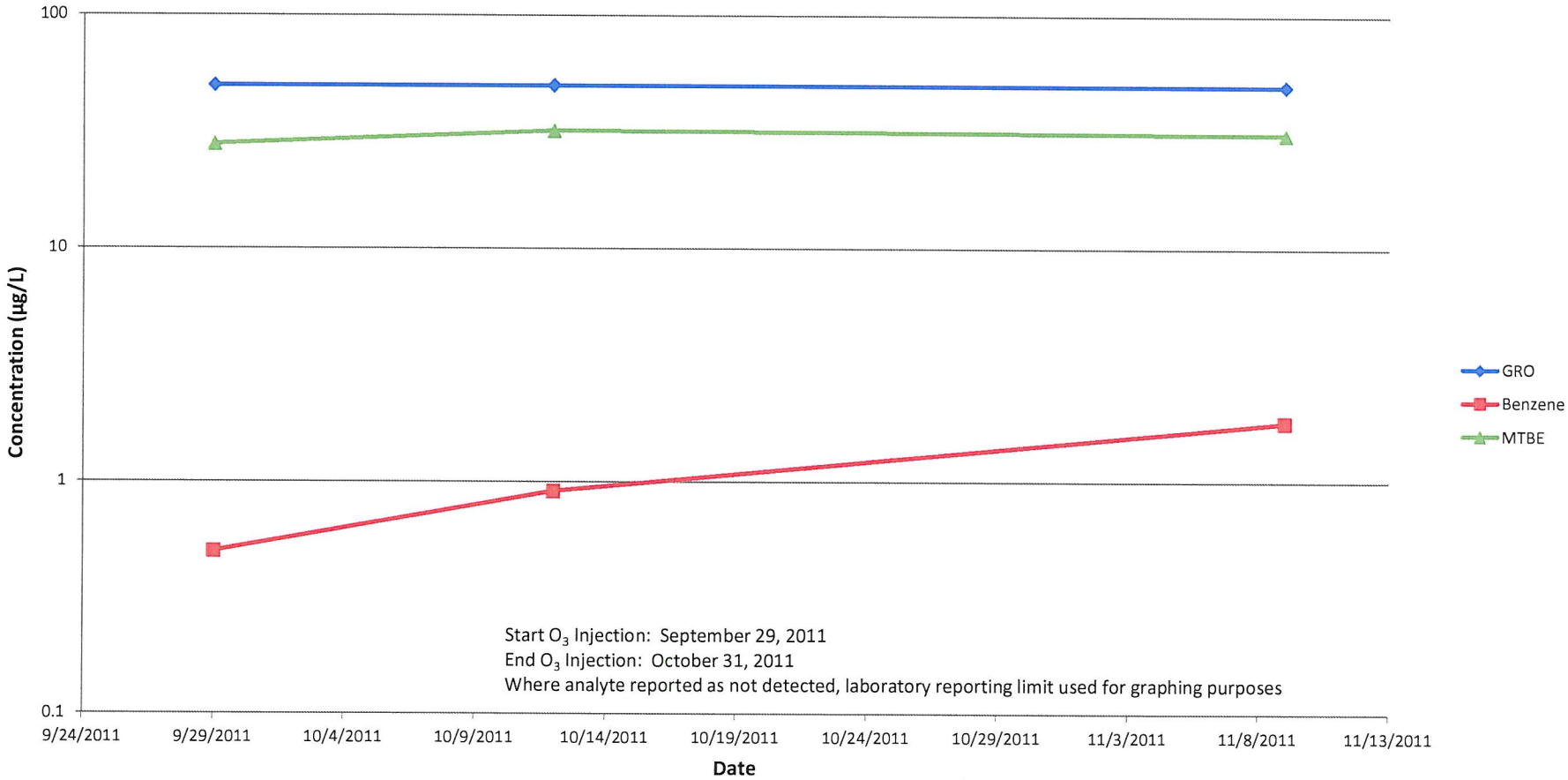


Figure 10: Hydrocarbon Concentrations, Well MW-4

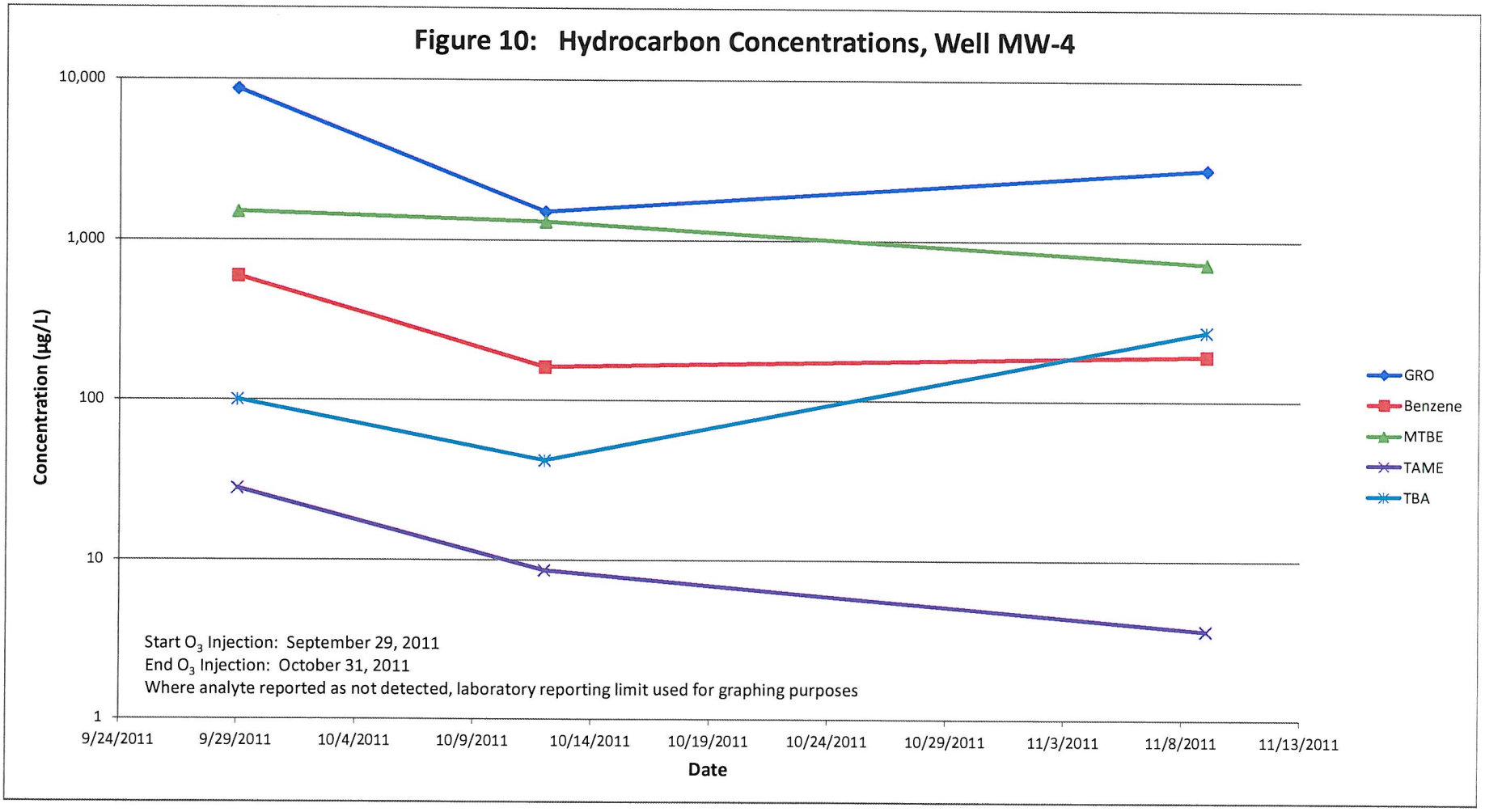
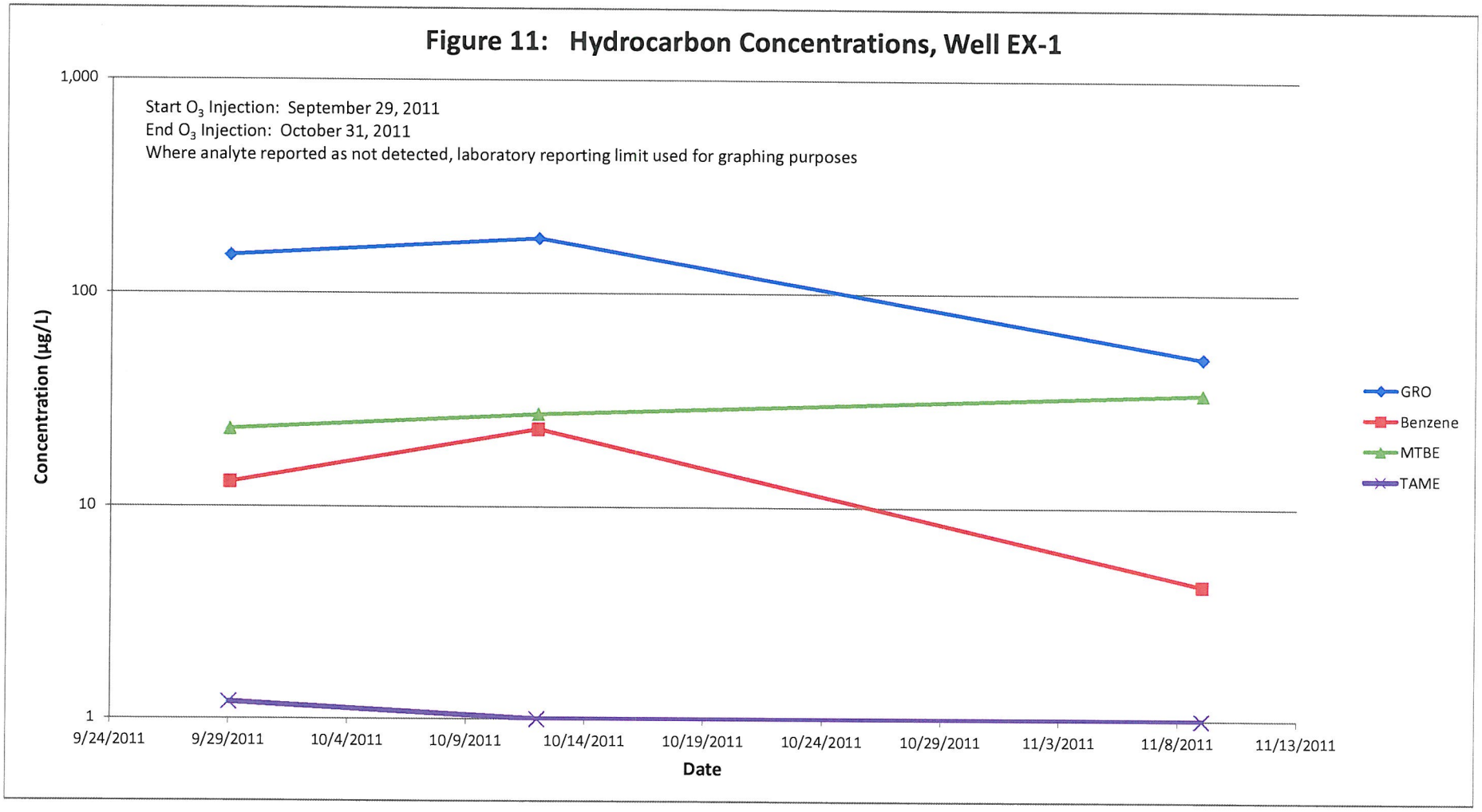


Figure 11: Hydrocarbon Concentrations, Well EX-1



APPENDIX A

HISTORICAL DATA TABLES

TABLE 2
GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY
Former Olympic Service Station, 1436 Grant Avenue, San Lorenzo, CA

Well Number	Date Collected	Depth to Water (feet)	Top of Casing Elevation (ft msl)*	Grouwater Elevation (ft msl)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
MW-1	02/04/11	7.20	15.71	8.51	<50	0.90	<0.5	<0.5	<0.5	62
	06/03/11	7.28	18.60	11.32			Not Sampled			
	08/02/11	7.47		11.13	120	<0.50	<0.50	<0.50	<0.50	160
MW-2	02/04/11	6.79	15.17	8.38	<50	<0.50	<0.50	<0.50	<0.50	4.4
	06/03/11	6.82	18.00	11.18			Not Sampled			
	08/02/11	7.06		10.94	<50	<0.50	<0.50	<0.50	<0.50	46
MW-3	2/4/2011[1]	6.80	15.13	8.33	220[1]	64	1.6	<0.5	<0.5	36
	06/03/11	6.87	17.95	11.08	200	26	<0.50	<0.50	<0.50	34
	08/02/11	7.07		10.88	<50	2.5	<0.50	<0.50	<0.50	36
MW-4	2/4/2011[1]	6.71	15.15	8.44	4,800[1]	350	7.1	23	<2.5	440
	06/03/11	6.78	17.99	11.21	4,700	350	2.6	19	<2.5[2]	670
	08/02/11	7.01		10.98	4,700	290	<2.5[2]	12	<2.5[2]	970
EX-1	06/03/11	6.96	18.14	11.18	76	8.3	<0.50	<0.50	0.99	37
	08/02/11	7.20		10.94	420	37	0.65	3.5	2.9	32
EX-2	06/03/11	6.81	18.14	11.33	760	<1.5[2]	<1.5[2]	<1.5[2]	<1.5[2]	1,100
	08/02/11	7.03		11.11	920	8.7	<1.0[2]	<1.0[2]	<1.0[2]	920
EX-3	06/03/11	6.55	17.63	11.08	95	0.93	<0.50	<0.50	<0.50	78
	08/02/11	6.82		10.81	130	1.5	<0.50	<0.50	<0.50	150

TABLE 2

GROUNDWATER ANALYTICAL DATA
ENCINAL PROPERTIES
FORMER OLYMPIAN SERVICE STATION
1436 GRANT AVENUE
SAN LORENZO, CALIFORNIA

Well ID / TOC (ft above msl)	Date Sampled	DTW (ft)	GWE (ft above msl)	Oil & Grease	TPHmo	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	SVOCs & HVOCs	DIPE	TAME	ETBE	TBA	Ethanol	EDB	1,2- DCA	Notes
				Concentrations in micrograms per liter (µg/L)																	
ESL*: Groundwater is not a current or potential drinking water resource				NE	NE	210	210	46	130	43	100	1,800	--	NE	NE	NE	18,000	NE	NE	200	
Grab Groundwater Samples																					
Pit Water	9/13/1998	--	--	--	--	2,100	3,600	350	130	39	380	17,000	--	--	--	--	--	--	--	--	
BH-A	4/30/2002	17/8	--	--	<100	<100	180	<0.50	<0.50	8.8	<0.50	82	--	<0.50	<0.50	<0.50	<5.0	--	--	--	
BH-B	4/30/2002	16/8	--	--	<100	<200	2,300	120	11	60	150	2,000	--	<5.0	<5.0	<5.0	<50	--	--	--	
BH-C	4/30/2002	16/8	--	--	<100	<150	1,200	57	0.72	43	87	240	--	<0.50	1.0	<0.50	<5.0	--	--	--	
B-1-gw	2/25/2008	3/3.95	--	--	--	260,000	4,600	330	<5.0	33	<5.0	370	--	<5.0	<5.0	<5.0	<20	<500	<5.0	<5.0	*
B-2-gw	2/25/2008	7.5/6.95	--	--	--	1,900	540	12	<2.5	<2.5	<2.5	220	--	<2.5	<2.5	<2.5	<10	<250	<2.5	<2.5	*
B-3-gw	2/26/2008	8/NA	--	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	4.0	--	<0.5	<0.5	<0.5	<2.0	<50	<0.5	<0.5	*
B-4-gw	2/25/2008	7.5/7.80	--	--	--	6,800	7,300	150	<50	150	<50	2,700	--	<50	<50	<50	1,700	<5,000	<50	<50	*
B-5-gw	2/26/2008	8/6.40	--	--	--	250	320	<10	<10	13	<10	630	--	<10	<10	<10	<40	<1,000	<10	<10	*
B-6-gw	2/26/2008	8/6.95	--	--	--	120	<50	<5.0	<5.0	<5.0	<5.0	240	--	<5.0	<5.0	<5.0	<20	<500	<5.0	<5.0	*
B-7-gw	2/26/2008	8/6.55	--	--	--	84	<50	<0.5	<0.5	<0.5	<0.5	27	--	<0.5	<0.5	<0.5	<2.0	<50	<0.5	<0.5	*
B-8-gw	2/25/2008	8/6.10	--	--	--	1,000	930	37	<2.5	64	23	160	--	<2.5	<2.5	<2.5	<10	<250	<2.5	<2.5	*
B-9	2/11/2010	6.33	--	--	--	<50	<50	<2.5	<2.5	<2.5	<2.5	160	--	<2.5	<2.5	<2.5	<10	<250	<2.5	<2.5	*
B-10	2/11/2010	6.89	--	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	5.1	--	<0.5	<0.5	<0.5	<2.0	<50	<0.5	<0.5	*
B-11	2/10/2010	5.20	--	--	--	3,700	130	0.69	<0.5	<0.5	<0.5	25	--	<0.5	<0.5	<0.5	<2.0	<50	<0.5	<0.5	*
B-12	2/11/2010	6.65	--	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	1.2	--	<0.5	<0.5	<0.5	<2.0	<50	<0.5	<0.5	*
B-13C	2/12/2010	8.97	--	--	--	3,400	2,300	<2.5	<2.5	<2.5	<2.5	92	--	<2.5	<2.5	<2.5	92	<250	<2.5	<2.5	*
Quarterly Groundwater Samples																					
MW-1	10/6/1999	8.35	6.65	--	--	84	3,900	<25	<25	<25	<25	3,500	--	--	--	--	--	--	--	--	*
15.00	1/13/2000	7.90	7.10	--	--	<50	<1,300	18	<13	<13	<13	1,700	--	--	--	--	--	--	--	--	
	4/12/2000	7.08	7.92	--	--	56	<1,000	66	<10	<10	<10	1,600	--	--	--	--	--	--	--	--	
	7/19/2000	7.66	7.34	--	--	52	<1,000	<10	<10	<10	<10	1,200	--	--	--	--	--	--	--	--	*
	10/25/2000	7.91	7.09	--	--	76	4,100	120	<25	<25	<25	6,100	--	--	--	--	--	--	--	--	*
	2/16/2007	6.32	8.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*
	3/1/2007	5.88	9.12	--	<250	<50	<50	<1.2	<1.2	<1.2	<1.2	78	--	<1.2	<1.2	<1.2	<12	<120	<1.2	<1.2	*
15.71	5/1/2007	7.24	8.47	--	<250	<50	<50	<5.0	<5.0	<5.0	<5.0	250	--	<5.0	<5.0	<5.0	<50	<500	<5.0	<5.0	*
	8/1/2007	7.77	7.94	--	--	<50	<50	<25	<25	<25	<25	520	--	<25	<25	<25	<250	<2500	<25	<25	*
	11/1/2007	7.71	8.00	--	--	<50	<50	<12	<12	<12	<12	460	--	<12	<12	<12	<120	<1,200	<12	<12	
	2/1/2008	5.71	10.00	--	--	<50	<50	<2.5	<2.5	<2.5	<2.5	110	--	<2.5	<2.5	<2.5	<10	<250	<2.5	<2.5	*
	5/2/2008	7.52	8.19	--	<250	<50	<50	<5.0	<5.0	<5.0	<5.0	240	--	<5.0	<5.0	<5.0	<20	<500	<5.0	<5.0	
	8/1/2008	8.02	7.69	--	--	<50	<50	<10	<10	<10	<10	500	--	<10	<10	<10	<40	<1,000	<10	<10	*
	11/4/2008	7.28	8.43	--	--	<50	<50	<5.0	<5.0	<5.0	<5.0	260	--	<5.0	<5.0	<5.0	26	<500	<5.0	<5.0	-
	8/11/2009	8.08	7.63	--	--	<50	<50	<5.0	<5.0	<5.0	<5.0	270	--	<5.0	<5.0	<5.0	<20	<500	<5.0	<5.0	-
	2/3/2010	6.14	9.57	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	39	--	--	--	--	--	--	--	--	-
	5/18/2010	7.09	8.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2

GROUNDWATER ANALYTICAL DATA
ENCINAL PROPERTIES
FORMER OLYMPIAN SERVICE STATION
1436 GRANT AVENUE
SAN LORENZO, CALIFORNIA

Well ID TOC (ft above msl)	Date Sampled	DTW (ft)	GWE (ft above msl)	Oil & Grease	TPHmo	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	SVOCs & HVOCs	DIPE	TAME	ETBE	TBA	Ethanol	EDB	1,2- DCA	Notes
ESL: Groundwater is not a current or potential drinking water resource				NE	NE	210	210	46	130	43	100	1,800	--	NE	NE	NE	18,000	NE	NE	200	
	8/5/2010	7.65	8.06	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	350	--	--	--	--	--	--	--	--	-
MW-2	10/6/1999	7.87	6.59	<1,000	<500	<50	70	<0.5	<0.5	<0.5	<0.5	11	ND	--	--	--	--	--	--	--	
14.46	1/13/2000	7.46	7.00	<1,000	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	6.2	ND	--	--	--	--	--	--	--	*
	4/12/2000	6.67	7.79	1,100	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	39	--	--	--	--	--	--	--	--	
	7/19/2000	7.23	7.23	1,300	<500	<50	<1,000	<10	<10	<10	<10	990	--	--	--	--	--	--	--	--	
	10/25/2000	7.52	6.94	--	<500	<50	370	<2.5	<2.5	<2.5	<2.5	690	--	--	--	--	--	--	--	--	
	2/16/2007	5.89	8.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	3/1/2007	5.45	9.01	--	<250	<50	<50	<0.5	<0.5	<0.5	<0.5	9.8	--	<0.5	<0.5	<0.5	<5.0	<50	<0.5	<0.5	*
15.17	5/1/2007	6.83	8.34	--	<250	<50	<50	<5.0	<5.0	<5.0	<5.0	120	--	<5.0	<5.0	<5.0	<50	<500	<5.0	<5.0	*
	8/1/2007	7.35	7.82	--	--	<50	<50	<5.0	<5.0	<5.0	<5.0	130	--	<5.0	<5.0	<5.0	<50	<500	<5.0	<5.0	*
	11/1/2007	7.27	7.90	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	19	--	<0.5	<0.5	<0.5	<5.0	<50	<0.5	<0.5	
	2/1/2008	5.25	9.92	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	3.3	--	<0.5	<0.5	<0.5	<2.0	<50	<0.5	<0.5	*
	5/2/2008	7.12	8.05	--	--	<50	<50	<2.5	<2.5	<2.5	<2.5	83.0	--	<2.5	<2.5	<2.5	<10	<250	<2.5	<2.5	
	8/1/2008	7.59	7.58	--	--	<50	<50	<1.0	<1.0	<1.0	<1.0	52	--	<1.0	<1.0	<1.0	<4.0	<100	<1.0	<1.0	*
MW-2	11/4/2008	6.84	8.33	--	--	80	<50	<0.5	<0.5	<0.5	<0.5	5.9	--	<0.5	<0.5	<0.5	<2.0	<50	<0.5	<0.5	*
cont.	8/11/2009	7.65	7.52	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	9.4	--	<0.5	<0.5	<0.5	<2.0	<50	<0.5	<0.5	*
	2/3/2010	5.75	9.42	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	0.86	--	--	--	--	--	--	--	--	--
	5/18/2010	6.67	8.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/2010	7.25	7.92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	57	--	--	--	--	--	--	--	--	--
MW-3	10/6/1999	7.90	6.51	--	--	300	3,900	900	89	160	560	790	--	--	--	--	--	--	--	--	
14.41	1/13/2000	7.50	6.91	--	--	210	740	110	4.8	35	18	290	--	--	--	--	--	--	--	--	
	4/12/2000	6.61	7.80	--	--	640	2,200	650	9.7	180	24	140	--	--	--	--	--	--	--	--	
	7/19/2000	7.24	7.17	--	--	270	2,700	420	<2.5	160	<2.5	99	--	--	--	--	--	--	--	--	
	10/25/2000	7.52	6.89	--	--	150	710	180	<2.5	24	<2.5	71	--	--	--	--	--	--	--	--	*
	2/16/2007	5.90	8.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*
	3/1/2007	5.44	8.97	--	<250	<50	82	20	<1.7	<1.7	<1.7	100	--	<1.7	<1.7	<1.7	<17	<170	<1.7	<1.7	*
15.13	5/1/2007	6.87	8.26	--	<250	<50	<50	<5.0	<5.0	<5.0	<5.0	88	--	<5.0	<5.0	<5.0	<50	<500	<5.0	<5.0	*
	8/1/2007	7.40	7.73	--	--	<50	130	12	<2.5	<2.5	<2.5	98	--	<2.5	<2.5	<2.5	<25	<250	<2.5	<2.5	*
	11/1/2007	7.35	7.78	--	--	<50	77	<2.5	<2.5	<2.5	<2.5	68	--	<2.5	<2.5	<2.5	<25	<250	<2.5	<2.5	*
	2/1/2008	5.28	9.85	--	--	<50	<50	<2.5	<2.5	<2.5	<2.5	97	--	<2.5	<2.5	<2.5	<10	<250	<2.5	<2.5	
	5/2/2008	7.15	7.98	--	--	<50	68	2.3	<1.7	<1.7	<1.7	86	--	<1.7	<1.7	<1.7	7.20	<170	<1.7	<1.7	
	8/1/2008	7.66	7.47	--	--	<50	85	3.5	<1.0	<1.0	<1.0	66	--	<1.0	<1.0	<1.0	7.2	<100	<1.0	<1.0	*
	11/4/2008	6.96	8.17	--	--	<50	<50	<1.0	<1.0	<1.0	<1.0	40	--	<1.0	<1.0	<1.0	<4.0	<100	<1.0	<1.0	
	8/11/2009	7.72	7.41	--	--	<50	110	33	<0.5	<0.5	<0.5	28	--	<0.5	<0.5	<0.5	<2.0	<50	<0.5	<0.5	*
	2/3/2010	5.72	9.41	--	--	--	<50	0.55	<0.5	<0.5	<0.5	25	--	--	--	--	--	--	--	--	--
	5/18/2010	6.73	8.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2

GROUNDWATER ANALYTICAL DATA
ENCINAL PROPERTIES
FORMER OLYMPIAN SERVICE STATION
1436 GRANT AVENUE
SAN LORENZO, CALIFORNIA

Well ID TOC (ft above msl)	Date Sampled	DTW (ft)	GWE (ft above msl)	Oil & Grease	TPHmo	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	SVOCs & HVOCs	DIPE	TAME	ETBE	TBA	Ethanol	EDB	1,2- DCA	Notes
				← Concentrations in micrograms per liter (µg/L) →																	
ESL: Groundwater is not a current or potential drinking water resource				NE	NE	210	210	46	130	43	100	1,800	–	NE	NE	NE	18,000	NE	NE	200	
	8/5/2010	7.31	7.82	--	--	--	450	110	2.2	0.76	0.64	32	--	--	--	--	--	--	--	--	*
MW-4	5/18/2010	6.68	8.47	--	--	--	13,000	620	36	170	12	1,200	--	--	--	--	--	--	--	--	*
15.15	8/5/2010	7.25	7.90	--	--	--	9,200	780	13	230	4.3	1,800	--	--	--	--	--	--	--	--	*

Abbreviations / Notes

" = San Francisco Bay Regional Water Quality Control Board ESL for groundwater where groundwater is not a current or potential drinking water resource

NE = Not Evaluated
TOC = Top of casing
DTW = Depth to water
GWE = Groundwater elevation in feet above mean sea level
ft above msl = feet above mean sea level
17/8 = Depth to first encountered groundwater/depth of static groundwater
<n = Not detected above laboratory reporting limit
-- = Not sampled, not analyzed, not available
ND = Not detected above laboratory reporting limit
Oil and grease by EPA Method 5520 E&F
TPHd = Total Petroleum Hydrocarbons as diesel range by EPA Method 8015
TPHg = Total Petroleum Hydrocarbons as gasoline range by EPA Method 8015
TPHmo = Total Petroleum Hydrocarbons as motor oil by EPA Method 8015
Benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020
MTBE = Methyl tertiary butyl ether by EPA Method 8260
Di-isopropyl ether (DIPE), tertiary-amyl methyl ether (TAME), ethyl tertiary-butyl ether (ETBE), tertiary-butyl alcohol (TBA) by EPA Method 8260B
SVOCs = Semi-volatile organic compounds by EPA Method 8270, refer to corresponding analytical laboratory report for a full list of compounds
HVOCs = Halogenated volatile organic compoundy by EPA Method 8010, refer to corresponding analytical laboratory report for a full list of compounds
1,2 DCA = 1,2 dichloroethane
EDB = 1,2-dibromoethane
* = See Analytical Laboratory Report for laboratory sample description and TPH chromatogram interpretation.
TOC elevations were surveyed on March 8, 2007 by Virgil Chavez Land Surveying. Prior to this date, TOC elevation were relative to a project datum determined by Aqua Science Engineers, Inc. in 1998.

