

Lockheed Martin Corporation

Interim Data Report-

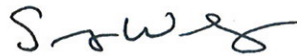
In Situ Pilot Study

Former American Beryllium Company Site

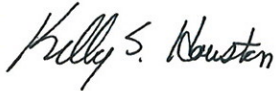
Tallevast, Florida

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ARCADIS



Song Wang
Project Engineer



Kelly S. Houston
Senior Engineer



Guy T. Kaminski
Senior Engineer II/Associate
FL Lic. No. 41048

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**Interim Data Report – In
Situ Pilot Study**

Former American Beryllium
Company Site

Prepared for:
Lockheed Martin Corporation

Prepared by:
ARCADIS
3350 Buschwood Park Drive
Suite 100
Tampa
Florida 33618
Tel 813.933.0697
Fax 813.932.9514

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1. Introduction

This Draft-Final Interim Data Report - In Situ Pilot Study is being submitted pursuant to the Florida Department of Environmental Protection (FDEP)-approved In Situ Pilot Study Work Plan dated January 22, 2008.

Lockheed Martin Corporation (Lockheed Martin) has conducted the assessment and cleanup of environmental impacts from the former American Beryllium Company (ABC) facility (facility) located at 1600 Tallevast Road in Tallevast, Manatee County, Florida, pursuant to the requirements detailed in Consent Order No. 04-1328 executed by and between Lockheed Martin and the FDEP, effective July 28, 2004. The assessment activities comply with applicable sections of Chapter 62-780, Florida Administrative Code (F.A.C.), and Section 376.30701 of the Florida Statutes. Lockheed Martin acquired ownership of the former ABC facility through its 1996 acquisition of Loral Corporation, the parent company of ABC. Lockheed Martin ceased operations at the facility in 1997 and, in 2000, sold the former ABC facility to BECSD, LLC, which currently leases it to Lockheed Martin. The Site Assessment Report Addendum 3 (SARA 3) dated April 26, 2006 satisfies the site assessment requirements set forth in Chapter 62-780.600, F.A.C. and was approved by FDEP via letter dated September 25, 2006.

A Remedial Action Plan (RAP) was provided by Lockheed Martin on May 4, 2007 in accordance with applicable sections of Chapter 62-780, F.A.C., Contaminated Site Cleanup Criteria. The FDEP provided comments on the RAP in a letter dated July 27, 2007. In response to the FDEP comments on the RAP, on September 11, 2007 Lockheed Martin requested an extension of time to respond to the RAP comments. The extension of time allows for additional field data to be collected and incorporated into the site conceptual model that will be used to refine the remedy evaluation and selection that will be provided in a revised RAP. The additional efforts or activities proposed by Lockheed Martin to respond to FDEP comments and develop a revised RAP were discussed in a meeting with the FDEP on September 27, 2007 and outlined in the letter requesting an extension of time for a revised RAP submittal. In a letter dated October 2, 2007, the FDEP granted the extension and concurred with the submission of Interim Data Reports (IDR) to document the progress of work towards submitting a revised RAP on September 1, 2008.

As set forth in the schedule approved by the FDEP in granting a request for extension of time, five interim reports were to be submitted to FDEP as follows:



- 2/22/08 Interim Data Report
- 3/19/08 Groundwater Model Calibration Report
- 4/25/08 In-Situ Pilot Study Evaluation
- 4/30/08 Groundwater Model Hydraulic Containment Evaluation
- 7/8/08 Groundwater Model Solute Transport Evaluation

This IDR is submitted to meet the above schedule requirement to provide an interim evaluation of In-Situ Pilot Study activities performed by Lockheed Martin that were detailed in the following two work plans provided to FDEP:

- Bench Scale Treatability Study Work Plan, dated November 21, 2007 (LMC, 2007); and
- In Situ Pilot Study Work Plan dated January 22, 2008 (ARCADIS, 2008).

The objective of this IDR is to document the progress of work being conducted as part of the preparation of the revised RAP by presenting the data collected in conjunction with the in situ pilot study. The IDR presents a number of draft items, such as boring logs, data plots and summary tables. All data presented herein will be submitted in fully validated final form, along with appropriate interpretations, in the revised RAP. Activities associated with the in situ pilot study are still ongoing and, therefore, the revised RAP will include additional data and a more comprehensive evaluation of the data generated through the pilot study and other pre-design activities.



2. Bench Scale Treatability Study

2.1 Bench Scale Treatability Study Objectives

The contaminants of concern (COCs) in soil and groundwater at the former ABC site include trichloroethene (TCE), tetrachloroethene (PCE), 1,1-dichloroethene (1,1-DCE), 1,1-dichloroethane (1,1-DCA), cis-1,2-dichloroethene (cis-1,2-DCE), and 1,4-dioxane. The compounds TCE, PCE, 1,1-DCE, 1,1-DCA and cis-1,2-DCE are chlorinated volatile organic compounds (CVOCs). Chemical oxidation is one remediation technology that has demonstrated effectiveness for destroying both CVOCs and 1,4-dioxane. The objectives of the laboratory treatability study (i.e., bench scale treatability study) as stated in the November 21, 2007 work plan include:

- Determine the efficacy of the chemical oxidant sodium persulfate to treat CVOCs and 1,4-dioxane in the presence of site groundwater and soil.
- Select effective chemical oxidant dosages to be used in subsequent oxidant injection tests for the in situ treatment of CVOCs and 1,4-dioxane.
- Determine if engineered persulfate activation is necessary, and if so, select an activator for use. If not, determine if natural activation is sustainable.
- Select an activator dosage to be used in subsequent oxidant injection tests.
- Determine how persulfate injection will affect metals mobilization in site groundwater.
- Determine reaction rates of optimal oxidants and dosages to facilitate field-scale design.

2.2 Field Sample Collection

Impacted soils from the Upper Surficial Aquifer System (USAS) MW-254 location (**Figure 3A**) were collected from hollow stem auger flight soil cuttings (Sample USAS1). Impacted soil and groundwater were also collected from the USAS at membrane interface probe location MIP-3S on the Schmidt property (see sample location USAS2 on Figure 3B). The USAS2 soil and groundwater samples were collected at MIP-3S using a macro core sampler and retractable screen point,



respectively. The samplers were advanced using direct push technology. A composite of saturated soil from various Lower Shallow Aquifer System (LSAS) bore holes associated with pilot study well locations TL-INJ, TL-10-1, TL-7-1, TL-4-2, and TL-4-1 (Sample LSAS1) and a LSAS soil sample (Sample LSAS2) from behind the antique shop (**Figure 3B**) located south of the former ABC facility were collected from soil core samples from rotosonic drilling. Impacted groundwater was collected from MW-33 for the composite LSAS saturated soil sample (LSAS1), from MW-82 for the LSAS sample from behind the antique shop (LSAS2), and from MW-254 for the on-facility USAS sample (USAS1) and shipped to the CDM Environmental Treatability Laboratory in Bellevue, Washington. Soil sample locations were selected to be representative of areas of the site where elevated concentrations of CVOCs and 1,4-dioxane are found in groundwater and in situ chemical oxidation will be considered in the revised RAP.

During collection of groundwater samples, the end of the pump discharge tube was placed in the bottom of the container to minimize the contact of water sample with air. After the container was filled it was capped immediately. The container was filled as full as possible to minimize headspace. The USAS soil samples were collected in 8-ounce jars and sealed for shipment. The LSAS soil samples were collected and placed in a bucket liner, saturated with LSAS groundwater, and then sealed in a 5-gallon bucket. The on-facility composite soil sample (LSAS1) was saturated with groundwater from MW-33. Groundwater from MW-82 was used to saturate the soil sample from the antique shop (LSAS2). In addition 2.5 gals of groundwater from both MW-33 and MW-82 were shipped in separate containers to the CDM Environmental Treatability Laboratory along with the LSAS soil samples. Sample contact with air was minimized to prevent contact with oxygen and to preserve, to the extent practical, the reduction-oxidation (redox) condition of the samples. Bench test data for USAS1 is presented in Section 2.3 of this report. Bench testing for soil samples LSAS 1 and LSAS2 is ongoing and will be presented in the revised RAP.

2.3 Phase I – Chemistry, Persulfate Activation and Metal Test Results

2.3.1 Deviation from the Work Plan

The treatability study was conducted according to the Bench Scale Treatability Study of In Situ Chemical Oxidation Work Plan submitted to the FDEP on November 21, 2007 (ARCADIS, 2007) with the deviations discussed in the following subsections.



2.3.1.1 Alkaline Activation Procedure

In the Work Plan, the amount of sodium hydroxide (NaOH) to be added was to be determined by a titration test with a targeted pH of 11. However, persulfate oxidation results in acid production and a corresponding decrease in pH. Therefore, the procedure was modified to start the test with a higher pH in an attempt to compensate for acid production during persulfate decomposition. The alkaline activation procedure was modified as follows:

1. Titrate soil and groundwater slurry with NaOH to a pH of 11.
2. Calculate the concentration of NaOH added from the titration.
3. Calculate the amount of NaOH needed to neutralize acid produced by adding persulfate to soil. The soil oxidant demand (SOD) is estimated to be 40 grams (g) persulfate per kilogram (kg) of soil based on previous studies using site soil.
4. Add NaOH equal to the sum of amounts calculated in steps 2 and 3.
5. Measure pH immediately following NaOH addition and mixing.
6. Measure pH again after 7 days as described in the work plan.

2.3.1.2 Supplemental pH Neutralization and Metals Analysis

Treatability study samples of filtered groundwater were analyzed for metals in accordance with the Work Plan. The results indicated elevated concentrations of various metals that correlated with extreme pH conditions (i.e., a low of approximately 4 and a high of 13; see Section 2.3.2.6). The aquifer will have a buffering capacity and will tend to neutralize low or high pH groundwater as it flows through the aquifer. Therefore, neutralization of selected samples and additional metals analyses were conducted to assess the effect of neutralizing the pH on metals concentrations. Samples (combined soil and groundwater) from Tests containing 1% persulfate, 1% persulfate and ferrous iron activation, 5% persulfate and 5% persulfate with ferrous iron activation were neutralized with NaOH and then groundwater samples were filtered and analyzed for metals.



2.3.2 Results and Discussion

This section presents interim results for the completed bench scale treatability test activities, including the following:

- Baseline analysis of groundwater
- CVOC and 1,4-dioxane removal (i.e., treatment effectiveness)
- Oxidant consumption and changes in pH
- Confirmatory analyses
- Natural activation sustainability tests
- Metals analysis and neutralization

2.3.2.1 Baseline Analysis of Groundwater

The baseline analysis of sample USAS1 was conducted upon sample receipt. Ten glass jars of groundwater were received and three jars were randomly chosen for the baseline analysis. The results are summarized in **Table 1**. The COC concentrations in subsamples of USAS1 were confirmed to be consistent with CVOC and 1,4-dioxane concentrations observed on-facility in the USAS and sufficiently high for persulfate treatment effectiveness evaluation as to not require spiking with CVOCs or 1,4-dioxane during laboratory testing. Significant variation amongst the subsamples in the three bottles was not observed.

2.3.2.2 VOC Removal

The concentrations of PCE, TCE, cis-1,2-DCE and 1,4-dioxane at the beginning and end of the 7-day experiments are presented in **Figure 1**. For the tests of persulfate without activation (i.e., natural activation) and with iron activation, all COCs were removed after 7 days with both 1% and 5% oxidant dosages. Significant removal of PCE, TCE, and cis-1,2-DCE was observed in the time zero sample, for many of the treatments. For example, **Figure 1** shows the initial PCE concentration with iron activation but no persulfate (i.e., the iron activation control) was about 5,000 micrograms per liter (µg/L) and the initial PCE concentration with iron activation and 1 percent persulfate was less than 1,000 µg/L. Similar observations were noted for



the natural activation treatments and some of the alkaline activation treatments as shown in **Figure 1**. The reason for this observation is that oxidation reactions occurred while the sample was on the automatic sampling apparatus awaiting analysis. For the tests using persulfate activated by pH elevation, TCE and cis-1,2-DCE were totally removed after 7 days with the 5% oxidant dose; PCE was not completely removed after 7 days with both the 1% and 5% dosages; and 1,4-dioxane was removed with both 1% and 5% dosages. To summarize, iron activation and natural activation performed the best with respect to removal of all COCs. Alkaline activation was also effective, but not as effective as the other two activation methods.

2.3.2.3 Oxidant Consumption and Changes in pH

Persulfate consumption was similar for the different activation methods, as shown in **Figure 2**. The oxidant demand for each test is presented in **Table 2**. Significant pH decreases were observed with natural and iron activation methods. The pH decrease was greater with 5% oxidant than with 1% oxidant. The pH increased in the absence of oxidant, possibly due to equilibration of carbon dioxide and bicarbonate alkalinity in the reaction vessels.

2.3.2.4 Confirmatory Analyses

At the end of 7 days of incubation, two bottles were randomly selected and shipped to an independent analytical laboratory (Test America – Tampa) for confirmatory analysis of CVOCs and 1,4-dioxane. The same samples were also analyzed in the CDM Treatability Lab. The analysis results from both labs are summarized in **Table 3**. The results were in general agreement. The greatest relative percent deviation (RPD) was 40% for 1,4-dioxane analysis at low concentrations.

2.3.2.5 Natural Activation Sustainability Tests

As presented in **Figure 1**, naturally activated persulfate successfully oxidized the 1,4-dioxane and CVOCs. To examine whether this natural activation was sustainable, an additional 15 µg/L 1,4-dioxane (consistent with observed baseline concentrations) were added to bottles containing 0% persulfate, 1% persulfate and 5% persulfate. Since residual persulfate concentrations were still high enough to oxidize the added 1,4-dioxane, no extra oxidant was added. Results from the tests (shown in **Table 4**) indicate this natural activation of persulfate was sustainable. This conclusion is based on comparison of the Respiked t=0 concentrations to the Test America Respiked t=11 concentrations. No dioxane concentration decrease was observed dioxane control Bottle 1A and dioxane was depleted in Bottles 4A and 7A with



persulfate. The CDM Lab analyses for Respiked t=11 days are elevated because of laboratory contamination.

2.3.2.6 Metal Analysis and Neutralization

Filtered groundwater metal concentrations increased because of pH decreases associated with acid formation during persulfate consumption or pH increases associated with alkaline activation as shown in **Table 5**. The concentrations were compared to Manatee County permit limits and primary or secondary Maximum Contaminant Levels (MCLs) (**Table 5**).

Concentrations of metals were observed to increase to varying extents in the tests. Specifically, arsenic, cadmium, chromium, iron, manganese, and nickel were observed to increase in excess of the MCLs for some but not all of the test conditions. Neutralization generally reduced metal concentrations except for arsenic and nickel.

2.3.3 Conclusions

The results from the treatability study for USAS onsite samples support the following conclusions:

- Naturally activated persulfate was effective for oxidation of CVOCs and 1,4-dioxane and the natural activation methods were sustainable under laboratory conditions.
- Iron activation offered no advantages with respect to contaminant oxidation.
- Alkaline activation appears to reduce the oxidant effectiveness with respect to contaminant removal during the tests.
- When compared to the control samples (0% persulfate) test results, pH changes associated with persulfate consumption or alkaline activation resulted in elevated metal concentrations. These concentrations were generally attenuated upon neutralization except in the cases of arsenic and nickel.
- The SOD ranged from 8.4 to 42 g/kg (gram $\text{Na}_2\text{S}_2\text{O}_8$ /kg soil) and the variation was primarily dependent on the initial persulfate concentration – greater initial persulfate concentrations led to greater SOD, which is consistent with the second-



order reaction kinetics that govern persulfate oxidation reactions (i.e., the reaction rate is proportional to the concentrations of both persulfate and the target VOC).

Based on the Phase I USAS sample results, natural activation (i.e., naturally occurring ferrous iron and other reduced metals present within the ambient aquifer and/or direct activation by persulfate rather than sulfate radicals) and a 1-percent by weight sodium persulfate solution were selected for injection during the USAS chemical oxidation pilot study.