TABLE 2

SOIL ANALYTICAL SUMMARY

Former Olympic Station

1436 Grant Avenue, San Lorenzo, California

Sample Location	Sample Depth (feet bgs)	Date Collected	Oil and Grease (mg/kg)	TPH-mo (mg/kg)	DRO (mg/kg)	GRO (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl-benzene (mg/Kg)	Total Xylenes (mg/Kg)	MTBE (mg/Kg)	TBA (mg/Kg)	DIPE (mg/Kg)	ETBE (mg/Kg)	TAME (mg/Kg)	1,2-DCA (mg/Kg)	EDB (mg/Kg)	Ethanol (mg/kg)	Naph-thalene (mg/kg)
Shallow Soil (≤10' bgs) ESL[1]:			**NE**	**NE**	**180**	**180**	**0.27**	**9.3**	**4.7**	**11**	**8.4**	**110**	**NE**	**NE**	**NE**	**0.48**	**0.044**	**NE**	**2.8**
Deep Soil (>10' bgs) ESL[1]:			**NE**	**NE**	**180**	**180**	**2.0**	**9.3**	**4.7**	**11**	**8.4**	**110**	**NE**	**NE**	**NE**	**0.48**	**1.0**	**NE**	**4.8**
July 1998 UST Removal																			
WO-1-7.5	7.5	7/10/1998	4,300	--	**1,300**	**200**	**1.5**	**11**	3.6	**20**	1.4	--	--	--	--	<0.025	--	--	--
T-1E-7.5	7.5	7/10/1998	--	--	--	**180**	<0.01	0.94	4.6	0.56	<0.2	--	--	--	--	--	--	--	--
T-2E-8.0	8	7/10/1998	--	--	--	82	<0.01	0.39	2.9	0.28	0.45	--	--	--	--	--	--	--	--
T-3E-7.0	7	7/10/1998	--	--	--	**3,800**	**30**	**180**	**93**	**430**	**27**	--	--	--	--	--	--	--	--
T-3W-10.0	10	7/10/1998	--	--	--	170	<0.02	0.71	**5.3**	6.6	<0.4	--	--	--	--	--	--	--	--
D-1G-1.5	1.5	7/10/1998	--	--	--	**5,700**	<0.25	**14**	**54**	**280**	<5	--	--	--	--	--	--	--	--
D-2G-1.5	2	7/10/1998	--	--	--	**460**	<0.02	0.26	0.61	5.0	<0.4	--	--	--	--	--	--	--	--
D-1D-2.0	2	7/10/1998	--	--	5.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
D-2D-2.0	2	7/10/1998	--	--	39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PL-1-1.5	1.5	7/10/1998	--	--	2.8	5.8	0.062	0.062	0.33	0.14	<0.05	--	--	--	--	--	--	--	--
PL-2-2.0	2	7/10/1998	--	--	1.3	5.9	0.10	0.56	0.19	0.42	0.75	--	--	--	--	--	--	--	--
December 1998 Waste Oil Tank Overexcavation																			
WO-OEX-12	12	12/18/1998	570	940	**250**	<1.3	<0.0050	0.024	0.057	0.24	<0.0050	--	--	--	--	<0.0050	--	--	--
D1G-OEX-3.5	3.5	12/18/1998	--	<50	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--
1999 Assessment																			
MW-1	10.5	9/24/1999	--	--	**250**	6.5	0.42	0.18	0.065	0.027	1.7	--	--	--	--	--	--	--	--
MW-2	10	9/24/1999	700	2,400	**1,000**	2.9	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--
MW-3	10	9/24/1999	--	--	26	11	**0.63**	0.18	0.31	1.1	<0.0050	--	--	--	--	--	--	--	--
2002 Assessment																			
BH-A	11.5	4/30/2002	--	180	**270**	150	<0.025	0.027	1.9	0.28	<0.025	<0.25	<0.025	<0.025	<0.025	--	--	--	--
BH-B	11.5	4/30/2002	--	<10	**320**	**290**	**2.2**	0.49	**5.0**	**12**	<0.050	<0.25	<0.050	<0.050	<0.050	--	--	--	--
BH-C	11.5	4/30/2002	--	12	**280**	**240**	1.7	0.016	4.3	5.1	0.014	<0.050	<0.0050	<0.0050	<0.0050	--	--	--	--
2008 Assessment																			
B-1	3	2/25/2008	--	--	8.3	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	7	2/25/2008	--	--	**1,700**	**290**	0.25	<0.20	<0.20	<0.20	<0.20	<2.0	<0.20	<0.20	<0.20	<0.16	<0.16	<10	--
	10.5	2/25/2008	--	--	120	140	0.31	0.089	0.11	<0.050	1.0	<0.50	<0.050	<0.050	<0.050	<0.040	<0.040	<2.5	--
	19.5	2/25/2008	--	--	120	85	0.42	<0.050	0.91	<0.050	1.7	<0.50	<0.050	<0.050	<0.050	<0.040	<0.040	<2.5	--

TABLE 2

SOIL ANALYTICAL SUMMARY

Former Olympic Station

1436 Grant Avenue, San Lorenzo, California

Sample Location	Sample Depth (feet bgs)	Date Collected	Oil and Grease (mg/kg)	TPH-mo (mg/kg)	DRO (mg/kg)	GRO (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl-benzene (mg/Kg)	Total Xylenes (mg/Kg)	MTBE (mg/Kg)	TBA (mg/Kg)	DIPE (mg/Kg)	ETBE (mg/Kg)	TAME (mg/Kg)	1,2-DCA (mg/Kg)	EDB (mg/Kg)	Ethanol (mg/kg)	Naph-thalene (mg/kg)
Shallow Soil (≤10' bgs) ESL[1]:			NE	NE	180	180	0.27	9.3	4.7	11	8.4	110	NE	NE	NE	0.48	0.044	NE	2.8
Deep Soil (>10' bgs) ESL[1]:			NE	NE	180	180	2.0	9.3	4.7	11	8.4	110	NE	NE	NE	0.48	1.0	NE	4.8
B-2	7	2/25/2008	--	--	14	30	0.016	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	11.5	2/25/2008	--	--	41	86	0.12	<0.005	0.020	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	15	2/25/2008	--	--	2.2	4.9	0.018	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	24.5	2/25/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	0.033	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
B-3	7	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	15	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	0.0084	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	24.5	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
B-4	7	2/25/2008	--	--	**260**	**250**	0.016	<0.010	0.037	<0.010	0.28	0.34	<0.010	<0.010	<0.010	<0.0080	<0.0080	<0.50	--
	11.5	2/25/2008	--	--	12	110	0.28	<0.050	1.1	<0.050	1.8	<0.50	<0.050	<0.050	<0.050	<0.040	<0.040	<2.5	--
	15	2/25/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	0.045	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	24.5	2/25/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
B-5	7	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	11.5	2/26/2008	--	--	7.2	49	<0.005	<0.005	0.15	<0.005	0.0056	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	15	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	0.019	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	24.5	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	0.022	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
B-6	7	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	11.5	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	15.5	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	24.5	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	0.020	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
B-7	7	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	11.5	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	15.5	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	24.5	2/26/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
B-8	6.5	2/25/2008	--	--	4.3	5.8	0.015	<0.005	0.0075	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	11.5	2/25/2008	--	--	16	**270**	0.72	<0.20	2.5	0.99	<0.20	<2.0	<0.20	<0.20	<0.20	<0.16	<0.16	<10	--
	15	2/25/2008	--	--	1.5	4.9	<0.005	<0.005	0.014	<0.005	0.027	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
	24.5	2/25/2008	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.25	--
2010 Assessment																			
MW-4	3	2/9/2010	--	--	**530**	160	<0.050	<0.050	<0.050	<0.050	<0.050	<0.50	<0.050	<0.050	<0.050	<0.040	<0.040	<5.0	1.3
	5	2/9/2010	--	--	**1,800**	**360**	<0.10	<0.10	<0.10	<0.10	<0.10	<1.0	<0.10	<0.10	<0.10	<0.080	<0.080	<10	**3.1**
	8	2/9/2010	--	--	50	**270**	<0.050	<0.050	0.70	<0.050	0.20	<0.50	<0.050	<0.050	<0.050	<0.040	<0.040	<5.0	1.1

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Shallow Soil (≤10' bgs) ESL[1]:			**NE**	**NE**	**180**	**180**	**0.27**	**9.3**	**4.7**	**11**	**8.4**	**110**	**NE**	**NE**	**NE**	**0.48**	**0.044**	**NE**	**2.8**
Deep Soil (>10' bgs) ESL[1]:			**NE**	**NE**	**180**	**180**	**2.0**	**9.3**	**4.7**	**11**	**8.4**	**110**	**NE**	**NE**	**NE**	**0.48**	**1.0**	**NE**	**4.8**
B-9	3	2/11/2010	--	--	1.9	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	5	2/11/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	10	2/11/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	15	2/11/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	20	2/11/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	24.5	2/11/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
B-10	3	2/11/2010	--	--	2.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	5	2/11/2010	--	--	1.5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	9.5	2/11/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	15	2/11/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	20	2/11/2010	--	--	1.5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	24.5	2/11/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
B-11	3	2/10/2010	--	--	2.1	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	5	2/10/2010	--	--	2.9	<1.0	<0.005	<0.005	<0.005	0.0078	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	8	2/10/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	10	2/10/2010	--	--	2.7	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
B-12	3	2/11/2010	--	--	1.8	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	5	2/11/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	10	2/11/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	15	2/11/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	20	2/11/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	24.5	2/11/2010	--	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
B-13A	3	2/10/2010	--	--	6.1	<1.0	0.023	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	5	2/10/2010	--	--	1.2	<1.0	0.0060	<0.005	0.010	0.011	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
	7	2/10/2010	--	--	2.8	3.3	<0.005	<0.005	0.016	0.021	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
B-13C	11.5	2/12/2010	--	--	8.0	15	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.5	<0.005
Remediation Well Installation 2011																			
EX-1	6	5/19/2011	--	--	--	83	0.15	<0.020	1.3	0.041	0.076	--	--	--	--	--	--	--	--
	11	5/19/2011	--	--	--	110	1.5	0.19	1.7	3.5	0.21	--	--	--	--	--	--	--	--
	16	5/19/2011	--	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	0.046	--	--	--	--	--	--	--	--
	21	5/19/2011	--	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--
EX-2	11	5/19/2011	--	--	--	**340**	0.19	<0.10	0.31	<0.10	1.7	--	--	--	--	--	--	--	--
	16	5/19/2011	--	--	--	1.6	<0.005	<0.005	<0.005	<0.005	1.2	--	--	--	--	--	--	--	--
	21	5/19/2011	--	--	--	2.3	<0.005	<0.005	<0.005	<0.005	0.098	--	--	--	--	--	--	--	--

TABLE 2

SOIL ANALYTICAL SUMMARY

Former Olympic Station

1436 Grant Avenue, San Lorenzo, California

Sample Location	Sample Depth (feet bgs)	Date Collected	Oil and Grease (mg/kg)	TPH-mo (mg/kg)	DRO (mg/kg)	GRO (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl-benzene (mg/Kg)	Total Xylenes (mg/Kg)	MTBE (mg/Kg)	TBA (mg/Kg)	DIPE (mg/Kg)	ETBE (mg/Kg)	TAME (mg/Kg)	1,2-DCA (mg/Kg)	EDB (mg/Kg)	Ethanol (mg/kg)	Naph-thalene (mg/kg)
Shallow Soil (≤10' bgs) ESL[1]:			NE	NE	180	180	0.27	9.3	4.7	11	8.4	110	NE	NE	NE	0.48	0.044	NE	2.8
Deep Soil (>10' bgs) ESL[1]:			NE	NE	180	180	2.0	9.3	4.7	11	8.4	110	NE	NE	NE	0.48	1.0	NE	4.8
EX-3	6	5/19/2011	--	--	--	41	0.023	<0.010	<0.010	<0.010	<0.010	--	--	--	--	--	--	--	--
	11	5/19/2011	--	--	--	**340**	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	--	--	--
	16	5/19/2011	--	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--
IW-1	6	5/20/2011	--	--	--	**220**	<0.050	<0.050	0.49	0.40	0.054	--	--	--	--	--	--	--	--
	11	5/20/2011	--	--	--	170	0.17	0.11	1.9	1.8	0.070	--	--	--	--	--	--	--	--
IW-2	6	5/20/2011	--	--	--	140	0.39	<0.050	2.9	0.17	<0.050	--	--	--	--	--	--	--	--
	11	5/20/2011	--	--	--	160	0.89	0.18	2.4	3.8	<0.050	--	--	--	--	--	--	--	--
	21	5/20/2011	--	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--

Explanation

TPH-mo = Total purgeable hydrocarbons as motor oil
DRO = Diesel range organics
GRO = Gasoline range organics (C4 - C13)
BTEX = Benzene, toluene, ethylbenzene, and xylenes
MTBE = Methyl tertiary butyl ether
TBA=Tertiary butyl alcohol
DIPE =Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
1,2-DCA=1,2-Dichloroethane
EDB = 1,2-Dibromoethane
mg/Kg = milligrams per kilogram
1 =

All data reported prior to 2011 provided by Conestoga-Rovers & Associates.

Analytical Methods

Oil and grease analyzed using EPA Method 5520 E&F
TPH-mo, DRO, and GRO analyzed using EPA Method SW8015B/DHS LUFT Manual
BTEX and MTBE analyzed prior to 2002 using EPA Method 8020
BTEX, MTBE, TBA, DIPE, ETBE, TAME, 1,2-DCA, and EDB analyzed using EPA Method SW8260B

Analytical Laboratory

Alpha Analytical, Inc. (ELAP #2019)

TABLE 4

SOIL VAPOR ANALYTICAL DATA
ENCINAL PROPERTIES
1436 GRANT AVE,
SAN LORENZO, CALIFORNIA

Sample ID	*Date Sampled*	*Depth (ft)*	*TPHg (ug/m^3)*	*Benzene (ug/m^3)*	*Toluene (ug/m^3)*	*Ethylbenzene (ug/m^3)*	*m,p-Xylene (ug/m^3)*	*o-Xylene (ug/m^3)*	*MTBE (ug/m^3)*	*Naphthalene (ug/m^3)*	*Helium (%)*	*Oxygen (%)*	*Methane (%)*	*Carbon Dioxide (%)*
SV-1	2/25/2010	5	36,000,000	18,000	<2,100	<2,500	<2,500	<2,500	<2,000	<12,000	<0.11	1.4	35	8.5
SV-2	2/25/2010	5	44,000,000	160,000	<2,500	<2,900	<2,900	<2,900	<2,400	<14,000	<0.13	1.2	13	9.0
SV-3	2/25/2010	5	52,000,000	52,000	<2,200	<2,500	<2,500	<2,500	<2,100	<12,000	<0.12	1.2	18	5.8
SV-4	2/25/2010	5	41,000,000	120,000	<4,400	<5,000	<5,000	<5,000	5,400	<24,000	<0.12	1.2	5.2	9.5
Duplicate Samples														
SV-2-D	2/25/2010	5	43,000,000	160,000	<2,400	<2,800	<2,800	<2,800	<2,300	<13,000	<0.13	1.1	13	8.9

Abbreviations and Analyses:

<n = Not dectected above laboratory detection limit, n.

ug/m^3 = Microgram per cubic meter.

% = Percent

ft = Measured in feet

MTBE = methyl tert-butyl ether

TPHg by EPA Method TO-3

Benzene, Toluene, Ethylbenzene, m,p-Xylenes, o-Xylenes, MTBE, & Naphthalene by modified EPA Method TO-15.

Oxygen, Methane, Carbon Dioxide, & Helium by ASTM D-1946

TABLE 3
SOIL ANALYTICAL SUMMARY
Fromer Olympic Station
1436 Grant Avenue, San Lorenzo, CA

Sample Point ID	Date Collected	Sample Depth (feet)	GRO (µg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl-benzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)
EX-1	05/19/11	6	**83,000**	**150**	<20 [1]	**1,300**	**41**	**76**
		11	**110,000**	**1,500**	**190**	**1,700**	**3,510**	**210**
		16	<1,000	<5.0	<5.0	<5.0	<5.0	**46**
		21	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0
EX-2	05/19/11	11	**340,000**	**190**	<100 [1]	**310**	<100 [1]	**1,700**
		16	**1,600**	<5.0	<5.0	<5.0	<5.0	**1,200**
		21	**2,300**	<5.0	<5.0	<5.0	<5.0	**98**
EX-3	05/19/11	6	**41,000**	**23**	<10 [1]	<10 [1]	<10 [1]	<10 [1]
		11	**340,000**	<100 [1]	<100 [1]	<100 [1]	<100 [1]	<100 [1]
		16	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0
IW-1	05/20/11	6	**220,000**	<50 [1]	<50 [1]	**490**	**400**	**54**
		11	**170,000**	**170**	**110**	**1,900**	**1,770**	**70**
IW-2	05/20/11	6	**140,000**	**390**	<50 [1]	**2,900**	**170**	<50 [1]
		11	**160,000**	**890**	**180**	**2,400**	**3,800**	<50 [1]
		21	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0

Legend:
GRO = Gasoline-range organics (C4-C13)
MTBE = Methyl tertiary butyl ether

Analytical Methods:
GRO = EPA Method SW8015B
BTEX, MTBE = EPA Method 8260B

[1] Reporting limit increased due to high concnetrations of target analytes.

APPENDIX B

FIELD DATA SHEETS

30-DAY O_3 PILOT TEST FIELD DATA

Former Olympic Service Station
1436 Grant Avenue
San Lorenzo, California

ORIGINAL

Date: 9-27-11
Arrival Time: 0530
Departure Time: 0900

Technician: CHIC
Weather Conditions: Clear
Ambient Temperature: 60

Equipment Manufacturer / Model No.:

Ozone (O_3) Injection System

System currently injecting into well IW-1?	☐ yes	☒ no
System currently injecting into well IW-2?	☐ yes	☒ no
Status Upon Arrival:	☐ ON	☒ OFF
Status Upon Departure:	☐ ON	☒ OFF
Hour Meter Reading:		
Injection Pressure IW-1 (psi):		
Injection Time IW-1 (min):		
Injection Pressure IW-2 (psi):		
Injection Time IW-2 (min):		
Oxygen flow rate (scfh):		
Air + ozone flow rate (scfm):		

Hookup ozone Trailer to power
Run speed Bumps + Tubing to wells

Field Measurements (Weekly Visit)

Well ID	Time	DTW	pH	DO	Conductivity	Temperature	ORP		
		feet bgs	units	mg/L	µsiemen/cm	deg C	mV		
MW-1									
MW-2									
MW-3									
MW-4									
EX-1									
EX-2									
EX-3									
IW-1									
IW-2									

Notes/Comments:
If pH is outside the range of 6.5<pH<8.5 contact PM immediately.

Groundwater samples to be collected prior to start up of O_3 injection, 2-weeks after start up and 1 week after O3 injection ceases per Table 1 of IRAP.

30-DAY O_3 PILOT TEST FIELD DATA

Former Olympic Service Station
1436 Grant Avenue
San Lorenzo, California

ORIGINAL

Date: 9-29-11
Technician: CHILL
Arrival Time: 0515
Weather Conditions: Clear
Departure Time: 0830
Ambient Temperature: 65
Equipment Manufacturer / Model No.: Extech DO Estick, Oakton PH, Cond Temp PH Series Oakton 0121 PD Solinst DTW Eco Sensors ozone meter

Ozone (O_3) Injection System

System currently injecting into well IW-1?	☐ yes	☒ no
System currently injecting into well IW-2?	☒ yes	☐ no
Status Upon Arrival:	☐ ON	☒ OFF
Status Upon Departure:	☒ ON	☐ OFF
Hour Meter Reading:	0000	
Injection Pressure IW-1 (psi):	24	
Injection Time IW-1 (min):	30	
Injection Pressure IW-2 (psi):	20	
Injection Time IW-2 (min):	30	
Oxygen flow rate (scfh):	14	
Air + ozone flow rate (scfm):	4.2	

System startup

Sampled wells

Field Measurements (Weekly Visit)

Well ID	Time	DTW	pH	DO	Conductivity	Temperature	ORP		
		feet bgs	units	mg/L	µsiemen/cm	deg C	mV		
MW-1	0735	7.83	6.85	1.04	1436	20.0	348		
MW-2	0700	7.39	6.79	1.07	1252	20.0	318		0715
MW-3	0630	7.43	6.89	1.57	1315	20.3	263		0648
MW-4	0522	7.37	6.95	1.12	314	19.8	291		0620
EX-1	0531	7.53	7.11	1.11	1279	19.5	247		0600
EX-2	0727	7.37	6.71	1.30	1406	21.0	348		
EX-3	0655	7.15	6.87	1.20	1400	20.6	313		
IW-1	9.42	DTB							
IW-2	13.95	DTB							

Notes/Comments:
If pH is outside the range of 6.5<pH<8.5 contact PM immediately.

Groundwater samples to be collected prior to start up of O_3 injection, 2-weeks after start up and 1 week after O3 injection ceases per Table 1 of IRAP.

Purge wells 3 well vol. Before sample

30-DAY O_3 PILOT TEST FIELD DATA

Former Olympic Service Station
1436 Grant Avenue
San Lorenzo, California

Date: 10-3-11
Arrival Time: 0730
Departure Time: 0831

Technician: CHILL
Weather Conditions: Clear
Ambient Temperature: 60

Equipment Manufacturer / Model No.:

Ozone (O_3) Injection System

System currently injecting into well IW-1?	☒ yes	☐ no
System currently injecting into well IW-2?	☒ yes	☐ no
Status Upon Arrival:	☒ ON	☐ OFF
Status Upon Departure:	☒ ON	☐ OFF
Hour Meter Reading:	IW1 48 IW2 48	
Injection Pressure IW-1 (psi):	10	
Injection Time IW-1 (min):	30	
Injection Pressure IW-2 (psi):	10	
Injection Time IW-2 (min):	30	
Oxygen flow rate (scfh):	18	
Air + ozone flow rate (scfm):	4.0	

Field Measurements (Weekly Visit)

Well ID	Time	DTW	pH	DO	Conductivity	Temperature	ORP		
		feet bgs	units	mg/L	µsiemen/cm	deg C	mV		
MW-1	0801	7.75	6.91	8.92	1411	19.5	371		
MW-2	0749	7.32	7.07	8.71	1316	19.6	356		
MW-3	0735	7.39	7.53	1.70	1296	20.0	314		
MW-4	Under CHL								
EX-1	0740	7.48	7.35	1.06	1326	19.1	335		
EX-2	7.58	7.30	6.90	8.91	1357	20.2	369		
EX-3	0745	7.10	7.10	8.92	1370	19.9	348		
IW-1									
IW-2									

Notes/Comments:
If pH is outside the range of 6.5<pH<8.5 contact PM immediately.

Groundwater samples to be collected prior to start up of O_3 injection, 2-weeks after start up and 1 week after O3 injection ceases per Table 1 of IRAP.

No ozone leaks at wells

30-DAY O_3 PILOT TEST FIELD DATA

Former Olympic Service Station
1436 Grant Avenue
San Lorenzo, California

ORIGINAL

Date: 10-12-11
Technician: CHILL
Arrival Time: 0500
Weather Conditions: Clear
Departure Time: 0900
Ambient Temperature: 55
Equipment Manufacturer / Model No.:

Ozone (O_3) Injection System

System currently injecting into well IW-1?	☒ yes	☐ no
System currently injecting into well IW-2?	☒ yes	☐ no
Status Upon Arrival:	☒ ON	☐ OFF
Status Upon Departure:	☒ ON	☐ OFF
Hour Meter Reading:	1-155.55 2-155.45	
Injection Pressure IW-1 (psi):	15	
Injection Time IW-1 (min):	30	
Injection Pressure IW-2 (psi):	10	
Injection Time IW-2 (min):	30	
Oxygen flow rate (scfh):	18	
Air + ozone flow rate (scfm):	4.0	

Field Measurements (Weekly Visit)

Well ID	Time	DTW	pH	DO	Conductivity	Temperature	ORP		
		feet bgs	units	mg/L	µsiemen/cm	deg C	mV		
MW-1	0640	7.03	6.88	1.03	1461	19.3	387		
MW-2	0610	6.62	6.56	0.95	1329	19.7	403		0625
MW-3	0515	6.67	7.12	2.03	1112	19.5	339		0530
MW-4	0531	6.61	6.63	0	915	19.1	324		0545
EX-1	0540	6.63	6.97	1.46	1341	19.4	393		0555
EX-2	0635	6.65	6.85	1.56	1326	19.5	379		
EX-3	01607	6.37	6.72	1.04	1281	20.3	401		
IW-1									
IW-2									

Notes/Comments:
If pH is outside the range of 6.5<pH<8.5 contact PM immediately.

Groundwater samples to be collected prior to start up of O_3 injection, 2-weeks after start up and 1 week after O3 injection ceases per Table 1 of IRAP.

30-DAY O_3 PILOT TEST FIELD DATA

Former Olympic Service Station
1436 Grant Avenue
San Lorenzo, California

Date: 10-20-11
Arrival Time: 1020
Departure Time: 1115

Technician: CHILL
Weather Conditions: Clouds
Ambient Temperature: 65

Equipment Manufacturer / Model No.:

Ozone (O_3) Injection System

System currently injecting into well IW-1?	☒ yes	☐ no
System currently injecting into well IW-2?	☒ yes	☐ no
Status Upon Arrival:	☒ ON	☐ OFF
Status Upon Departure:	☒ ON	☐ OFF
Hour Meter Reading:	1 - 253.55	2 - 253.68
Injection Pressure IW-1 (psi):	9	
Injection Time IW-1 (min):	30	
Injection Pressure IW-2 (psi):	9	
Injection Time IW-2 (min):	30	
Oxygen flow rate (scfh):	18	
Air + ozone flow rate (scfm):	4.1	

Field Measurements (Weekly Visit)

Well ID	Time	DTW	pH	DO	Conductivity	Temperature	ORP		
		feet bgs	units	mg/L	µsiemen/cm	deg C	mV		
MW-1		7.50	7.02	0.38	1492	19.6	378		
MW-2		7.07	7.02	0.24	1317	20.5	357		
MW-3		7.12	7.06	0.69	1228	20.5	324		
MW-4	CHK	~~7.01~~	~~7.02~~	~~0.38~~	~~1492~~	~~19.6~~	~~378~~		
EX-1		7.22	7.37	0.60	1312	19.1	283		
EX-2		7.01	6.91	0.54	1395	21.0	373		
EX-3		6.81	6.95	0.59	1234	20.3	348		
IW-1									
IW-2									

Notes/Comments:
If pH is outside the range of 6.5<pH<8.5 contact PM immediately.

Groundwater samples to be collected prior to start up of O_3 injection, 2-weeks after start up and 1 week after O3 injection ceases per Table 1 of IRAP.

30-DAY O_3 PILOT TEST FIELD DATA

Former Olympic Service Station
1436 Grant Avenue
San Lorenzo, California

ORIGINAL

Date: 11-25-11
Arrival Time: 0530
Departure Time: 0630

Technician: CH/LL
Weather Conditions: Clear
Ambient Temperature: 30

Equipment Manufacturer / Model No.:

Ozone (O_3) Injection System

System currently injecting into well IW-1?	☒ yes	☐ no
System currently injecting into well IW-2?	☒ yes	☐ no
Status Upon Arrival:	☒ ON	☐ OFF
Status Upon Departure:	☒ ON	☐ OFF
Hour Meter Reading:		
Injection Pressure IW-1 (psi):	19	
Injection Time IW-1 (min):	30	
Injection Pressure IW-2 (psi):	18	
Injection Time IW-2 (min):	30	
Oxygen flow rate (scfh):	18	
Air + ozone flow rate (scfm):	4.5	

Field Measurements (Weekly Visit)

Well ID	Time	DTW	pH	DO	Conductivity	Temperature	ORP		
		feet bgs	units	mg/L	µsiemen/cm	deg C	mV		
MW-1		7.60	6.97	0.97	1407	19.9	390		
MW-2		7.17	7.39	1.08	1354	18.4	306		
MW-3		7.26	7.11	1.43	1197	20.9	357		
MW-4		CAR							
EX-1		7.35	7.02	1.23	1344	21.0	372		
EX-2		7.12	6.92	0.92	1380	21.2	385		
EX-3		6.95	7.06	0.89	1210	20.0	334		
IW-1									
IW-2									

Notes/Comments:
If pH is outside the range of 6.5<pH<8.5 contact PM immediately.

Groundwater samples to be collected prior to start up of O_3 injection, 2-weeks after start up and 1 week after O3 injection ceases per Table 1 of IRAP.

DJA VAC AirDimensions.com
RZ21-FP-CAL

30-DAY O_3 PILOT TEST FIELD DATA

Former Olympic Service Station
1436 Grant Avenue
San Lorenzo, California

Date: 10-31-11
Arrival Time: 0545
Departure Time: 0800

Technician: CHILL
Weather Conditions: clouds
Ambient Temperature: 50

Equipment Manufacturer / Model No.:

Ozone (O_3) Injection System

System currently injecting into well IW-1?	☒ yes	☐ no
System currently injecting into well IW-2?	☒ yes	☐ no
Status Upon Arrival:	☒ ON	☐ OFF
Status Upon Departure:	☐ ON	☒ OFF
Hour Meter Reading:	383.33	383.33
Injection Pressure IW-1 (psi):	18	
Injection Time IW-1 (min):	30	
Injection Pressure IW-2 (psi):	19	
Injection Time IW-2 (min):	30	
Oxygen flow rate (scfh):	18	
Air + ozone flow rate (scfm):	4.4	

Test stop - Remove Piping, Unit, Bumps

Field Measurements (Weekly Visit)

Well ID	Time	DTW (feet bgs)	pH (units)	DO (mg/L)	Conductivity (µsiemen/cm)	Temperature (deg C)	ORP (mV)		
MW-1		7.62	6.85	1.44	1462	18.4	414		
MW-2		7.18	7.25	1.07	1291	18.8	300		
MW-3		7.28	7.09	1.17	1261	20.6	367		
MW-4		CAR over well							
EX-1		CAR on well							
EX-2		7.19	6.86	1.14	1286	20.2	412		
EX-3		6.99	7.13	1.27	1234	20.0	343		
IW-1									
IW-2									

Notes/Comments:
If pH is outside the range of 6.5<pH<8.5 contact PM immediately.

Groundwater samples to be collected prior to start up of O_3 injection, 2-weeks after start up and 1 week after O3 injection ceases per Table 1 of IRAP.

30-DAY O_3 PILOT TEST FIELD DATA

Former Olympic Service Station
1436 Grant Avenue
San Lorenzo, California

ORIGINAL

Date: 11-9-11
Technician: CHILL
Arrival Time: 0530
Weather Conditions: CLR
Departure Time: 0800
Ambient Temperature: 40

Equipment Manufacturer / Model No.:

Ozone (O_3) Injection System

System currently injecting into well IW-1?	☐ yes	☒ no
System currently injecting into well IW-2?	☐ yes	☒ no
Status Upon Arrival:	☐ ON	☒ OFF
Status Upon Departure:	☐ ON	☒ OFF
Hour Meter Reading:		
Injection Pressure IW-1 (psi):		
Injection Time IW-1 (min):		
Injection Pressure IW-2 (psi):		
Injection Time IW-2 (min):		
Oxygen flow rate (scfh):		
Air + ozone flow rate (scfm):		

Sampling After Test Done

Field Measurements (Weekly Visit)

Well ID	Time	DTW	pH	DO	Conductivity	Temperature	ORP		
		feet bgs	units	mg/L	µsiemen/cm	deg C	mV		
MW-1	0722	7.55	6.91	2.74	1448	19.2	323		
MW-2	0548	7.11	7.58	1.25	1366	17.3	226		0605
MW-3	0617	7.16	6.96	1.25	1249	19.2	364		0630
MW-4	0615	7.18	6.66	8.72	881	19.6	299		0725
EX-1	0640	7.28	7.02	1.65	1354	15.0	390		0705
EX-2	0720	7.08	6.74	1.31	1325	20.6	300		
EX-3	0614	6.89	6.89	1.20	1105	18.6	356		
IW-1									
IW-2									

Notes/Comments:
If pH is outside the range of 6.5<pH<8.5 contact PM immediately.

Groundwater samples to be collected prior to start up of O_3 injection, 2-weeks after start up and 1 week after O3 injection ceases per Table 1 of IRAP.

APPENDIX C

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861
Job: Olympic Station

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005

Alpha Analytical Number: STR11092905-01A
Client I.D. Number: MW-2

Sampled: 09/29/11
Received: 09/29/11

Method Reference : EPA Method SW6020 / SW6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Beryllium (Be)	ND	4.0		µg/L	09/30/11 15:24	10/05/11
Sodium (Na)	210,000	500		µg/L	09/30/11 15:24	10/05/11
Magnesium (Mg)	72,000	500		µg/L	09/30/11 15:24	10/05/11
Calcium (Ca)	100,000	500		µg/L	09/30/11 15:24	10/05/11
Vanadium (V)	96	5.0		µg/L	09/30/11 15:24	10/05/11
Chromium (Cr)	85	5.0		µg/L	09/30/11 15:24	10/05/11
Manganese (Mn)	2,100	5.0		µg/L	09/30/11 15:24	10/05/11
Iron (Fe)	32,000	300		µg/L	09/30/11 15:24	10/05/11
Cobalt (Co)	18	5.0		µg/L	09/30/11 15:24	10/05/11
Nickel (Ni)	93	10		µg/L	09/30/11 15:24	10/05/11
Copper (Cu)	29	10		µg/L	09/30/11 15:24	10/05/11
Zinc (Zn)	ND	100		µg/L	09/30/11 15:24	10/05/11
Cadmium (Cd)	ND	5.0		µg/L	09/30/11 15:24	10/05/11
Lead (Pb)	9.4	5.0		µg/L	09/30/11 15:24	10/05/11

Method Reference : SM3500-Fe B

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferrous (+2)	ND	50		µg/L	09/30/11	09/30/11

Method Reference : SM3500-Fe B / EPA Method 6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferric (+3) (by calculation)	32,000	300		µg/L	10/05/11	10/05/11

Ferric iron concentrations are based off of raw (non-rounded ferrous and total iron) data. Therefore, hand calculated ferric iron values may differ slightly.
Ferrous iron samples were color developed promptly after laboratory login.

ND = Not Detected
Reported in micrograms per Liter, per client request.

Roger Scholl Randy Gardner Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
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10/7/11
Report Date

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861
Job: Olympic Station

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005

Alpha Analytical Number: STR11092905-02A
Client I.D. Number: MW-3

Sampled: 09/29/11
Received: 09/29/11

Method Reference : EPA Method SW6020 / SW6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Beryllium (Be)	ND	4.0		µg/L	09/30/11 15:24	10/05/11
Sodium (Na)	240,000	500		µg/L	09/30/11 15:24	10/05/11
Magnesium (Mg)	59,000	500		µg/L	09/30/11 15:24	10/05/11
Calcium (Ca)	85,000	500		µg/L	09/30/11 15:24	10/05/11
Vanadium (V)	22	5.0		µg/L	09/30/11 15:24	10/05/11
Chromium (Cr)	20	5.0		µg/L	09/30/11 15:24	10/05/11
Manganese (Mn)	1,300	5.0		µg/L	09/30/11 15:24	10/05/11
Iron (Fe)	5,500	300		µg/L	09/30/11 15:24	10/05/11
Cobalt (Co)	ND	5.0		µg/L	09/30/11 15:24	10/05/11
Nickel (Ni)	58	10		µg/L	09/30/11 15:24	10/05/11
Copper (Cu)	44	10		µg/L	09/30/11 15:24	10/05/11
Zinc (Zn)	ND	100		µg/L	09/30/11 15:24	10/05/11
Cadmium (Cd)	ND	5.0		µg/L	09/30/11 15:24	10/05/11
Lead (Pb)	ND	5.0		µg/L	09/30/11 15:24	10/05/11

Method Reference : SM3500-Fe B

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferrous (+2)	ND	50		µg/L	09/30/11	09/30/11

Method Reference : SM3500-Fe B / EPA Method 6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferric (+3) (by calculation)	5,500	300		µg/L	10/05/11	10/05/11

Ferric iron concentrations are based off of raw (non-rounded ferrous and total iron) data. Therefore, hand calculated ferric iron values may differ slightly.
Ferrous iron samples were color developed promptly after laboratory login.

ND = Not Detected
Reported in micrograms per Liter, per client request.

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ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861
Job: Olympic Station

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005

Alpha Analytical Number: STR11092905-03A
Client I.D. Number: MW-4

Sampled: 09/29/11
Received: 09/29/11

Method Reference : EPA Method SW6020 / SW6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Beryllium (Be)	ND	4.0		µg/L	09/30/11 15:24	10/05/11
Sodium (Na)	90,000	500		µg/L	09/30/11 15:24	10/05/11
Magnesium (Mg)	80,000	500		µg/L	09/30/11 15:24	10/05/11
Calcium (Ca)	81,000	500		µg/L	09/30/11 15:24	10/05/11
Vanadium (V)	11	5.0		µg/L	09/30/11 15:24	10/05/11
Chromium (Cr)	12	5.0		µg/L	09/30/11 15:24	10/05/11
Manganese (Mn)	4,500	5.0		µg/L	09/30/11 15:24	10/05/11
Iron (Fe)	14,000	300		µg/L	09/30/11 15:24	10/05/11
Cobalt (Co)	ND	5.0		µg/L	09/30/11 15:24	10/05/11
Nickel (Ni)	30	10		µg/L	09/30/11 15:24	10/05/11
Copper (Cu)	ND	10		µg/L	09/30/11 15:24	10/05/11
Zinc (Zn)	ND	100		µg/L	09/30/11 15:24	10/05/11
Cadmium (Cd)	ND	5.0		µg/L	09/30/11 15:24	10/05/11
Lead (Pb)	ND	5.0		µg/L	09/30/11 15:24	10/05/11

Method Reference : SM3500-Fe B

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferrous (+2)	790	50		µg/L	09/30/11	09/30/11

Method Reference : SM3500-Fe B / EPA Method 6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferric (+3) (by calculation)	13,000	300		µg/L	10/05/11	10/05/11

Ferric iron concentrations are based off of raw (non-rounded ferrous and total iron) data. Therefore, hand calculated ferric iron values may differ slightly.
Ferrous iron samples were color developed promptly after laboratory login.

ND = Not Detected
Reported in micrograms per Liter, per client request.

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10/7/11
Report Date

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(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861
Job: Olympic Station

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005

Alpha Analytical Number: STR11092905-04A
Client I.D. Number: EX-1

Sampled: 09/29/11
Received: 09/29/11

Method Reference : EPA Method SW6020 / SW6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Beryllium (Be)	ND	4.0		µg/L	09/30/11 15:24	10/05/11
Sodium (Na)	230,000	500		µg/L	09/30/11 15:24	10/05/11
Magnesium (Mg)	58,000	500		µg/L	09/30/11 15:24	10/05/11
Calcium (Ca)	89,000	500		µg/L	09/30/11 15:24	10/05/11
Vanadium (V)	29	5.0		µg/L	09/30/11 15:24	10/05/11
Chromium (Cr)	21	5.0		µg/L	09/30/11 15:24	10/05/11
Manganese (Mn)	1,200	5.0		µg/L	09/30/11 15:24	10/05/11
Iron (Fe)	7,500	300		µg/L	09/30/11 15:24	10/05/11
Cobalt (Co)	ND	5.0		µg/L	09/30/11 15:24	10/05/11
Nickel (Ni)	50	10		µg/L	09/30/11 15:24	10/05/11
Copper (Cu)	ND	10		µg/L	09/30/11 15:24	10/05/11
Zinc (Zn)	ND	100		µg/L	09/30/11 15:24	10/05/11
Cadmium (Cd)	ND	5.0		µg/L	09/30/11 15:24	10/05/11
Lead (Pb)	ND	5.0		µg/L	09/30/11 15:24	10/05/11

Method Reference : SM3500-Fe B

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferrous (+2)	ND	50		µg/L	09/30/11	09/30/11

Method Reference : SM3500-Fe B / EPA Method 6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferric (+3) (by calculation)	7,500	300		µg/L	10/05/11	10/05/11

Ferric iron concentrations are based off of raw (non-rounded ferrous and total iron) data. Therefore, hand calculated ferric iron values may differ slightly.
Ferrous iron samples were color developed promptly after laboratory login.

ND = Not Detected
Reported in micrograms per Liter, per client request.

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10/7/11
Report Date

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ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005
Date Received : 09/29/11

Job: Olympic Station

Dissolved Metals by ICPMS
EPA Method SW6020 / SW6020A

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-2**					
Lab ID : STR11092905-01A	Iron (Fe), Dissolved	360	300 µg/L	10/03/11	10/04/11
Date Sampled 09/29/11 07:15					
Client ID: **MW-3**					
Lab ID : STR11092905-02A	Iron (Fe), Dissolved	330	300 µg/L	10/03/11	10/04/11
Date Sampled 09/29/11 06:48					
Client ID: **MW-4**					
Lab ID : STR11092905-03A	Iron (Fe), Dissolved	400	300 µg/L	10/03/11	10/04/11
Date Sampled 09/29/11 06:20					
Client ID: **EX-1**					
Lab ID : STR11092905-04A	Iron (Fe), Dissolved	360	300 µg/L	10/03/11	10/04/11
Date Sampled 09/29/11 06:00					

Reported in micrograms per Liter, per client request.

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Report Date

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ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005
Date Received : 09/29/11

Job: Olympic Station

Chemical Oxygen Demand
EPA Method 410.4

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-2**					
Lab ID : STR11092905-01A	Chemical Oxygen Demand (COD)	7,100	5,000 µg/L	10/06/11	10/06/11
Date Sampled 09/29/11 07:15					
Client ID: **MW-3**					
Lab ID : STR11092905-02A	Chemical Oxygen Demand (COD)	7,900	5,000 µg/L	10/06/11	10/06/11
Date Sampled 09/29/11 06:48					
Client ID: **MW-4**					
Lab ID : STR11092905-03A	Chemical Oxygen Demand (COD)	80,000	5,000 µg/L	10/06/11	10/06/11
Date Sampled 09/29/11 06:20					
Client ID: **EX-1**					
Lab ID : STR11092905-04A	Chemical Oxygen Demand (COD)	ND	5,000 µg/L	10/06/11	10/06/11
Date Sampled 09/29/11 06:00					

ND = Not Detected
Reported in micrograms per Liter, per client request.

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ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005
Date Received : 09/29/11

Job: Olympic Station

Phosphorus
EPA Method 365.3 / SM4500PE

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-2**					
Lab ID : STR11092905-01A	Phosphorus, Total (As P)	1,300	500 µg/L	10/06/11	10/06/11
Date Sampled 09/29/11 07:15					
Client ID: **MW-3**					
Lab ID : STR11092905-02A	Phosphorus, Total (As P)	530	500 µg/L	10/06/11	10/06/11
Date Sampled 09/29/11 06:48					
Client ID: **MW-4**					
Lab ID : STR11092905-03A	Phosphorus, Total (As P)	2,400	500 µg/L	10/06/11	10/06/11
Date Sampled 09/29/11 06:20					
Client ID: **EX-1**					
Lab ID : STR11092905-04A	Phosphorus, Total (As P)	730	500 µg/L	10/06/11	10/06/11
Date Sampled 09/29/11 06:00					

Reported in micrograms per Liter, per client request.

Roger Scholl Randy Gardner Walter Hinchman

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RS

10/7/11
Report Date

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ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005
Date Received : 09/29/11

Job: Olympic Station

Total Organic Carbon as NonPurgeable Organic Carbon
EPA Method SW9060 / SM5310C

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-2**					
Lab ID : STR11092905-01A	Total Organic Carbon	3,400	1,000 µg/L	10/04/11	10/04/11
Date Sampled 09/29/11 07:15					
Client ID: **MW-3**					
Lab ID : STR11092905-02A	Total Organic Carbon	3,500	1,000 µg/L	10/04/11	10/04/11
Date Sampled 09/29/11 06:48					
Client ID: **MW-4**					
Lab ID : STR11092905-03A	Total Organic Carbon	27,000	2,000 µg/L	10/04/11	10/04/11
Date Sampled 09/29/11 06:20					
Client ID: **EX-1**					
Lab ID : STR11092905-04A	Total Organic Carbon	3,300	1,000 µg/L	10/04/11	10/04/11
Date Sampled 09/29/11 06:00					

Reported in micrograms per Liter, per client request.

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ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005
Date Received : 09/29/11

Job: Olympic Station

Total Petroleum Hydrocarbons - Purgeable (TPH-P) EPA Method SW8015B
Volatile Organic Compounds (VOCs) EPA Method SW8260B

		Parameter	Concentration		Reporting Limit	Date Extracted	Date Analyzed
Client ID :	**MW-2**						
Lab ID :	STR11092905-01A	TPH-P (GRO)	ND		50 µg/L	10/03/11	10/03/11
Date Sampled	09/29/11 07:15	Tertiary Butyl Alcohol (TBA)	ND		10 µg/L	10/03/11	10/03/11
		Methyl tert-butyl ether (MTBE)	41		0.50 µg/L	10/03/11	10/03/11
		Di-isopropyl Ether (DIPE)	ND		1.0 µg/L	10/03/11	10/03/11
		Ethyl Tertiary Butyl Ether (ETBE)	ND		1.0 µg/L	10/03/11	10/03/11
		1,2-Dichloroethane	ND		1.0 µg/L	10/03/11	10/03/11
		Benzene	ND		0.50 µg/L	10/03/11	10/03/11
		Tertiary Amyl Methyl Ether (TAME)	ND		1.0 µg/L	10/03/11	10/03/11
		Toluene	ND		0.50 µg/L	10/03/11	10/03/11
		Ethylbenzene	ND		0.50 µg/L	10/03/11	10/03/11
		m,p-Xylene	ND		0.50 µg/L	10/03/11	10/03/11
		o-Xylene	ND		0.50 µg/L	10/03/11	10/03/11
Client ID :	**MW-3**						
Lab ID :	STR11092905-02A	TPH-P (GRO)	ND		50 µg/L	10/03/11	10/03/11
Date Sampled	09/29/11 06:48	Tertiary Butyl Alcohol (TBA)	ND		10 µg/L	10/03/11	10/03/11
		Methyl tert-butyl ether (MTBE)	28		0.50 µg/L	10/03/11	10/03/11
		Di-isopropyl Ether (DIPE)	ND		1.0 µg/L	10/03/11	10/03/11
		Ethyl Tertiary Butyl Ether (ETBE)	ND		1.0 µg/L	10/03/11	10/03/11
		1,2-Dichloroethane	ND		1.0 µg/L	10/03/11	10/03/11
		Benzene	ND		0.50 µg/L	10/03/11	10/03/11
		Tertiary Amyl Methyl Ether (TAME)	ND		1.0 µg/L	10/03/11	10/03/11
		Toluene	ND		0.50 µg/L	10/03/11	10/03/11
		Ethylbenzene	ND		0.50 µg/L	10/03/11	10/03/11
		m,p-Xylene	ND		0.50 µg/L	10/03/11	10/03/11
		o-Xylene	ND		0.50 µg/L	10/03/11	10/03/11
Client ID :	**MW-4**						
Lab ID :	STR11092905-03A	TPH-P (GRO)	8,700		1,000 µg/L	10/04/11	10/04/11
Date Sampled	09/29/11 06:20	Tertiary Butyl Alcohol (TBA)	ND	V	100 µg/L	10/04/11	10/04/11
		Methyl tert-butyl ether (MTBE)	1,500		5.0 µg/L	10/04/11	10/04/11
		Di-isopropyl Ether (DIPE)	ND	V	10 µg/L	10/04/11	10/04/11
		Ethyl Tertiary Butyl Ether (ETBE)	ND	V	10 µg/L	10/04/11	10/04/11
		1,2-Dichloroethane	ND	V	10 µg/L	10/04/11	10/04/11
		Benzene	590		5.0 µg/L	10/04/11	10/04/11
		Tertiary Amyl Methyl Ether (TAME)	28		10 µg/L	10/04/11	10/04/11
		Toluene	ND	V	5.0 µg/L	10/04/11	10/04/11
		Ethylbenzene	34		5.0 µg/L	10/04/11	10/04/11
		m,p-Xylene	ND	V	5.0 µg/L	10/04/11	10/04/11
		o-Xylene	ND	V	5.0 µg/L	10/04/11	10/04/11

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Client ID : **EX-1**
Lab ID : STR11092905-04A
Date Sampled 09/29/11 06:00

TPH-P (GRO)	150	50 µg/L	10/03/11	10/03/11
Tertiary Butyl Alcohol (TBA)	ND	10 µg/L	10/03/11	10/03/11
Methyl tert-butyl ether (MTBE)	23	0.50 µg/L	10/03/11	10/03/11
Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	10/03/11	10/03/11
Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	10/03/11	10/03/11
1,2-Dichloroethane	ND	1.0 µg/L	10/03/11	10/03/11
Benzene	13	0.50 µg/L	10/03/11	10/03/11
Tertiary Amyl Methyl Ether (TAME)	1.2	1.0 µg/L	10/03/11	10/03/11
Toluene	ND	0.50 µg/L	10/03/11	10/03/11
Ethylbenzene	3.2	0.50 µg/L	10/03/11	10/03/11
m,p-Xylene	1.1	0.50 µg/L	10/03/11	10/03/11
o-Xylene	ND	0.50 µg/L	10/03/11	10/03/11

Gasoline Range Organics (GRO) C4-C13

V = Reporting Limits were increased due to high concentrations of target analytes.

ND = Not Detected

Reported in micrograms per Liter, per client request.

Roger Scholl Randy Gardner Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.

10/7/11
Report Date

Alpha Analytical, Inc.

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VOC Sample Preservation Report

Work Order: STR11092905 **Job:** Olympic Station

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11092905-01A	MW-2	Aqueous	2
11092905-02A	MW-3	Aqueous	2
11092905-03A	MW-4	Aqueous	2
11092905-04A	EX-1	Aqueous	2

10/7/11

Report Date

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Date: *07-Oct-11*

QC Summary Report

Work Order: 11092905

Method Blank

Type **MBLK** Test Code: **SM3500-Fe B**

File ID: Batch ID: **W0930FR** Analysis Date: **09/30/2011 14:41**

Sample ID: **MBLK-W0930FR** Units : **µg/L** Run ID: **WETLAB_110930F** Prep Date: **09/30/2011 14:41**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)	ND	50								

Laboratory Control Spike

Type **LCS** Test Code: **SM3500-Fe B**

File ID: Batch ID: **W0930FR** Analysis Date: **09/30/2011 14:41**

Sample ID: **LCS-W0930FR** Units : **µg/L** Run ID: **WETLAB_110930F** Prep Date: **09/30/2011 14:41**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)	1420	50	1500		94	85	115			

Sample Matrix Spike

Type **MS** Test Code: **SM3500-Fe B**

File ID: Batch ID: **W0930FR** Analysis Date: **09/30/2011 14:42**

Sample ID: **11093023-01AMS** Units : **µg/L** Run ID: **WETLAB_110930F** Prep Date: **09/30/2011 14:42**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)	2130	50	1500	564	105	70	130			

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **SM3500-Fe B**

File ID: Batch ID: **W0930FR** Analysis Date: **09/30/2011 14:42**

Sample ID: **11093023-01AMSD** Units : **µg/L** Run ID: **WETLAB_110930F** Prep Date: **09/30/2011 14:42**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)	2150	50	1500	564	106	70	130	2133	0.7(20)	

Comments:

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Date: *07-Oct-11*

QC Summary Report

Work Order: 11092905

Method Blank

Type **MBLK** Test Code: **EPA Method 410.4**

File ID: Batch ID: **W1006CD** Analysis Date: **10/06/2011 00:00**

Sample ID: **MBLK-W1006CD** Units : **µg/L** Run ID: **WETLAB_111006C** Prep Date: **10/06/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chemical Oxygen Demand (COD)	ND	5000								

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method 410.4**

File ID: Batch ID: **W1006CD** Analysis Date: **10/06/2011 00:00**

Sample ID: **LCS-W1006CD** Units : **µg/L** Run ID: **WETLAB_111006C** Prep Date: **10/06/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chemical Oxygen Demand (COD)	51000	5000	50000		102	90	110			

Sample Matrix Spike

Type **MS** Test Code: **EPA Method 410.4**

File ID: Batch ID: **W1006CD** Analysis Date: **10/06/2011 00:00**

Sample ID: **11092905-01AMS** Units : **µg/L** Run ID: **WETLAB_111006C** Prep Date: **10/06/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chemical Oxygen Demand (COD)	58600	5000	50000	7134	103	90	110			

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method 410.4**

File ID: Batch ID: **W1006CD** Analysis Date: **10/06/2011 00:00**

Sample ID: **11092905-01AMSD** Units : **µg/L** Run ID: **WETLAB_111006C** Prep Date: **10/06/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chemical Oxygen Demand (COD)	53700	5000	50000	7134	93	90	110	58600	8.8(20)	

Comments:

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Date: *07-Oct-11*

QC Summary Report

Work Order: 11092905

Method Blank

Type **MBLK** Test Code: **EPA Method SW6020 / SW6020A**

File ID: **100411.B\149_M.D** Batch ID: **27405** Analysis Date: **10/05/2011 02:31**

Sample ID: **MB-27405** Units : **µg/L** Run ID: **ICP/MS_111005A** Prep Date: **09/30/2011 15:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Beryllium (Be)	ND	4								
Sodium (Na)	ND	500								
Magnesium (Mg)	ND	500								
Calcium (Ca)	ND	500								
Vanadium (V)	ND	5								
Chromium (Cr)	ND	5								
Manganese (Mn)	ND	5								
Iron (Fe)	ND	300								
Cobalt (Co)	ND	5								
Nickel (Ni)	ND	10								
Copper (Cu)	ND	10								
Zinc (Zn)	ND	100								
Cadmium (Cd)	ND	5								
Lead (Pb)	ND	5								

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method SW6020 / SW6020A**

File ID: **100411.B\150_M.D** Batch ID: **27405** Analysis Date: **10/05/2011 02:37**

Sample ID: **LCS-27405** Units : **µg/L** Run ID: **ICP/MS_111005A** Prep Date: **09/30/2011 15:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Beryllium (Be)	240	4	250		96	80	120			
Sodium (Na)	50700	500	50000		101	80	120			
Magnesium (Mg)	49700	500	50000		99	80	120			
Calcium (Ca)	48900	500	50000		97	80	120			
Vanadium (V)	223	5	250		89	80	120			
Chromium (Cr)	228	5	250		91	80	120			
Manganese (Mn)	2370	5	2500		95	80	120			
Iron (Fe)	47500	300	50000		95	80	120			
Cobalt (Co)	229	5	250		92	80	120			
Nickel (Ni)	234	10	250		94	80	120			
Copper (Cu)	234	10	250		94	80	120			
Zinc (Zn)	231	100	250		92	80	120			
Cadmium (Cd)	234	5	250		93	80	120			
Lead (Pb)	234	5	250		93	80	120			

Sample Matrix Spike

Type **MS** Test Code: **EPA Method SW6020 / SW6020A**

File ID: **100411.B\155_M.D** Batch ID: **27405** Analysis Date: **10/05/2011 03:06**

Sample ID: **11092905-01AMS** Units : **µg/L** Run ID: **ICP/MS_111005A** Prep Date: **09/30/2011 15:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Beryllium (Be)	255	4	250	0	102	75	125			
Sodium (Na)	251000	500	50000	209000	84	75	125			
Magnesium (Mg)	117000	500	50000	72270	90	75	125			
Calcium (Ca)	151000	500	50000	103000	95	75	125			
Vanadium (V)	337	5	250	95.89	96	75	125			
Chromium (Cr)	323	5	250	84.88	95	75	125			
Manganese (Mn)	4580	5	2500	2091	99.7	75	125			
Iron (Fe)	83300	300	50000	32440	102	75	125			
Cobalt (Co)	267	5	250	17.75	99.7	75	125			
Nickel (Ni)	350	10	250	92.78	103	75	125			
Copper (Cu)	284	10	250	28.8	102	75	125			
Zinc (Zn)	341	100	250	0	136	75	125			M1
Cadmium (Cd)	238	5	250	0	95	75	125			
Lead (Pb)	256	5	250	9.435	99	75	125			

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Date: *07-Oct-11*

QC Summary Report

Work Order: 11092905

Sample Matrix Spike Duplicate Type **MSD** Test Code: **EPA Method SW6020 / SW6020A**

File ID: **100411.B\156_M.D** Batch ID: **27405** Analysis Date: **10/05/2011 03:12**

Sample ID: **11092905-01AMSD** Units : **µg/L** Run ID: **ICP/MS_111005A** Prep Date: **09/30/2011 15:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Beryllium (Be)	261	4	250	0	104	75	125	254.7	2.4(20)	
Sodium (Na)	259000	500	50000	209000	99.6	75	125	251000	3.1(20)	
Magnesium (Mg)	120000	500	50000	72270	94	75	125	117400	1.8(20)	
Calcium (Ca)	152000	500	50000	103000	98	75	125	150600	1.1(20)	
Vanadium (V)	334	5	250	95.89	95	75	125	337	1.0(20)	
Chromium (Cr)	324	5	250	84.88	96	75	125	323.3	0.2(20)	
Manganese (Mn)	4670	5	2500	2091	103	75	125	4584	1.8(20)	
Iron (Fe)	84700	300	50000	32440	105	75	125	83290	1.7(20)	
Cobalt (Co)	275	5	250	17.75	103	75	125	266.9	2.9(20)	
Nickel (Ni)	360	10	250	92.78	107	75	125	350.2	2.8(20)	
Copper (Cu)	292	10	250	28.8	105	75	125	284.3	2.6(20)	
Zinc (Zn)	345	100	250	0	138	75	125	341	1.2(20)	M1
Cadmium (Cd)	240	5	250	0	96	75	125	238.4	0.6(20)	
Lead (Pb)	257	5	250	9.435	99	75	125	256.3	0.1(20)	

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

M1 = Matrix spike recovery was high, the method control sample recovery was acceptable.