3. In Situ Pilot Study

3.1 Field Test Objectives

Three separate field tests were proposed in the Work Plan dated January 22, 2008 to evaluate the implementability (i.e., injectability and delivery to target areas) and effectiveness (i.e., ability to reduce contaminant concentrations) of in situ chemical oxidation and to obtain information for full-scale design. These three field tests include the following:

- USAS tracer injection test
- USAS chemical oxidation pilot test
- LSAS tracer injection test

The USAS tracer test and the LSAS tracer test were performed between March 23 and April 2, 2008; the USAS chemical oxidation test began during the week of April 14, 2008. Conservative tracers, bromide and fluorescein dye, were injected during the tracer injection tests. Sodium persulfate solution of 1% strength without additional activation chemicals was used for the chemical oxidation pilot test.

The USAS tests involve two separate well networks that are separated by a distance of approximately 50 feet (**Figure 3**). This degree of separation was selected to reduce the potential for persulfate to come into contact with bromide or fluorescein dye tracer, because the oxidation of bromide may result in the formation of bromate through the radical-based chemistry of persulfate oxidation and the organic based fluorescein dye may also be oxidized. The LSAS tracer test was conducted in the vicinity of existing monitoring well MW-33 (**Figure 3**).

3.1.1 USAS Tracer Injection Test

The USAS tracer injection test was performed to understand the groundwater hydraulics of the injection zone, and to assist in the design of an injection-based in situ treatment system. Pre-design information obtained from the USAS tracer injection test includes the following:

- Sustainable injection rate and pressure;



- Volume of fluid required to reach a given radius of influence (ROI), which is related to the mobile porosity (mobile porosity is defined as the interconnected pore space actively contributing to groundwater flow) of the injection zone;
- Local groundwater velocity under ambient (i.e., non-injection) conditions;
- Frequency of injections that would be required to sustain continued reagent within the injection zone; and
- Connectivity of the injection well to nearby observation points.

3.1.2 LSAS Tracer Injection Test

To assess injectability in the LSAS, tracer solution was injected into an injection well and tracer concentrations were monitored in dose-response wells located within a target ROI. Pre-design information obtained from the LSAS tracer injection test includes the following:

- Sustainable injection rate and pressure; and
- Volume of fluid required to reach a given ROI, which is related to the mobile porosity of the injection zone.

Information gathered during the LSAS injectability field test will be used to evaluate the efficacy of an injection-based in situ remedial approach within the LSAS as part of the final site-wide remedy in the upcoming RAP.

3.1.3 USAS Chemical Oxidation Field Test

A chemical oxidation field test injection was completed on April 19, 2008 to determine the effectiveness of in situ chemical oxidation for COC mass reduction. The COCs that are targeted for reduction during this test are located in an area of concentrated mass observed within the on-facility lower USAS. Objectives of the chemical oxidation field test include the following:

- Confirm injection hydraulics (e.g., volume/radius relationship, mobile porosity, injection rate and pressure) observed during USAS tracer study injection;



- Assess the distribution and persistence of the injected oxidant;
- Evaluate the reduction of COC concentrations following the injection of oxidant;
- Evaluate the degree of COC concentration rebound following oxidant depletion;
and
- Confirm the attenuation capacity of the aquifer to neutralize acidity generated during persulfate decomposition and to mitigate dissolved metals concentrations downgradient of the persulfate treatment zone.

The field test consists of the injection of sodium persulfate without additional activation chemicals. Data collected during the chemical oxidation pilot test and data analysis will be presented in the revised RAP.

3.2 Field Test Injection Well and Monitoring Well Installation

The field test injection and monitoring wells were installed in February 2008. The relative locations of the test areas and the wells are presented on **Figure 3**. The size of the zone of discharge (ZOD) [radial distance from the point of injection where the Underground Injection Control (UIC) parameters may temporarily exceed Groundwater Cleanup Target Levels (GCTLs)] is shown on **Figure 3**. Because the injection will be done while the extraction system is in operation, the distance from the injection point to edge of the ZOD will likely be somewhat greater down gradient of the injection point than up gradient of the injection point. It is expected that the width of the chemical oxidant plume, if the oxidant persists for sufficient duration to be transported downgradient, to be slightly wider than the radius of injection, much narrower than the approximate zone of discharge shown on **Figure 3**. However, a larger area for the approximate zone of discharge is shown to provide for some variation in the actual path the chemical oxidant may travel due to potential anisotropy within the lower USAS and the fact that more than one recovery well may influence the direction of groundwater flow. It is anticipated the temporarily exceeded parameters will return to below their GCTLs or background concentrations within 6 months of the injection. Groundwater samples will continue to be collected from the appropriate wells in the post breakthrough monitoring until concentrations are at baseline or below relevant criteria. The boring and well construction logs of all field study wells are included as **Appendix A**. Descriptions of the well installation activities are included in the following sections.



3.2.1 USAS Tracer Injection Test and Chemical Oxidation Pilot Test Areas

Preferred Drilling Solutions was subcontracted to perform the well installation within the USAS. The installation began on February 11, 2008 and was completed on February 25, 2008. The USAS wells for the tracer injection test and the chemical oxidation pilot tests were installed using the hollow-stem auger drilling method.

The USAS tracer test network consists of one injection well, four well pairs (USAS shallow and deep) 4 feet from the injection well, five well pairs 7 feet from the injection, and six observation well pairs outside of the target ROI at 10 feet from the injection well. Within the target ROI, each well pair consists of one deep well screened from 27 to 30 feet below ground surface (bgs) and one shallower well screened from 19 to 24 feet bgs. The six observation well pairs located 10 feet radially from the injection well consist of one deep well screened from 26 – 30 feet bgs and one shallower well screened from 19 – 24 feet bgs. The monitoring well locations are spread throughout the anticipated flow path of injected tracer to assess reagent distribution about each injection well and to capture potential variation in groundwater flow direction (**Figure 4**).

The USAS chemical oxidation pilot test has a similar well layout as the USAS tracer test area. The USAS chemical oxidation test area includes one injection well, six wells located approximately 4 feet from the injection well, seven wells located 7 feet from the injection well, five wells located 10 feet radially from the injection well and two down gradient wells located approximately 14 feet from the injection well (**Figure 5**).

The USAS injection wells were completed with 3 feet of 4-inch diameter polyvinyl chloride (PVC) vee-wire screen, 4-inch diameter PVC well casing, and the annular space within the well bore was grouted with neat cement. All USAS monitoring wells were completed with 2-inch diameter PVC vee-wire screens, 2-inch diameter PVC well casing, and grouted with neat cement.

Instead of installing individual concrete surface pads for each well, Preferred Drilling Solutions, Inc. poured two approximately 20-foot by 20-foot concrete pads covering the USAS tracer study area, completed on February 21st and the USAS chemical oxidation field test area completed on February 25th.

3.2.2 LSAS Tracer Injection Test Area

WDCE Exploration and Wells were subcontracted to install the LSAS tracer injection test wells. The installation began on February 4, 2008 and was completed on February



8, 2008. All LSAS wells were installed using the roto sonic drilling method. All LSAS tracer study monitoring wells were constructed in a 6-inch borehole utilizing 2-inch stainless 10 slot steel well screens from 35-40 feet bgs, 2-inch schedule 40 PVC risers from 35 feet bgs to ground surface, 20/30 sand pack to approximately 34 feet bgs, bentonite seal to approximately 32 feet bgs, and Portland cement grout to ground surface. The injection well (TL-INJ) was constructed in an 8-inch borehole utilizing a 4-inch diameter 10-slot stainless steel vee-wire well screen from 35-40 feet bgs, 4-inch schedule 40 PVC riser from 35 feet bgs to ground surface, 20/30 sand pack to approximately 34 feet bgs, bentonite seal to approximately 32 feet bgs, and Portland cement grout from 32 feet bgs to ground surface. Soil samples were collected from ground surface to 45 feet bgs from all well locations to provide descriptions of subsurface stratigraphy. The LSAS soil samples were described using the Unified Soil Classification System (USCS), photographed, and archived in labeled Ziploc bags with well identification number and interval depth. Locations of the LSAS test wells are presented in **Figure 6**.

3.2.3 Well Development

Tracer study and chemical oxidation monitoring wells were developed using jetting technique. Well screens were initially jetted with high pressure (110 pounds per square inch [psi]) potable water supplied to a 360 degree fan jet nozzle to remove encrusted soils from the well screen and filter pack sand. Jetting development time varied depending on the screen length with an average of 10 minutes of jetting per foot of screen. Upon jetting completion, a submersible pump was used to pump and surge remaining particulates from the screen and sandpack until turbidity was visibly reduced.

3.3 USAS and LSAS Tracer Injection Test Implementation

3.3.1 Baseline Sampling and Measurements

A round of groundwater sampling was conducted on March 10 and 11, 2008 for bromide analysis. The groundwater samples were collected from all injection test wells (including injection and monitoring wells) using the low-flow sampling method and submitted to Test America of Tampa for laboratory analysis. The baseline bromide data are included as **Table 6** and the laboratory reports are included as **Appendix B**. The low background bromide concentrations (< 2 milligrams per liter [mg/L]) allowed the use of bromide as a quantitative tracer during the field tracer tests.



The measurement of baseline water levels and specific conductivity was performed prior to the initiation of injection in the USAS and LSAS. Water levels in the injection test wells were measured using either pressure transducers (Level TROLL by In-Situ, Inc.) or multi-parameter water quality probes (TROLL 9500® by In-Situ, Inc.), and specific conductivity was measured using multi-parameter water quality probes (TROLL® 9500 by In-Situ, Inc.). Multi-parameter probes were installed in eight USAS monitoring wells (T-A-1D, T-A-2D, T-B-1D, T-B-2D, T-C-2D, T-C-3D, T-C-4D and T-C-5D) and all LSAS monitoring wells during the injection activities at each field test location. All other shallow and deep monitoring wells in the USAS test area, including shallow and deep wells, were equipped with pressure transducers. The downhole equipment was deployed and continuously logged for data starting March 23, 2008, and remained deployed until the end of injection activities.

3.3.1.1 *Tracer Solution and Injection Setup*

The tracer solution consisted of sodium bromide and fluorescein dye dissolved in potable water. The concentration of fluorescein dye and bromide were approximately 40 mg/L and 4,000 mg/L, respectively. A relatively high concentration of bromide was used due to the high background conductivity values, ranging from 150 to 800 microSiemens per centimeter ($\mu\text{S}/\text{cm}$) at the USAS test area and up to 1,600 $\mu\text{S}/\text{cm}$ at the LSAS test area (**Appendices E and F**), measured in the injection test wells. The high bromide salt concentration of the tracer solution results in a high specific conductivity, which allows for the detection of electrical conductivity responses due to arrival of the tracer solution at a given monitoring location during the injection process.

Tracer solutions were prepared by adding approximately 10 pounds of sodium bromide and 340 milliliter (mL) of 10% fluorescein dye to 225 gallons of potable water. The solutions were mixed in batches using two polyethylene tanks throughout the course of injection activities. The injection was conducted using the setup as shown on **Figure 7**. The injection line was equipped with a flow meter/totalizer, pressure gauge, and flow control valve.

3.3.1.2 *Injection and Tracer Breakthrough Monitoring*

Tracer injection at the USAS test area was initiated on March 24 and completed on March 27. Injection pressure measured at the wellhead ranged from 0 psi to 2.5 psi and the corresponding flow rate varied between approximately 1 to 3.7 gallons per minute (gpm). The injection was continuous throughout the day and was stopped at the end of each day. The injection logs are included as **Appendix D**.



The LSAS test started on March 31 and ended on April 2. The injection flow rate was maintained between 1.8 gpm and 3.4 gpm. Wellhead pressures of up to 3.5 psi were observed when the injection flow rate was higher than 3 gpm. Similar to the USAS test, the injection at the LSAS area was stopped at the end of each day and continued the next day. The injection logs are attached in **Appendix D**.

Monitoring for tracer breakthrough was conducted at both areas during the injection to observe the movement of tracer through the injection zone. Monitoring at each dose response well located within 7 feet of the injection wells was conducted at a frequency of approximately every 100 to 200 gallons of solution injected. A portable water quality probe (Aqua TROLL® 200 by In-Situ, Inc.) was used to measure specific conductivity in monitoring wells that were not equipped with a dedicated down-hole multi-parameter probe. Grab groundwater samples were also collected from all wells in each test area to visually observe for the appearance of dye color. The samples were also containerized and reserved for submittal to the laboratory for bromide analysis. At the end of the USAS injection test, only a subset of the bromide samples was selected for laboratory analysis based on field-collected electrical conductivity profile established for each monitoring well. The bromide samples selected for laboratory analysis correspond to different stages of electrical conductivity and dye responses at a given well. Specifically, bromide samples were selected for laboratory analysis based on the electrical conductivity profile at each well as summarized below:

- initial increase above baseline concentrations (1 sample)
- mid-stage increase prior to observance of peak concentration (2 samples)
- peak concentration (1 sample)

A comprehensive sampling round was completed at the end of injection activities in each study area and bromide samples were submitted for laboratory analysis.

3.3.1.3 USAS Tracer Response

The arrival of tracers based on electrical conductivity and dye color observation at each monitoring well is illustrated in the conductivity breakthrough curves included as **Appendices C and E**. Tracer response was first detected in monitoring wells located hydraulically downgradient of injection well IW-1, including wells at the 4-foot ROI (T-A1D and T-A2D) and wells at the 7-foot ROI (T-B1D and T-B2D), then progressed to other monitoring wells within the 7-foot ROI gradually. Monitoring well T-B4D located



hydraulically upgradient of IW-1 was the last monitoring well at the 7-foot ROI to exhibit tracer response. The injection was continued until an increase and plateau in tracer response was observed at the deeper dose response wells (wells located within the 4-foot ROI and the 7-foot ROI). The two criteria employed to determine the arrival of tracer at the working strength concentration are: (1) dye color in groundwater sample is at least 50% as strong as the injection solution, and (2) specific conductivity response plateaus at a peak level. A total of approximately 4,236 gallons of injection solution was required to achieve breakthrough within the target injection zone within 7 feet radially of the injection well.

Tracer response was also detected in some of the shallow monitoring wells (4-foot ROI wells T-A1S, T-A2S, T-A4S, and T-B1S, and 7-foot ROI wells T-B2S, T-B4S, and T-B5S), indicating a vertically upward travel of the tracer solution. The most prominent shallow tracer response was observed hydraulically downgradient of the injection well in the vicinity of monitoring well pairs T-A1 and T-B1. Because the injected reagent was effectively distributed over a larger vertical interval than initially planned (i.e., reagent was delivered vertically over approximately 10 feet, instead of the 5 feet assumed during tracer test planning), the injected volume was nearly three times the initial estimate outlined in the Work Plan; however, revised estimates of mobile porosity using a larger vertical zone of distribution (i.e., 10 feet instead of the previously assumed 5 feet) are approximately 20 percent, which is within the range of assumed values considered in developing the tracer injection program.

Some of the 10-foot ROI tracer observation wells also exhibited tracer response, as indicated by the spike in conductivity (**Appendix E**) and the observation of a slight dye color in samples collected from two 10-foot ROI wells (T-C5D and T-C6D). Continuing injection until full tracer response was observed in these wells was not part of the scope of work presented in the Work Plan. The observed response in the 10-foot observation wells is likely due to the larger volume required to achieve breakthrough at T-B4D upgradient of IW-1. Continued migration of tracer to the 10-foot wells will be observed during post-injection groundwater monitoring activities.

3.3.1.4 LSAS Tracer Response

Conductivity responses in LSAS wells during the injection are included as **Appendix F**. Tracer response was first demonstrated at the 4-foot ROI well TL-4-2, followed by the 10-foot ROI wells TL-10-1 and MW-33 as indicated by visual dye color and elevated conductivity values. These three wells remained the only wells at which tracer response was detected throughout the course of the LSAS injection. No dye color or



consistent increased conductivity above baseline levels was observed in other wells located sidegradient or upgradient of the injection well TL-INJ (or IW-3).