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Date: *07-Oct-11*

QC Summary Report

Work Order: 11092905

Method Blank

Type **MBLK** Test Code: **EPA Method 200.8**

File ID: **100411.B\070_M.D** Batch ID: **27417** Analysis Date: **10/04/2011 18:09**

Sample ID: **MB-27417** Units : **µg/L** Run ID: **ICP/MS_111004C** Prep Date: **10/03/2011 16:01**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron (Fe), Dissolved	ND	300								

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method 200.8**

File ID: **100411.B\071_M.D** Batch ID: **27417** Analysis Date: **10/04/2011 18:15**

Sample ID: **LCS-27417** Units : **µg/L** Run ID: **ICP/MS_111004C** Prep Date: **10/03/2011 16:01**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron (Fe), Dissolved	5020	300	5000		100	80	120			

Sample Matrix Spike

Type **MS** Test Code: **EPA Method 200.8**

File ID: **100411.B\076_M.D** Batch ID: **27417** Analysis Date: **10/04/2011 18:45**

Sample ID: **11092905-01AMS** Units : **µg/L** Run ID: **ICP/MS_111004C** Prep Date: **10/03/2011 16:01**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron (Fe), Dissolved	5460	300	5000	362.4	102	75	125			

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method 200.8**

File ID: **100411.B\077_M.D** Batch ID: **27417** Analysis Date: **10/04/2011 18:51**

Sample ID: **11092905-01AMSD** Units : **µg/L** Run ID: **ICP/MS_111004C** Prep Date: **10/03/2011 16:01**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron (Fe), Dissolved	5710	300	5000	362.4	107	75	125	5456	4.6(20)	

Comments:

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Date: *07-Oct-11*

QC Summary Report

Work Order: 11092905

Method Blank

Type **MBLK** Test Code: **EPA Method 365.3 / SM4500PE**

File ID: Batch ID: **W1006TP** Analysis Date: **10/06/2011 00:00**

Sample ID: **MBLK-W1006TP** Units : **µg/L** Run ID: **WETLAB_111006B** Prep Date: **10/06/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	ND	100								

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method 365.3 / SM4500PE**

File ID: Batch ID: **W1006TP** Analysis Date: **10/06/2011 00:00**

Sample ID: **LCS-W1006TP** Units : **µg/L** Run ID: **WETLAB_111006B** Prep Date: **10/06/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	987	100	1000		99	73	127			

Sample Matrix Spike

Type **MS** Test Code: **EPA Method 365.3 / SM4500PE**

File ID: Batch ID: **W1006TP** Analysis Date: **10/06/2011 00:00**

Sample ID: **11100644-01AMS** Units : **µg/L** Run ID: **WETLAB_111006B** Prep Date: **10/06/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	997	100	1000	0	99.7	73	127			

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method 365.3 / SM4500PE**

File ID: Batch ID: **W1006TP** Analysis Date: **10/06/2011 00:00**

Sample ID: **11100644-01AMSD** Units : **µg/L** Run ID: **WETLAB_111006B** Prep Date: **10/06/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	1030	100	1000	0	103	73	127	997	3.1(20)	

Comments:

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Date: *07-Oct-11*

QC Summary Report

Work Order: 11092905

Method Blank

Type: **MBLK** Test Code: **EPA Method SW9060 / SM5310C**

File ID: Batch ID: **27421** Analysis Date: **10/04/2011 12:18**

Sample ID: **MBLK-27421** Units : **µg/L** Run ID: **TOC_111004A** Prep Date: **10/04/2011 09:53**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	ND	1000								

Laboratory Control Spike

Type: **LCS** Test Code: **EPA Method SW9060 / SM5310C**

File ID: Batch ID: **27421** Analysis Date: **10/04/2011 12:44**

Sample ID: **LCS-27421** Units : **µg/L** Run ID: **TOC_111004A** Prep Date: **10/04/2011 09:53**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	4910	1000	5000		98	74	126			

Sample Matrix Spike

Type: **MS** Test Code: **EPA Method SW9060 / SM5310C**

File ID: Batch ID: **27421** Analysis Date: **10/04/2011 13:34**

Sample ID: **11092922-01AMS** Units : **µg/L** Run ID: **TOC_111004A** Prep Date: **10/04/2011 09:53**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	6190	1000	5000	2020	83	56	137			

Sample Matrix Spike Duplicate

Type: **MSD** Test Code: **EPA Method SW9060 / SM5310C**

File ID: Batch ID: **27421** Analysis Date: **10/04/2011 14:00**

Sample ID: **11092922-01AMSD** Units : **µg/L** Run ID: **TOC_111004A** Prep Date: **10/04/2011 09:53**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	6240	1000	5000	2020	84	56	137	6188	0.8(20)	

Comments:

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Date: *07-Oct-11*

QC Summary Report

Work Order: 11092905

Method Blank

Type **MBLK** Test Code: **EPA Method SW8015B/C**

File ID: **C:\HPCHEM\MS06\DATA\111003\11100306.D** Batch ID: **MS06W1003B** Analysis Date: **10/03/2011 18:31**

Sample ID: **MBLK MS06W1003B** Units : **µg/L** Run ID: **MSD_06_111003A** Prep Date: **10/03/2011 18:31**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	ND	50								
Surr: 1,2-Dichloroethane-d4	10.9		10		109	70	130			
Surr: Toluene-d8	9.98		10		99.8	70	130			
Surr: 4-Bromofluorobenzene	9.5		10		95	70	130			

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method SW8015B/C**

File ID: **C:\HPCHEM\MS06\DATA\111003\11100304.D** Batch ID: **MS06W1003B** Analysis Date: **10/03/2011 17:38**

Sample ID: **GLCS MS06W1003B** Units : **µg/L** Run ID: **MSD_06_111003A** Prep Date: **10/03/2011 17:38**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	419	50	400		105	70	130			
Surr: 1,2-Dichloroethane-d4	10.6		10		106	70	130			
Surr: Toluene-d8	9.84		10		98	70	130			
Surr: 4-Bromofluorobenzene	9.4		10		94	70	130			

Sample Matrix Spike

Type **MS** Test Code: **EPA Method SW8015B/C**

File ID: **C:\HPCHEM\MS06\DATA\111003\11100308.D** Batch ID: **MS06W1003B** Analysis Date: **10/03/2011 19:23**

Sample ID: **11092905-01AGS** Units : **µg/L** Run ID: **MSD_06_111003A** Prep Date: **10/03/2011 19:23**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	2130	250	2000	0	107	51	144			
Surr: 1,2-Dichloroethane-d4	53.4		50		107	70	130			
Surr: Toluene-d8	50.5		50		101	70	130			
Surr: 4-Bromofluorobenzene	46.2		50		92	70	130			

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method SW8015B/C**

File ID: **C:\HPCHEM\MS06\DATA\111003\11100309.D** Batch ID: **MS06W1003B** Analysis Date: **10/03/2011 19:50**

Sample ID: **11092905-01AGSD** Units : **µg/L** Run ID: **MSD_06_111003A** Prep Date: **10/03/2011 19:50**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	2180	250	2000	0	109	51	144	2130	2.3(29)	
Surr: 1,2-Dichloroethane-d4	51.7		50		103	70	130			
Surr: Toluene-d8	50.6		50		101	70	130			
Surr: 4-Bromofluorobenzene	46.8		50		94	70	130			

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Reported in micrograms per Liter, per client request.

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778

(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date: 07-Oct-11

QC Summary Report

Work Order: 11092905

Method Blank

Type **MBLK** Test Code: **EPA Method SW8260B**

File ID: **C:\HPCHEM\MS06\DATA\111003\11100306.D** Batch ID: **MS06W1003A** Analysis Date: **10/03/2011 18:31**

Sample ID: **MBLK MS06W1003A** Units : **µg/L** Run ID: **MSD_06_111003A** Prep Date: **10/03/2011 18:31**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Tertiary Butyl Alcohol (TBA)	ND	10								
Methyl tert-butyl ether (MTBE)	ND	0.5								
Di-isopropyl Ether (DIPE)	ND	1								
Ethyl Tertiary Butyl Ether (ETBE)	ND	1								
1,2-Dichloroethane	ND	1								
Benzene	ND	0.5								
Tertiary Amyl Methyl Ether (TAME)	ND	1								
Toluene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
o-Xylene	ND	0.5								
Surr: 1,2-Dichloroethane-d4	10.9		10		109	70	130			
Surr: Toluene-d8	9.98		10		99.8	70	130			
Surr: 4-Bromofluorobenzene	9.5		10		95	70	130			

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method SW8260B**

File ID: **C:\HPCHEM\MS06\DATA\111003\11100305.D** Batch ID: **MS06W1003A** Analysis Date: **10/03/2011 18:04**

Sample ID: **LCS MS06W1003A** Units : **µg/L** Run ID: **MSD_06_111003A** Prep Date: **10/03/2011 18:04**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	8.74	0.5	10		87	65	140			
Benzene	10.2	0.5	10		102	70	130			
Toluene	9.48	0.5	10		95	80	120			
Ethylbenzene	10.1	0.5	10		101	80	120			
m,p-Xylene	10.4	0.5	10		104	70	130			
o-Xylene	10.1	0.5	10		101	70	130			
Surr: 1,2-Dichloroethane-d4	10.6		10		106	70	130			
Surr: Toluene-d8	10.4		10		104	70	130			
Surr: 4-Bromofluorobenzene	8.84		10		88	70	130			

Sample Matrix Spike

Type **MS** Test Code: **EPA Method SW8260B**

File ID: **C:\HPCHEM\MS06\DATA\111003\11100310.D** Batch ID: **MS06W1003A** Analysis Date: **10/03/2011 20:17**

Sample ID: **11092905-01AMS** Units : **µg/L** Run ID: **MSD_06_111003A** Prep Date: **10/03/2011 20:17**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	91.9	1.3	50	41.35	101	47	150			
Benzene	48.7	1.3	50	0	97	59	138			
Toluene	45.2	1.3	50	0	90	68	130			
Ethylbenzene	48.3	1.3	50	0	97	68	130			
m,p-Xylene	50.9	1.3	50	0	102	68	131			
o-Xylene	48.7	1.3	50	0	97	70	130			
Surr: 1,2-Dichloroethane-d4	52.9		50		106	70	130			
Surr: Toluene-d8	51.4		50		103	70	130			
Surr: 4-Bromofluorobenzene	43.8		50		88	70	130			

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method SW8260B**

File ID: **C:\HPCHEM\MS06\DATA\111003\11100311.D** Batch ID: **MS06W1003A** Analysis Date: **10/03/2011 20:43**

Sample ID: **11092905-01AMSD** Units : **µg/L** Run ID: **MSD_06_111003A** Prep Date: **10/03/2011 20:43**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	95.2	1.3	50	41.35	108	47	150	91.87	3.5(40)	
Benzene	50.5	1.3	50	0	101	59	138	48.73	3.6(21)	
Toluene	47.1	1.3	50	0	94	68	130	45.19	4.2(20)	
Ethylbenzene	50.2	1.3	50	0	100	68	130	48.3	3.9(20)	
m,p-Xylene	51.6	1.3	50	0	103	68	131	50.94	1.2(20)	
o-Xylene	50.8	1.3	50	0	102	70	130	48.65	4.4(20)	
Surr: 1,2-Dichloroethane-d4	53		50		106	70	130			
Surr: Toluene-d8	52		50		104	70	130			
Surr: 4-Bromofluorobenzene	43.8		50		88	70	130			

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778

(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date: *07-Oct-11*

QC Summary Report

Work Order: 11092905

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

October 05, 2011

CLS Work Order #: CUI1170
COC #:

Reyna Vallejo
Alpha Analytical, Inc.-Sparks
255 Glendale Ave.; Suite 21
Sparks, NV 89431

Project Name: STR11092905

Enclosed are the results of analyses for samples received by the laboratory on 09/29/11 12:45. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

James Liang, Ph.D.
Laboratory Director

CA DOHS ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES

10/05/11 11:03

Alpha Analytical, Inc.-Sparks 255 Glendale Ave.; Suite 21 Sparks, NV 89431	Project: STR11092905 Project Number: STR11092905 Project Manager: Reyna Vallejo	**CLS Work Order #: CUI1170** COC #:

CUI170

Page 1 of 1

Alpha Analytical, Inc.
255 Glendale Avenue
Suite 21
Sparks, Nevada 89431-5778
Phone: (775) 355-1044
Fax: (775) 355-0406

SUB CHAIN-OF-CUSTODY RECORD

Work Order: STR11092905

*Please reference the Work Order number on all reports and invoices.
*Also please include the dates of analysis and detection limits.
Please send the report to Alpha Analytical (Sparks).
Attention To Reyna Vallejo (reyna@alpha-analytical.com)

Report Due By: 5:00 PM
On: 06-Oct-11

Required QC
Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Subcontractor:
CLS Labs
3249 Fitzgerald Rd
Rancho Cordova, CA 95742

TEL: (916) 638-7301
FAX: (916) 638-4510
Attn:

Sampled by: C. Hill
29-Sep-11

Alpha's Sample ID	Client's Sample ID	Matrix	Collection Date	Type / # of Bottles Preserved	Other	EPA Method 8260B	Requested Tests EPA Method 8260B/GC	Sample Comments
[illegible]	MW-2	Aqueous	[illegible]	[illegible]	[illegible]	Received ORS+ by 7199	ORS+ by 7199	
[illegible]	MW-3	Aqueous	[illegible]	[illegible]	[illegible]	Received ORS+ by 7199	ORS+ by 7199	
[illegible]	MW-4	Aqueous	[illegible]	[illegible]	[illegible]	Received ORS+ by 7199	ORS+ by 7199	
[illegible]	EX-1	Aqueous	[illegible]	[illegible]	[illegible]	Received ORS+ by 7199	ORS+ by 7199	

Comments: Normal Disposal OK

		Date/Time			Date/Time
Relinquished by:	[signature]	9-29-11 1245	Received by:	[signature]	9/29/11 1245
Relinquished by:			Received by:		

20

California Laboratory Services

10/05/11 11:03

Alpha Analytical, Inc.-Sparks 255 Glendale Ave.; Suite 21 Sparks, NV 89431	Project: STR11092905 Project Number: STR11092905 Project Manager: Reyna Vallejo	**CLS Work Order #: CUI1170** COC #:

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
STR11092905-01A (MW-2) (CUI1170-01) Aqueous	**Sampled: 09/29/11 07:15**	**Received: 09/29/11 12:45**							
Hexavalent Chromium	ND	1.0	µg/L	1	CU07018	09/29/11	09/29/11	EPA 7199	
Hexavalent Chromium, Dissolved	ND	1.0	"	"	"	"	"	"	
STR11092905-02A (MW-3) (CUI1170-02) Aqueous	**Sampled: 09/29/11 06:48**	**Received: 09/29/11 12:45**							
Hexavalent Chromium	ND	1.0	µg/L	1	CU07018	09/29/11	09/29/11	EPA 7199	
Hexavalent Chromium, Dissolved	ND	1.0	"	"	"	"	"	"	
STR11092905-03A (MW-4) (CUI1170-03) Aqueous	**Sampled: 09/29/11 06:20**	**Received: 09/29/11 12:45**							
Hexavalent Chromium	ND	1.0	µg/L	1	CU07018	09/29/11	09/29/11	EPA 7199	
Hexavalent Chromium, Dissolved	ND	1.0	"	"	"	"	"	"	
STR11092905-04A (EX-1) (CUI1170-04) Aqueous	**Sampled: 09/29/11 06:00**	**Received: 09/29/11 12:45**							
Hexavalent Chromium	ND	1.0	µg/L	1	CU07018	09/29/11	09/29/11	EPA 7199	
Hexavalent Chromium, Dissolved	ND	1.0	"	"	"	"	"	"	

Alpha Analytical, Inc.-Sparks
255 Glendale Ave.; Suite 21
Sparks, NV 89431

Project: STR11092905
Project Number: STR11092905
Project Manager: Reyna Vallejo

CLS Work Order #: CUI1170
COC #:

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CU07018 - General Prep										
Blank (CU07018-BLK1)				Prepared & Analyzed: 09/29/11						
Hexavalent Chromium	ND	1.0	µg/L							
Hexavalent Chromium, Dissolved	ND	1.0	"							
LCS (CU07018-BS1)				Prepared & Analyzed: 09/29/11						
Hexavalent Chromium	4.73	1.0	µg/L	5.00		95	80-120			
Hexavalent Chromium, Dissolved	4.73	1.0	"	5.00		95	80-120			
LCS Dup (CU07018-BSD1)				Prepared & Analyzed: 09/29/11						
Hexavalent Chromium	4.91	1.0	µg/L	5.00		98	80-120	4	20	
Hexavalent Chromium, Dissolved	4.91	1.0	"	5.00		98	80-120	4	20	
Matrix Spike (CU07018-MS1)		Source: CUI1125-05		Prepared & Analyzed: 09/29/11						
Hexavalent Chromium	2.93	1.0	µg/L	5.00	ND	59	75-125			QM-7
Hexavalent Chromium, Dissolved	2.93	1.0	"	5.00		59	75-125			QM-7
Matrix Spike Dup (CU07018-MSD1)		Source: CUI1125-05		Prepared & Analyzed: 09/29/11						
Hexavalent Chromium	2.58	1.0	µg/L	5.00	ND	52	75-125	13	25	QM-7
Hexavalent Chromium, Dissolved	2.58	1.0	"	5.00		52	75-125	13	25	QM-7

CALIFORNIA LABORATORY SERVICES

10/05/11 11:03

Alpha Analytical, Inc.-Sparks 255 Glendale Ave.; Suite 21 Sparks, NV 89431	Project: STR11092905 Project Number: STR11092905 Project Manager: Reyna Vallejo	**CLS Work Order #: CUI1170** COC #:

Notes and Definitions

QM-7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21
Sparks, NV 89431
Attention: Reyna Vallejo
Fax: 775-355-0406

Date of Issue
10/06/2011

MWH LABORATORIES

ACCREDITED IN ACCORDANCE WITH nelac 01114CA

Report#: 377536
Project: SUBCONTRACT
Group: Bromate

DST: David S Tripp
Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.

MWH
LABORATORIES

STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Mississippi	Certified
Alaska	CA00006	Montana	Cert 0035
Arizona	AZ0455	Nevada	CA00006-2010-1
Arkansas	Certified	New Hampshire	2959-11
California – NELAP	01114CA	New Jersey	CA 008
California – ELAP	1422	New Mexico	Certified
Colorado	Certified	New York	11320
Connecticut	PH-0107	North Carolina	06701
Delaware	CA 006	North Dakota	R-009
Florida	E871024	Oregon	CA 200003-009
Georgia	947	Pennsylvania	68-565
Guam	11-004r	Rhode Island	01114CA
Hawaii	Certified	South Carolina	87016001
Idaho	Certified	South Dakota	Certified
Illinois	200033	Tennessee	TN02839
Indiana	C-CA-01	Texas	T104704230-11-2
Kansas	E-10268	Utah	Mont-1
Kentucky	90107	Vermont	VT0114
Louisiana	LA110022	Virginia	00210
Maine	CA0006	Washington	C383
Maryland	224	West Virginia	9943 C
Commonwealth of Northern Marianas Is.	MP0004	Wisconsin	998316660
Massachusetts	M-CA006	Wyoming	8TMS-L
Michigan	9906	EPA Region 5	Certified

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (626) 386-1101 http://MWHLabs.com

MWH LABORATORIES

Acknowledgement of Samples Received

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21
Sparks, NV 89431
Attn: Reyna Vallejo
Phone: 775-355-1044

Customer Code: ALPHA-NV
Folder #: 377536
Project: SUBCONTRACT
Sample Group: Bromate
Project Manager: David S Tripp
Phone: (626) 386-1158
PO #: STR11092905

The following samples were received from you on **September 30, 2011**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample ID	Sample Date
01109300136	MW-2	Sep 29, 2011 07:15
	Variable ID: STR11092905-01A	
	Bromate by UV/VIS	
01109300137	MW-3	Sep 29, 2011 06:48
	Variable ID: STR11092905-02A	
	Bromate by UV/VIS	
01109300138	MW-4	Sep 29, 2011 06:20
	Variable ID: STR11092905-03A	
	Bromate by UV/VIS	
01109300139	EX-1	Sep 29, 2011 06:00
	Variable ID: STR11092905-04A	
	Bromate by UV/VIS	

Test Description

2-8°C ON ICE

3775534

Alpha Analytical, Inc.
255 Glendale Avenue
Suite 21
Sparks, Nevada 89431-5778
Phone: (775) 355-1044
Fax: (775) 355-0406

SUB CHAIN-OF-CUSTODY RECORD

Work Order : STR11092905

*Please reference the Work Order number on all reports and invoices.
*Also please include the dates of analysis and detection limits.
Please send the report to Alpha Analytical (Sparks).
Attention To Reyna Vallejo (reyna@alpha-analytical.com).

Report Due By : 5:00 PM
On : 06-Oct-11

Subcontractor:
Montgomery Watson Harza Laboratories, Inc.
750 Royal Oaks Drive
Suite 100
Monrovia, CA 91016-3629

TEL: (626) 386-1100
FAX: (626) 386-1124
Acct #:

Required QC:
Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Sampled by : C. Hill

29-Sep-11

Alpha's Sample ID	Client's Sample ID	Matrix	Collection Date	Type (#) of Bottles Preserved	Other	Requested Tests EPA Method 317	Sample Comments
STR11092905-01A	MW-2	Aqueous	09/29/11 07:15	100ML-EDA (1)	250ML-HDP E-U (1)	Bromate (Sub to MWH)	
STR11092905-02A	MW-3	Aqueous	09/29/11 06:45	100ML-EDA (1)	250ML-HDP E-U (1)	Bromate (Sub to MWH)	
STR11092905-03A	MW-4	Aqueous	09/29/11 05:20	100ML-EDA (1)	250ML-HDP E-U (1)	Bromate (Sub to MWH)	
STR11092905-04A	EX-1	Aqueous	09/29/11 06:00	100ML-EDA (1)	250ML-HDP E-U (1)	Bromate (Sub to MWH)	

Comments:

		Date/Time			Date/Time
Relinquished by:		9-29-11 1700	Received by:		9/30/11 1024
Relinquished by:			Received by:		

Alpha Analytical, Inc.

Phone : (775) 355-1044 FAX : (775) 355-0406

Subcontract Sample Receipt Checklist

Date Report is due at Alpha : 06-Oct-11 Date of Notice : 9/29/2011 12:19:31

If any items are checkmarked NO or are non-compliant, a phone call back to Alpha Analytical is required immediately. If all items are acceptable, a faxed copy of the signed sub chain of custody (COC) and the completed sample receipt check list is required within 24 hours of sample receipt.

Alpha's Work Order Number : STR11092905 SubContract Work Order Number : Date Received :

Chain of Custody (COC) Information

Carrier name: FED EX

Chain of custody present ?	Yes ☑	No ☐	
Custody seals intact on shippping container/cooler ?	Yes ☑	No ☐	Not Presen ☐
Custody seals intact on sample bottles ?	Yes ☑	No ☐	Not Presen ☐
Chain of custody signed when relinquished and received ?	Yes ☑	No ☐	
Chain of custody agrees with sample labels ?	Yes ☑	Non-Compliant ☐	
Internal Chain of Custody (COC) requseted ?	Yes ☐	No ☑	

Sample Receipt Information

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Presen ☐
Samples in proper container/bottle?	Yes ☑	Non-Compliant ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes ☑ Non-Compliant ☐

Cooler Temperature : 2.3 Is Wet Ice present in Cooler ? Yes ☑ If YES, then temperature is 4°C.

No ☐ If NO, then actual cooler temperature is : _____ °C

Analytical Requirement Information

Are non-Standard or Modified methods requested ?	Yes ☐	No ☑
SubContract Lab CA STATE certified?	Yes ☐	No ☐
SubContract Lab NELAP certified?	Yes ☐	No ☐
SubContract Lab CERTIFIED for the various methods requested	Yes ☐	No ☐
Will the SubContract Lab be able to meet the turn-around time (TAT) requirements ?	Yes ☐	No ☐

Comments :

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
Hits Report: 377536

Alpha Analytical, Inc.
Reyna Vallejo
255 Glendale Avenue, Suite 21
Sparks, NV 89431

Samples Received on:
09/30/2011

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL

SUMMARY OF POSITIVE DATA ONLY

MWH LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 377536

Alpha Analytical, Inc.
Reyna Vallejo
255 Glendale Avenue, Suite 21
Sparks, NV 89431

Samples Received on:
09/30/2011

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
MW-2 (201109300136)						**Sampled on 09/29/2011 0715**		
Variable ID: STR11092905-01A								
EPA 317 - Bromate by UV/VIS 317								
10/03/2011	19:18	621270	(EPA 317)	Bromate by UV/VIS	ND	ug/L	1	1
MW-3 (201109300137)						**Sampled on 09/29/2011 0648**		
Variable ID: STR11092905-02A								
EPA 317 - Bromate by UV/VIS 317								
10/03/2011	19:41	621270	(EPA 317)	Bromate by UV/VIS	ND	ug/L	1	1
MW-4 (201109300138)						**Sampled on 09/29/2011 0620**		
Variable ID: STR11092905-03A								
EPA 317 - Bromate by UV/VIS 317								
10/04/2011	15:30	621436	(EPA 317)	Bromate by UV/VIS	ND	ug/L	1	1
EX-1 (201109300139)						**Sampled on 09/29/2011 0600**		
Variable ID: STR11092905-04A								
EPA 317 - Bromate by UV/VIS 317								
10/03/2011	20:05	621270	(EPA 317)	Bromate by UV/VIS	ND	ug/L	1	1

Rounding on totals after summation.
(c) - indicates calculated results

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Comments
Report: #377536

Alpha Analytical, Inc.
Reyna Vallejo
255 Glendale Avenue, Suite 21
Sparks, NV 89431

The Comments Report may be blank if there are no comments for this report.

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A Division of MWH Americas, Inc.

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Monrovia, California, 91016-3629
Tel: 626 386 1100
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1 800 566 LABS (1 800 566 5227)

Alpha Analytical, Inc.

QC Ref # 621270 - Bromate by UV/VIS 317 — **Analysis Date: 10/03/2011**

201109300136	MW-2	Analyzed by: TLH
201109300137	MW-3	Analyzed by: TLH
201109300139	EX-1	Analyzed by: TLH

QC Ref # 621436 - Bromate by UV/VIS 317 — **Analysis Date: 10/04/2011**

201109300138	MW-4	Analyzed by: TLH

MWH
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A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
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1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 377536

Alpha Analytical, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 621270 - Bromate by UV/VIS 317 by EPA 317						**Analysis Date: 10/03/2011**			
LCS1	Bromate by UV/VIS		10	9.28	ug/L	93	(90-110)		
LCS2	Bromate by UV/VIS		10	9.41	ug/L	94	(90-110)	20	1.4
MBLK	Bromate by UV/VIS			<1	ug/L				
MRL_CHK	Bromate by UV/VIS		1.0	0.760	ug/L	76	(75-125)		
MS_201109300065	Bromate by UV/VIS	ND	5.0	5.2	ug/L	90	(75-125)		
MSD_201109300065	Bromate by UV/VIS	ND	5.0	5.16	ug/L	89	(75-125)	15	1.0
MS_201110040140	Bromate by UV/VIS	ND	5.0	4.3	ug/L	86	(75-125)		
MSD_201110040140	Bromate by UV/VIS	ND	5.0	4.3	ug/L	86	(75-125)	15	0.23
QC Ref# 621436 - Bromate by UV/VIS 317 by EPA 317						**Analysis Date: 10/04/2011**			
LCS1	Bromate by UV/VIS		10	9.32	ug/L	93	(90-110)		
LCS2	Bromate by UV/VIS		10	9.27	ug/L	93	(90-110)	20	0.54
MBLK	Bromate by UV/VIS			<1	ug/L				
MRL_CHK	Bromate by UV/VIS		1.0	0.816	ug/L	82	(75-125)		
MS_201109300184	Bromate by UV/VIS	3.7	5.0	8.54	ug/L	96	(75-125)		
MSD_201109300184	Bromate by UV/VIS	3.7	5.0	8.44	ug/L	94	(75-125)	15	2.1
MS_201110030063	Bromate by UV/VIS	ND	5.0	4.53	ug/L	91	(75-125)		
MSD_201110030063	Bromate by UV/VIS	ND	5.0	4.67	ug/L	93	(75-125)	15	3.1

Spike recovery is already corrected for native results.
Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.
Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.
(S) Indicates surrogate compound.
(I) Indicates internal standard compound.
RPD not calculated for LCS2 when different a concentration than LCS1 is used
RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

Billing Information :

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
TEL: (775) 355-1044 FAX: (775) 355-0406

CA

WorkOrder : STR11092905

Report Due By : 5:00 PM On : 07-Oct-11

Client:
Stratus Environmental
3330 Cameron Park Drive
Suite 550
Cameron Park, CA 95682-8861

Report Attention	Phone Number	EMail Address
Steve Carter	(530) 676-6008 x	scarter@stratusinc.net

EDD Required : **Yes**

Sampled by : C. Hill

PO :

Client's COC # : 56842 Job : Olympic Station

Cooler Temp	Samples Received	Date Printed
0 °C	29-Sep-11	30-Sep-11

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 317_W	3500FE_2OS_W	3500FE_3IC_W	COD_W	METALS_AQ	METALS_CR6_SUB_W	METALS_CR6DS_SUB_W	METALS_DS	Sample Remarks
STR11092905-01A	MW-2	AQ	09/29/11 07:15	13	2	5	Bromate (Sub to MWH)	FE+2	FE+3	COD	Special List	Cr6+ by 7199	Dissolved CR6+ by 7199	Fe	
STR11092905-02A	MW-3	AQ	09/29/11 06:48	13	2	5	Bromate (Sub to MWH)	FE+2	FE+3	COD	Special List	Cr6+ by 7199	Dissolved CR6+ by 7199	Fe	
STR11092905-03A	MW-4	AQ	09/29/11 06:20	13	2	5	Bromate (Sub to MWH)	FE+2	FE+3	COD	Special List	Cr6+ by 7199	Dissolved CR6+ by 7199	Fe	
STR11092905-04A	EX-1	AQ	09/29/11 06:00	13	2	5	Bromate (Sub to MWH)	FE+2	FE+3	COD	Special List	Cr6+ by 7199	Dissolved CR6+ by 7199	Fe	

Comments: Chain prelogged in order for Sac to sub Total and Dissolved CR6 by 7199 to CLS and Bromate to MWH. Remaining samples picked up by Alpha employee on 9/30/11. TOC pH=2. Samples 01 and 04 had 3 VOAs marked as Fe+2 voas, but they are preserved with HCL. : They were grouped with VOC VOAs. Client sent bottle marked COD but it was not on the chain. Verified with Lisa it was included in bottle order, therefore it was added to analysis.