On the second day of LSAS injection, dye color was observed at a LSAS extraction well, EW-108, located approximately 85 feet north of the LSAS test area. The recovery of tracer solution from the extraction well indicates the existence of a preferential pathway within the LSAS injection zone connecting injection well TL-INJ (or IW-3) to the extraction well. The pumping well was shut down temporarily while the injection was underway. Immediate increase in the injection pressure was observed, suggesting the confined nature of the LSAS may resist injection under non-pumping conditions. The injection at the LSAS area was terminated shortly after shutting down the pump at EW-108.

A total of 2,320 gallons of tracer solution was injected during the LSAS tracer study, approximately 2,020 gallons when EW-108 was operating and 300 gallons when it was off.

3.3.1.5 Hydraulic Responses during Tracer Injections at USAS and LSAS

Hydraulic response monitoring was also performed as part of the tracer test injection monitoring program for both USAS and LSAS tracer tests. In Situ Level Trolls were deployed in all monitoring wells in the test areas prior to the injections. The continuously logged water level data are included in **Appendix G** (USAS) and **Appendix H** (LSAS).

3.3.1.6 Preliminary Mobile Porosity Estimate

The volume of solution required to achieve working strength concentration breakthrough depends on the percentage of pore space actively contributing to groundwater movement, which is termed mobile porosity. The relationship can be described using the following equation, assuming a reagent volume less than the total porosity of a cylindrical volume centered around an injection well is required to achieve tracer breakthrough at surrounding monitoring wells (i.e., dose response wells):

$$V_{inj} = \pi \times R^2 \times h \times \theta_m$$

where:



R = radius of injection

V_{inj} = volume of solution injected at the time the working strength concentration is observed

h = height of injected fluid column

θ_m = the mobile porosity

Due to the upward travel of the tracer solution, the height of the injection column observed during the USAS test was larger than the previously assumed value of 5 feet, as described in the In Situ Pilot Study Work Plan. Based on the interval within which the shallow and the deep monitoring wells are screened (19 to 30 feet bgs), the injected fluid column for the mobile porosity estimate was revised to 11 feet.

The volume injected to saturate tracer concentrations at each dose response monitoring well varied depending on the location of the dose-response wells. The estimated mobile porosity using the continuously logged conductivity data within the USAS injection zone ranges between 0.11 and 0.35 with an average of 0.21, as presented in **Table 7**.

Mobile porosity estimates based on manually measured conductivity values are presented in **Table 8**. The estimated mobile porosity values from tracer injection data range from a low of 0.12 to a high of 0.67 in the shallower USAS wells located within 7 feet of the injection well with a mean of 0.33 and a median of 0.22. The deeper USAS wells yield a range of mobile porosity values with a low of 0.14, a high of 0.47, a mean of 0.28, and a median of 0.22. At a given monitoring location, the deeper wells generally yield a lower mobile porosity, indicating that less volume was injected prior to full tracer response or, correspondingly, that tracer was preferentially distributed within the target deeper USAS zone. The final mobile porosity estimate will be confirmed using bromide data and presented in the revised RAP.

Mobile porosity was not calculated for the LSAS due to the lack of significant tracer response at the dose-response wells.

3.3.1.7 *Post-Breakthrough Monitoring*

Post-breakthrough monitoring is currently underway in both test areas. USAS post-breakthrough monitoring will generally conform to the schedule described in the Work



Plan (**Table 9**). Modifications to the schedule may be implemented depending on data requirements and tracer breakthrough responses. Post-breakthrough monitoring at the LSAS area will be implemented to determine the rate of dissipation of tracer within the injection zone under pumping conditions. Data from post-breakthrough monitoring will be presented in the revised RAP.

3.3.1.8 Conclusion

The USAS and LSAS tracer injection tests were performed to achieve the objectives described in the In Situ Pilot Study Work Plan. Information obtained from the tests is summarized in the following:

- The sustainable rate of injection into the USAS is approximately 3 gpm at 2.5 psi wellhead pressure.
- The volume of solution required to achieve working strength concentration breakthrough at USAS dose-response wells varies depending on the location of the well relative to the injection point.
- The detection of tracer in all deeper USAS dose-response wells indicates the connectivity between the injection well and the observation points. In general, downgradient monitoring wells have earlier tracer responses compared to the wells located on the same radial distance from the injection well but in different orientations to the presumed groundwater flow direction. The significant tracer responses in the shallow wells suggest hydraulic communication between the shallower (i.e., 19 to 24 feet bgs) and deeper (i.e., 27 to 30 feet bgs) monitoring zones.
- Preliminary estimates of mobile porosity of the USAS using continuously logged and manually measured conductivity values indicate the mobile porosity range between 0.1 and 0.3, with an average value of approximately 0.21. The mobile porosity value will be confirmed using the pending bromide analytical data.
- Groundwater velocity under ambient conditions will be evaluated upon the completion of post breakthrough tracer monitoring.
- The sustainable rate of injection into the LSAS is approximately 3 gpm at 3 psi wellhead pressure when the on-facility groundwater extraction system is operational. Higher injection pressure, and a corresponding decrease in injection



flow rate, was experienced when the pumping at EW-108 was shut down, suggesting a lower injection rate at a higher pressure if the injection was performed under non-pumping conditions.

4. References

ARCADIS, 2008. Memorandum on Response to January 30, 2008 Florida Department of Environmental Protection (FDEP) Comments on In-Situ Pilot Study Work Plan, April 9, 2008.

ARCADIS, 2008. Response to January 30, 2008 Florida Department of Environmental Protection (FDEP) Comments on In-Situ Pilot Study Work Plan, April 7, 2008.

ARCADIS, 2008. In Situ Pilot Study Work Plan, Former American Beryllium Company Facility. January 22, 2008.

Lockheed Martin Corporation (LMC), 2007. Bench Scale Treatability Study Work Plan, Former American Beryllium Company Site, Tallevast, Florida. November 21, 2007.

Tables

TABLE 1
BASELINE ANALYSIS FOR ON-SITE USAS GROUNDWATER SAMPLE USAS1

INTERIM DATA REPORT - IN SITU PILOT STUDY
LOCKHEED MARTIN CORPORATION
FORMER ABC FACILITY - TALLAVAST, FLORIDA

	Unit	USAS1 (on-facility)		
		Sample 1	Sample 2	Sample 3
1,1-Dichloroethane (1,1-DCA)	µg/L	89	89	100
cis-Dichloroethene (cis-DCE)	µg/L	14	14	15
Trichloroethene (TCE)	µg/L	1600	1600	1700
Tetrachloroethene (PCE)	µg/L	5100	5100	5500
1,4-Dioxane	µg/L	16	16	15

Notes:

ug/L - micrograms per liter

TABLE 2
OXIDANT DEMAND FOR EACH TEST

INTERIM DATA REPORT - IN SITU PILOT STUDY
LOCKHEED MARTIN CORPORATION
FORMER ABC FACILITY - TALLAVAST, FLORIDA

Sodium Persulfate (mg/L)	t=0	t=7	Oxidant Demand (g Na ₂ S ₂ O ₈ /kg soil)
1% S ₂ O ₈ ²⁻	11200	7000	8.4
1% S ₂ O ₈ ²⁻ + Fe	11200	7000	8.4
1% S ₂ O ₈ ²⁻ + NaOH	11200	5600	11.2
1% S ₂ O ₈ ²⁻ + NaOH (d)	11200	5600	11.2
5% S ₂ O ₈ ²⁻	56000	35000	42
5% S ₂ O ₈ ²⁻ + Fe	56000	35000	42
5% S ₂ O ₈ ²⁻ + NaOH	49000	35000	28

Notes:

Fe - Ferrous Iron

NaOH - Sodium Hydroxide

% - percent

mg/L - milligrams per liter

g/kg - grams per kilogram

t - time

TABLE 3
CONFIRMATION OF CDM ANALYTICAL RESULTS
INTERIM DATA REPORT - IN SITU PILOT STUDY
LOCKHEED MARTIN CORPORATION
FORMER ABC FACILITY - TALLAVAST, FLORIDA

Laboratory	Bottle 3A – 0% Persulfate, pH Activation			Bottle 8A – 5% Persulfate, Iron Activation		
	CDM Lab	Test America	RPD	CDM Lab	Test America	RPD
TCE (µg/L)	940	720	27	0.5J	0.5J	0
1,4-Dioxane (µg/L)	12	18	40	2 U	0.54U	NC
PCE (µg/L)	5600	5200	7.4	0.9 J	0.8J	12

Notes:

RPD – Relative percent deviation

ug/l - micrograms per liter

U - The analyte was analyzed for, but not detected

J - Estimated value

NC - Not calculated

TABLE 4
1,4-DIOXANE CONCENTRATION AT THE BEGINNING AND END OF THE NATURAL ACTIVATION SUSTAINABILITY TESTS

INTERIM DATA REPORT - IN SITU PILOT STUDY
LOCKHEED MARTIN CORPORATION
FORMER ABC FACILITY - TALLAVAST, FLORIDA

			CDM Lab	Test America
Bottle	Before respiking	Respiked t=0	Respiked t=11 days	Respiked t=11 days
1A (Neg. Ctrl)	10	28	47*	30
4A (1% dose)	2 U	13	5.2*	0.54U
7A (5% dose)	2 U	12	2 U	0.54U

Notes:

*Contamination of the CDM gas chromatograph occurred during analysis of this sample and thus the reported value is not reliable.

U - The analyte was analyzed for, but not detected

t - time

TABLE 5
CONCENTRATIONS OF METALS AFTER CHEMICAL OXIDATION AND REGULATORY LIMITS FOR METAL CONCENTRATIONS

INTERIM DATA REPORT - IN SITU PILOT STUDY
LOCKHEED MARTIN CORPORATION
FORMER ABC FACILITY - TALLAVAST, FLORIDA

Test	Description	pH		Al (µg/L) t=7	As (µg/L) t=7	Be (µg/L) t=7	Cd (µg/L) t=7	Cr (µg/L) t=7	Cu (µg/L) t=7	Fe (µg/L) t=7	Mn (µg/L) t=7	Ni (µg/L) t=7	Pb (µg/L) t=7	Si (µg/L) t=7	Zn (µg/L) t=7
		t=0	t=7												
1	0% S ₂ O ₈ ²⁻	5.5	8.8	<110	4.8	<10	<4	<11	<11	<11	2900	69	<20	<1	4700
2	0% S ₂ O ₈ ²⁻ + Fe	5.5	7.1	<110	3.6	<10	<4	<11	<11	<11	120000	110	37	<1	4500
3	0% S ₂ O ₈ ²⁻ + NaOH	13.3	13.6	180000	160	<10	<4	33	11	11	5600	18	35	20	38500
	1% S ₂ O ₈ ²⁻	5.5	4.3	23000	65	<10	18	<11	<11	<11	290	480	290	<1	13900
4	Metal analysis after neutralization	N/A	7	260	130	<10	<4	<10	21	66	66	94	65	<1	N/A
	1% S ₂ O ₈ ²⁻ + Fe	5.5	5.1	55000	89	<10	25	35	17	29000	880	310	310	2.3	24500
5	Metal analysis after neutralization	N/A	7	550	130	<10	6	<10	57	1100	210	370	<1	<1	N/A
6	1% S ₂ O ₈ ²⁻ + NaOH	13.4	13.3	140000	280	<10	<4	160	39	590	<11	<20	<20	1.1	31500
6-d	1% S ₂ O ₈ ²⁻ + NaOH (duplicate)	13.3	13.3	150000	300	<10	<4	150	44	530	<11	<20	<20	<1	32300
	5% S ₂ O ₈ ²⁻	5.5	3.4	35000	88	<10	20	<11	<11	410	450	340	<1	<1	16600
7	Metal analysis after neutralization	N/A	7	<110	210	<10	<4	12	90	<56	210	140	<1	<1	N/A
	5% S ₂ O ₈ ²⁻ + Fe	5	2.8	79000	130	12	27	60	20	16000	1000	380	6.1	35300	720
8	Metal analysis after neutralization	N/A	7	130	280	<10	6.4	16	100	280	190	530	<1	<1	N/A
9	5% S ₂ O ₈ ²⁻ + NaOH	13.3	12.7	81000	270	<10	<4	270	<11	94	<11	<20	<20	<1	10600
	Above NPDES permit limit														
	Above MCL but under NPDES permit level														

Potentially Applicable Regulation Limit	µg/L	Al	As	Be	Cd	Cr	Cu	Fe	Mn	Ni	Pb	Si	Zn
NPDES Permit	µg/L	200	2510	4	730	9900	28480	NA	NA	11080	1870	NA	4780
MCL	µg/L	200	10	NA	5	100	1300	300	50	100	15	NA	5000

Notes:
 ug/L - micrograms per liter
 MCL - Maximum Contaminant Level
 NPDES - National Pollutant Discharge Elimination System
 Fe - Ferrous iron
 NaOH - Sodium hydroxide
 t - time in days
 NA - Not analyzed
 Al - Aluminum
 As - Arsenic
 Be - Beryllium
 Cd - Cadmium
 Cr - Chromium
 Cu - Copper
 Fe - Iron
 Mn - Manganese
 Ni - Nickel
 Pb - Lead
 Si - Silicone
 Zn - Zinc

**TABLE 6
BROMIDE BASELINE SAMPLE DATA**

**INTERIM DATA REPORT - IN SITU PILOT STUDY
LOCKHEED MARTIN CORPORATION
FORMER ABC FACILITY - TALLAVAST, FLORIDA**

Location ID:	Date Collected	Bromide (mg/L)
IW-1	3/10/2008	1.1
T-A1D	3/10/2008	1.7
T-A1S	3/11/2008	1.1
T-A2D	3/10/2008	1.3
T-A2S	3/11/2008	1.5
T-A3D	3/11/2008	1.7
T-A3S	3/11/2008	1.5
T-A4D	3/11/2008	1.7
T-A4S	3/11/2008	1.3
T-B1D	3/10/2008	1.4
T-B1S	3/11/2008	1.1
T-B2D	3/10/2008	1.6
T-B2S	3/11/2008	0.65 I
T-B3D	3/11/2008	1.2
T-B3S	3/11/2008	0.38 I
T-B4D	3/11/2008	1.3
T-B4S	3/11/2008	1.3
T-B5D	3/11/2008	1.5
T-B5S	3/11/2008	0.95 I
T-C1D	3/11/2008	0.96 I
T-C1S	3/11/2008	0.73 I
T-C2D	3/11/2008	0.93 I
T-C2S	3/11/2008	0.81 I
T-C3D	3/11/2008	1.3
T-C3S	3/11/2008	0.77 I
T-C4D	3/11/2008	1.4
T-C4S	3/11/2008	0.64 I
T-C5D	3/11/2008	0.96 I
T-C5S	3/11/2008	1.1
TL-4-1	3/10/2008	1.6
TL-4-2	3/10/2008	1.8
TL-4-3	3/10/2008	1.8
TL-7-1	3/10/2008	1.8
TL-INJ	3/10/2008	1.7

Notes:

I - Detected but below reporting limit.