	Signature	Print Name	Company	Date/Time
Logged in by:		Cheryl Gamble	Alpha Analytical, Inc.	9/30/11 11:26

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.
The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.
Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information :

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
TEL: (775) 355-1044 FAX: (775) 355-0406

CA

WorkOrder : STR11092905

Report Due By : 5:00 PM On : 07-Oct-11

Client:
Stratus Environmental
3330 Cameron Park Drive
Suite 550
Cameron Park, CA 95682-8861

Report Attention	Phone Number	EMail Address
Steve Carter	(530) 676-6008 x	scarter@stratusinc.net

EDD Required : **Yes**

Sampled by : C. Hill

PO :

Client's COC # : 56842 Job : Olympic Station

Cooler Temp	Samples Received	Date Printed
0 °C	29-Sep-11	30-Sep-11

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests PHOSPHORUS_W	TOC_W	TPH/P_W	VOC_W					Sample Remarks
STR11092905-01A	MW-2	AQ	09/29/11 07:15	13	2	5	Total	TOC	GAS-C	BTEX/OXY/ 1,2-DCA_C					
STR11092905-02A	MW-3	AQ	09/29/11 06:48	13	2	5	Total	TOC	GAS-C	BTEX/OXY/ 1,2-DCA_C					
STR11092905-03A	MW-4	AQ	09/29/11 06:20	13	2	5	Total	TOC	GAS-C	BTEX/OXY/ 1,2-DCA_C					
STR11092905-04A	EX-1	AQ	09/29/11 06:00	13	2	5	Total	TOC	GAS-C	BTEX/OXY/ 1,2-DCA_C					

Comments: Chain prelogged in order for Sac to sub Total and Dissolved CR6 by 7199 to CLS and Bromate to MWH. Remaining samples picked up by Alpha employee on 9/30/11. TOC pH=2. Samples 01 and 04 had 3 VOAs marked as Fe+2 voas, but they are preserved with HCL. : They were grouped with VOC VOAs. Client sent bottle marked COD but it was not on the chain. Verified with Lisa it was included in bottle order, therefore it was added to analysis.

	Signature	Print Name	Company	Date/Time
Logged in by:		Cheryl Gamble	Alpha Analytical, Inc.	9/30/11 11:26

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.
The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.
Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information:
Company Name Stantec
Attn: Steve
Address 3340 Cameron Park Dr
City, State, Zip Cameron Park
Phone Number 5306766400 Fax 5306766005

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21
Sparks, Nevada 89431-5778
Phone (775) 355-1044
Fax (775) 355-0406

Samples Collected From Which State?
AZ ___ CA X NV ___ WA ___ DOD Site ___
ID ___ OR ___ OTHER ___ Page # 1 of 1

Consultant / Client Name: Olympic Station
Address:
City, State, Zip: San Lorenzo
Job #:
Job Name:
Report Attention / Project Manager
Name: Steve
Email:
Phone: Mobile:

Analyses Required

Data Validation Level: III or IV
EDD / EDF? YES ___ NO ___
Global ID #

Time Sampled	Date Sampled	Matrix* See Key Below	P.O. # / Lab ID Number (Office Use Only)	Sample Description	TAT	Field Filtered	# Containers**	GRO-BTEX	5 oxys - 1,2 DCA	Total Hex chrome Dissolved	TOC	Bromate	Ferrous Iron Dissolved	Total Phosphorous	Metals	REMARKS
0715	9/29/11	AQ	STR1109290 5-01A	MW-2	STD		15	X	X	X	X	X	X	X	X	Metals
0648			-02A	MW-3	STD		15	X	X	X	X	X	X	X	X	Be, Ca, Cd
0620			-03A	MW-4	STD		15	X	X	X	X	X	X	X	X	Cr, Co, Cu, Fe
0600			-04A	EX-1	STD		15	X	X	X	X	X	X	X	X	Pb, Mg, Mn, Ni
																Na, V, Zn
																Sub to CLS And MW to #1109290 5

FOR LAB USE ONLY

ADDITIONAL INSTRUCTIONS:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled By: CHILL

Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affiliation)	Date:	Time:
Stantec	Lisa DeSilva	9-29-11	11:25
Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affiliation)	Date:	Time:
	Alpha	9/30/11	11:07
Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affiliation)	Date:	Time:

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air **: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861
Job: Olympic Station

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005

Alpha Analytical Number: STR11101201-01A
Client I.D. Number: MW2

Sampled: 10/12/11
Received: 10/12/11

Method Reference : EPA Method SW6020 / SW6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Beryllium (Be)	ND	4.0		µg/L	10/13/11 11:21	10/13/11
Sodium (Na)	190,000	500		µg/L	10/13/11 11:21	10/13/11
Magnesium (Mg)	66,000	500		µg/L	10/13/11 11:21	10/13/11
Calcium (Ca)	110,000	500		µg/L	10/13/11 11:21	10/13/11
Vanadium (V)	78	5.0		µg/L	10/13/11 11:21	10/13/11
Chromium (Cr)	65	5.0		µg/L	10/13/11 11:21	10/13/11
Manganese (Mn)	1,600	5.0		µg/L	10/13/11 11:21	10/13/11
Iron (Fe)	22,000	300		µg/L	10/13/11 11:21	10/13/11
Cobalt (Co)	11	5.0		µg/L	10/13/11 11:21	10/13/11
Nickel (Ni)	50	10		µg/L	10/13/11 11:21	10/13/11
Copper (Cu)	18	10		µg/L	10/13/11 11:21	10/13/11
Zinc (Zn)	ND	100		µg/L	10/13/11 11:21	10/13/11
Cadmium (Cd)	ND	5.0		µg/L	10/13/11 11:21	10/13/11
Lead (Pb)	6.0	5.0		µg/L	10/13/11 11:21	10/13/11

Method Reference : SM3500-Fe B

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferrous (+2)	ND	50		µg/L	10/14/11	10/14/11

Method Reference : SM3500-Fe B / EPA Method 6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferric (+3) (by calculation)	22,000	300		µg/L	10/14/11	10/14/11

Ferric iron concentrations are based off of raw (non-rounded ferrous and total iron) data. Therefore, hand calculated ferric iron values may differ slightly.

Ferrous iron samples were color developed promptly after laboratory login.

ND = Not Detected
Reported in micrograms per Liter, per client request.

Roger Scholl Randy Gardner Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.

10/20/11
Report Date

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861
Job: Olympic Station

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005

Alpha Analytical Number: STR11101201-02A
Client I.D. Number: MW3

Sampled: 10/12/11
Received: 10/12/11

Method Reference : EPA Method SW6020 / SW6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Beryllium (Be)	ND	4.0		µg/L	10/13/11 11:21	10/13/11
Sodium (Na)	180,000	500		µg/L	10/13/11 11:21	10/13/11
Magnesium (Mg)	50,000	500		µg/L	10/13/11 11:21	10/13/11
Calcium (Ca)	81,000	500		µg/L	10/13/11 11:21	10/13/11
Vanadium (V)	32	5.0		µg/L	10/13/11 11:21	10/13/11
Chromium (Cr)	22	5.0		µg/L	10/13/11 11:21	10/13/11
Manganese (Mn)	1,000	5.0		µg/L	10/13/11 11:21	10/13/11
Iron (Fe)	6,900	300		µg/L	10/13/11 11:21	10/13/11
Cobalt (Co)	ND	5.0		µg/L	10/13/11 11:21	10/13/11
Nickel (Ni)	19	10		µg/L	10/13/11 11:21	10/13/11
Copper (Cu)	ND	10		µg/L	10/13/11 11:21	10/13/11
Zinc (Zn)	ND	100		µg/L	10/13/11 11:21	10/13/11
Cadmium (Cd)	ND	5.0		µg/L	10/13/11 11:21	10/13/11
Lead (Pb)	ND	5.0		µg/L	10/13/11 11:21	10/13/11

Method Reference : SM3500-Fe B

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferrous (+2)	ND	50		µg/L	10/14/11	10/14/11

Method Reference : SM3500-Fe B / EPA Method 6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferric (+3) (by calculation)	6,900	300		µg/L	10/14/11	10/14/11

Ferric iron concentrations are based off of raw (non-rounded ferrous and total iron) data. Therefore, hand calculated ferric iron values may differ slightly.

Ferrous iron samples were color developed promptly after laboratory login.

ND = Not Detected
Reported in micrograms per Liter, per client request.

Roger Scholl Randy Gardner Walter Hinchman

10/20/11
Report Date

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861
Job: Olympic Station

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005

Alpha Analytical Number: STR11101201-03A
Client I.D. Number: MW4

Sampled: 10/12/11
Received: 10/12/11

Method Reference : EPA Method SW6020 / SW6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Beryllium (Be)	ND	4.0		µg/L	10/13/11 11:21	10/13/11
Sodium (Na)	83,000	500		µg/L	10/13/11 11:21	10/13/11
Magnesium (Mg)	77,000	500		µg/L	10/13/11 11:21	10/13/11
Calcium (Ca)	85,000	500		µg/L	10/13/11 11:21	10/13/11
Vanadium (V)	ND	5.0		µg/L	10/13/11 11:21	10/13/11
Chromium (Cr)	ND	5.0		µg/L	10/13/11 11:21	10/13/11
Manganese (Mn)	4,300	5.0		µg/L	10/13/11 11:21	10/13/11
Iron (Fe)	7,000	300		µg/L	10/13/11 11:21	10/13/11
Cobalt (Co)	ND	5.0		µg/L	10/13/11 11:21	10/13/11
Nickel (Ni)	ND	10		µg/L	10/13/11 11:21	10/13/11
Copper (Cu)	ND	10		µg/L	10/13/11 11:21	10/13/11
Zinc (Zn)	ND	100		µg/L	10/13/11 11:21	10/13/11
Cadmium (Cd)	ND	5.0		µg/L	10/13/11 11:21	10/13/11
Lead (Pb)	ND	5.0		µg/L	10/13/11 11:21	10/13/11

Method Reference : SM3500-Fe B

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferrous (+2)	2,700	100		µg/L	10/14/11	10/14/11

Method Reference : SM3500-Fe B / EPA Method 6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferric (+3) (by calculation)	4,300	300		µg/L	10/14/11	10/14/11

Ferric iron concentrations are based off of raw (non-rounded ferrous and total iron) data. Therefore, hand calculated ferric iron values may differ slightly.
Ferrous iron samples were color developed promptly after laboratory login.

ND = Not Detected
Reported in micrograms per Liter, per client request.

Roger Scholl Randy Gardner Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

10/20/11
Report Date

Alpha Analytical, Inc.

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(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861
Job: Olympic Station

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005

Alpha Analytical Number: STR11101201-04A
Client I.D. Number: EX-1

Sampled: 10/12/11
Received: 10/12/11

Method Reference : EPA Method SW6020 / SW6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Beryllium (Be)	ND	4.0		µg/L	10/13/11 11:21	10/13/11
Sodium (Na)	210,000	500		µg/L	10/13/11 11:21	10/13/11
Magnesium (Mg)	58,000	500		µg/L	10/13/11 11:21	10/13/11
Calcium (Ca)	98,000	500		µg/L	10/13/11 11:21	10/13/11
Vanadium (V)	29	5.0		µg/L	10/13/11 11:21	10/13/11
Manganese (Mn)	1,100	5.0		µg/L	10/13/11 11:21	10/13/11
Iron (Fe)	3,400	300		µg/L	10/13/11 11:21	10/13/11
Cobalt (Co)	ND	5.0		µg/L	10/13/11 11:21	10/13/11
Nickel (Ni)	12	10		µg/L	10/13/11 11:21	10/13/11
Copper (Cu)	ND	10		µg/L	10/13/11 11:21	10/13/11
Zinc (Zn)	ND	100		µg/L	10/13/11 11:21	10/13/11
Cadmium (Cd)	ND	5.0		µg/L	10/13/11 11:21	10/13/11
Lead (Pb)	ND	5.0		µg/L	10/13/11 11:21	10/13/11
Chromium (Cr)	7.5	5.0		µg/L	10/13/11 11:21	10/14/11

Method Reference : SM3500-Fe B

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferrous (+2)	ND	50		µg/L	10/14/11	10/14/11

Method Reference : SM3500-Fe B / EPA Method 6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferric (+3) (by calculation)	3,400	300		µg/L	10/14/11	10/14/11

Ferric iron concentrations are based off of raw (non-rounded ferrous and total iron) data. Therefore, hand calculated ferric iron values may differ slightly.
Ferrous iron samples were color developed promptly after laboratory login.

ND = Not Detected
Reported in micrograms per Liter, per client request.

Roger Scholl Randy Gardner Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

10/20/11
Report Date

Alpha Analytical, Inc.

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(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005
Date Received : 10/12/11

Job: Olympic Station

Dissolved Metals by ICPMS
EPA Method SW6020 / SW6020A

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW2**					
Lab ID : STR11101201-01A	Iron (Fe), Dissolved	370	300 µg/L	10/18/11	10/20/11
Date Sampled 10/12/11 06:25					
Client ID: **MW3**					
Lab ID : STR11101201-02A	Iron (Fe), Dissolved	ND	300 µg/L	10/18/11	10/20/11
Date Sampled 10/12/11 05:30					
Client ID: **MW4**					
Lab ID : STR11101201-03A	Iron (Fe), Dissolved	330	300 µg/L	10/18/11	10/20/11
Date Sampled 10/12/11 08:45					
Client ID: **EX-1**					
Lab ID : STR11101201-04A	Iron (Fe), Dissolved	330	300 µg/L	10/18/11	10/20/11
Date Sampled 10/12/11 05:55					

ND = Not Detected
Reported in micrograms per Liter, per client request.

Roger Scholl Randy Gardner Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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10/20/11
Report Date

Alpha Analytical, Inc.

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ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005
Date Received : 10/12/11

Job: Olympic Station

Phosphorus
EPA Method 365.3 / SM4500PE

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW2**					
Lab ID : STR11101201-01A	Phosphorus, Total (As P)	530	100 µg/L	10/18/11	10/18/11
Date Sampled 10/12/11 06:25					
Client ID: **MW3**					
Lab ID : STR11101201-02A	Phosphorus, Total (As P)	280	100 µg/L	10/18/11	10/18/11
Date Sampled 10/12/11 05:30					
Client ID: **MW4**					
Lab ID : STR11101201-03A	Phosphorus, Total (As P)	1,200	100 µg/L	10/18/11	10/18/11
Date Sampled 10/12/11 08:45					
Client ID: **EX-1**					
Lab ID : STR11101201-04A	Phosphorus, Total (As P)	300	100 µg/L	10/18/11	10/18/11
Date Sampled 10/12/11 05:55					

Reported in micrograms per Liter, per client request.

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ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005
Date Received : 10/12/11

Job: Olympic Station

Total Organic Carbon as NonPurgeable Organic Carbon
EPA Method SW9060 / SM5310C

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW2**					
Lab ID : STR11101201-01A	Total Organic Carbon	3,300	1,000 µg/L	10/14/11	10/14/11
Date Sampled 10/12/11 06:25					
Client ID: **MW3**					
Lab ID : STR11101201-02A	Total Organic Carbon	3,400	1,000 µg/L	10/14/11	10/14/11
Date Sampled 10/12/11 05:30					
Client ID: **MW4**					
Lab ID : STR11101201-03A	Total Organic Carbon	27,000	4,000 µg/L	10/14/11	10/15/11
Date Sampled 10/12/11 08:45					
Client ID: **EX-1**					
Lab ID : STR11101201-04A	Total Organic Carbon	3,400	1,000 µg/L	10/14/11	10/14/11
Date Sampled 10/12/11 05:55					

Reported in micrograms per Liter, per client request.

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ANALYTICAL REPORT

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3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005
Date Received : 10/12/11

Job: Olympic Station

Total Petroleum Hydrocarbons - Purgeable (TPH-P) EPA Method SW8015B
Volatile Organic Compounds (VOCs) EPA Method SW8260B

		Parameter	Concentration		Reporting Limit	Date Extracted	Date Analyzed
Client ID :	**MW2**						
Lab ID :	STR11101201-01A	TPH-P (GRO)	ND		50 µg/L	10/14/11	10/14/11
Date Sampled	10/12/11 06:25	Tertiary Butyl Alcohol (TBA)	ND		10 µg/L	10/14/11	10/14/11
		Methyl tert-butyl ether (MTBE)	37		0.50 µg/L	10/14/11	10/14/11
		Di-isopropyl Ether (DIPE)	ND		1.0 µg/L	10/14/11	10/14/11
		Ethyl Tertiary Butyl Ether (ETBE)	ND		1.0 µg/L	10/14/11	10/14/11
		1,2-Dichloroethane	ND		1.0 µg/L	10/14/11	10/14/11
		Benzene	ND		0.50 µg/L	10/14/11	10/14/11
		Tertiary Amyl Methyl Ether (TAME)	ND		1.0 µg/L	10/14/11	10/14/11
		Toluene	ND		0.50 µg/L	10/14/11	10/14/11
		Ethylbenzene	ND		0.50 µg/L	10/14/11	10/14/11
		m,p-Xylene	ND		0.50 µg/L	10/14/11	10/14/11
		o-Xylene	ND		0.50 µg/L	10/14/11	10/14/11
Client ID :	**MW3**						
Lab ID :	STR11101201-02A	TPH-P (GRO)	ND		50 µg/L	10/14/11	10/14/11
Date Sampled	10/12/11 05:30	Tertiary Butyl Alcohol (TBA)	ND		10 µg/L	10/14/11	10/14/11
		Methyl tert-butyl ether (MTBE)	32		0.50 µg/L	10/14/11	10/14/11
		Di-isopropyl Ether (DIPE)	ND		1.0 µg/L	10/14/11	10/14/11
		Ethyl Tertiary Butyl Ether (ETBE)	ND		1.0 µg/L	10/14/11	10/14/11
		1,2-Dichloroethane	ND		1.0 µg/L	10/14/11	10/14/11
		Benzene	0.91		0.50 µg/L	10/14/11	10/14/11
		Tertiary Amyl Methyl Ether (TAME)	ND		1.0 µg/L	10/14/11	10/14/11
		Toluene	ND		0.50 µg/L	10/14/11	10/14/11
		Ethylbenzene	ND		0.50 µg/L	10/14/11	10/14/11
		m,p-Xylene	ND		0.50 µg/L	10/14/11	10/14/11
		o-Xylene	ND		0.50 µg/L	10/14/11	10/14/11
Client ID :	**MW4**						
Lab ID :	STR11101201-03A	TPH-P (GRO)	1,500		200 µg/L	10/17/11	10/17/11
Date Sampled	10/12/11 08:45	Tertiary Butyl Alcohol (TBA)	42		20 µg/L	10/17/11	10/17/11
		Methyl tert-butyl ether (MTBE)	1,300		1.0 µg/L	10/17/11	10/17/11
		Di-isopropyl Ether (DIPE)	ND	V	2.0 µg/L	10/17/11	10/17/11
		Ethyl Tertiary Butyl Ether (ETBE)	ND	V	2.0 µg/L	10/17/11	10/17/11
		1,2-Dichloroethane	ND	V	2.0 µg/L	10/17/11	10/17/11
		Benzene	160		1.0 µg/L	10/17/11	10/17/11
		Tertiary Amyl Methyl Ether (TAME)	8.6		2.0 µg/L	10/17/11	10/17/11
		Toluene	ND	V	1.0 µg/L	10/17/11	10/17/11
		Ethylbenzene	1.8		1.0 µg/L	10/17/11	10/17/11
		m,p-Xylene	ND	V	1.0 µg/L	10/17/11	10/17/11
		o-Xylene	ND	V	1.0 µg/L	10/17/11	10/17/11

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Client ID : **EX-1**

Lab ID : STR11101201-04A

Date Sampled 10/12/11 05:55

TPH-P (GRO)	180	50 µg/L	10/14/11	10/14/11
Tertiary Butyl Alcohol (TBA)	ND	10 µg/L	10/14/11	10/14/11
Methyl tert-butyl ether (MTBE)	27	0.50 µg/L	10/14/11	10/14/11
Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	10/14/11	10/14/11
Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	10/14/11	10/14/11
1,2-Dichloroethane	ND	1.0 µg/L	10/14/11	10/14/11
Benzene	23	0.50 µg/L	10/14/11	10/14/11
Tertiary Amyl Methyl Ether (TAME)	1.0	1.0 µg/L	10/14/11	10/14/11
Toluene	0.51	0.50 µg/L	10/14/11	10/14/11
Ethylbenzene	2.8	0.50 µg/L	10/14/11	10/14/11
m,p-Xylene	0.97	0.50 µg/L	10/14/11	10/14/11
o-Xylene	ND	0.50 µg/L	10/14/11	10/14/11

Gasoline Range Organics (GRO) C4-C13

V = Reporting Limits were increased due to high concentrations of target analytes.

ND = Not Detected

Reported in micrograms per Liter, per client request.

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10/20/11

Report Date

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VOC Sample Preservation Report

Work Order: STR11101201 **Job:** Olympic Station

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11101201-01A	MW2	Aqueous	2
11101201-02A	MW3	Aqueous	2
11101201-03A	MW4	Aqueous	2
11101201-04A	EX-1	Aqueous	2

10/20/11

Report Date

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Date: *21-Oct-11*

QC Summary Report

Work Order: 11101201

Method Blank

Type: **MBLK** Test Code: **SM3500-Fe B**

File ID: Batch ID: **W1014FR** Analysis Date: **10/14/2011 00:00**

Sample ID: **MBLK-W1014FR** Units : **µg/L** Run ID: **WETLAB_111014A** Prep Date: **10/14/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)	ND	50								

Laboratory Control Spike

Type: **LCS** Test Code: **SM3500-Fe B**

File ID: Batch ID: **W1014FR** Analysis Date: **10/14/2011 00:00**

Sample ID: **LCS-W1014FR** Units : **µg/L** Run ID: **WETLAB_111014A** Prep Date: **10/14/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)	1490	50	1500		99	85	115			

Sample Matrix Spike

Type: **MS** Test Code: **SM3500-Fe B**

File ID: Batch ID: **W1014FR** Analysis Date: **10/14/2011 00:00**

Sample ID: **11101141-01AMS** Units : **µg/L** Run ID: **WETLAB_111014A** Prep Date: **10/14/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)	1480	50	1500	0	99	70	130			

Sample Matrix Spike Duplicate

Type: **MSD** Test Code: **SM3500-Fe B**

File ID: Batch ID: **W1014FR** Analysis Date: **10/14/2011 00:00**

Sample ID: **11101141-01AMSD** Units : **µg/L** Run ID: **WETLAB_111014A** Prep Date: **10/14/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)	1500	50	1500	0	100	70	130	1478	1.6(20)	

Comments:

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Reported in micrograms per Liter, per client request.

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Date: *21-Oct-11*

QC Summary Report

Work Order: 11101201

Method Blank

Type: **MBLK** Test Code: **EPA Method SW6020 / SW6020A**

File ID: **101311.B\076_M.D** Batch ID: **27481** Analysis Date: **10/13/2011 19:14**

Sample ID: **MB-27481** Units : **µg/L** Run ID: **ICP/MS_111013D** Prep Date: **10/13/2011 11:21**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Beryllium (Be)	ND	4								
Sodium (Na)	ND	500								
Magnesium (Mg)	ND	500								
Calcium (Ca)	ND	500								
Vanadium (V)	ND	5								
Chromium (Cr)	ND	5								
Manganese (Mn)	ND	5								
Iron (Fe)	ND	300								
Cobalt (Co)	ND	5								
Nickel (Ni)	ND	10								
Copper (Cu)	ND	10								
Zinc (Zn)	ND	100								
Cadmium (Cd)	ND	5								
Lead (Pb)	ND	5								

Laboratory Control Spike

Type: **LCS** Test Code: **EPA Method SW6020 / SW6020A**

File ID: **101311.B\077_M.D** Batch ID: **27481** Analysis Date: **10/13/2011 19:21**

Sample ID: **LCS-27481** Units : **µg/L** Run ID: **ICP/MS_111013D** Prep Date: **10/13/2011 11:21**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Beryllium (Be)	270	4	250		108	80	120			
Sodium (Na)	51500	500	50000		103	80	120			
Magnesium (Mg)	50800	500	50000		102	80	120			
Calcium (Ca)	50200	500	50000		100	80	120			
Vanadium (V)	216	5	250		86	80	120			
Chromium (Cr)	222	5	250		89	80	120			
Manganese (Mn)	2510	5	2500		100	80	120			
Iron (Fe)	50000	300	50000		100	80	120			
Cobalt (Co)	238	5	250		95	80	120			
Nickel (Ni)	248	10	250		99	80	120			
Copper (Cu)	248	10	250		99	80	120			
Zinc (Zn)	257	100	250		103	80	120			
Cadmium (Cd)	240	5	250		96	80	120			
Lead (Pb)	237	5	250		95	80	120			

Sample Matrix Spike

Type: **MS** Test Code: **EPA Method SW6020 / SW6020A**

File ID: **101311.B\082_M.D** Batch ID: **27481** Analysis Date: **10/13/2011 19:50**

Sample ID: **11101104-01AMS** Units : **µg/L** Run ID: **ICP/MS_111013D** Prep Date: **10/13/2011 11:21**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Beryllium (Be)	286	4	250	0	114	75	125			
Sodium (Na)	87000	500	50000	33980	106	75	125			
Magnesium (Mg)	58700	500	50000	6604	104	75	125			
Calcium (Ca)	67100	500	50000	16380	102	75	125			
Vanadium (V)	230	5	250	0	92	75	125			
Chromium (Cr)	241	5	250	0	96	75	125			
Manganese (Mn)	2860	5	2500	209.3	106	75	125			
Iron (Fe)	52900	300	50000	626.8	105	75	125			
Cobalt (Co)	254	5	250	0	102	75	125			
Nickel (Ni)	273	10	250	12.58	104	75	125			
Copper (Cu)	264	10	250	0	106	75	125			
Zinc (Zn)	278	100	250	0	111	75	125			
Cadmium (Cd)	255	5	250	0	102	75	125			
Lead (Pb)	256	5	250	0	103	75	125			

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Date: *21-Oct-11*

QC Summary Report

Work Order: 11101201

Sample Matrix Spike Duplicate Type: **MSD** Test Code: **EPA Method SW6020 / SW6020A**

File ID: **101311.B\083_M.D** Batch ID: **27481** Analysis Date: **10/13/2011 19:56**

Sample ID: **11101104-01AMSD** Units : **µg/L** Run ID: **ICP/MS_111013D** Prep Date: **10/13/2011 11:21**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Beryllium (Be)	287	4	250	0	115	75	125	286	0.3(20)	
Sodium (Na)	88300	500	50000	33980	109	75	125	86980	1.6(20)	
Magnesium (Mg)	59200	500	50000	6604	105	75	125	58730	0.7(20)	
Calcium (Ca)	67100	500	50000	16380	101	75	125	67130	0.1(20)	
Vanadium (V)	226	5	250	0	90	75	125	230	1.7(20)	
Chromium (Cr)	237	5	250	0	95	75	125	240.8	1.5(20)	
Manganese (Mn)	2810	5	2500	209.3	104	75	125	2855	1.7(20)	
Iron (Fe)	51800	300	50000	626.8	102	75	125	52930	2.1(20)	
Cobalt (Co)	247	5	250	0	99	75	125	254	2.7(20)	
Nickel (Ni)	268	10	250	12.58	102	75	125	273.2	2.0(20)	
Copper (Cu)	257	10	250	0	103	75	125	264.3	2.7(20)	
Zinc (Zn)	271	100	250	0	108	75	125	277.6	2.3(20)	
Cadmium (Cd)	250	5	250	0	100	75	125	254.8	1.7(20)	
Lead (Pb)	253	5	250	0	101	75	125	256.4	1.5(20)	

Comments:

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Date: *21-Oct-11*

QC Summary Report

Work Order: 11101201

Method Blank

Type: **MBLK** Test Code: **EPA Method 200.8**

File ID: **101911.B\148_M.D** Batch ID: **27503** Analysis Date: **10/20/2011 08:01**

Sample ID: **MB-27503** Units : **µg/L** Run ID: **ICP/MS_111020B** Prep Date: **10/18/2011 13:57**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron (Fe), Dissolved	ND	300								

Laboratory Control Spike

Type: **LCS** Test Code: **EPA Method 200.8**

File ID: **101911.B\149_M.D** Batch ID: **27503** Analysis Date: **10/20/2011 08:07**

Sample ID: **LCS-27503** Units : **µg/L** Run ID: **ICP/MS_111020B** Prep Date: **10/18/2011 13:57**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron (Fe), Dissolved	5060	300	5000		101	80	120			

Sample Matrix Spike

Type: **MS** Test Code: **EPA Method 200.8**

File ID: **101911.B\154_M.D** Batch ID: **27503** Analysis Date: **10/20/2011 08:37**

Sample ID: **11101201-01AMS** Units : **µg/L** Run ID: **ICP/MS_111020B** Prep Date: **10/18/2011 13:57**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron (Fe), Dissolved	5340	300	5000	373.4	99	75	125			

Sample Matrix Spike Duplicate

Type: **MSD** Test Code: **EPA Method 200.8**

File ID: **101911.B\155_M.D** Batch ID: **27503** Analysis Date: **10/20/2011 08:43**

Sample ID: **11101201-01AMSD** Units : **µg/L** Run ID: **ICP/MS_111020B** Prep Date: **10/18/2011 13:57**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron (Fe), Dissolved	5630	300	5000	373.4	105	75	125	5338	5.3(20)	

Comments:

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Date: *20-Oct-11*

QC Summary Report

Work Order: 11101201

Method Blank

Type: **MBLK** Test Code: **EPA Method 365.3 / SM4500PE**

File ID: Batch ID: **W1018TP** Analysis Date: **10/18/2011 00:00**

Sample ID: **MBLK-W1018TP** Units : **µg/L** Run ID: **WETLAB_111018A** Prep Date: **10/18/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	ND	100								

Laboratory Control Spike

Type: **LCS** Test Code: **EPA Method 365.3 / SM4500PE**

File ID: Batch ID: **W1018TP** Analysis Date: **10/18/2011 00:00**

Sample ID: **LCS-W1018TP** Units : **µg/L** Run ID: **WETLAB_111018A** Prep Date: **10/18/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	1010	100	1000		101	73	127			

Sample Matrix Spike

Type: **MS** Test Code: **EPA Method 365.3 / SM4500PE**

File ID: Batch ID: **W1018TP** Analysis Date: **10/18/2011 00:00**

Sample ID: **11101201-01AMS** Units : **µg/L** Run ID: **WETLAB_111018A** Prep Date: **10/18/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	1470	100	1000	527	94	73	127			

Sample Matrix Spike Duplicate

Type: **MSD** Test Code: **EPA Method 365.3 / SM4500PE**

File ID: Batch ID: **W1018TP** Analysis Date: **10/18/2011 00:00**

Sample ID: **11101201-01AMSD** Units : **µg/L** Run ID: **WETLAB_111018A** Prep Date: **10/18/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	1500	100	1000	527	98	73	127	1469	2.4(20)	

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Reported in micrograms per Liter, per client request.

Alpha Analytical, Inc.

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Date: *20-Oct-11*

QC Summary Report

Work Order: 11101201

Method Blank

Type: **MBLK** Test Code: **EPA Method SW9060 / SM5310C**

File ID: Batch ID: **27494** Analysis Date: **10/14/2011 17:57**

Sample ID: **MBLK-27494** Units : **µg/L** Run ID: **TOC_111014A** Prep Date: **10/14/2011 15:55**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	ND	1000								

Laboratory Control Spike

Type: **LCS** Test Code: **EPA Method SW9060 / SM5310C**

File ID: Batch ID: **27494** Analysis Date: **10/14/2011 18:23**

Sample ID: **LCS-27494** Units : **µg/L** Run ID: **TOC_111014A** Prep Date: **10/14/2011 15:55**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	4620	1000	5000		92	74	126			

Sample Matrix Spike

Type: **MS** Test Code: **EPA Method SW9060 / SM5310C**

File ID: Batch ID: **27494** Analysis Date: **10/14/2011 19:21**

Sample ID: **11101226-01AMS** Units : **µg/L** Run ID: **TOC_111014A** Prep Date: **10/14/2011 15:55**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	20200	1000	5000	16790	69	56	137			

Sample Matrix Spike Duplicate

Type: **MSD** Test Code: **EPA Method SW9060 / SM5310C**

File ID: Batch ID: **27494** Analysis Date: **10/14/2011 19:50**

Sample ID: **11101226-01AMSD** Units : **µg/L** Run ID: **TOC_111014A** Prep Date: **10/14/2011 15:55**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	20100	1000	5000	16790	67	56	137	20230	0.4(20)	

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

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Date: *20-Oct-11*

QC Summary Report

Work Order: 11101201

Method Blank

Type: **MBLK** Test Code: **EPA Method SW8015B/C**

File ID: **11101407.D** Batch ID: **MS15W1014B** Analysis Date: **10/14/2011 10:27**

Sample ID: **MBLK MS15W1014B** Units : **µg/L** Run ID: **MSD_15_111014A** Prep Date: **10/14/2011 10:27**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	ND	50								
Surr: 1,2-Dichloroethane-d4	9.83		10		98	70	130			
Surr: Toluene-d8	10.1		10		101	70	130			
Surr: 4-Bromofluorobenzene	9.85		10		99	70	130			

Laboratory Control Spike

Type: **LCS** Test Code: **EPA Method SW8015B/C**

File ID: **11101403.D** Batch ID: **MS15W1014B** Analysis Date: **10/14/2011 08:50**

Sample ID: **GLCS MS15W1014B** Units : **µg/L** Run ID: **MSD_15_111014A** Prep Date: **10/14/2011 08:50**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	392	50	400		98	70	130			
Surr: 1,2-Dichloroethane-d4	9.34		10		93	70	130			
Surr: Toluene-d8	10.1		10		101	70	130			
Surr: 4-Bromofluorobenzene	10.1		10		101	70	130			

Sample Matrix Spike

Type: **MS** Test Code: **EPA Method SW8015B/C**

File ID: **11101410.D** Batch ID: **MS15W1014B** Analysis Date: **10/14/2011 11:31**

Sample ID: **11101243-21AGS** Units : **µg/L** Run ID: **MSD_15_111014A** Prep Date: **10/14/2011 11:31**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	2000	250	2000	0	100	51	144			
Surr: 1,2-Dichloroethane-d4	48.4		50		97	70	130			
Surr: Toluene-d8	49.8		50		99.7	70	130			
Surr: 4-Bromofluorobenzene	50.4		50		101	70	130			

Sample Matrix Spike Duplicate

Type: **MSD** Test Code: **EPA Method SW8015B/C**

File ID: **11101411.D** Batch ID: **MS15W1014B** Analysis Date: **10/14/2011 11:53**

Sample ID: **11101243-21AGSD** Units : **µg/L** Run ID: **MSD_15_111014A** Prep Date: **10/14/2011 11:53**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	2130	250	2000	0	106	51	144	2004	6.1(29)	
Surr: 1,2-Dichloroethane-d4	48.8		50		98	70	130			
Surr: Toluene-d8	49.6		50		99	70	130			
Surr: 4-Bromofluorobenzene	50.7		50		101	70	130			

Comments:

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Date: 19-Oct-11

QC Summary Report

Work Order: 11101201

Method Blank

Type **MBLK** Test Code: **EPA Method SW8260B**

File ID: **11101407.D** Batch ID: **MS15W1014A** Analysis Date: **10/14/2011 10:27**

Sample ID: **MBLK MS15W1014A** Units : **µg/L** Run ID: **MSD_15_111014A** Prep Date: **10/14/2011 10:27**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Tertiary Butyl Alcohol (TBA)	ND	10								
Methyl tert-butyl ether (MTBE)	ND	0.5								
Di-isopropyl Ether (DIPE)	ND	1								
Ethyl Tertiary Butyl Ether (ETBE)	ND	1								
1,2-Dichloroethane	ND	1								
Benzene	ND	0.5								
Tertiary Amyl Methyl Ether (TAME)	ND	1								
Toluene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
o-Xylene	ND	0.5								
Surr: 1,2-Dichloroethane-d4	9.83		10		98	70	130			
Surr: Toluene-d8	10.1		10		101	70	130			
Surr: 4-Bromofluorobenzene	9.85		10		99	70	130			

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method SW8260B**

File ID: **11101404.D** Batch ID: **MS15W1014A** Analysis Date: **10/14/2011 09:11**

Sample ID: **LCS MS15W1014A** Units : **µg/L** Run ID: **MSD_15_111014A** Prep Date: **10/14/2011 09:11**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	11.6	0.5	10		116	65	140			
Benzene	10.7	0.5	10		107	70	130			
Toluene	10.2	0.5	10		102	80	120			
Ethylbenzene	10.9	0.5	10		109	80	120			
m,p-Xylene	10.7	0.5	10		107	70	130			
o-Xylene	10.6	0.5	10		106	70	130			
Surr: 1,2-Dichloroethane-d4	9.78		10		98	70	130			
Surr: Toluene-d8	9.91		10		99	70	130			
Surr: 4-Bromofluorobenzene	10.2		10		102	70	130			

Sample Matrix Spike

Type **MS** Test Code: **EPA Method SW8260B**

File ID: **11101408.D** Batch ID: **MS15W1014A** Analysis Date: **10/14/2011 10:48**

Sample ID: **11101243-21AMS** Units : **µg/L** Run ID: **MSD_15_111014A** Prep Date: **10/14/2011 10:48**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	48.9	1.3	50	0	98	47	150			
Benzene	43.5	1.3	50	0	87	59	138			
Toluene	40.4	1.3	50	0	81	68	130			
Ethylbenzene	44.3	1.3	50	0	89	68	130			
m,p-Xylene	43.1	1.3	50	0	86	68	131			
o-Xylene	43.1	1.3	50	0	86	70	130			
Surr: 1,2-Dichloroethane-d4	49.2		50		98	70	130			
Surr: Toluene-d8	48.6		50		97	70	130			
Surr: 4-Bromofluorobenzene	50.5		50		101	70	130			

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method SW8260B**

File ID: **11101409.D** Batch ID: **MS15W1014A** Analysis Date: **10/14/2011 11:10**

Sample ID: **11101243-21AMSD** Units : **µg/L** Run ID: **MSD_15_111014A** Prep Date: **10/14/2011 11:10**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	53.1	1.3	50	0	106	47	150	48.92	8.1(40)	
Benzene	47.1	1.3	50	0	94	59	138	43.48	8.1(21)	
Toluene	43.9	1.3	50	0	88	68	130	40.44	8.2(20)	
Ethylbenzene	47.4	1.3	50	0	95	68	130	44.3	6.8(20)	
m,p-Xylene	46.2	1.3	50	0	92	68	131	43.07	7.0(20)	
o-Xylene	46.5	1.3	50	0	93	70	130	43.09	7.6(20)	
Surr: 1,2-Dichloroethane-d4	49.5		50		99	70	130			
Surr: Toluene-d8	48.8		50		98	70	130			
Surr: 4-Bromofluorobenzene	50.6		50		101	70	130			

Alpha Analytical, Inc.

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Date: *19-Oct-11*

QC Summary Report

Work Order: 11101201

Comments:

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Laboratory Report

for

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21
Sparks, NV 89431
Attention: Reyna Vallejo
Fax: 775-355-0406

Date of Issue
10/20/2011
MWH LABORATORIES

ACCREDITED IN ACCORDANCE WITH nelac 01114CA

Report#: 378785
Project: SUBCONTRACT
Group: Bromate

DST: David S Tripp
Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.

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STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Mississippi	Certified
Alaska	CA00006	Montana	Cert 0035
Arizona	AZ0455	Nevada	CA00006-2010-1
Arkansas	Certified	New Hampshire	2959-11
California – NELAP	01114CA	New Jersey	CA 008
California – ELAP	1422	New Mexico	Certified
Colorado	Certified	New York	11320
Connecticut	PH-0107	North Carolina	06701
Delaware	CA 006	North Dakota	R-009
Florida	E871024	Oregon	CA 200003-009
Georgia	947	Pennsylvania	68-565
Guam	11-004r	Rhode Island	01114CA
Hawaii	Certified	South Carolina	87016001
Idaho	Certified	South Dakota	Certified
Illinois	200033	Tennessee	TN02839
Indiana	C-CA-01	Texas	T104704230-11-2
Kansas	E-10268	Utah	Mont-1
Kentucky	90107	Vermont	VT0114
Louisiana	LA110022	Virginia	00210
Maine	CA0006	Washington	C383
Maryland	224	West Virginia	9943 C
Commonwealth of Northern Marianas Is.	MP0004	Wisconsin	998316660
Massachusetts	M-CA006	Wyoming	8TMS-L
Michigan	9906	EPA Region 5	Certified

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (626) 386-1101 http://MWHLabs.com

MWH LABORATORIES

Acknowledgement of Samples Received

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21
Sparks, NV 89431
Attn: Reyna Vallejo
Phone: 775-355-1044

Customer Code: ALPHA-NV
Folder #: 378785
Project: SUBCONTRACT
Sample Group: Bromate
Project Manager: David S Tripp
Phone: (626) 386-1158
PO #: STR11101201

The following samples were received from you on **October 13, 2011**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample ID	Sample Date
201110130611	MW2	Oct 12, 2011 06:25
	Variable ID: STR11101201-01A	
	Bromate by UV/VIS	
201110130612	MW3	Oct 12, 2011 05:30
	Variable ID: STR11101201-02A	
	Bromate by UV/VIS	
201110130613	MW4	Oct 12, 2011 06:45
	Variable ID: STR11101201-03A	
	Bromate by UV/VIS	
201110130614	EX-1	Oct 12, 2011 05:55
	Variable ID: STR11101201-04A	
	Bromate by UV/VIS	

Test Description

2.0° Gal

5/8/12

Alpha Analytical, Inc.
555 Glendale Avenue
Suite 21
Sparks, Nevada 89431-5778
Phone: (775) 355-1044
Fax: (775) 355-0406

SUB CHAIN-OF-CUSTODY RECORD

Work Order : STR11101201

*Please reference the Work Order number on all reports and invoices.
*Also please include the dates of analysis and detection limits.
Please send the report to Alpha Analytical (Sparks).
Attention To Reyna Vallejo (reyna@alpha-analytical.com).

Report Due By : 5:00 PM
On : 20-Oct-11

Subcontractor:
Montgomery Watson Harza Laboratories, Inc.
750 Royal Oaks Drive
Suite 100
Monrovia, CA 91016-3629

TEL: (626) 386-1100
FAX: (626) 386-1124
Acct #:

Required QC:
Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Sampled by : C. Hill

12-Oct-11

Alpha's Sample ID	Client's Sample ID	Matrix	Collection Date	Type (#) of Bottles Preserved	Other	Requested Tests EPA Method 317	Sample Comments
STR11101201-01A	MW2	Aqueous	10/12/11 08:25	100ML-EDA (1)	~~250ML-HDP (1)~~	Bromate (Sub to MWH)	
STR11101201-02A	MW3	Aqueous	10/12/11 05:30	100ML-EDA (1)	~~250ML-HDP (1)~~	Bromate (Sub to MWH)	
STR11101201-03A	MW4	Aqueous	10/12/11 08:45	100ML-EDA (1)	~~250ML-HDP (1)~~	Bromate (Sub to MWH)	
STR11101201-04A	EX-1	Aqueous	10/12/11 05:55	100ML-EDA (1)	~~250ML-HDP (1)~~	Bromate (Sub to MWH)	

4/10

Comments:

	Date/Time		Date/Time
Relinquished by:	10-12-11 1515	Received by:	10/13/11 1050
Relinquished by:		Received by:	

Alpha Analytical, Inc.

Phone : (775) 355-1044 FAX : (775) 355-0406

Subcontract Sample Receipt Checklist

Date Report is due at Alpha : 20-Oct-11 Date of Notice : 10/12/2011 12:08:37

If any items are checkmarked NO or are non-compliant, a phone call back to Alpha Analytical is required immediately. If all items are acceptable, a faxed copy of the signed sub chain of custody (COC) and the completed sample receipt check list is required within 24 hours of sample receipt.

Alpha's Work Order Number : STR111101201 SubContract Work Order Number : Date Received :

Chain of Custody (COC) Information

Carrier name

Chain of custody present ?	Yes ☑	☐ No	
Custody seals intact on shipping container/cooler ?	Yes ☐	☐ No	Not Presen ☒
Custody seals intact on sample bottles ?	Yes ☐	☐ No	Not Presen ☐
Chain of custody signed when relinquished and received ?	Yes ☑	☐ No	
Chain of custody agrees with sample labels ?	Yes ☐	☒ Non-Compliant	
Internal Chain of Custody (COC) requseted ?	Yes ☐	☐ No	

Sample Receipt Information

Shipping container/cooler in good condition?	Yes ☑	☐ No	Not Presen ☐
Samples in proper container/bottle?	Yes ☑	☐ Non-Compliant	
Sample containers intact?	Yes ☑	☐ No	
Sufficient sample volume for indicated test?	Yes ☑	☐ No	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes ☑ ☐ Non-Compliant

Cooler Temperature : Is Wet Ice present in Cooler ? Yes ☑ If YES, then temperature is 4°C.

No ☐ If NO, then actual cooler temperature is : _____ °C

Analytical Requirement Information

Are non-Standard or Modified methods requested ?	Yes ☐	☐ No
SubContract Lab CA STATE certified?	Yes ☒	☐ No
SubContract Lab NELAP certified?	Yes ☐	☐ No
SubContract Lab CERTIFIED for the various methods requested	Yes ☐	☐ No
Will the SubContract Lab be able to meet the turn-around time (TAT) requirements ?	Yes ☐	☒ No

Comments :

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Laboratory
Hits Report: 378785

Alpha Analytical, Inc.
Reyna Vallejo
255 Glendale Avenue, Suite 21
Sparks, NV 89431

Samples Received on:
10/13/2011

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL

SUMMARY OF POSITIVE DATA ONLY

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Laboratory Data
Report: 378785

Alpha Analytical, Inc.
Reyna Vallejo
255 Glendale Avenue, Suite 21
Sparks, NV 89431

Samples Received on:
10/13/2011

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
MW2 (201110130611)						**Sampled on 10/12/2011 0625**		
Variable ID: STR11101201-01A								
EPA 317 - Bromate by UV/VIS 317								
10/18/2011	07:29	623462	(EPA 317)	Bromate by UV/VIS	ND	ug/L	1	1
MW3 (201110130612)						**Sampled on 10/12/2011 0530**		
Variable ID: STR11101201-02A								
EPA 317 - Bromate by UV/VIS 317								
10/18/2011	07:52	623462	(EPA 317)	Bromate by UV/VIS	ND	ug/L	1	1
MW4 (201110130613)						**Sampled on 10/12/2011 0645**		
Variable ID: STR11101201-03A								
EPA 317 - Bromate by UV/VIS 317								
10/18/2011	08:15	623462	(EPA 317)	Bromate by UV/VIS	ND	ug/L	1	1
EX-1 (201110130614)						**Sampled on 10/12/2011 0555**		
Variable ID: STR11101201-04A								
EPA 317 - Bromate by UV/VIS 317								
10/18/2011	08:39	623462	(EPA 317)	Bromate by UV/VIS	ND	ug/L	1	1

Rounding on totals after summation.
(c) - indicates calculated results

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Laboratory Comments
Report: #378785

Alpha Analytical, Inc.
Reyna Vallejo
255 Glendale Avenue, Suite 21
Sparks, NV 89431

The Comments Report may be blank if there are no comments for this report.

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Laboratory
QC Summary: 378785

Alpha Analytical, Inc.

QC Ref # 623462 - Bromate by UV/VIS 317

Analysis Date: 10/18/2011

201110130611	MW2	Analyzed by: TLH
201110130612	MW3	Analyzed by: TLH
201110130613	MW4	Analyzed by: TLH
201110130614	EX-1	Analyzed by: TLH

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Laboratory
QC Report: 378785

Alpha Analytical, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 623462 - Bromate by UV/VIS 317 by EPA 317						**Analysis Date: 10/18/2011**			
LCS1	Bromate by UV/VIS		10	9.21	ug/L	92	(90-110)		
LCS2	Bromate by UV/VIS		10	9.25	ug/L	93	(90-110)	20	0.33
MBLK	Bromate by UV/VIS			<1	ug/L				
MRL_CHK	Bromate by UV/VIS		1.0	0.847	ug/L	85	(75-125)		
MS_201110130452	Bromate by UV/VIS	8.0	5.0	12.1	ug/L	81	(75-125)		
MSD_201110130452	Bromate by UV/VIS	8.0	5.0	12.3	ug/L	84	(75-125)	15	1.6
MS_201110180073	Bromate by UV/VIS	ND	5.0	3.74	ug/L	75	(75-125)		
MSD_201110180073	Bromate by UV/VIS	ND	5.0	3.56	ug/L	71	(75-125)	15	4.9

Spike recovery is already corrected for native results.
Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.
Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.
(S) Indicates surrogate compound.
(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used
RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

October 19, 2011

CLS Work Order #: CUJ0620
COC #:

Reyna Vallejo
Alpha Analytical, Inc.-Sparks
255 Glendale Ave.; Suite 21
Sparks, NV 89431

Project Name: STR11101201

Enclosed are the results of analyses for samples received by the laboratory on 10/12/11 13:00. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

James Liang, Ph.D.
Laboratory Director

CA DOHS ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES

10/19/11 09:57

Alpha Analytical, Inc.-Sparks 255 Glendale Ave.; Suite 21 Sparks, NV 89431	Project: STR11101201 Project Number: STR11101201 Project Manager: Reyna Vallejo	**CLS Work Order #: CUJ0620** COC #:

CUJ0620 1 of 1

Alpha Analytical, Inc.
255 Glendale Avenue
Suite 21
Sparks, Nevada 89431-5778
Phone: (775) 355-1044
Fax: (775) 355-0406

Subcontractor:
CLS Labs
3249 Fitzgerald Rd
Rancho Cordova, CA 95742

SUB CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Work Order : STR11101201

*Please reference the Work Order number on all reports and invoices.
*Also please include the dates of analysis and detection limits.
Please send the report to Alpha Analytical (Sparks).
Attention To Reyna Vallejo (reyna@alpha-analytical.com).

TEL: (916) 638-7301
FAX: (916) 638-4510
Acct #:

Report Due By : 5:00 PM
On : 20-Oct-11

Requested QC:
Final Rpt. MS/LK, LCS, MS/MSD With Surrogates

Sampled by : C. Hill
12-Oct-11

Alpha's Sample ID	Client's Sample ID	Matrix	Collection Date	Type (#) of Bottles Preservative	Other	Requested Tests EPA Method 7199	EPA Method SW7199	Sample Comments

Comments:

	Date/Time		Date/Time
Relinquished by:	10/13/11 1333	Received by:	
Relinquished by:		Received by:	10/19/11 1000 2C

California Laboratory Services

10/19/11 09:57

Alpha Analytical, Inc.-Sparks 255 Glendale Ave.; Suite 21 Sparks, NV 89431	Project: STR11101201 Project Number: STR11101201 Project Manager: Reyna Vallejo	**CLS Work Order #: CUJ0620** COC #:

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
STR11101201-01A (MW2) (CUJ0620-01) Aqueous	**Sampled: 10/12/11 06:25**		**Received: 10/12/11 13:00**						
Hexavalent Chromium	ND	1.0	µg/L	1	CU07363	10/12/11	10/12/11	EPA 7199	
Hexavalent Chromium, Dissolved	ND	1.0	"	"	"	"	"	"	
STR11101201-02A (MW3) (CUJ0620-02) Aqueous	**Sampled: 10/12/11 05:30**		**Received: 10/12/11 13:00**						
Hexavalent Chromium	ND	1.0	µg/L	1	CU07363	10/12/11	10/12/11	EPA 7199	
Hexavalent Chromium, Dissolved	ND	1.0	"	"	"	"	"	"	
STR11101201-03A (MW4) (CUJ0620-03) Aqueous	**Sampled: 10/12/11 08:45**		**Received: 10/12/11 13:00**						
Hexavalent Chromium	ND	1.0	µg/L	1	CU07363	10/12/11	10/12/11	EPA 7199	
Hexavalent Chromium, Dissolved	ND	1.0	"	"	"	"	"	"	
STR11101201-04A (EX-1) (CUJ0620-04) Aqueous	**Sampled: 10/12/11 05:55**		**Received: 10/12/11 13:00**						
Hexavalent Chromium	ND	1.0	µg/L	1	CU07363	10/12/11	10/12/11	EPA 7199	
Hexavalent Chromium, Dissolved	ND	1.0	"	"	"	"	"	"	

Alpha Analytical, Inc.-Sparks
255 Glendale Ave.; Suite 21
Sparks, NV 89431

Project: STR11101201
Project Number: STR11101201
Project Manager: Reyna Vallejo

CLS Work Order #: CUJ0620
COC #:

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CU07363 - General Prep										
Blank (CU07363-BLK1)				Prepared & Analyzed: 10/12/11						
Hexavalent Chromium	ND	1.0	µg/L							
Hexavalent Chromium, Dissolved	ND	1.0	"							
LCS (CU07363-BS1)				Prepared & Analyzed: 10/12/11						
Hexavalent Chromium	4.93	1.0	µg/L	5.00		99	80-120			
Hexavalent Chromium, Dissolved	4.93	1.0	"	5.00		99	80-120			
LCS Dup (CU07363-BSD1)				Prepared & Analyzed: 10/12/11						
Hexavalent Chromium	4.54	1.0	µg/L	5.00		91	80-120	8	20	
Hexavalent Chromium, Dissolved	4.54	1.0	"	5.00		91	80-120	8	20	
Matrix Spike (CU07363-MS1)	**Source: CUJ0566-01**			Prepared & Analyzed: 10/12/11						
Hexavalent Chromium	227	10	µg/L	50.0	186	81	75-125			
Hexavalent Chromium, Dissolved	227	10	"	50.0	ND	454	75-125			QM-4X
Matrix Spike Dup (CU07363-MSD1)	**Source: CUJ0566-01**			Prepared & Analyzed: 10/12/11						
Hexavalent Chromium	273	10	µg/L	50.0	186	173	75-125	18	25	QM-4X
Hexavalent Chromium, Dissolved	273	10	"	50.0	ND	545	75-125	18	25	QM-4X

Alpha Analytical, Inc.-Sparks 255 Glendale Ave.; Suite 21 Sparks, NV 89431	Project: STR11101201 Project Number: STR11101201 Project Manager: Reyna Vallejo	**CLS Work Order #: CUJ0620** COC #:

Notes and Definitions

QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Billing Information :

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
TEL: (775) 355-1044 FAX: (775) 355-0406

CA

WorkOrder : STR11101201

Report Due By : 5:00 PM On : 20-Oct-11

Client:
Stratus Environmental
3330 Cameron Park Drive
Suite 550
Cameron Park, CA 95682-8861

Report Attention	Phone Number	EMail Address
Steve Carter	(530) 676-6008 x	scarter@stratusinc.net

EDD Required : **Yes**

Sampled by : C. Hill

PO :

Client's COC # : 56817 Job : Olympic Station

Cooler Temp	Samples Received	Date Printed
5 °C	12-Oct-11	**13-Oct-11**

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 317_W	3500FE_2OS_W	3500FE_3IC_W	METALS_AQ	METALS_CR6_SUB_W	METALS_CR6DS_SUB_W	METALS_DS	PHOSPHORUS_W	Sample Remarks
STR11101201-01A	MW2	AQ	10/12/11 06:25	13	2	5	Bromate (Sub to MWH)	FE+2	FE+3	Special List	Cr6+ by 7199	Dissolved CR6+ by 7199	Fe	Total	
STR11101201-02A	MW3	AQ	10/12/11 05:30	13	2	5	Bromate (Sub to MWH)	FE+2	FE+3	Special List	Cr6+ by 7199	Dissolved CR6+ by 7199	Fe	Total	
STR11101201-03A	MW4	AQ	10/12/11 08:45	13	2	5	Bromate (Sub to MWH)	FE+2	FE+3	Special List	Cr6+ by 7199	Dissolved CR6+ by 7199	Fe	Total	
STR11101201-04A	EX-1	AQ	10/12/11 05:55	13	2	5	Bromate (Sub to MWH)	FE+2	FE+3	Special List	Cr6+ by 7199	Dissolved CR6+ by 7199	Fe	Total	

Comments: Chain prelogged 10/12/11 in order for Sac office to sub Total and Dissolved Cr6+ by 7199 to CLS and Bromate to MWH. Remaining samples received on 10/13/11. Security seals intact. Frozen ice. TOC pH=2. :

	Signature	Print Name	Company	Date/Time
Logged in by:		Cheryl Gamble	Alpha Analytical, Inc.	10/13/11 10:56

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.

Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information :

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
TEL: (775) 355-1044 FAX: (775) 355-0406

CA

WorkOrder : STR11101201

Report Due By : 5:00 PM On : 20-Oct-11

Client:
Stratus Environmental
3330 Cameron Park Drive
Suite 550
Cameron Park, CA 95682-8861

Report Attention	Phone Number	EMail Address
Steve Carter	(530) 676-6008 x	scarter@stratusinc.net

EDD Required : **Yes**

Sampled by : C. Hill

PO :

Client's COC # : 56817 Job : Olympic Station

Cooler Temp	Samples Received	Date Printed
5 °C	12-Oct-11	13-Oct-11

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests TOC_W	TPH/P_W	VOC_W						Sample Remarks
STR11101201-01A	MW2	AQ	10/12/11 06:25	13	2	5	TOC	GAS-C	BTEX/OXY/ 1,2-DCA_C						
STR11101201-02A	MW3	AQ	10/12/11 05:30	13	2	5	TOC	GAS-C	BTEX/OXY/ 1,2-DCA_C						
STR11101201-03A	MW4	AQ	10/12/11 08:45	13	2	5	TOC	GAS-C	BTEX/OXY/ 1,2-DCA_C						
STR11101201-04A	EX-1	AQ	10/12/11 05:55	13	2	5	TOC	GAS-C	BTEX/OXY/ 1,2-DCA_C						

Comments: Chain prelogged 10/12/11 in order for Sac office to sub Total and Dissolved Cr6+ by 7199 to CLS and Bromate to MWH. Remaining samples received on 10/13/11. Security seals intact. Frozen ice. TOC pH=2. ;

	Signature	Print Name	Company	Date/Time
Logged in by:		Cheryl Gamble	Alpha Analytical, Inc.	10/13/11 10:56

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.

Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information:
Company Name Stantec
Attn: Steve
Address 3330 Cameron Pk Dr
City, State, Zip Cameron Pk
Phone Number 530 672 6804 Fax 530 672 6805

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21
Sparks, Nevada 89431-5778
Phone (775) 355-1044
Fax (775) 355-0406

Samples Collected From Which State?
AZ ___ CA X NV ___ WA ___ DOD Site ___
ID ___ OR ___ OTHER ___ Page # 1 of 1

Consultant / Client Name: Olympic Station	Job #	Job Name
Address	Report Attention / Project Manager	
City, State, Zip: SAN Lorenzo	Name: Steve	
	Email:	
	Phone: ___ Mobile: ___	

Analyses Required

Data Validation Level: III or IV

EDD / EDF? YES ___ NO ___
Global ID # ___

Time Sampled	Date Sampled	Matrix* See Key Below	P.O. # / Lab ID Number (Office Use Only)	Sample Description	TAT	Field Filtered	# Containers**	8260 - BTEX	300.0 - 1,2 DCA	Total Dissolved Hex Chromium	TOC - Bromide	Ferrous, Dissolved Iron	Total Phosphorus	Metals	REMARKS
0625	10/11	AQ	STR11101201-01A	MW 2	STD		15	X	X	X	X	X	X	X	Metals
0530			-02A	MW 3	STD		15	X	X	X	X	X	X	X	Be, Ca, Cd, Cr
0645			-03A	MW 4	STD		15	X	X	X	X	X	X	X	Co, Cu, Fe, Pb
0555			-04A	EX-1	STD		15	X	X	X	X	X	X	X	Mg, Mn, Ni, Na, V, Zn
															Sub to CLS
															And MWH
															# 1110120

FOR LAB USE ONLY

ADDITIONAL INSTRUCTIONS:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled By: BHC

Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affiliation)	Date:	Time:
Stantec	Ioa deSelvi	10-12-11	11:45
Relinquished by: (Signature/Affiliation) Ioa deSelvi 10-12-11 1530	Received by: (Signature/Affiliation) Alpha	Date: 10/13/11	Time: 10:30
Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affiliation)	Date:	Time:

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air **: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861
Job: Olympic Station

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005

Alpha Analytical Number: STR11110905-01A
Client I.D. Number: MW-2

Sampled: 11/09/11
Received: 11/09/11

Method Reference : EPA Method SW6020 / SW6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Beryllium (Be)	ND	4.0		µg/L	11/11/11 10:20	11/12/11
Sodium (Na)	220,000	500		µg/L	11/11/11 10:20	11/12/11
Magnesium (Mg)	73,000	500		µg/L	11/11/11 10:20	11/12/11
Calcium (Ca)	110,000	500		µg/L	11/11/11 10:20	11/12/11
Vanadium (V)	74	5.0		µg/L	11/11/11 10:20	11/12/11
Chromium (Cr)	62	5.0		µg/L	11/11/11 10:20	11/12/11
Manganese (Mn)	1,300	5.0		µg/L	11/11/11 10:20	11/12/11
Iron (Fe)	22,000	300		µg/L	11/11/11 10:20	11/12/11
Cobalt (Co)	11	5.0		µg/L	11/11/11 10:20	11/12/11
Nickel (Ni)	64	10		µg/L	11/11/11 10:20	11/12/11
Copper (Cu)	19	10		µg/L	11/11/11 10:20	11/12/11
Zinc (Zn)	ND	100		µg/L	11/11/11 10:20	11/12/11
Cadmium (Cd)	ND	5.0		µg/L	11/11/11 10:20	11/12/11
Lead (Pb)	6.4	5.0		µg/L	11/11/11 10:20	11/12/11

Method Reference : SM3500-Fe B

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferrous (+2)	ND	50		µg/L	11/11/11	11/11/11

Method Reference : SM3500-Fe B / EPA Method 6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferric (+3) (by calculation)	22,000	300		µg/L	11/12/11	11/12/11

Ferric iron concentrations are based off of raw (non-rounded ferrous and total iron) data. Therefore, hand calculated ferric iron values may differ slightly.

Ferrous iron samples were color developed promptly after laboratory login.

ND = Not Detected
Reported in micrograms per Liter, per client request.

Roger Scholl Randy Gardner Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

11/17/11
Report Date

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861
Job: Olympic Station

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005

Alpha Analytical Number: STR11110905-02A
Client I.D. Number: MW-3

Sampled: 11/09/11
Received: 11/09/11

Method Reference : EPA Method SW6020 / SW6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Beryllium (Be)	ND	4.0		µg/L	11/11/11 10:20	11/12/11
Sodium (Na)	240,000	500		µg/L	11/11/11 10:20	11/12/11
Magnesium (Mg)	60,000	500		µg/L	11/11/11 10:20	11/12/11
Calcium (Ca)	85,000	500		µg/L	11/11/11 10:20	11/12/11
Vanadium (V)	23	5.0		µg/L	11/11/11 10:20	11/12/11
Chromium (Cr)	14	5.0		µg/L	11/11/11 10:20	11/12/11
Manganese (Mn)	1,000	5.0		µg/L	11/11/11 10:20	11/12/11
Iron (Fe)	3,900	300		µg/L	11/11/11 10:20	11/12/11
Cobalt (Co)	ND	5.0		µg/L	11/11/11 10:20	11/12/11
Nickel (Ni)	20	10		µg/L	11/11/11 10:20	11/12/11
Copper (Cu)	ND	10		µg/L	11/11/11 10:20	11/12/11
Zinc (Zn)	ND	100		µg/L	11/11/11 10:20	11/12/11
Cadmium (Cd)	ND	5.0		µg/L	11/11/11 10:20	11/12/11
Lead (Pb)	ND	5.0		µg/L	11/11/11 10:20	11/12/11

Method Reference : SM3500-Fe B

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferrous (+2)	ND	50		µg/L	11/11/11	11/11/11

Method Reference : SM3500-Fe B / EPA Method 6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferric (+3) (by calculation)	3,900	300		µg/L	11/12/11	11/12/11

Ferric iron concentrations are based off of raw (non-rounded ferrous and total iron) data. Therefore, hand calculated ferric iron values may differ slightly.
Ferrous iron samples were color developed promptly after laboratory login.

ND = Not Detected
Reported in micrograms per Liter, per client request.

Roger Scholl Randy Gardner Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

11/17/11
Report Date

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861
Job: Olympic Station

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005

Alpha Analytical Number: STR11110905-03A
Client I.D. Number: MW-4

Sampled: 11/09/11
Received: 11/09/11

Method Reference : EPA Method SW6020 / SW6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Beryllium (Be)	ND	4.0		µg/L	11/11/11 10:20	11/12/11
Sodium (Na)	67,000	500		µg/L	11/11/11 10:20	11/12/11
Magnesium (Mg)	70,000	500		µg/L	11/11/11 10:20	11/12/11
Calcium (Ca)	77,000	500		µg/L	11/11/11 10:20	11/12/11
Vanadium (V)	ND	5.0		µg/L	11/11/11 10:20	11/12/11
Chromium (Cr)	ND	5.0		µg/L	11/11/11 10:20	11/12/11
Manganese (Mn)	3,100	5.0		µg/L	11/11/11 10:20	11/12/11
Iron (Fe)	4,300	300		µg/L	11/11/11 10:20	11/12/11
Cobalt (Co)	ND	5.0		µg/L	11/11/11 10:20	11/12/11
Nickel (Ni)	13	10		µg/L	11/11/11 10:20	11/12/11
Copper (Cu)	ND	10		µg/L	11/11/11 10:20	11/12/11
Zinc (Zn)	ND	100		µg/L	11/11/11 10:20	11/12/11
Cadmium (Cd)	ND	5.0		µg/L	11/11/11 10:20	11/12/11
Lead (Pb)	ND	5.0		µg/L	11/11/11 10:20	11/12/11

Method Reference : SM3500-Fe B

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferrous (+2)	330	50		µg/L	11/11/11	11/11/11

Method Reference : SM3500-Fe B / EPA Method 6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferric (+3) (by calculation)	4,000	300		µg/L	11/12/11	11/12/11

Ferric iron concentrations are based off of raw (non-rounded ferrous and total iron) data. Therefore, hand calculated ferric iron values may differ slightly.
Ferrous iron samples were color developed promptly after laboratory login.

ND = Not Detected
Reported in micrograms per Liter, per client request.

Roger Scholl Randy Gardner Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

11/17/11
Report Date

Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861
Job: Olympic Station

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005

Alpha Analytical Number: STR11110905-04A
Client I.D. Number: EX-1

Sampled: 11/09/11
Received: 11/09/11

Method Reference : EPA Method SW6020 / SW6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Beryllium (Be)	ND	4.0		µg/L	11/11/11 10:20	11/12/11
Sodium (Na)	240,000	500		µg/L	11/11/11 10:20	11/12/11
Magnesium (Mg)	64,000	500		µg/L	11/11/11 10:20	11/12/11
Calcium (Ca)	92,000	500		µg/L	11/11/11 10:20	11/12/11
Vanadium (V)	43	5.0		µg/L	11/11/11 10:20	11/12/11
Chromium (Cr)	33	5.0		µg/L	11/11/11 10:20	11/12/11
Manganese (Mn)	1,000	5.0		µg/L	11/11/11 10:20	11/12/11
Iron (Fe)	11,000	300		µg/L	11/11/11 10:20	11/12/11
Cobalt (Co)	5.0	5.0		µg/L	11/11/11 10:20	11/12/11
Nickel (Ni)	40	10		µg/L	11/11/11 10:20	11/12/11
Copper (Cu)	11	10		µg/L	11/11/11 10:20	11/12/11
Zinc (Zn)	ND	100		µg/L	11/11/11 10:20	11/12/11
Cadmium (Cd)	ND	5.0		µg/L	11/11/11 10:20	11/12/11
Lead (Pb)	ND	5.0		µg/L	11/11/11 10:20	11/12/11

Method Reference : SM3500-Fe B

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferrous (+2)	ND	50		µg/L	11/11/11	11/11/11

Method Reference : SM3500-Fe B / EPA Method 6020A

Analyte	Result	Reporting Limit	Qual	Units	Date Extracted	Date Analyzed
Iron, Ferric (+3) (by calculation)	11,000	300		µg/L	11/12/11	11/12/11

Ferric iron concentrations are based off of raw (non-rounded ferrous and total iron) data. Therefore, hand calculated ferric iron values may differ slightly.

Ferrous iron samples were color developed promptly after laboratory login.

ND = Not Detected
Reported in micrograms per Liter, per client request.

Roger Scholl Randy Gardner Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

11/17/11
Report Date

Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

Alpha Analytical, Inc.

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(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005
Date Received : 11/09/11

Job: Olympic Station

Dissolved Metals by ICPMS
EPA Method SW6020 / SW6020A

	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-2**					
Lab ID : STR11110905-01A	Iron (Fe), Dissolved	ND	300 µg/L	11/10/11	11/12/11
Date Sampled 11/09/11 06:05					
Client ID: **MW-3**					
Lab ID : STR11110905-02A	Iron (Fe), Dissolved	ND	300 µg/L	11/10/11	11/12/11
Date Sampled 11/09/11 06:30					
Client ID: **MW-4**					
Lab ID : STR11110905-03A	Iron (Fe), Dissolved	1,100	300 µg/L	11/10/11	11/12/11
Date Sampled 11/09/11 07:25					
Client ID: **EX-1**					
Lab ID : STR11110905-04A	Iron (Fe), Dissolved	ND	300 µg/L	11/10/11	11/12/11
Date Sampled 11/09/11 07:05					

ND = Not Detected
Reported in micrograms per Liter, per client request.

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ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005
Date Received : 11/09/11

Job: Olympic Station

Phosphorus
EPA Method 365.3 / SM4500PE

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-2**					
Lab ID : STR11110905-01A	Phosphorus, Total (As P)	570	100 µg/L	11/15/11	11/15/11
Date Sampled 11/09/11 06:05					
Client ID: **MW-3**					
Lab ID : STR11110905-02A	Phosphorus, Total (As P)	340	100 µg/L	11/15/11	11/15/11
Date Sampled 11/09/11 06:30					
Client ID: **MW-4**					
Lab ID : STR11110905-03A	Phosphorus, Total (As P)	1,100	100 µg/L	11/15/11	11/15/11
Date Sampled 11/09/11 07:25					
Client ID: **EX-1**					
Lab ID : STR11110905-04A	Phosphorus, Total (As P)	490	100 µg/L	11/15/11	11/15/11
Date Sampled 11/09/11 07:05					

Reported in micrograms per Liter, per client request.

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Cameron Park, CA 956828861

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005
Date Received : 11/09/11

Job: Olympic Station

Total Organic Carbon as NonPurgeable Organic Carbon
EPA Method SW9060 / SM5310C

Parameter		Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: **MW-2**					
Lab ID : STR11110905-01A	Total Organic Carbon	3,200	1,000 µg/L	11/11/11	11/11/11
Date Sampled 11/09/11 06:05					
Client ID: **MW-3**					
Lab ID : STR11110905-02A	Total Organic Carbon	3,300	1,000 µg/L	11/11/11	11/11/11
Date Sampled 11/09/11 06:30					
Client ID: **MW-4**					
Lab ID : STR11110905-03A	Total Organic Carbon	73,000	10,000 µg/L	11/11/11	11/14/11
Date Sampled 11/09/11 07:25					
Client ID: **EX-1**					
Lab ID : STR11110905-04A	Total Organic Carbon	4,500	1,000 µg/L	11/11/11	11/11/11
Date Sampled 11/09/11 07:05					

Reported in micrograms per Liter, per client request.

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Alpha Analytical, Inc. certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

Statement of Data Authenticity : Alpha Analytical, Inc. attests that the data reported has not been altered an any way.

Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.

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ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Steve Carter
Phone: (530) 676-6008
Fax: (530) 676-6005
Date Received : 11/09/11

Job: Olympic Station

Total Petroleum Hydrocarbons - Purgeable (TPH-P) EPA Method SW8015B
Volatile Organic Compounds (VOCs) EPA Method SW8260B

		Parameter	Concentration		Reporting Limit	Date Extracted	Date Analyzed
Client ID :	**MW-2**						
Lab ID :	STR11110905-01A	TPH-P (GRO)	ND		50 µg/L	11/14/11	11/14/11
Date Sampled	11/09/11 06:05	Tertiary Butyl Alcohol (TBA)	ND		10 µg/L	11/14/11	11/14/11
		Methyl tert-butyl ether (MTBE)	33		0.50 µg/L	11/14/11	11/14/11
		Di-isopropyl Ether (DIPE)	ND		1.0 µg/L	11/14/11	11/14/11
		Ethyl Tertiary Butyl Ether (ETBE)	ND		1.0 µg/L	11/14/11	11/14/11
		1,2-Dichloroethane	ND		1.0 µg/L	11/14/11	11/14/11
		Benzene	ND		0.50 µg/L	11/14/11	11/14/11
		Tertiary Amyl Methyl Ether (TAME)	ND		1.0 µg/L	11/14/11	11/14/11
		Toluene	ND		0.50 µg/L	11/14/11	11/14/11
		Ethylbenzene	ND		0.50 µg/L	11/14/11	11/14/11
		m,p-Xylene	ND		0.50 µg/L	11/14/11	11/14/11
		o-Xylene	ND		0.50 µg/L	11/14/11	11/14/11
Client ID :	**MW-3**						
Lab ID :	STR11110905-02A	TPH-P (GRO)	ND		50 µg/L	11/14/11	11/14/11
Date Sampled	11/09/11 06:30	Tertiary Butyl Alcohol (TBA)	ND		10 µg/L	11/14/11	11/14/11
		Methyl tert-butyl ether (MTBE)	31		0.50 µg/L	11/14/11	11/14/11
		Di-isopropyl Ether (DIPE)	ND		1.0 µg/L	11/14/11	11/14/11
		Ethyl Tertiary Butyl Ether (ETBE)	ND		1.0 µg/L	11/14/11	11/14/11
		1,2-Dichloroethane	ND		1.0 µg/L	11/14/11	11/14/11
		Benzene	1.8		0.50 µg/L	11/14/11	11/14/11
		Tertiary Amyl Methyl Ether (TAME)	ND		1.0 µg/L	11/14/11	11/14/11
		Toluene	ND		0.50 µg/L	11/14/11	11/14/11
		Ethylbenzene	ND		0.50 µg/L	11/14/11	11/14/11
		m,p-Xylene	ND		0.50 µg/L	11/14/11	11/14/11
		o-Xylene	ND		0.50 µg/L	11/14/11	11/14/11
Client ID :	**MW-4**						
Lab ID :	STR11110905-03A	TPH-P (GRO)	2,800		200 µg/L	11/14/11	11/14/11
Date Sampled	11/09/11 07:25	Tertiary Butyl Alcohol (TBA)	270		20 µg/L	11/14/11	11/14/11
		Methyl tert-butyl ether (MTBE)	720		1.0 µg/L	11/14/11	11/14/11
		Di-isopropyl Ether (DIPE)	ND	V	2.0 µg/L	11/14/11	11/14/11
		Ethyl Tertiary Butyl Ether (ETBE)	ND	V	2.0 µg/L	11/14/11	11/14/11
		1,2-Dichloroethane	ND	V	2.0 µg/L	11/14/11	11/14/11
		Benzene	190		1.0 µg/L	11/14/11	11/14/11
		Tertiary Amyl Methyl Ether (TAME)	3.6		2.0 µg/L	11/14/11	11/14/11
		Toluene	1.4		1.0 µg/L	11/14/11	11/14/11
		Ethylbenzene	9.6		1.0 µg/L	11/14/11	11/14/11
		m,p-Xylene	ND	V	1.0 µg/L	11/14/11	11/14/11
		o-Xylene	1.3		1.0 µg/L	11/14/11	11/14/11

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Client ID : **EX-1**

Lab ID : STR11110905-04A

Date Sampled 11/09/11 07:05

TPH-P (GRO)	ND	50 µg/L	11/14/11	11/14/11
Tertiary Butyl Alcohol (TBA)	ND	10 µg/L	11/14/11	11/14/11
Methyl tert-butyl ether (MTBE)	34	0.50 µg/L	11/14/11	11/14/11
Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	11/14/11	11/14/11
Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	11/14/11	11/14/11
1,2-Dichloroethane	ND	1.0 µg/L	11/14/11	11/14/11
Benzene	4.3	0.50 µg/L	11/14/11	11/14/11
Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	11/14/11	11/14/11
Toluene	ND	0.50 µg/L	11/14/11	11/14/11
Ethylbenzene	ND	0.50 µg/L	11/14/11	11/14/11
m,p-Xylene	ND	0.50 µg/L	11/14/11	11/14/11
o-Xylene	ND	0.50 µg/L	11/14/11	11/14/11

Gasoline Range Organics (GRO) C4-C13

V = Reporting Limits were increased due to high concentrations of target analytes.

ND = Not Detected

Reported in micrograms per Liter, per client request.

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11/17/11

Report Date

Olympic Stadium

Alpha Analytical, Inc.

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VOC Sample Preservation Report

Work Order: STR11110905 **Job:** Olympic Station

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11110905-01A	MW-2	Aqueous	2
11110905-02A	MW-3	Aqueous	2
11110905-03A	MW-4	Aqueous	2
11110905-04A	EX-1	Aqueous	2

11/17/11

Report Date

Alpha Analytical, Inc.

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Date: *17-Nov-11*

QC Summary Report

Work Order: 11110905

Method Blank

Type: **MBLK** Test Code: **SM3500-Fe B**

File ID: Batch ID: **W1111FR** Analysis Date: **11/11/2011 00:00**

Sample ID: **MBLK-W1111FR** Units : **µg/L** Run ID: **WETLAB_111111A** Prep Date: **11/11/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)	ND	50								

Laboratory Control Spike

Type: **LCS** Test Code: **SM3500-Fe B**

File ID: Batch ID: **W1111FR** Analysis Date: **11/11/2011 00:00**

Sample ID: **LCS-W1111FR** Units : **µg/L** Run ID: **WETLAB_111111A** Prep Date: **11/11/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)	1500	50	1500		99.9	85	115			

Sample Matrix Spike

Type: **MS** Test Code: **SM3500-Fe B**

File ID: Batch ID: **W1111FR** Analysis Date: **11/11/2011 00:00**

Sample ID: **11110905-01AMS** Units : **µg/L** Run ID: **WETLAB_111111A** Prep Date: **11/11/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)	1530	50	1500	0	102	70	130			

Sample Matrix Spike Duplicate

Type: **MSD** Test Code: **SM3500-Fe B**

File ID: Batch ID: **W1111FR** Analysis Date: **11/11/2011 00:00**

Sample ID: **11110905-01AMSD** Units : **µg/L** Run ID: **WETLAB_111111A** Prep Date: **11/11/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)	1510	50	1500	0	101	70	130	1528	1.3(20)	

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Reported in micrograms per Liter, per client request.

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Date: *17-Nov-11*

QC Summary Report

Work Order: 11110905

Method Blank

Type: **MBLK** Test Code: **EPA Method SW6020 / SW6020A**

File ID: **111111.B\090_M.D** Batch ID: **27681** Analysis Date: **11/12/2011 02:09**

Sample ID: **MB-27681** Units : **µg/L** Run ID: **ICP/MS_111112A** Prep Date: **11/11/2011 10:20**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Beryllium (Be)	ND	4								
Sodium (Na)	ND	500								
Magnesium (Mg)	ND	500								
Calcium (Ca)	ND	500								
Vanadium (V)	ND	5								
Chromium (Cr)	ND	5								
Manganese (Mn)	ND	5								
Iron (Fe)	ND	300								
Cobalt (Co)	ND	5								
Nickel (Ni)	ND	10								
Copper (Cu)	ND	10								
Zinc (Zn)	ND	100								
Cadmium (Cd)	ND	5								
Lead (Pb)	ND	5								

Laboratory Control Spike

Type: **LCS** Test Code: **EPA Method SW6020 / SW6020A**

File ID: **111111.B\091_M.D** Batch ID: **27681** Analysis Date: **11/12/2011 02:15**

Sample ID: **LCS-27681** Units : **µg/L** Run ID: **ICP/MS_111112A** Prep Date: **11/11/2011 10:20**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Beryllium (Be)	264	4	250		106	80	120			
Sodium (Na)	52000	500	50000		104	80	120			
Magnesium (Mg)	52900	500	50000		106	80	120			
Calcium (Ca)	49700	500	50000		99	80	120			
Vanadium (V)	241	5	250		97	80	120			
Chromium (Cr)	252	5	250		101	80	120			
Manganese (Mn)	2480	5	2500		99	80	120			
Iron (Fe)	49600	300	50000		99	80	120			
Cobalt (Co)	245	5	250		98	80	120			
Nickel (Ni)	253	10	250		101	80	120			
Copper (Cu)	248	10	250		99	80	120			
Zinc (Zn)	245	100	250		98	80	120			
Cadmium (Cd)	251	5	250		100	80	120			
Lead (Pb)	249	5	250		99.7	80	120			

Sample Matrix Spike

Type: **MS** Test Code: **EPA Method SW6020 / SW6020A**

File ID: **111111.B\096_M.D** Batch ID: **27681** Analysis Date: **11/12/2011 02:44**

Sample ID: **11111122-02AMS** Units : **µg/L** Run ID: **ICP/MS_111112A** Prep Date: **11/11/2011 10:20**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Beryllium (Be)	268	4	250	0	107	75	125			
Sodium (Na)	57600	500	50000	5785	104	75	125			
Magnesium (Mg)	59400	500	50000	7075	105	75	125			
Calcium (Ca)	87500	500	50000	40380	94	75	125			
Vanadium (V)	237	5	250	0	95	75	125			
Chromium (Cr)	249	5	250	6.875	97	75	125			
Manganese (Mn)	3630	5	2500	1271	94	75	125			
Iron (Fe)	50900	300	50000	2389	97	75	125			
Cobalt (Co)	240	5	250	0	96	75	125			
Nickel (Ni)	253	10	250	0	101	75	125			
Copper (Cu)	244	10	250	0	97	75	125			
Zinc (Zn)	366	100	250	141.7	90	75	125			
Cadmium (Cd)	247	5	250	0	99	75	125			
Lead (Pb)	248	5	250	0	99	75	125			

Alpha Analytical, Inc.

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Date: *17-Nov-11*

QC Summary Report

Work Order: 11110905

Sample Matrix Spike Duplicate Type: **MSD** Test Code: **EPA Method SW6020 / SW6020A**

File ID: **111111.B\097_M.D** Batch ID: **27681** Analysis Date: **11/12/2011 02:50**

Sample ID: **11111122-02AMSD** Units : **µg/L** Run ID: **ICP/MS_111112A** Prep Date: **11/11/2011 10:20**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Beryllium (Be)	286	4	250	0	114	75	125	268	6.3(20)	
Sodium (Na)	61400	500	50000	5785	111	75	125	57570	6.4(20)	
Magnesium (Mg)	63200	500	50000	7075	112	75	125	59410	6.2(20)	
Calcium (Ca)	93100	500	50000	40380	105	75	125	87450	6.2(20)	
Vanadium (V)	258	5	250	0	103	75	125	236.6	8.5(20)	
Chromium (Cr)	268	5	250	6.875	105	75	125	249.3	7.4(20)	
Manganese (Mn)	3890	5	2500	1271	105	75	125	3631	6.9(20)	
Iron (Fe)	54100	300	50000	2389	103	75	125	50930	5.9(20)	
Cobalt (Co)	258	5	250	0	103	75	125	240.2	7.0(20)	
Nickel (Ni)	271	10	250	0	108	75	125	253.3	6.7(20)	
Copper (Cu)	260	10	250	0	104	75	125	243.5	6.7(20)	
Zinc (Zn)	407	100	250	141.7	106	75	125	366.4	10.6(20)	
Cadmium (Cd)	264	5	250	0	106	75	125	247	6.8(20)	
Lead (Pb)	264	5	250	0	106	75	125	248.3	6.2(20)	

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Reported in micrograms per Liter, per client request.

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Date: *17-Nov-11*

QC Summary Report

Work Order: 11110905

Method Blank

Type: **MBLK** Test Code: **EPA Method 200.8**

File ID: **111111.B\118_M.D** Batch ID: **27673** Analysis Date: **11/12/2011 04:54**

Sample ID: **MB-27673** Units : **µg/L** Run ID: **ICP/MS_111112C** Prep Date: **11/10/2011 14:55**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron (Fe), Dissolved	ND	300								

Laboratory Control Spike

Type: **LCS** Test Code: **EPA Method 200.8**

File ID: **111111.B\119_M.D** Batch ID: **27673** Analysis Date: **11/12/2011 05:00**

Sample ID: **LCS-27673** Units : **µg/L** Run ID: **ICP/MS_111112C** Prep Date: **11/10/2011 14:55**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron (Fe), Dissolved	4840	300	5000		97	80	120			

Sample Matrix Spike

Type: **MS** Test Code: **EPA Method 200.8**

File ID: **111111.B\124_M.D** Batch ID: **27673** Analysis Date: **11/12/2011 05:30**

Sample ID: **11110802-02AMS** Units : **µg/L** Run ID: **ICP/MS_111112C** Prep Date: **11/10/2011 14:55**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron (Fe), Dissolved	5290	300	5000	0	106	75	125			

Sample Matrix Spike Duplicate

Type: **MSD** Test Code: **EPA Method 200.8**

File ID: **111111.B\125_M.D** Batch ID: **27673** Analysis Date: **11/12/2011 05:36**

Sample ID: **11110802-02AMSD** Units : **µg/L** Run ID: **ICP/MS_111112C** Prep Date: **11/10/2011 14:55**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron (Fe), Dissolved	5280	300	5000	0	106	75	125	5285	0.1(20)	

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Reported in micrograms per Liter, per client request.

Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778

(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date: *17-Nov-11*

QC Summary Report

Work Order: 11110905

Method Blank

Type: **MBLK** Test Code: **EPA Method 365.3 / SM4500PE**

File ID: Batch ID: **W1115TP** Analysis Date: **11/15/2011 00:00**

Sample ID: **MBLK-W1115TP** Units : **µg/L** Run ID: **WETLAB_111115A** Prep Date: **11/15/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	ND	100								

Laboratory Control Spike

Type: **LCS** Test Code: **EPA Method 365.3 / SM4500PE**

File ID: Batch ID: **W1115TP** Analysis Date: **11/15/2011 00:00**

Sample ID: **LCS-W1115TP** Units : **µg/L** Run ID: **WETLAB_111115A** Prep Date: **11/15/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	1070	100	1000		107	73	127			

Sample Matrix Spike

Type: **MS** Test Code: **EPA Method 365.3 / SM4500PE**

File ID: Batch ID: **W1115TP** Analysis Date: **11/15/2011 00:00**

Sample ID: **11110905-01AMS** Units : **µg/L** Run ID: **WETLAB_111115A** Prep Date: **11/15/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	1090	100	1000	571	52	73	127			M2

Sample Matrix Spike Duplicate

Type: **MSD** Test Code: **EPA Method 365.3 / SM4500PE**

File ID: Batch ID: **W1115TP** Analysis Date: **11/15/2011 00:00**

Sample ID: **11110905-01AMSD** Units : **µg/L** Run ID: **WETLAB_111115A** Prep Date: **11/15/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	1190	100	1000	571	62	73	127	1089	8.5(20)	M2

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

M2 = Matrix spike recovery was low, the method control sample recovery was acceptable.

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Alpha Analytical, Inc.

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Date: *15-Nov-11*

QC Summary Report

Work Order: 11110905

Method Blank

Type: **MBLK** Test Code: **EPA Method SW9060 / SM5310C**

File ID: Batch ID: **27675** Analysis Date: **11/11/2011 11:21**

Sample ID: **MBLK-27675** Units : **µg/L** Run ID: **TOC_111111A** Prep Date: **11/11/2011 09:47**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	ND	1000								

Laboratory Control Spike

Type: **LCS** Test Code: **EPA Method SW9060 / SM5310C**

File ID: Batch ID: **27675** Analysis Date: **11/11/2011 11:47**

Sample ID: **LCS-27675** Units : **µg/L** Run ID: **TOC_111111A** Prep Date: **11/11/2011 09:47**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	4790	1000	5000		96	74	126			

Sample Matrix Spike

Type: **MS** Test Code: **EPA Method SW9060 / SM5310C**

File ID: Batch ID: **27675** Analysis Date: **11/11/2011 15:47**

Sample ID: **11111004-02AMS** Units : **µg/L** Run ID: **TOC_111111A** Prep Date: **11/11/2011 09:47**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	6100	1000	5000	1416	94	56	137			

Sample Matrix Spike Duplicate

Type: **MSD** Test Code: **EPA Method SW9060 / SM5310C**

File ID: Batch ID: **27675** Analysis Date: **11/11/2011 17:07**

Sample ID: **11111004-02AMSD** Units : **µg/L** Run ID: **TOC_111111A** Prep Date: **11/11/2011 09:47**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	6120	1000	5000	1416	94	56	137	6101	0.3(20)	

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Alpha Analytical, Inc.