Result is an estimated concentration.

mg/L - milligrams per liter

TABLE 8
MOBILE POROSITY ESTIMATE, USAS WELLS
(Manual Data Collection)

INTERIM DATA REPORT - IN SITU PILOT STUDY
LOCKHEED MARTIN CORPORATION
FORMER ABC FACILITY - TALLAVAST, FLORIDA

Well	Specific Conductivity (us/cm)		Time Elapsed (hr)	Totalizer (gal)	Date	Time	Initial Totalizer (gal)	Volume Injected (gal)	ROI (ft)	Depth (ft)	Mobile Porosity	
	Max	Background									Shallow	Deep
T-A1D	9,000	760	22	1,162	3/25/08	12:45	167	995	4	11		0.24
T-A1S	8,000	516	3.0	678	3/24/08	16:55		511			0.12	
T-A2D	7,500	387	49	2120	3/26/08	13:50		1,953	4	11		0.47
T-A2S	3,000	600	49	2264	3/26/08	14:38		2,097			0.51	
T-A3D	7,200	500	45	1,941	3/26/08	11:14		1,774	4	11		0.43
T-A3S	1,100	400	51	2,732	3/26/08	16:41		2,565			0.62	
T-A4D	6,000	600	45	1,941	3/26/08	11:14		1,774	4	11		0.43
T-A4S	3,600	500	52	2,930	3/26/08	17:39		2,763			0.67	
T-B1D	6,800	420	50	2,680	3/26/08	16:27		2,513	7	11		0.20
T-B1S	3,300	150	51	2,732	3/26/08	16:41		2,565			0.20	
T-B2D	9,000	800	45	1,941	3/26/08	11:14		1,774	7	11		0.14
T-B2S	784	280	60	2,930	3/26/08	17:39		2,763			0.22	
T-B3D	4,000	700	51	2,850	3/26/08	17:16		2,683	7	11		0.21
T-B3S	1,000	300	52	2,930	3/26/08	17:39		2,763			0.22	
T-B4D	1,800	800	58	2,930	3/26/08	17:39		2,763	7	11		0.22
T-B4S	1,200	350	58	2,930	3/26/08	17:39		2,763			0.22	
T-B5D	5,000	600	45	1,941	3/26/08	11:14		1,774	7	11		0.14
T-B5S	1,300	500	60	2,930	3/26/08	17:39		2,763			0.22	
										Mean	0.33	0.28
										Median	0.22	0.22

Notes:

1. Mobile porosity was calculated using the volume delivered when the maximum tracer response was first observed
2. Totalizer reading was selected at the reading time closest to the time elapsed for 50% breakthrough
3. Data from C-wells were not used to interpret mobile porosity since full breakthrough was not achieved at these wells

hr - hour

gal - gallons

ft - feet

us/cm - microSiemens per centimeter

TABLE 9
USAS and LSAS TRACER TESTS POST-INJECTION MONITORING SCHEDULES

INTERIM DATA REPORT - IN SITU PILOT STUDY
LOCKHEED MARTIN CORPORATION
FORMER ABC FACILITY - TALLAVAST, FLORIDA

USAS

Monitoring Phase	Well ID	Field Parameters Monitoring ¹	Bromide Sampling Frequency		
			<i>First Week</i>	<i>Second to Fourth Weeks</i>	<i>Second to Sixth Months</i>
Post-Injection	All deeper dose-response wells	collect field parameters during bromide sampling	twice	once per week	once every two weeks
	All shallower dose-response wells	collect field parameters during bromide sampling	Collect bromide samples only when elevated conductivity is detected		
	T-C2D, T-C3D, T-C4D, T-C5D	continuously logged until breakthrough	twice	once per week	once every two weeks
	All other downgradient wells	collect field parameters during bromide sampling	twice	once per week	once every two weeks

LSAS

Monitoring Phase	Well ID	Field Parameters Monitoring ¹ and Bromide Sampling Frequency		
		<i>First Week</i>	<i>Second to Fourth Weeks</i>	<i>Second to Sixth Months</i>
Post-Injection	All Tracer Test Monitoring Wells	twice	once per week	once every two weeks

Notes:

¹ - Field parameters include specific conductivity, temperature, and water level.

USAS - Upper Surficial Aquifer System

LSAS - Lower Shallow Aquifer System

Figures

Figure 1: Removal of cis-1,2-DCE, TCE, PCE and 1,4-Dioxane after 7 Days with Different Activation Methods
Former ABC Facility, Tallevast, Florida

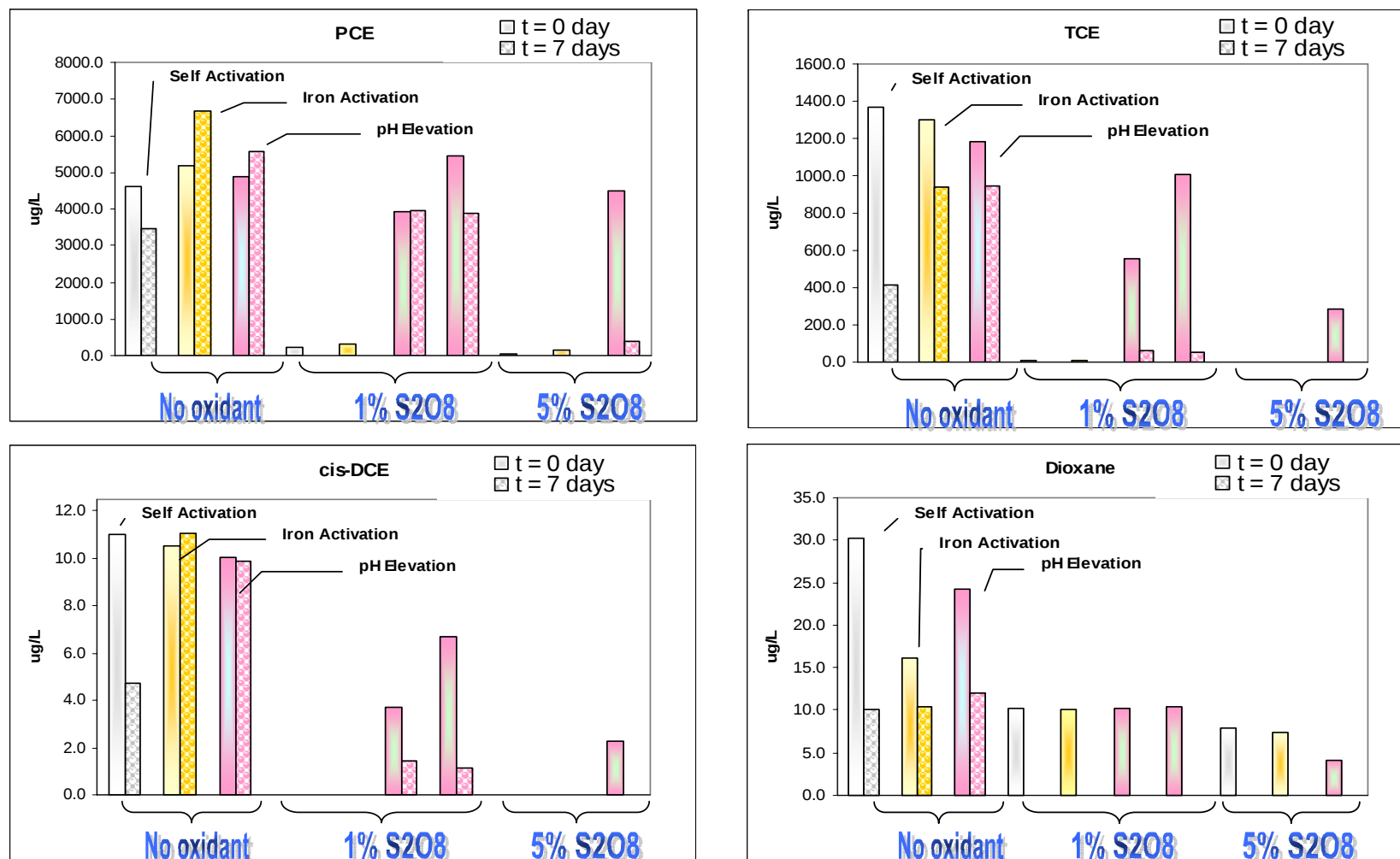
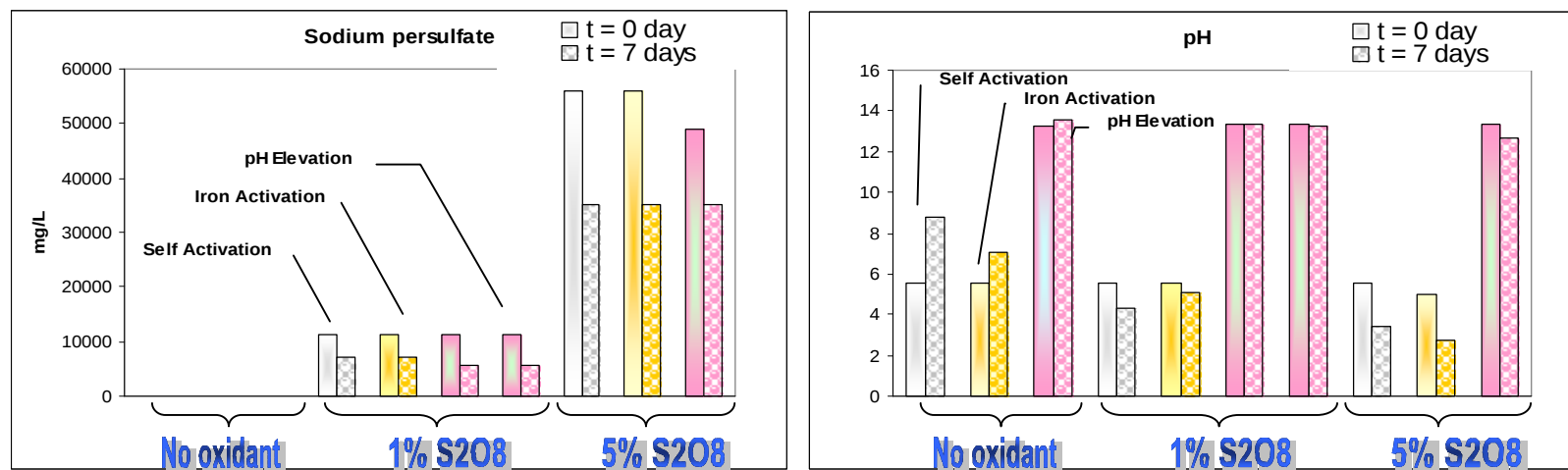
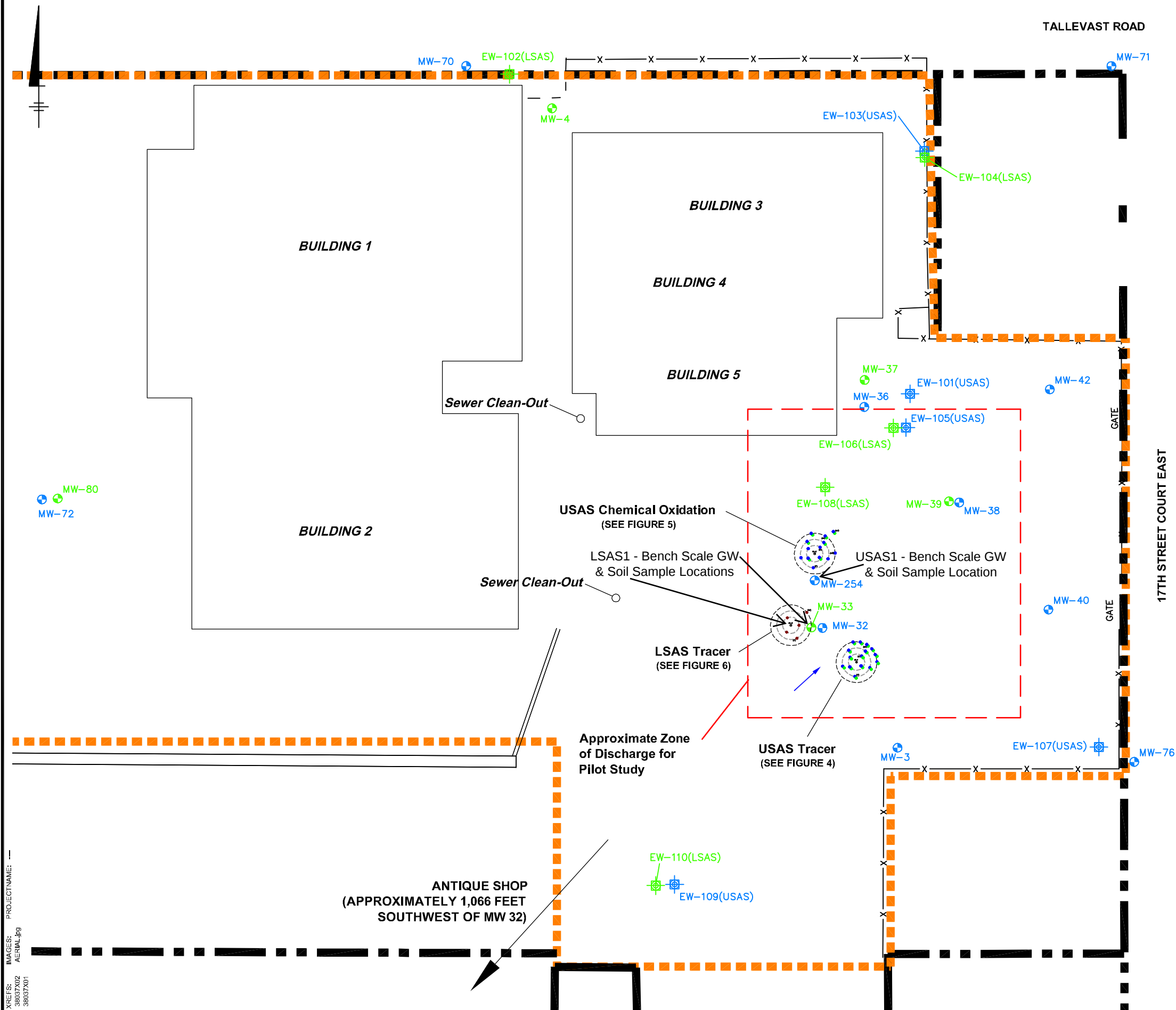
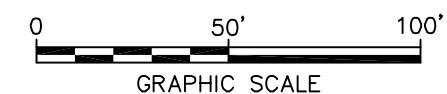


Figure 2. Changes in Persulfate Concentration and pH after 7 Days with Different Activation Methods.
Former ABC Facility, Tallevast, Florida





→ PRESUMED DIRECTION OF GROUNDWATER





XREFS:	38037X01	
	38037X02	
IMAGES:	AERIAL.jpg	
	38037X01.tif	
	38037X02.tif	
	38037X03.tif	
	38037X04.tif	
	38037X05.tif	
	38037X06.tif	
	38037X07.tif	
	38037X08.tif	
	38037X09.tif	
	38037X10.tif	
	38037X11.tif	
	38037X12.tif	

PARCEL BOUNDARY

FORMER ABC FACILITY BOUNDARY

● SOIL AND GROUNDWATER SAMPLE LOCATION

A horizontal graphic scale bar. It is divided into two main sections. The first section, from 0 to 300 feet, is further divided into five equal segments, each 60 feet long. The segments alternate in color: white, black, white, black, and white. The second section, from 300 to 600 feet, is a single solid black segment. Numerical labels '0', '300'', and '600'' are placed above the bar at their respective positions. Below the bar, the text 'GRAPHIC SCALE' is centered.