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Date: *21-Nov-11*

QC Summary Report

Work Order: 11110905

Method Blank

Type: **MBLK** Test Code: **EPA Method SW8015B/C**

File ID: **11111406.D** Batch ID: **MS09W1114B** Analysis Date: **11/14/2011 11:58**

Sample ID: **MBLK MS09W1114B** Units : **µg/L** Run ID: **MSD_09_111114A** Prep Date: **11/14/2011 11:58**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	ND	50								
Surr: 1,2-Dichloroethane-d4	10.2		10		102	70	130			
Surr: Toluene-d8	10		10		100	70	130			
Surr: 4-Bromofluorobenzene	10.1		10		101	70	130			

Laboratory Control Spike

Type: **LCS** Test Code: **EPA Method SW8015B/C**

File ID: **11111405.D** Batch ID: **MS09W1114B** Analysis Date: **11/14/2011 11:35**

Sample ID: **GLCS MS09W1114B** Units : **µg/L** Run ID: **MSD_09_111114A** Prep Date: **11/14/2011 11:35**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	418	50	400		105	70	130			
Surr: 1,2-Dichloroethane-d4	10.2		10		102	70	130			
Surr: Toluene-d8	10		10		100	70	130			
Surr: 4-Bromofluorobenzene	10.4		10		104	70	130			

Sample Matrix Spike

Type: **MS** Test Code: **EPA Method SW8015B/C**

File ID: **11111419.D** Batch ID: **MS09W1114B** Analysis Date: **11/14/2011 16:53**

Sample ID: **11110820-21AGS** Units : **µg/L** Run ID: **MSD_09_111114A** Prep Date: **11/14/2011 16:53**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	2290	250	2000	0	115	51	144			
Surr: 1,2-Dichloroethane-d4	52.4		50		105	70	130			
Surr: Toluene-d8	49.6		50		99	70	130			
Surr: 4-Bromofluorobenzene	51.3		50		103	70	130			

Sample Matrix Spike Duplicate

Type: **MSD** Test Code: **EPA Method SW8015B/C**

File ID: **11111420.D** Batch ID: **MS09W1114B** Analysis Date: **11/14/2011 17:16**

Sample ID: **11110820-21AGSD** Units : **µg/L** Run ID: **MSD_09_111114A** Prep Date: **11/14/2011 17:16**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	2300	250	2000	0	115	51	144	2292	0.5(29)	
Surr: 1,2-Dichloroethane-d4	51.9		50		104	70	130			
Surr: Toluene-d8	49.3		50		99	70	130			
Surr: 4-Bromofluorobenzene	51.1		50		102	70	130			

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Reported in micrograms per Liter, per client request.

Alpha Analytical, Inc.

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Date: 21-Nov-11

QC Summary Report

Work Order: 11110905

Method Blank

Type: **MBLK** Test Code: **EPA Method SW8260B**

File ID: **11111406.D** Batch ID: **MS09W1114A** Analysis Date: **11/14/2011 11:58**

Sample ID: **MBLK MS09W1114A** Units : **µg/L** Run ID: **MSD_09_111114A** Prep Date: **11/14/2011 11:58**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Tertiary Butyl Alcohol (TBA)	ND	10								
Methyl tert-butyl ether (MTBE)	ND	0.5								
Di-isopropyl Ether (DIPE)	ND	1								
Ethyl Tertiary Butyl Ether (ETBE)	ND	1								
1,2-Dichloroethane	ND	1								
Benzene	ND	0.5								
Tertiary Amyl Methyl Ether (TAME)	ND	1								
Toluene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
o-Xylene	ND	0.5								
Surr: 1,2-Dichloroethane-d4	10.2		10		102	70	130			
Surr: Toluene-d8	10		10		100	70	130			
Surr: 4-Bromofluorobenzene	10.1		10		101	70	130			

Laboratory Control Spike

Type: **LCS** Test Code: **EPA Method SW8260B**

File ID: **11111404.D** Batch ID: **MS09W1114A** Analysis Date: **11/14/2011 11:12**

Sample ID: **LCS MS09W1114A** Units : **µg/L** Run ID: **MSD_09_111114A** Prep Date: **11/14/2011 11:12**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	11.2	0.5	10		112	65	140			
Benzene	10.9	0.5	10		109	70	130			
Toluene	10.2	0.5	10		102	80	120			
Ethylbenzene	10.3	0.5	10		103	80	120			
m,p-Xylene	9.2	0.5	10		92	70	130			
o-Xylene	9.15	0.5	10		92	70	130			
Surr: 1,2-Dichloroethane-d4	10.6		10		106	70	130			
Surr: Toluene-d8	9.72		10		97	70	130			
Surr: 4-Bromofluorobenzene	9.9		10		99	70	130			

Sample Matrix Spike

Type: **MS** Test Code: **EPA Method SW8260B**

File ID: **11111417.D** Batch ID: **MS09W1114A** Analysis Date: **11/14/2011 16:06**

Sample ID: **11110820-21AMS** Units : **µg/L** Run ID: **MSD_09_111114A** Prep Date: **11/14/2011 16:06**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	63	1.3	50	0	126	47	150			
Benzene	57.1	1.3	50	0	114	59	138			
Toluene	51.3	1.3	50	0	103	68	130			
Ethylbenzene	53	1.3	50	0	106	68	130			
m,p-Xylene	46.9	1.3	50	0	94	68	131			
o-Xylene	47.1	1.3	50	0	94	70	130			
Surr: 1,2-Dichloroethane-d4	57.1		50		114	70	130			
Surr: Toluene-d8	46.7		50		93	70	130			
Surr: 4-Bromofluorobenzene	48.5		50		97	70	130			

Sample Matrix Spike Duplicate

Type: **MSD** Test Code: **EPA Method SW8260B**

File ID: **11111418.D** Batch ID: **MS09W1114A** Analysis Date: **11/14/2011 16:29**

Sample ID: **11110820-21AMSD** Units : **µg/L** Run ID: **MSD_09_111114A** Prep Date: **11/14/2011 16:29**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	65	1.3	50	0	130	47	150	63.04	3.1(40)	
Benzene	58.9	1.3	50	0	118	59	138	57.12	3.0(21)	
Toluene	53.4	1.3	50	0	107	68	130	51.34	3.9(20)	
Ethylbenzene	55.1	1.3	50	0	110	68	130	52.97	4.0(20)	
m,p-Xylene	48.6	1.3	50	0	97	68	131	46.92	3.6(20)	
o-Xylene	49.2	1.3	50	0	98	70	130	47.09	4.3(20)	
Surr: 1,2-Dichloroethane-d4	56.3		50		113	70	130			
Surr: Toluene-d8	47.1		50		94	70	130			
Surr: 4-Bromofluorobenzene	47.9		50		96	70	130			

Alpha Analytical, Inc.

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Date: *21-Nov-11*

QC Summary Report

Work Order: 11110905

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

November 21, 2011

CLS Work Order #: CUK0428
COC #:

Reyna Vallejo
Alpha Analytical, Inc.-Sparks
255 Glendale Ave.; Suite 21
Sparks, NV 89431

Project Name: STR11110905

Enclosed are the results of analyses for samples received by the laboratory on 11/09/11 13:10. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

James Liang, Ph.D.
Laboratory Director

CA DOHS ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES

Alpha Analytical, Inc.-Sparks 255 Glendale Ave.; Suite 21 Sparks, NV 89431	Project: STR11110905 Project Number: [none] Project Manager: Reyna Vallejo	**CLS Work Order #: CUK0428** COC #:

CUK0428

Alpha Analytical, Inc.

SUB CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Work Order : STR11110905

*Please reference the Work Order number on all reports and invoices.
*Also please include the dates of analysis and detection limits.
Please send the report to Alpha Analytical (Sparks).
Attention To Reyna Vallejo (reyna@alpha-analytical.com)

Report Due By : 5:00 PM
On : 17-Nov-11

Required QC:
Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Subcontractor:
CLS Labs
3249 Fitzgerald Rd
Rancho Cordova, CA 95742

TEL: (916) 638-7301
FAX: (916) 638-4510
Acct #:

Sampled by : C. Hill
09-Nov-11

Alpha's Sample ID	Client's Sample ID	Matrix	Collection Date	Type & # of Bottles Preserved	Other	EPA Method Prep	Regulation Type EPA Method Test/Prep	Sample Comments

Comments: Total and Dissolved

	Date/Time		Date/Time
Relinquished by:	11-9-11	Received by:	
Relinquished by:		Received by:	1310

982

California Laboratory Services

11/21/11 10:08

Alpha Analytical, Inc.-Sparks
255 Glendale Ave.; Suite 21
Sparks, NV 89431

Project: STR11110905
Project Number: [none]
Project Manager: Reyna Vallejo

CLS Work Order #: CUK0428
COC #:

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
STR11110905-01A (MW-2) (CUK0428-01) Aqueous	**Sampled: 11/09/11 06:05**		**Received: 11/09/11 13:10**						
Hexavalent Chromium, Dissolved	ND	1.0	µg/L	1	CU08414	11/18/11	11/18/11	EPA 218.6	
Hexavalent Chromium	ND	1.0	"	"	"	"	"	"	
STR11110905-02A (MW-3) (CUK0428-02) Aqueous	**Sampled: 11/09/11 06:30**		**Received: 11/09/11 13:10**						
Hexavalent Chromium, Dissolved	ND	1.0	µg/L	1	CU08414	11/18/11	11/18/11	EPA 218.6	
Hexavalent Chromium	ND	1.0	"	"	"	"	"	"	
STR11110905-03A (MW-4) (CUK0428-03) Aqueous	**Sampled: 11/09/11 07:25**		**Received: 11/09/11 13:10**						
Hexavalent Chromium, Dissolved	ND	1.0	µg/L	1	CU08414	11/18/11	11/18/11	EPA 218.6	
Hexavalent Chromium	ND	1.0	"	"	"	"	"	"	
STR11110905-04A (EX-1) (CUK0428-04) Aqueous	**Sampled: 11/09/11 07:05**		**Received: 11/09/11 13:10**						
Hexavalent Chromium, Dissolved	ND	1.0	µg/L	1	CU08414	11/18/11	11/18/11	EPA 218.6	
Hexavalent Chromium	ND	1.0	"	"	"	"	"	"	

Alpha Analytical, Inc.-Sparks
255 Glendale Ave.; Suite 21
Sparks, NV 89431

Project: STR11110905
Project Number: [none]
Project Manager: Reyna Vallejo

CLS Work Order #: CUK0428
COC #:

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CU08414 - General Prep										
Blank (CU08414-BLK1)				Prepared & Analyzed: 11/18/11						
Hexavalent Chromium	ND	1.0	µg/L							
Hexavalent Chromium, Dissolved	ND	1.0	"							
LCS (CU08414-BS1)				Prepared & Analyzed: 11/18/11						
Hexavalent Chromium	4.68	1.0	µg/L	5.00		94	80-120			
Hexavalent Chromium, Dissolved	4.68	1.0	"	5.00		94	80-120			
LCS Dup (CU08414-BSD1)				Prepared & Analyzed: 11/18/11						
Hexavalent Chromium	4.85	1.0	µg/L	5.00		97	80-120	4	20	
Hexavalent Chromium, Dissolved	4.85	1.0	"	5.00		97	80-120	4	20	
Matrix Spike (CU08414-MS1)		**Source: CUK0742-01**		Prepared & Analyzed: 11/18/11						
Hexavalent Chromium	6.73	1.0	µg/L	5.00	ND	135	80-120			QM-5
Hexavalent Chromium, Dissolved	6.73	1.0	"	5.00	ND	135	80-120			QM-5
Matrix Spike Dup (CU08414-MSD1)		**Source: CUK0742-01**		Prepared & Analyzed: 11/18/11						
Hexavalent Chromium	6.76	1.0	µg/L	5.00	ND	135	80-120	0.5	20	QM-5
Hexavalent Chromium, Dissolved	6.76	1.0	"	5.00	ND	135	80-120	0.5	20	QM-5

Alpha Analytical, Inc.-Sparks	Project: STR11110905	
255 Glendale Ave.; Suite 21	Project Number: [none]	**CLS Work Order #: CUK0428**
Sparks, NV 89431	Project Manager: Reyna Vallejo	COC #:

Notes and Definitions

QM-5	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21
Sparks, NV 89431
Attention: Reyna Vallejo
Fax: 775-355-0406

Date of Issue
11/21/2011
MWH LABORATORIES

ACCREDITED IN ACCORDANCE WITH nelac 01114CA

Report#: 381055
Project: SUBCONTRACT
Group: Bromate

DST: David S Tripp
Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.

MWH LABORATORIES

STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	**Mississippi**	Certified
Alaska	CA00006	**Montana**	Cert 0035
Arizona	AZ0455	**Nevada**	CA00006-2010-1
Arkansas	Certified	**New Hampshire**	2959-11
California – NELAP	01114CA	**New Jersey**	CA 008
California – ELAP	1422	**New Mexico**	Certified
Colorado	Certified	**New York**	11320
Connecticut	PH-0107	**North Carolina**	06701
Delaware	CA 006	**North Dakota**	R-009
Florida	E871024	**Oregon**	CA 200003-009
Georgia	947	**Pennsylvania**	68-565
Guam	11-004r	**Rhode Island**	01114CA
Hawaii	Certified	**South Carolina**	87016001
Idaho	Certified	**South Dakota**	Certified
Illinois	200033	**Tennessee**	TN02839
Indiana	C-CA-01	**Texas**	T104704230-11-2
Kansas	E-10268	**Utah**	Mont-1
Kentucky	90107	**Vermont**	VT0114
Louisiana	LA110022	**Virginia**	00210
Maine	CA0006	**Washington**	C383
Maryland	224	**West Virginia**	9943 C
Commonwealth of Northern Marianas Is.	MP0004	**Wisconsin**	998316660
Massachusetts	M-CA006	**Wyoming**	8TMS-L
Michigan	9906	**EPA Region 5**	Certified

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (626) 386-1101 http://MWHLabs.com

MWH LABORATORIES

Acknowledgement of Samples Received

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21
Sparks, NV 89431
Attn: Reyna Vallejo
Phone: 775-355-1044

Customer Code: ALPHA-NV
Folder #: 381055
Project: SUBCONTRACT
Sample Group: Bromate
Project Manager: David S Tripp
Phone: (626) 386-1158
PO #: STR11110905

The following samples were received from you on **November 10, 2011**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample ID	Sample Date
201111100500	MW-2	Nov 09, 2011 06:05
	Variable ID: STR11110905-01A	
	Bromate by UV/VIS	
201111100502	MW-3	Nov 09, 2011 06:30
	Variable ID: STR11110905-02A	
	Bromate by UV/VIS	
201111100503	MW-4	Nov 09, 2011 07:25
	Variable ID: STR11110905-03A	
	Bromate by UV/VIS	
201111100504	EX-1	Nov 09, 2011 07:05
	Variable ID: STR11110905-04A	
	Bromate by UV/VIS	

Test Description

Alpha Analytical, Inc.
255 Glendale Avenue
Suite 21
Sparks, Nevada 89431-5778
Phone: (775) 355-1044
Fax: (775) 355-0406

SUB CHAIN-OF-CUSTODY RECORD

Work Order : STR11110905

*Please reference the Work Order number on all reports and invoices.
*Also please include the dates of analysis and detection limits.
Please send the report to Alpha Analytical (Sparks).
Attention To Reyna Vallejo (reyna@alpha-analytical.com).

Report Due By : 5:00 PM
On : 17-Nov-11

Subcontractor:
Montgomery Watson Harza Laboratories, Inc.
750 Royal Oaks Drive
Suite 100
Monrovia, CA 91016-3629

TEL: (626) 386-1100
FAX: (626) 386-1124
Acct #:

Required QC:
Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Sampled by : C. Hill

09-Nov-11

Alpha's Sample ID	Client's Sample ID	Matrix	Collection Date	Type (#) of Bottles Preserved	Other	Requested Tests EPA Method 317	Sample Comments
STR11110905-01A	MW-2	Aqueous	11/09/11 08:05	100ML-EDA (1)	250ML-HDP E-U (1)	Bromate (Sub to MWH)	
STR11110905-02A	MW-3	Aqueous	11/09/11 06:30	100ML-EDA (1)	250ML-HDP E-U (1)	Bromate (Sub to MWH)	
STR11110905-03A	MW-4	Aqueous	11/09/11 07:25	100ML-EDA (1)	250ML-HDP E-U (1)	Bromate (Sub to MWH)	
STR11110905-04A	EX-1	Aqueous	11/09/11 07:05	100ML-EDA (1)	250ML-HDP E-U (1)	Bromate (Sub to MWH)	

4/10

Comments:

		Date/Time			Date/Time
Relinquished by:	[signature]	11-9-11 1600	Received by:	M. DE LUESA MWH	11-10-11 1124
Relinquished by:			Received by:		

Alpha Analytical, Inc.

Phone : (775) 355-1044 FAX : (775) 355-0406

Subcontract Sample Receipt Checklist

Date Report is due at Alpha : 17-Nov-11 Date of Notice : 11/9/2011 11:55:35

If any items are checkmarked NO or are non-compliant, a phone call back to Alpha Analytical is required immediately. If all items are acceptable, a faxed copy of the signed sub chain of custody (COC) and the completed sample receipt check list is required within 24 hours of sample receipt.

Alpha's Work Order Number : STR11110905 SubContract Work Order Number : Date Received :

Chain of Custody (COC) Information

Carrier name: FEDEX # 7977 2175 5490

Chain of custody present ?	Yes ☑	☐ No	
Custody seals intact on shippping container/cooler ?	Yes ☒	☐ No	Not Presen ☑
Custody seals intact on sample bottles ?	Yes ☐	☐ No	Not Presen ☑
Chain of custody signed when relinquished and received ?	Yes ☑	☐ No	
Chain of custody agrees with sample labels ?	Yes ☑	☐ Non-Compliant	
Internal Chain of Custody (COC) requseted ?	Yes ☐	☐ No	

Sample Receipt Information

Shipping container/cooler in good condition?	Yes ☑	☐ No	Not Presen ☐
Samples in proper container/bottle?	Yes ☑	☐ Non-Compliant	
Sample containers intact?	Yes ☑	☐ No	
Sufficient sample volume for indicated test?	Yes ☑	☐ No	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes ☑ ☐ Non-Compliant

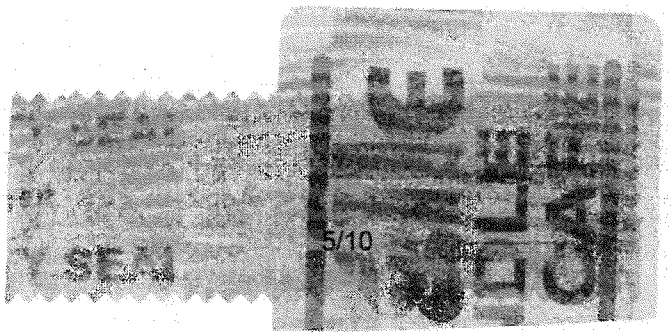
Cooler Temperature : Is Wet Ice present in Cooler ? Yes ☑ If YES, then temperature is 4°C.

No ☐ If NO, then actual cooler temperature is : 3.8 °C

Analytical Requirement Information

Are non-Standard or Modified methods requested ?	Yes ☐	☐ No
SubContract Lab CA STATE certified?	Yes ☐	☐ No
SubContract Lab NELAP certified?	Yes ☐	☐ No
SubContract Lab CERTIFIED for the various methods requested	Yes ☐	☐ No
Will the SubContract Lab be able to meet the turn-around time (TAT) requirements ?	Yes ☐	☐ No

Comments :



MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
Hits Report: 381055

Alpha Analytical, Inc.
Reyna Vallejo
255 Glendale Avenue, Suite 21
Sparks, NV 89431

Samples Received on:
11/10/2011

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
		201111100502 **MW-3**				
11/15/2011 14:43	Bromate by UV/VIS		68	10	ug/L	5

SUMMARY OF POSITIVE DATA ONLY

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 381055

Alpha Analytical, Inc.
Reyna Vallejo
255 Glendale Avenue, Suite 21
Sparks, NV 89431

Samples Received on:
11/10/2011

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
MW-2 (201111100500)						**Sampled on 11/09/2011 0605**		
Variable ID: STR11110905-01A								
EPA 317 - Bromate by UV/VIS 317								
11/14/2011	22:37	627102	(EPA 317)	Bromate by UV/VIS	ND	ug/L	1	1
MW-3 (201111100502)						**Sampled on 11/09/2011 0630**		
Variable ID: STR11110905-02A								
EPA 317 - Bromate by UV/VIS 317								
11/15/2011	14:43	627278	(EPA 317)	Bromate by UV/VIS	68	ug/L	5	5
MW-4 (201111100503)						**Sampled on 11/09/2011 0725**		
Variable ID: STR11110905-03A								
EPA 317 - Bromate by UV/VIS 317								
11/14/2011	23:23	627102	(EPA 317)	Bromate by UV/VIS	ND	ug/L	1	1
EX-1 (201111100504)						**Sampled on 11/09/2011 0705**		
Variable ID: STR11110905-04A								
EPA 317 - Bromate by UV/VIS 317								
11/14/2011	23:47	627102	(EPA 317)	Bromate by UV/VIS	ND	ug/L	1	1

Rounding on totals after summation.
(c) - indicates calculated results

MWH
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Tel: 626 386 1100
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1 800 566 LABS (1 800 566 5227)

Laboratory Comments
Report: #381055

Alpha Analytical, Inc.
Reyna Vallejo
255 Glendale Avenue, Suite 21
Sparks, NV 89431

The Comments Report may be blank if there are no comments for this report.

MWH
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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
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1 800 566 LABS (1 800 566 5227)

Alpha Analytical, Inc.

QC Ref # 627102 - Bromate by UV/VIS 317 — **Analysis Date: 11/14/2011**

201111100500	MW-2	Analyzed by: TLH
201111100503	MW-4	Analyzed by: TLH
201111100504	EX-1	Analyzed by: TLH

QC Ref # 627278 - Bromate by UV/VIS 317 — **Analysis Date: 11/15/2011**

201111100502	MW-3	Analyzed by: TLH

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 381055

Alpha Analytical, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 627102 - Bromate by UV/VIS 317 by EPA 317						**Analysis Date: 11/14/2011**			
LCS1	Bromate by UV/VIS		10	9.42	ug/L	94	(90-110)		
LCS2	Bromate by UV/VIS		10	9.48	ug/L	95	(90-110)	20	0.64
MBLK	Bromate by UV/VIS			<1	ug/L				
MRL_CHK	Bromate by UV/VIS		1.0	0.869	ug/L	87	(75-125)		
MS_201111110205	Bromate by UV/VIS	2.3	5.0	7.16	ug/L	96	(75-125)		
MS_201111120047	Bromate by UV/VIS	1.8	5.0	6.87	ug/L	102	(75-125)		
MSD_201111110205	Bromate by UV/VIS	2.3	5.0	7.41	ug/L	101	(75-125)	15	3.4
MSD_201111120047	Bromate by UV/VIS	1.8	5.0	6.61	ug/L	97	(75-125)	15	3.9
QC Ref# 627278 - Bromate by UV/VIS 317 by EPA 317						**Analysis Date: 11/15/2011**			
LCS1	Bromate by UV/VIS		10	10.5	ug/L	105	(90-110)		
LCS2	Bromate by UV/VIS		10	10.4	ug/L	104	(90-110)	20	0.96
MBLK	Bromate by UV/VIS			<1	ug/L				
MRL_CHK	Bromate by UV/VIS		1.0	1.03	ug/L	103	(75-125)		
MS_201111140020	Bromate by UV/VIS	ND	5.0	5.41	ug/L	108	(75-125)		
MS_201111150127	Bromate by UV/VIS	ND	5.0	5.12	ug/L	102	(75-125)		
MSD_201111140020	Bromate by UV/VIS	ND	5.0	5.27	ug/L	105	(75-125)	15	2.6
MSD_201111150127	Bromate by UV/VIS	ND	5.0	5.2	ug/L	104	(75-125)	15	1.6

Spike recovery is already corrected for native results.
Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.
Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.
(S) Indicates surrogate compound.
(I) Indicates internal standard compound.
RPD not calculated for LCS2 when different a concentration than LCS1 is used
RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

Billing Information :

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
TEL: (775) 355-1044 FAX: (775) 355-0406

CA

WorkOrder : STR11110905

Report Due By : 5:00 PM On : 17-Nov-11

Client:
Stratus Environmental
3330 Cameron Park Drive
Suite 550
Cameron Park, CA 95682-8861

Report Attention	Phone Number	EMail Address
Steve Carter	(530) 676-6008 x	scarter@stratusinc.net

EDD Required : **Yes**

Sampled by : C. Hill

PO :

Client's COC # : 56858 Job : Olympic Station

Cooler Temp	Samples Received	Date Printed
0 °C	09-Nov-11	10-Nov-11

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 317_W	3500FE_2OS_W	3500FE_3IC_W	METALS_AQ	METALS_CR6_SUB_W	METALS_CR6DS_SUB_W	METALS_DS	PHOSPHORUS_W	Sample Remarks
STR11110905-01A	MW-2	AQ	11/09/11 06:05	13	2	5	Bromate (Sub to MWH)	FE+2	FE+3	Special List	Cr6+ by 7199	Dissolved CR6+ by 7199	Fe	Total	
STR11110905-02A	MW-3	AQ	11/09/11 06:30	13	2	5	Bromate (Sub to MWH)	FE+2	FE+3	Special List	Cr6+ by 7199	Dissolved CR6+ by 7199	Fe	Total	
STR11110905-03A	MW-4	AQ	11/09/11 07:25	13	2	5	Bromate (Sub to MWH)	FE+2	FE+3	Special List	Cr6+ by 7199	Dissolved CR6+ by 7199	Fe	Total	
STR11110905-04A	EX-1	AQ	11/09/11 07:05	13	2	5	Bromate (Sub to MWH)	FE+2	FE+3	Special List	Cr6+ by 7199	Dissolved CR6+ by 7199	Fe	Total	

Comments: Chain prelogged 11/09/11 in order for Sac office to sub Total and Dissolved Cr6+ by 7199 to CLS and Bromate to MWH. Remaining samples received on 11/10/11. Security seals intact. Frozen ice. TOC pH=2. :

	Signature	Print Name	Company	Date/Time
Logged in by:		Cheryl Gamble	Alpha Analytical, Inc.	11/10/11 10:31

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.

Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information :

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
TEL: (775) 355-1044 FAX: (775) 355-0406

CA

WorkOrder : STR11110905

Report Due By : 5:00 PM On : 17-Nov-11

Client:
Stratus Environmental
3330 Cameron Park Drive
Suite 550
Cameron Park, CA 95682-8861

Report Attention	Phone Number	EMail Address
Steve Carter	(530) 676-6008 x	scarter@stratusinc.net

EDD Required : **Yes**

Sampled by : C. Hill

PO :

Client's COC # : 56858 Job : Olympic Station

Cooler Temp	Samples Received	Date Printed
0 °C	09-Nov-11	**10-Nov-11**

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests TOC_W	TPH/P_W	VOC_W						Sample Remarks
STR11110905-01A	MW-2	AQ	11/09/11 06:05	13	2	5	TOC	GAS-C	BTEX/OXY/ 1,2-DCA_C						
STR11110905-02A	MW-3	AQ	11/09/11 06:30	13	2	5	TOC	GAS-C	BTEX/OXY/ 1,2-DCA_C						
STR11110905-03A	MW-4	AQ	11/09/11 07:25	13	2	5	TOC	GAS-C	BTEX/OXY/ 1,2-DCA_C						
STR11110905-04A	EX-1	AQ	11/09/11 07:05	13	2	5	TOC	GAS-C	BTEX/OXY/ 1,2-DCA_C						

Comments: Chain prelogged 11/09/11 in order for Sac office to sub Total and Dissolved Cr6+ by 7199 to CLS and Bromate to MWH. Remaining samples received on 11/10/11. Security seals intact. Frozen ice. TOC pH=2. :

	Signature	Print Name	Company	Date/Time
Logged in by:		Cheryl Gamble	**Alpha Analytical, Inc.**	11/10/11 10:31

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.
The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.
Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information:
Company Name: Stantec
Attn: Steve
Address: 3330 Cameron Pk Dr
City, State, Zip: Cameron Pk
Phone Number: 5306766004 Fax: 5306766005

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21
Sparks, Nevada 89431-5778
Phone (775) 355-1044
Fax (775) 355-0406

Samples Collected From Which State? AZ ___ CA X NV ___ WA ___ DOD Site ___
ID ___ OR ___ OTHER ___ Page # 1 of 1

Consultant / Client Name: Olympic Station
Address:
City, State, Zip: San Lorenzo
Job #:
Job Name:
Report Attention / Project Manager
Name: Steve
Email:
Phone: Mobile:

Data Validation Level: III or IV
EDD / EDF? YES ___ NO ___
Global ID #:

Time Sampled	Date Sampled	Matrix* See Key Below	P.O. # / Lab ID Number (Office Use Only)	Sample Description	TAT	Field Filtered	# Containers**	GRO, BTEX	5 Oxys 12 DCA	Total Dissolved Hex chrome	TOC	Ferrous, Dissolved Ferric, Total Phosphorus	Metals	REMARKS
0605	11/9	AR	STR1110905-01A	MW 2	STD		15	X	X	X	X	X	X	Metals
1630			-02A	MW 3			15	X	X	X	X	X	X	Be, Ca, Cd, Cr, Co
1725			-03A	MW 4			15	X	X	X	X	X	X	Cu, Fe, Pb, Mg
0805			-04A	EX-1			15	X	X	X	X	X	X	Mn, Ni, Na, V
														Zn
														Subtotals And MW#1111090S

ADDITIONAL INSTRUCTIONS:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled By: CHRIS

Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affiliation) E. Hamamo	Date: 11.09.11	Time: 11:05
Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affiliation) Alpha	Date: 11/10/11	Time: 10:30
Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affiliation)	Date:	Time:

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air **: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.