FORMER AMERICAN BERYLLIUM COMPANY
TALLEVAST, FLORIDA
INSITU INTERIM DATA REPORT

BENCH SCALE TREATABILITY STUDY SOIL AND GROUNDWATER SAMPLE LOCATIONS

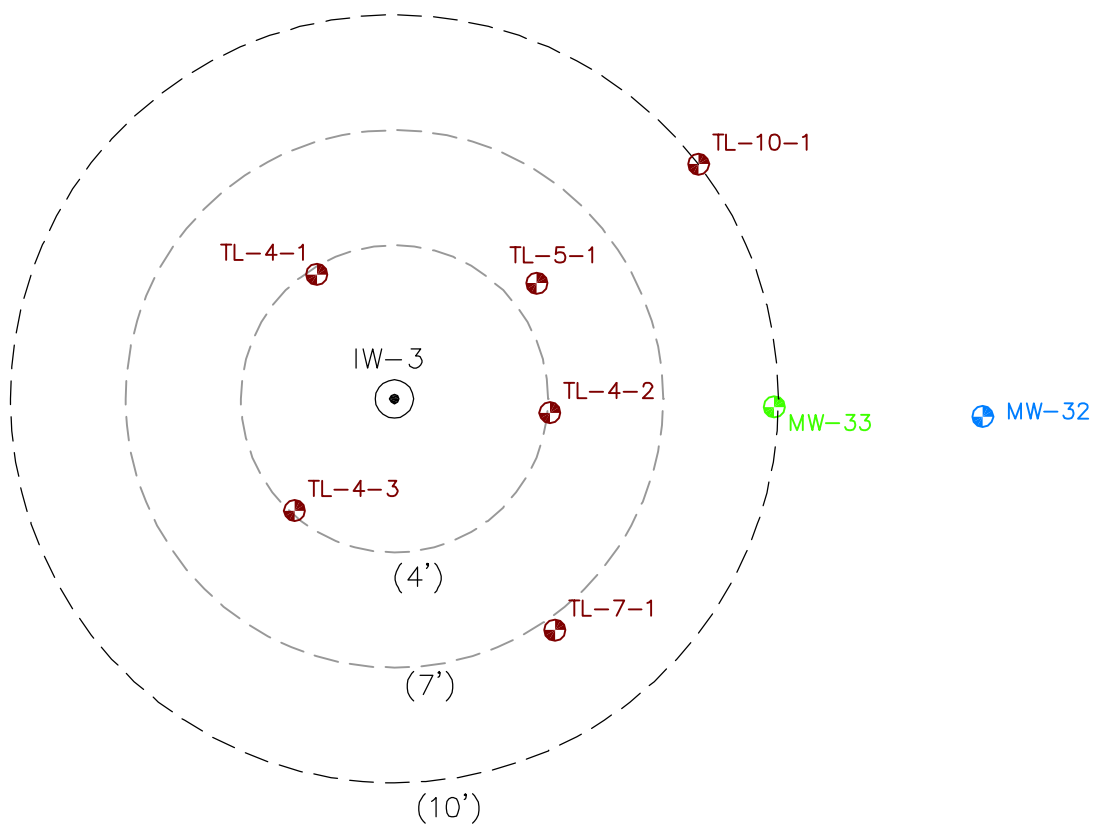


FIGURE
3B





5



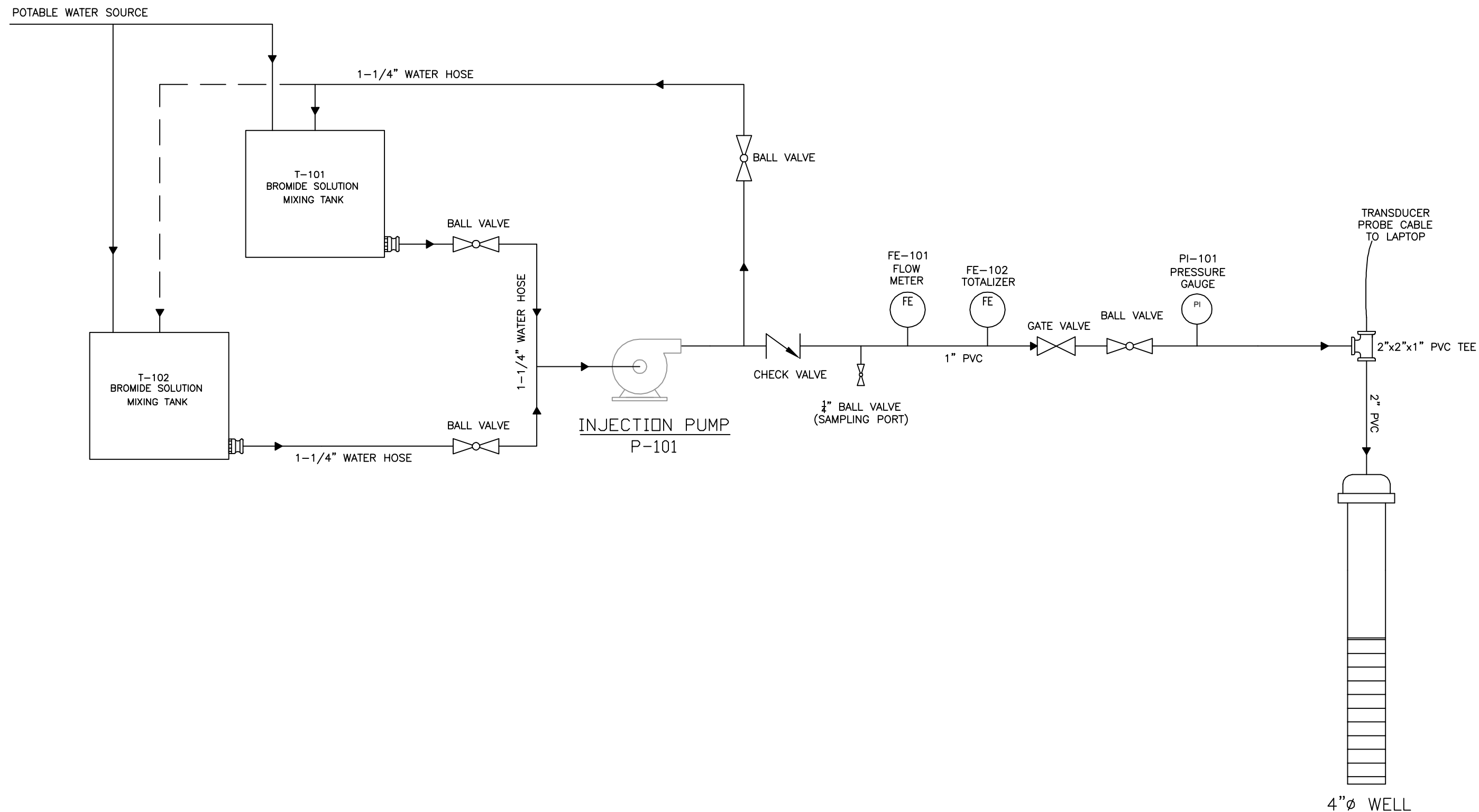
- ⊕ Existing Monitoring Well
- ⊙ Injection Well
- ⊕ LSAS Monitoring Well
- ⊕ Deep (USAS) Monitoring Well
- ⊕ Shallow (USAS) Monitoring Well



LSAS TRACER STUDY WELL LOCATIONS



FIGURE
6



NOT TO SCALE

ARCADIS



TRACER INJECTION SETUP

FORMER ABC SITE
TALLEVAST, FLORIDA

DRAWN A. AUFFERMANN	DATE 2/7/08	PROJECT MANAGER	DRAWING NAME
		LEAD DESIGN PROF.	CHECKED
		PROJECT NUMBER B003805.50000	FIGURE NUMBER 7

Appendix A

Boring and Well Construction Logs

Date Start/Finish: 2/11/08, 2/15/08	Northing: 1115949.04	Boring ID: IW-1
Drilling Company: Preferred	Easting: 479807.21	Client: Lockheed Martin Corp.
Drilling Method: HSA	Casing Elevation: 30.99' AMSL	Location: 1600 Tallevast Rd. Sarasota, FL
	Borehole Depth: 32' bgs	
	Surface Elevation: NA	
	Geologist: B. Burke	

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. No Samples Collected.	
5	-5	NA	NA	NA			Grout (0' - 25' bgs) 4" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
10	-10						
15	-15	1	15-20	4.0		7.5 YR 2.5/1 dark brown black very fine SILTY SAND, organic rich. 7.5 YR 4/2 brown very fine to fine SILTY SAND, slightly clayey throughout, slightly cohesive, soft, wet	



Infrastructure, environment, facilities

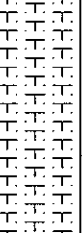
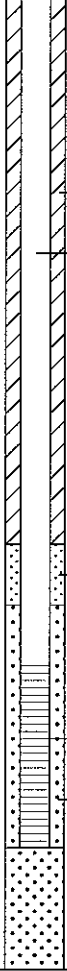
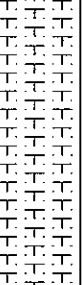
Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: IW-1

Site Location:
1600 Tallevast Rd.
Sarasota, FL

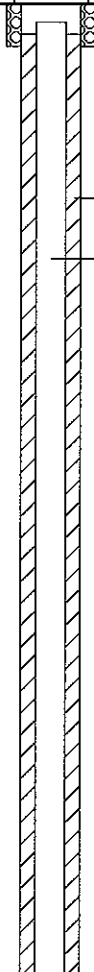
Borehole Depth: 32' bgs

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		1	15-20	4.0		7.5 YR 4/2 brown very fine to fine SILTY SAND, slightly clayey throughout, slightly cohesive, soft, wet.	 Grout (0' - 25' bgs) 4" Dia. Sch. 40 PVC Riser (0' - 27' bgs) Sand Seal (25' - 26' bgs) 4" Dia. PVC Vee-Wire Screen (27' - 30' bgs) Sandpack (26' - 32' bgs)
25-25		2	20-25	3.0		7.5 YR 5/2 brown fine SILTY SAND, loose, soft, wet.	
30-30		3	25-30	2.33		Slightly clayey at 24.5' bgs SANDY CLAY, soft, slightly plastic, cohesive. 10 YR 5/1-5/2 brownish gray fine SAND, loose, wet.	
35-35		4	30-32	2.0		CLAY and GRAVEL at end of run. 10 YR 5/1 gray CLAY and GRAVEL, hard, dry to moist.	



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/18/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1115952.83 Easting: 479808.20 Casing Elevation: 31.02' AMSL Borehole Depth: 30' bgs Surface Elevation: NA Geologist: S. Klimek	Boring ID: T-A1D Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
--	---	--

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0						
5	-5					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	
10	-10						
15	-15						

	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
---	--

Client:
Lockheed Martin Corp.

Boring ID: T-A1D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
25-25							Sand Seal (25' - 26' bgs)
30-30							2" Dia. PVC Vee- Wire Screen (27' - 30' bgs) Sandpack (26' - 30' bgs)
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/15/08
Drilling Company: Preferred
Drilling Method: HSA

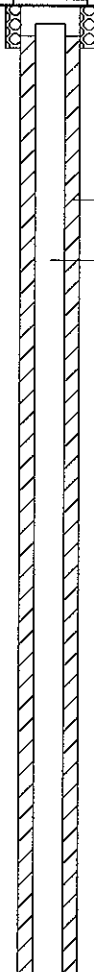
Northing: 1115951.62
Easting: 479808.94
Casing Elevation: 30.84' AMSL

Boring ID: T-A1S
Client: Lockheed Martin Corp.

Borehole Depth: 24' bgs
Surface Elevation: NA

Location: 1600 Tallevast Rd.
 Sarasota, FL

Geologist: B. Burke

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						



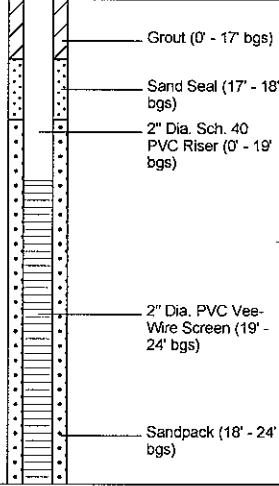
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-A1S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

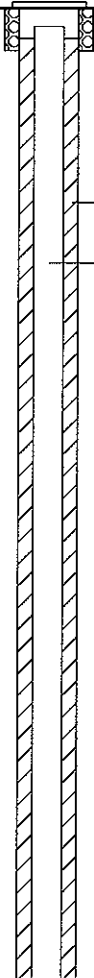
Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/18/08	Northing: 1115947.09	Boring ID: T-A2D
Drilling Company: Preferred	Easting: 479810.18	Client: Lockheed Martin Corp.
Drilling Method: HSA	Casing Elevation: 30.95' AMSL	Location: 1600 Tallevast Rd. Sarasota, FL
	Borehole Depth: 30' bgs	
	Surface Elevation: NA	
	Geologist: S. Klimek	

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
-5	-5						
-10	-10						
-15	-15						

Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level



Client:
Lockheed Martin Corp.

Boring ID: T-A2D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/18/08
 Drilling Company: Preferred
 Drilling Method: HSA

Northing: 1115948.19
 Easting: 479811.15
 Casing Elevation: 30.93' AMSL

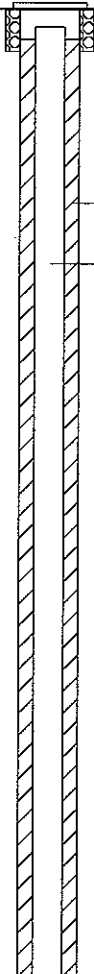
Borehole Depth: 24' bgs
 Surface Elevation: NA

Geologist: B. Burke

Boring ID: T-A2S

Client: Lockheed Martin Corp.

Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						



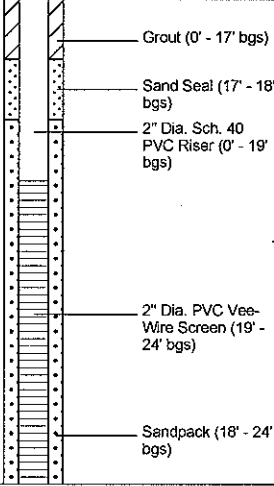
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-A2S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

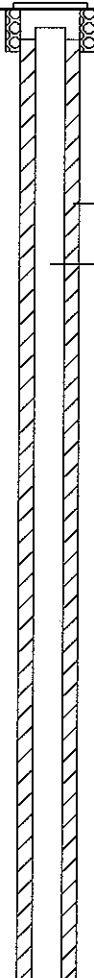
Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
-20-20						Blind drill to depth. See IW-1 for soil descriptions.	
-25-25							
-30-30							
-35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/19/08	Northing: 1115945.67	Boring ID: T-A3D
Drilling Company: Preferred	Easting: 479803.88	Client: Lockheed Martin Corp.
Drilling Method: HSA	Casing Elevation: 30.98' AMSL	Location: 1600 Tallevast Rd. Sarasota, FL
	Borehole Depth: 30' bgs	
	Surface Elevation: NA	
	Geologist: S. Klimek	

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
5	-5						
10	-10						
15	-15						

	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
---	--

Client:
Lockheed Martin Corp.

Boring ID: T-A3D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

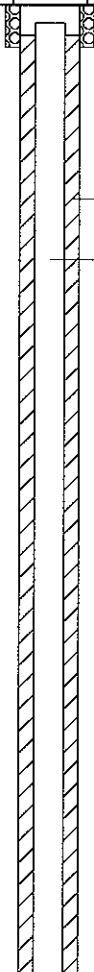
Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
25-25							Sand Seal (25' - 26' bgs)
30-30							2" Dia. PVC Vee- Wire Screen (27' - 30' bgs) Sandpack (26' - 30' bgs)
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/15/08	Northing: 1115944.47	Boring ID: T-A3S
Drilling Company: Preferred	Easting: 479805.04	Client: Lockheed Martin Corp.
Drilling Method: HSA	Casing Elevation: 30.90' AMSL	Location: 1600 Tallevast Rd. Sarasota, FL
	Borehole Depth: 24' bgs	
	Surface Elevation: NA	
	Geologist: B. Burke	

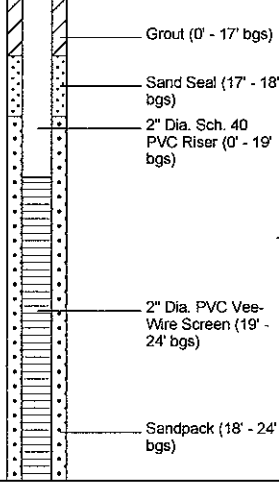
DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						
						Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level	

Client:
Lockheed Martin Corp.

Boring ID: T-A3S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							

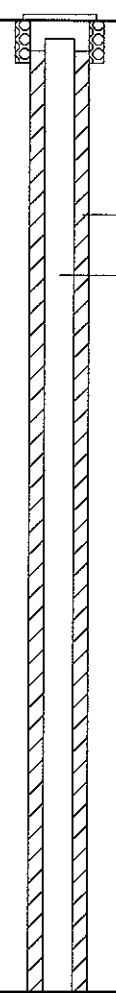


Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/18/08
Drilling Company: Preferred
Drilling Method: HSA

Northing: 1115949.90
Easting: 479803.11
Casing Elevation: 30.94' AMSL
Borehole Depth: 30' bgs
Surface Elevation: NA
Geologist: S. Klimek

Boring ID: T-A4D
Client: Lockheed Martin Corp.
Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
5	-5						
10	-10						
15	-15						

Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level



Client:
Lockheed Martin Corp.

Boring ID: T-A4D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

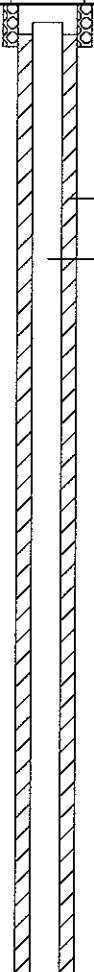
Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
25-25							Sand Seal (25' - 26' bgs)
30-30							2" Dia. PVC Vee- Wire Screen (27' - 30' bgs) Sandpack (26' - 30' bgs)
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/15/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1115949.00 Easting: 479802.80 Casing Elevation: 30.87' AMSL Borehole Depth: 24' bgs Surface Elevation: NA Geologist: B. Burke	Boring ID: T-A4S Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						



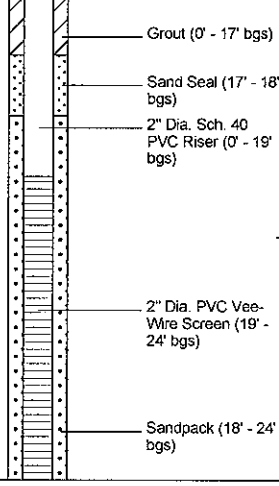
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-A4S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							

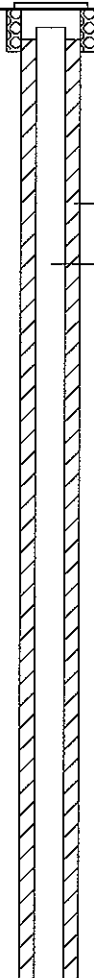


Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/18/08
 Drilling Company: Preferred
 Drilling Method: HSA

Northing: 1115954.73
 Easting: 479810.70
 Casing Elevation: 30.97' AMSL
 Borehole Depth: 30' bgs
 Surface Elevation: NA
 Geologist: S. Klimek

Boring ID: T-B1D
 Client: Lockheed Martin Corp.
 Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 24.8' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
5	-5						
10	-10						
15	-15						



Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-B1D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	Grout (0' - 24.8' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs) Sand Seal (24.8' - 26' bgs) 2" Dia. PVC Vee-Wire Screen (26' - 30' bgs) Sandpack (26' - 30' bgs)
25-25							
30-30							
35-35							

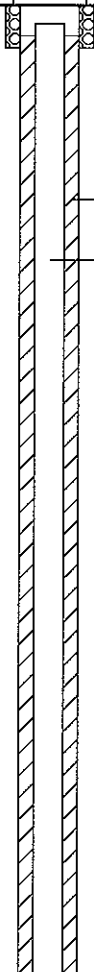


Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/15/08
 Drilling Company: Preferred
 Drilling Method: HSA

Northing: 1115952.97
 Easting: 479811.27
 Casing Elevation: 30.83' AMSL
 Borehole Depth: 24' bgs
 Surface Elevation: NA
 Geologist: B. Burke

Boring ID: T-B1S
 Client: Lockheed Martin Corp.
 Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						



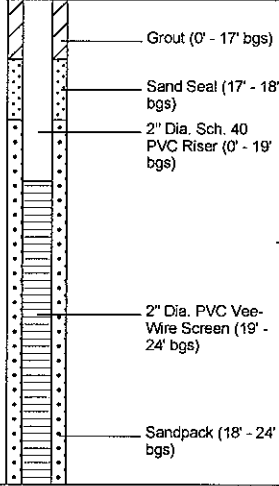
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-B1S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

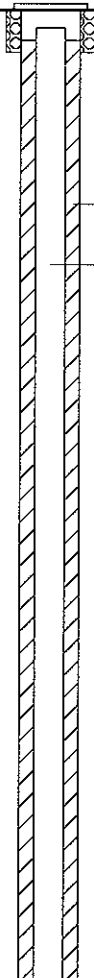
Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/18/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1115947.05 Easting: 479813.49 Casing Elevation: 30.90' AMSL Borehole Depth: 30' bgs Surface Elevation: NA Geologist: S. Klimek	Boring ID: T-B2D Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
--	---	--

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
5	-5						
10	-10						
15	-15						

	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
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Client:
Lockheed Martin Corp.

Boring ID: T-B2D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

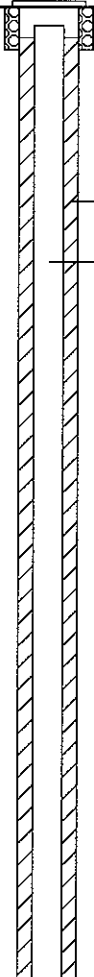
Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
25-25							Sand Seal (25' - 26' bgs)
30-30							2" Dia. PVC Vee- Wire Screen (27' - 30' bgs) Sandpack (26' - 30' bgs)
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/15/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1115945.67 Easting: 479813.89 Casing Elevation: 30.91' AMSL Borehole Depth: 24' bgs Surface Elevation: NA Geologist: B. Burke	Boring ID: T-B2S Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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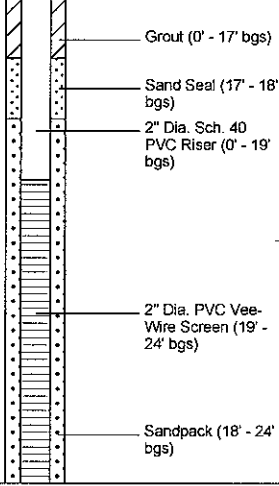
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						
						Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level	

Client:
Lockheed Martin Corp.

Boring ID: T-B2S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

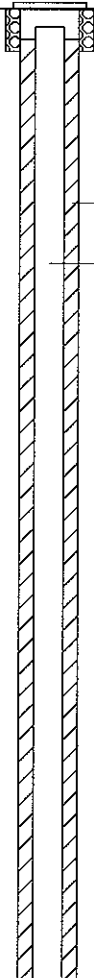
Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/14/08	Northing: 1115942.09	Boring ID: T-B3D
Drilling Company: Preferred	Easting: 479807.45	Client: Lockheed Martin Corp.
Drilling Method: HSA	Casing Elevation: 30.93' AMSL	Location: 1600 Tallevast Rd. Sarasota, FL
	Borehole Depth: 30' bgs	
	Surface Elevation: NA	
	Geologist: B. Burke	

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
5	-5						
10	-10						
15	-15						
						Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level	

Client:
Lockheed Martin Corp.

Boring ID: T-B3D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
25-25							Sand Seal (25' - 26' bgs)
30-30							2" Dia. PVC Vee- Wire Screen (27' - 30' bgs) Sandpack (26' - 30' bgs)
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/15/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1115941.11 Easting: 479808.29 Casing Elevation: 30.90' AMSL Borehole Depth: 24' bgs Surface Elevation: NA Geologist: B. Burke	Boring ID: T-B3S Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						

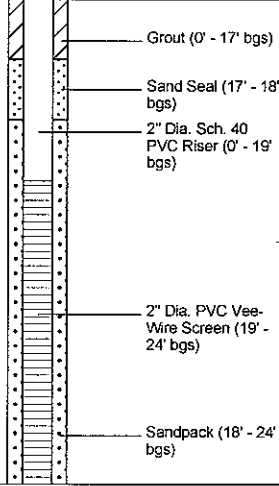
	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
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Client:
Lockheed Martin Corp.

Boring ID: T-B3S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/11/08, 2/14/08
 Drilling Company: Preferred
 Drilling Method: HSA

Northing: 1115942.45
 Easting: 479802.26
 Casing Elevation: 30.91' AMSL
 Borehole Depth: 31.66' bgs
 Surface Elevation: NA
 Geologist: M. Sedor

Boring ID: T-B4D
 Client: Lockheed Martin Corp.
 Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to 15' bgs.	
5	-5	NA	NA	NA			Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
10	-10						
15	-15	1	15-20	2.0		7.5 YR 2.5/3 very dark brown SILTY SAND, hard, moist. 7.5 YR 4/3 brown SILTY SAND, with Clay increasing with depth, soft, moist.	



Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-B4D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 31.66' bgs

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
		1	15-20	2.0		7.5 YR 4/3 brown SILTY SAND, with Clay increasing with depth, soft, moist.	
20-20						Clay content decreases below 20' bgs	Grout (0' - 25' bgs)
		2	20-25	4.0			2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
25-25						Increase Silt content below 25' bgs.	
		3	25-30	3.17			Sand Seal (25' - 26' bgs)
							2" Dia. PVC Vee- Wire Screen (27' - 30' bgs)
30-30		4	30- 31.66	0.83		10 YR 5/1 gray CLAY and GRAVEL, hard, moist.	Sandpack (25' - 31.66' bgs)
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/11/08
 Drilling Company: Preferred
 Drilling Method: HSA

Northing: 1115944.14
 Easting: 479801.67
 Casing Elevation: 30.95' AMSL

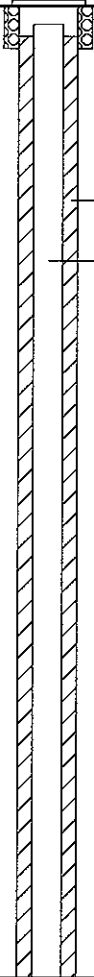
Borehole Depth: 24' bgs
 Surface Elevation: NA

Geologist: B. Burke

Boring ID: T-B4S

Client: Lockheed Martin Corp.

Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See T-B4D for soil descriptions.	 Grout (0' - 16.5' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						



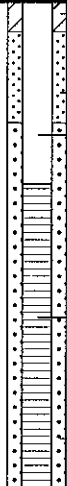
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-B4S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See T-B4D for soil descriptions.	 - Grout (0' - 16.5' bgs) - Sand Seal (16.5' - 18' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs) 2" Dia. PVC Vee-Wire Screen (19' - 24' bgs) - Sandpack (18' - 24' bgs)
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/18/08 Drilling Company: Preferred Drilling Method: HSA	Northing: NA Easting: NA Casing Elevation: NA Borehole Depth: 30' bgs Surface Elevation: NA Geologist: S. Klimek	Boring ID: T-B5D Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
5	-5						
10	-10						
15	-15						

	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
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Client:
Lockheed Martin Corp.

Boring ID: T-B5D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
25-25							Sand Seal (24' - 25' bgs)
30-30							2" Dia. PVC Ves- Wire Screen (27' - 30' bgs) Sandpack (25' - 30' bgs)
35-35							

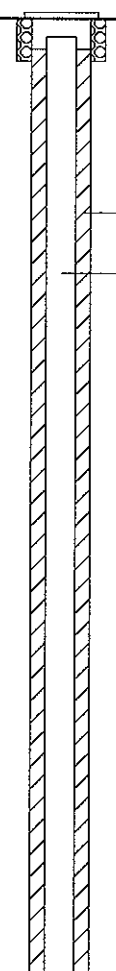


Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/15/08
 Drilling Company: Preferred
 Drilling Method: HSA

Northing: NA
 Easting: NA
 Casing Elevation: NA
 Borehole Depth: 24' bgs
 Surface Elevation: NA
 Geologist: B. Burke

Boring ID: T-B5S
 Client: Lockheed Martin Corp.
 Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						



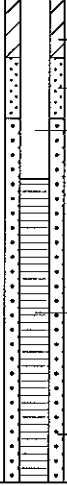
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-B5S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/11/08, 2/12/08
 Drilling Company: Preferred
 Drilling Method: HSA

Northing: 1115958.61
 Easting: 479804.71
 Casing Elevation: 30.96' AMSL
 Borehole Depth: 31.5' bgs
 Surface Elevation: NA
 Geologist: B. Burke

Boring ID: T-C1D
 Client: Lockheed Martin Corp.
 Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to 15' bgs.	
5	-5	NA	NA	NA			Grout (0' - 24.5' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
10	-10						
15	-15	1	15-20	3.5		2.5 Y 4/4 olive brown very fine to fine CLAYEY SAND, slightly cohesive, soft, wet.	



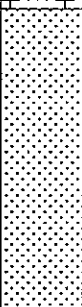
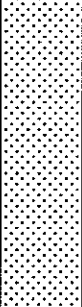
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-C1D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

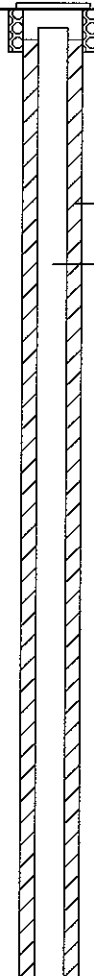
Borehole Depth: 31.5' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		1	15-20	3.5		2.5 Y 4/4 olive brown very fine to fine CLAYEY SAND, slightly cohesive, soft, wet.	 Grout (0' - 24.5' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs) Sand Seal (24.5' - 25.5' bgs) 2" Dia. PVC Vee-Wire Screen (26' - 30' bgs) Sandpack (25.5' - 31.5' bgs)
						2.5 Y 4/4 olive brown very fine to fine SILTY SAND, loose, soft, wet.	
25-25		2	20-25	2.83		2.5 Y 4/4 olive brown fine SAND, little Silt, loose, soft, wet.	
		3	25-30	2.83		Clay lense from 25.5' - 25.8' bgs.	
30-30		4	30-31.5	1.5		10 YR 5/1 gray CLAY and GRAVEL hard, dry and wet zones.	
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/13/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1115958.65 Easting: 479803.13 Casing Elevation: 30.97' AMSL Borehole Depth: 24' bgs Surface Elevation: NA Geologist: M. Sedor	Boring ID: T-C1S Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See T-C1D for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						

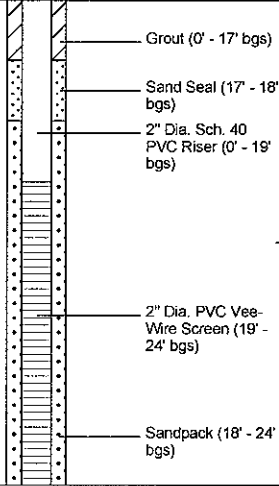
 Infrastructure, environment, facilities	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
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Client:
Lockheed Martin Corp.

Boring ID: T-C1S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

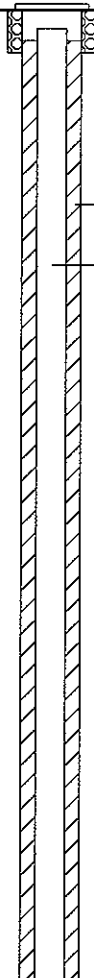
Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See T-C1D for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/12/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1115958.69 Easting: 479807.96 Casing Elevation: 30.98' AMSL Borehole Depth: 30' bgs Surface Elevation: NA Geologist: B. Burke	Boring ID: T-C2D Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 23.6' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
5	-5						
10	-10						
15	-15						

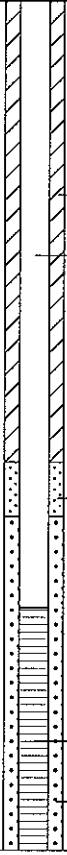
	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
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Client:
Lockheed Martin Corp.

Boring ID: T-C2D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/13/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1115958.60 Easting: 479806.54 Casing Elevation: 31.02' AMSL Borehole Depth: 24' bgs Surface Elevation: NA Geologist: M. Sedor	Boring ID: T-C2S Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						



Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-C2S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							

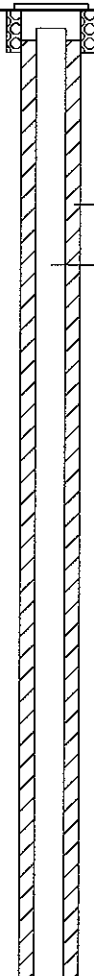


Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/12/08
 Drilling Company: Preferred
 Drilling Method: HSA

Northing: 1115957.93
 Easting: 479810.71
 Casing Elevation: 30.98' AMSL
 Borehole Depth: 30' bgs
 Surface Elevation: NA
 Geologist: B. Burke

Boring ID: T-C3D
 Client: Lockheed Martin Corp.
 Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
5	-5						
10	-10						
15	-15						



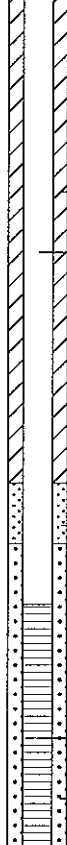
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-C3D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs) Sand Seal (24' - 25' bgs) 2" Dia. PVC Vee-Wire Screen (26' - 30' bgs) Sandpack (25' - 30' bgs)
25-25							
30-30							
35-35							

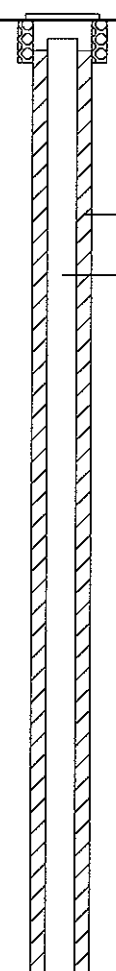


Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/14/08
 Drilling Company: Preferred
 Drilling Method: HSA

Northing: 1115957.08
 Easting: 479812.62
 Casing Elevation: 30.99' AMSL
 Borehole Depth: 24' bgs
 Surface Elevation: NA
 Geologist: B. Burke

Boring ID: T-C3S
 Client: Lockheed Martin Corp.
 Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						



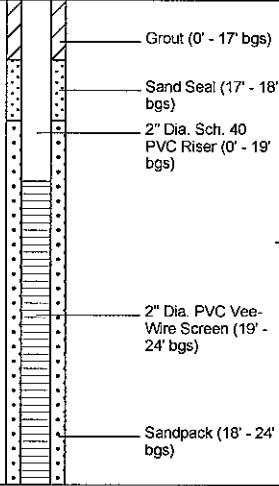
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-C3S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							

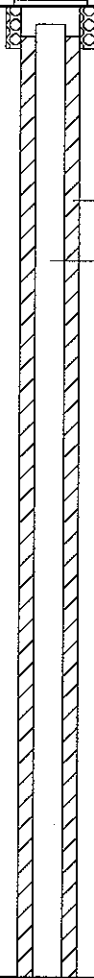


Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/13/08
 Drilling Company: Preferred
 Drilling Method: HSA

Northing: 1115956.56
 Easting: 479813.93
 Casing Elevation: 30.90' AMSL
 Borehole Depth: 30' bgs
 Surface Elevation: NA
 Geologist: B. Burke

Boring ID: T-C4D
 Client: Lockheed Martin Corp.
 Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
5	-5						
10	-10						
15	-15						



Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-C4D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

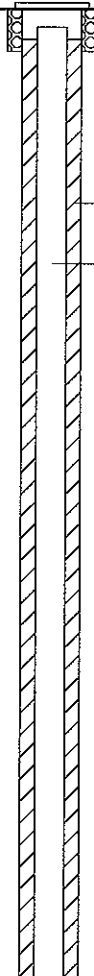
Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	Grout (0' - 24' bgs)
							2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
25-25							Sand Seal (24' - 25' bgs)
							2" Dia. PVC Vee- Wire Screen (26' - 30' bgs)
30-30							Sandpack (25' - 30' bgs)
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/11/08	Northing: 1115955.16	Boring ID: T-C4S
Drilling Company: Preferred	Easting: 479814.97	Client: Lockheed Martin Corp.
Drilling Method: HSA	Casing Elevation: 30.89' AMSL	Location: 1600 Tallevast Rd. Sarasota, FL
	Borehole Depth: 24' bgs	
	Surface Elevation: NA	
	Geologist: B. Burke	

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						



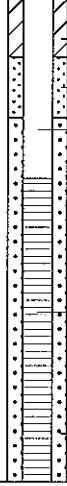
Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-C4S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

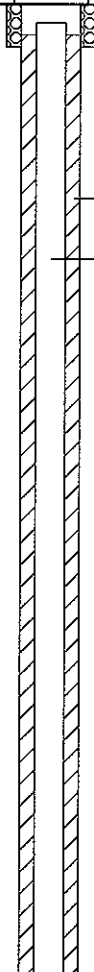
Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/13/08	Northing: 1115953.41	Boring ID: T-C5D
Drilling Company: Preferred	Easting: 479815.97	Client: Lockheed Martin Corp.
Drilling Method: HSA	Casing Elevation: 30.92' AMSL	Location: 1600 Tallevast Rd. Sarasota, FL
	Borehole Depth: 30' bgs	
	Surface Elevation: NA	
	Geologist: B. Burke	

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
5	-5						
10	-10						
15	-15						

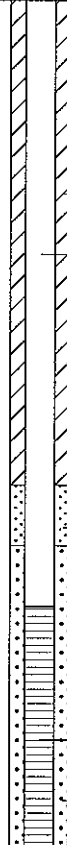
 infrastructure, environment, facilities	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
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Client:
Lockheed Martin Corp.

Boring ID: T-C5D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							

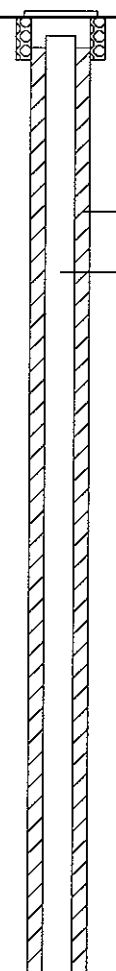


Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/14/08
 Drilling Company: Preferred
 Drilling Method: HSA

Northing: 1115951.63
 Easting: 479816.31
 Casing Elevation: 30.95' AMSL
 Borehole Depth: 24' bgs
 Surface Elevation: NA
 Geologist: B. Burke

Boring ID: T-C5S
 Client: Lockheed Martin Corp.
 Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-1 for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10-10							
15-15							



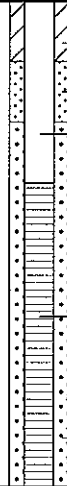
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-C5S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-1 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/11/08, 2/13/08
Drilling Company: Preferred
Drilling Method: HSA

Northing: 1115949.36
Easting: 479816.39
Casing Elevation: 30.81' AMSL
Borehole Depth: 30' bgs
Surface Elevation: NA
Geologist: M. Sedor

Boring ID: T-C6D
Client: Lockheed Martin Corp.
Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to 15' bgs.	
5	-5						Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
10	-10						
15	-15	1	15-20	3.92		7.5 YR 2.5/1 dark brown SILTY SAND, soft, moist. 7.5 YR 4/3 brown SILTY SAND, soft, wet. Softer with depth.	



Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-C6D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		1	15-20	3.92		Brown SILTY SAND, soft, wet. Softer with depth.	Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
25-25		2	20-25	2.58		7.5 YR 4/3 gray SILTY SAND, Clay increases with depth, soft, wet.	Sand Seal (24' - 25' bgs)
30-30		3	25-30	3.25		10 YR 5/1 gray CLAY and GRAVEL, hard, moist.	2" Dia. PVC Vee-Wire Screen (25' - 30' bgs) Sandpack (25' - 30' bgs)
35-35							

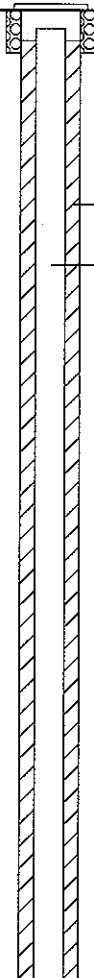


Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/14/08
Drilling Company: Preferred
Drilling Method: HSA

Northing: 1115947.56
Easting: 479816.40
Casing Elevation: 30.90' AMSL
Borehole Depth: 24' bgs
Surface Elevation: NA
Geologist: B. Burke

Boring ID: T-C6S
Client: Lockheed Martin Corp.
Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See T-C6D for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
-5	-5						
-10	-10						
-15	-15						



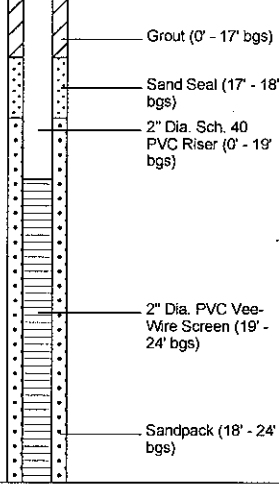
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: T-C6S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See T-C6D for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/4-2/5/08	Northing: 1115966.52	Boring ID: TL-INJ
Drilling Company: WDC Exploration	Easting: 479771.89	Client: Lockheed Martin Corp.
Drilling Method: Rotosonic	Casing Elevation: 30.99' AMSL	Location: 1600 Tallevast Rd. Sarasota, Florida
	Borehole Depth: 45' bgs	
	Surface Elevation: NA	
	Geologist: Ryan Tuttle	

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					ASPHALT	
		NA	NA	NA		10YR 7/4 very pale brown very fine poorly graded SAND, little Silt, few Clay and fine to medium angular Gravel, medium dense, dry, no odor. 10YR 7/1 light gray to 10YR 4/2 dark grayish brown very fine poorly graded SAND, few Silt, loose, dry, no odor.	
5	-5					10YR 4/1 dark gray very fine poorly graded SAND, few Silt, loose, moist, no odor.	4" Schedule 40 PVC riser (0-35')
10-10		1	5-15'	10'		12' bgs- 10YR 4/2 dark grayish brown decreasing Silt content to trace.	
15-15		2	15-25'	9.5'			Portland neat cement grout (0-31.6')



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: TL-INJ

Site Location:
1600 Tallevast Rd.
Sarasota, Florida

Borehole Depth: 45' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		2	15-25'	9.5		10YR 4/1 dark gray very fine poorly graded SAND, few Silt, loose, moist, no odor. 18' bgs- 10YR 6/3 very pale brown. 21' bgs- GLEY 1 5/1 (1) greenish gray, few Clay with increasing Clay content to little at 22.25'. 22.75' bgs- Few Clay and Silt.	Portland neat cement grout (0-31.6')
25-25						GLEY 1 5/1 (1) greenish gray SANDY CLAY, fine Sand, soft, moderate plasticity, wet, no odor. GLEY 1 5/1 (1) greenish gray fine poorly graded SAND, few Clay, wet, no odor.	
30-30		3	25-35'	10'		10YR 6/1 gray GRAVELLY CLAY, medium to coarse Gravel, few coarse Sand with increasing coarse Sand content with depth to some at 29', soft, moderately plastic, wet, no odor.	4" Schedule 40 PVC riser (0-35')
35-35		4	35-40'	5'		GLEY 1 5/1 (1) greenish gray CLAY, very stiff, friable (breaks under hand pressure), dry, no odor.	Bentonite chip (31.6-33.9') 20/30 Sand (33.9-41') 4" Stainless steel 10 slot well screen (35-40')



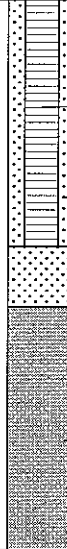
Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: TL-INJ

Site Location:
1600 Tallevast Rd.
Sarasota, Florida

Borehole Depth: 45' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
40-40		4	35-40'	5'		GLE Y 1 5/1 (1) greenish gray CLAY, very stiff, friable (breaks under hand pressure), dry, no odor. 10YR 6/1 gray GRAVELLY CLAY, medium to coarse Gravel, few coarse Sand with increasing coarse Sand content with depth, soft, moderately plastic, wet, no odor. GLE Y 1 5/1 (1) greenish gray CLAY, very stiff, friable (breaks along horizontal bedding planes under hand pressure), expanding Clay, dry, no odor.	 4" Stainless steel 10 slot well screen (35-40') 20/30 Sand (33.9-41') Bentonite chip (41-45')
		5	40-45'	5'		GLE Y 1 4/1 (2) dark greenish gray CLAY, medium soft, moderate to high plasticity, moist, no odor. GLE Y 1 5/1 (1) greenish gray CLAY, very stiff, friable (breaks under hand pressure), dry, no odor. 10YR 6/1 gray GRAVELLY CLAY, some coarse angular Sand, few medium to fine Gravel, soft, moderately plastic, wet, no odor.	
45-45							
50-50							
55-55							

Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level



Date Start/Finish: 2/8/2008
Drilling Company: WDC Exploration
Drilling Method: Rotosonic

Northing: 1115969.76
Easting: 479769.87
Casing Elevation: 31.25' AMSL

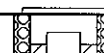
Boring ID: TL-4-1
Client: Lockheed Martin Corp.

Borehole Depth: 40' bgs
Surface Elevation: NA

Location: 1600 Tallevast
 Sarasota, Florida

Geologist: Ryan Tuttle

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					ASPHALT	
		NA	NA	NA		10YR 7/1 light gray to 10YR 4/2 dark gray brown very fine poorly graded SAND, few Silt, loose, dry, no odor.	
-5	-5					10YR 7/2 light gray very fine poorly graded SAND, loose, wet, no odor.	
						10YR 5/2 grayish brown very fine poorly graded SAND, few Silt, loose, wet, no odor.	
-10	-10	1	5-15'	9.5'		10YR 2/1 black very fine poorly graded SAND, little Silt, medium dense to loose, wet, no odor.	
						10YR 5/2 grayish brown very fine poorly graded SAND, few Silt, loose, wet, no odor.	
						10YR 3/3 dark brown very fine poorly graded SAND, little Silt, medium dense to loose, wet, no odor.	
-15	-15	2	15-25'	9.5'		10YR 6/3 pale brown very fine CLAYEY SAND, little Silt, very soft/loose, wet, no odor.	



2" Schedule 40
 PVC riser (0-35')

Portland neat
 cement grout (0-32')



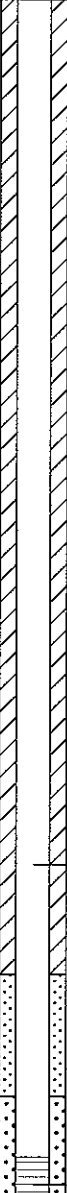
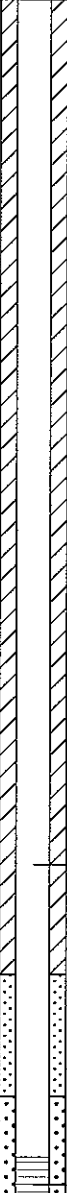
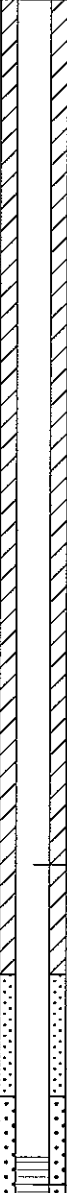
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: TL-4-1

Site Location:
1600 Tallevast
Sarasota, Florida

Borehole Depth: 40' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		2	15-25'	9.5'		10YR 6/3 pale brown very fine CLAYEY SAND, little Silt, very soft/loose, wet, no odor.	
						10YR 6/3 pale brown very fine to fine poorly graded SAND, few subrounded Gravel, loose, wet, no odor.	
						10YR 6/2 light brown at 20' bgs.	
						10YR 6/2 light brownish gray fine to very fine CLAYEY SAND, very soft/loose, wet, no odor.	
						10YR 6/2 light brownish gray very fine to fine poorly graded SAND, few subrounded Gravel, loose, wet, no odor.	
25-25						GLE Y 1 6/1 (1) greenish gray very fine CLAYEY SAND/SANDY CLAY, little Silt, very loose/very soft, wet, no odor.	
						GLE Y 1 6/1 (1) medium to coarse angular GRAVELLY CLAY, little fine angular Gravel and coarse Sand, very soft, moderate plasticity, wet, no odor.	
30-30		3	25-35'	10'		10YR 6/1 gray GRAVELLY CLAY, fine to coarse angular Gravel, little coarse Sand and Silt, wet around gravel in matrix, medium stiff, no odor.	
						GLE Y 1 6/ gray CLAY, little medium to fine angular Gravel decreasing with depth to few at 32.25', very stiff, friable (breaks under hand pressure), dry, no odor.	
35-35		4	35-40'	5'		GLE Y 1 4/1 (1) dark greenish gray CLAY, few medium angular Gravel, stiff, moderate plasticity, expanding Clay, dry, no odor.	

Portland neat cement grout (0-32')

2" Schedule 40 PVC riser (0-35')

30/65 Sand (32-34')

20/30 Sand (34-40')

2" Stainless steel 10 slot well screen (35-40')

Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

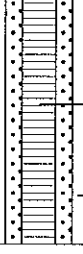


Client:
Lockheed Martin Corp.

Boring ID: TL-4-1

Site Location:
1600 Tallevast
Sarasota, Florida

Borehole Depth: 40' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
40-40		4	35-40'	5'		10YR 6/1 gray medium to coarse angular CLAYEY GRAVEL, little Silt, loose, wet, no odor. 10YR 6/1 gray GRAVELLY CLAY, fine to coarse angular Gravel, little coarse Sand and Silt, dry, medium stiff, no odor. 10YR 6/1 gray medium to coarse angular GRAVEL, some Clay and coarse Sand, loose, wet, no odor. 10YR 6/1 gray GRAVELLY CLAY, fine to coarse angular Gravel, little coarse Sand and Silt, dry, medium stiff, no odor. GLEY 1 6/ gray CLAY, few medium to fine angular Gravel, very stiff, friable (breaks under hand pressure), dry, no odor.	 2" Stainless steel 10 slot well screen (35-40') 20/30 Sand (34-40')
45-45							
50-50							
55-55							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/7/2008
 Drilling Company: WDC Exploration
 Drilling Method: Rotasonic

Northing: 1115966.16
 Easting: 479775.94
 Casing Elevation: 31.20' AMSL

Boring ID: TL-4-2
 Client: Lockheed Martin Corp.

Borehole Depth: 40' bgs
 Surface Elevation: NA
 Geologist: Ryan Tuttle

Location: 1600 Tallevast Rd.
 Sarasota, Florida

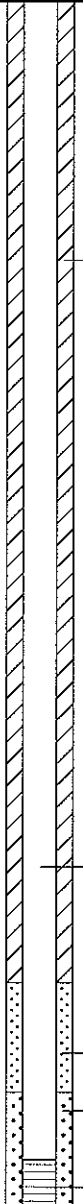
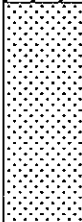
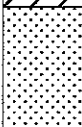
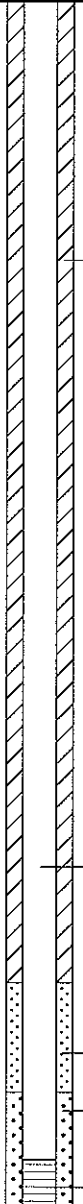
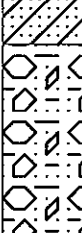
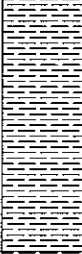
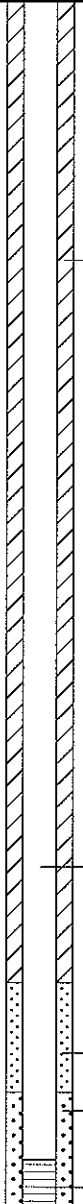
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					ASPHALT	
		NA	NA	NA		10YR 7/1 light gray to 10YR 4/2 dark gray brown very fine poorly graded SAND, few Silt, loose, dry, no odor.	
5	-5					10YR 4/2 dark grayish brown very fine poorly graded SAND, few Silt, loose, wet, no odor.	2" Schedule 40 PVC riser (0-35')
10-10		1	5-15'	9'		10YR 2/1 black very fine poorly graded SAND, little Silt, loose to medium dense, wet, no odor.	
						10YR 4/2 dark grayish brown very fine poorly graded SAND, few Silt, loose, wet, no odor.	
15-15		2	15-25'	9'		10YR 3/3 dark brown very fine poorly graded SAND, few Silt, loose, wet, no odor.	Portland neat cement grout (0-32.1')
						Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level	

Client:
Lockheed Martin Corp.

Boring ID: TL-4-2

Site Location:
1600 Tallevast Rd.
Sarasota, Florida

Borehole Depth: 40' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		2	15-25'	9'		10YR 6/2 light brownish gray very fine CLAYEY SAND, little Silt, very soft/loose, wet, no odor.	 Portland neat cement grout (0-32.1')
						10YR 6/2 light brownish gray very fine to fine poorly graded SAND, few Silt, loose, wet, no odor. 19' bgs- 10YR 6/1 gray.	
						10YR 6/1 gray very fine to fine CLAYEY SAND, little Silt, very soft/loose, wet, no odor.	
						10YR 6/1 gray very fine to fine poorly graded SAND, few Silt, loose, wet, no odor.	
25-25						10YR 6/1 gray very fine CLAYEY SAND, little Silt, trace fine angular Gravel, very soft/loose, wet, no odor.	 2" Schedule 40 PVC riser (0-35')
						10YR 6/1 gray GRAVELLY CLAY, medium to coarse angular Gravel, few fine angular Gravel and coarse Sand, very soft, moderate plasticity, wet, no odor.	
30-30		3	25-35'	10'		10YR 7/1 light gray fine to coarse well graded GRAVEL, little coarse Sand, Silt, and Clay, loose, wet, no odor.	
						GLE Y 1 6/ gray CLAY, little medium angular Gravel decreasing with depth to few at 32', stiff with increasing stiffness with depth to very stiff at 32', friable, dry, no odor.	
35-35		4	35-40'	5'		GLE Y 1 4/1 (2) very dark greenish gray with 10YR 3/3 dark brown mottling CLAY, stiff, moderate plasticity, dry, no odor.	 30/65 Sand (32.1-33.9') 20/30 Sand (33.9-40') 2" Stainless steel 10 slot well screen (35-40')



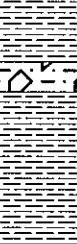
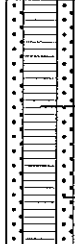
Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: TL-4-2

Site Location:
1600 Tallevast Rd.
Sarasota, Florida

Borehole Depth: 40' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
40-40		4	35-40'	5'		GLEY 1 4/1 (2) very dark greenish gray with 10YR 3/3 dark brown mottling CLAY, stiff, moderate plasticity, dry, no odor. GLEY 1 6/1 (1) greenish gray CLAYEY GRAVEL, loose, wet, no odor. GLEY 1 6/ gray CLAY, little angular medium Gravel decreasing with depth to few at 39.5', stiff with increasing stiffness with depth to very stiff at 39.5', friable, dry, no odor.	 2" Stainless steel 10 slot well screen (35-40') 20/30 Sand (33.9-40')
45-45							
50-50							
55-55							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/7/2008
Drilling Company: WDC Exploration
Drilling Method: Rotosonic

Northing: 1115963.61
Easting: 479769.29
Casing Elevation: 31.08' AMSL

Boring ID: TL-4-3
Client: Lockheed Martin Corp.

Borehole Depth: 40' bgs
Surface Elevation: NA

Location: 1600 Tallevast Rd.
 Sarasota, Florida

Geologist: Ryan Tuttle

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					ASPHALT	
		NA	NA	NA		10YR 7/1 light gray to 10YR 4/2 dark gray brown very fine poorly graded SAND, few Silt, loose, dry, no odor.	
5	-5					10YR 7/2 light gray very fine poorly graded SAND, trace Silt, loose, wet, no odor.	
						10YR 2/1 black very fine poorly graded SAND, little Silt, medium dense, wet, no odor.	
10-10		1	5-15'	9.25'		10YR 4/2 dark grayish brown very fine poorly graded SAND, trace Silt, loose, wet, no odor.	
						10YR 3/3 dark brown very fine poorly graded SAND, little Silt, medium dense, wet, no odor.	
15-15		2	15-25'	9'		10YR 6/2 light brownish gray very fine CLAYEY SAND, little Silt, soft/loose, wet, no odor.	

2" Schedule 40
PVC riser (0-35')

Portland neat
cement grout (0-33')



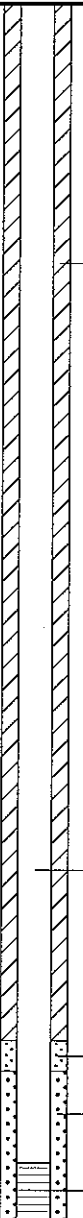
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: TL-4-3

Site Location:
1600 Tallevast Rd.
Sarasota, Florida

Borehole Depth: 40' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		2	15-25'	9'		10YR 6/2 light brownish gray very fine CLAYEY SAND, little Silt, soft/loose, wet, no odor.	 Portland neat cement grout (0-33') 2" Schedule 40 PVC riser (0-35') 30/65 Sand (33-33.5') 20/30 Sand (33.5-40') 2" Stainless steel 10 slot well screen (35-40')
						10YR 6/1 gray very fine poorly graded SAND, few Silt with decreasing Silt content to trace at 17', loose, wet, no odor.	
						10YR 6/1 gray very fine to fine CLAYEY SAND, little Silt, very soft/loose, wet, no odor.	
						10YR 6/1 gray very fine poorly graded SAND, trace Silt, loose, wet, no odor.	
25-25						10YR 5/2 grayish brown fine CLAYEY SAND, few fine angular Gravel, very soft/very loose, wet, no odor.	
						10YR 5/2 grayish brown GRAVELLY CLAY, fine to coarse angular Gravel, little coarse Sand, medium stiff moderate plasticity, wet, no odor.	
						10YR 7/1 light gray GRAVELLY CLAY, fine to coarse angular Gravel, little coarse Sand, very stiff, moderate plasticity, dry, no odor.	
30-30		3	25-35'	10'		GLE 1 6/ gray CLAY, few medium angular Gravel, moderate plasticity, very stiff, expending Clay, dry, no odor.	
							
							
35-35		4	35-40'	5'			

Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

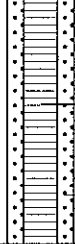


Client:
Lockheed Martin Corp.

Boring ID: TL-4-3

Site Location:
1600 Tallevast Rd.
Sarasota, Florida

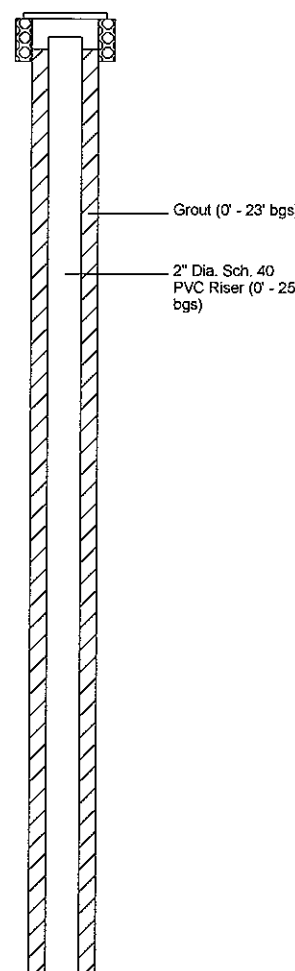
Borehole Depth: 40' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
40-40		4	35-40'	5'		GLEY 1 6/ gray CLAY, few medium angular Gravel. 10YR 7/1 light gray CLAYEY GRAVEL, few coarse Sand, loose, wet, no odor. 10YR 7/1 light gray GRAVELLY CLAY, fine to coarse angular Gravel, little coarse Sand, very stiff, moderate plasticity, dry, no odor. 10YR 7/1 light gray CLAYEY GRAVEL, few coarse Sand, loose, wet, no odor. GLEY 1 6/ gray CLAY, few medium angular Gravel, moderate plasticity, very stiff, expanding Clay, dry, no odor.	 2" Stainless steel 10 slot well screen (35-40') 20/30 Sand (33.5-40')
45-45							
50-50							
55-55							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 3/14/08 Drilling Company: WDC Drilling Method: Rotosonic	Northing: 1115969.53 Easting: 479775.60 Casing Elevation: 31.20' AMSL Borehole Depth: 30' bgs Surface Elevation: NA Geologist: S. Klimek	Boring ID: TL-5-1 Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Blind drill to depth.	 Grout (0' - 23' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 25' bgs)
5	-5	NA	NA	NA			
10-10							
15-15							

	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
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Client:
Lockheed Martin Corp.

Boring ID: TL-5-1

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		NA	NA	NA		Blind drill to depth.	Grout (0' - 23' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 25' bgs) Bentonite Seal (23' - 24' bgs) 4" Dia. PVC Screen (25' - 30' bgs) Sandpack (24' - 30' bgs)
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/6/2008
 Drilling Company: WDC Exploration
 Drilling Method: Rotasonic

Northing: 1115960.50
 Easting: 479776.07
 Casing Elevation: 30.99' AMSL
 Borehole Depth: 40' bgs
 Surface Elevation: NA
 Geologist: Ryan Tuttle

Boring ID: TL-7-1
 Client: Lockheed Martin Corp.
 Location: 1600 Tallevast Rd.
 Sarasota, Florida

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					ASPHALT	
		NA	NA	NA		10YR 7/1 light gray to 10YR 4/2 dark gray brown very fine poorly graded SAND, few Silt, loose, dry, no odor.	
5	-5					10YR 7/2 light gray very fine poorly graded SAND, few Silt, loose, wet, no odor.	
						10YR 4/2 dark grayish brown very fine poorly graded SAND, few Silt, loose, wet, no odor.	
10-10		1	5-15'	8'		10YR 2/1 black very fine poorly graded SAND, little Silt, medium dense, wet, no odor.	
						10YR 4/2 dark grayish brown very fine poorly graded SAND, few Silt, loose, wet, no odor.	
						10YR 3/3 dark brown very fine poorly graded SAND, little Silt, medium dense, wet, no odor.	
15-15		2	15-25'	6.5'		10YR 6/2 light brownish gray very fine CLAYEY SAND, medium dense, slight plasticity, wet, no odor.	



2" Schedule 40
PVC riser (0-35')

Portland neat
cement grout (0-
32.1')



Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: TL-7-1

Site Location:
1600 Tallevast Rd.
Sarasota, Florida

Borehole Depth: 40' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		2	15-25'	6.5'		10YR 6/2 light brownish gray very fine CLAYEY SAND, medium dense, slightly pastic, wet, no odor.	 Portland neat cement grout (0-32.1') 2" Schedule 40 PVC riser (0-35') 30/65 Sand (32.1-33.9') 20/30 Sand (33.9-40') 2" Stainless steel 10 slot well screen (35-40')
						10YR 6/2 light brownish gray very fine poorly graded SAND, little Silt, trace Clay, medium dense to loose, wet, no odor.	
						10YR 6/1 gray very fine poorly graded SAND, few Silt, loose, wet, no odor.	
25-25						10YR 5/2 grayish brown fine CLAYEY SAND, trace fine angular Gravel, soft/loose, wet, no odor.	
						GLEY 1 5/ gray GRAVELLY CLAY, medium to coarse angular Gravel, little coarse Sand, soft, moderate plasticity, wet with moisture decreasing with depth to moist at 28.5', no odor.	
						GLEY 1 5/ gray GRAVELLY CLAY, medium to coarse angular Gravel, some coarse Sand, few fossils (bivalves), stiff to very stiff, low to moderate plasticity, dry with moisture around Gravel inside matrix, no odor.	
						GLEY 1 6/ gray CLAY, few medium angular Gravel, very stiff, friable (breaks horizontally under hand pressure), dry, no odor.	
30-30		3	25-35'	9'			
35-35		4	35-40'	5'			

**ARCADIS**
infrastructure, environment, facilities

Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: TL-7-1

Site Location:
1600 Tallevast Rd.
Sarasota, Florida

Borehole Depth: 40' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
40-40		4	35-40'	5'		GLE 1 6/ gray CLAY, few medium angular Gravel, very stiff, friable (breaks horizontally under hand pressure), dry, no odor. 10YR 7/1 light gray CLAYEY GRAVEL/GRAVELLY CLAY, coarse to medium angular Gravel, some coarse Sand, soft/loose, slight plasticity, wet, no odor. GLE 1 5/ gray GRAVELLY CLAY, medium to coarse angular Gravel, some coarse Sand, few fossils (bivalves), stiff to very stiff, low to moderate plasticity, dry with moisture around Gravel inside matrix, no odor. 10YR 7/1 light gray CLAYEY GRAVEL/GRAVELLY CLAY, coarse to medium angular Gravel, some coarse Sand, soft/loose, slight plasticity, wet, no odor. GLE 1 5/ gray GRAVELLY CLAY, medium to coarse angular Gravel, some coarse Sand, few fossils (bivalves), stiff to very stiff, low to moderate plasticity, dry with moisture around Gravel inside matrix, no odor. GLE 1 6/ gray CLAY, few medium angular Gravel, very stiff, friable (breaks horizontally under hand pressure), dry, no odor.	 2" Stainless steel 10 slot well screen (35-40') 20/30 Sand (33.9-40')
45-45							
50-50							
55-55							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/5-2/6/08
 Drilling Company: WDC Exploration
 Drilling Method: Rotosonic

Northing: 1115972.63
 Easting: 479779.81
 Casing Elevation: 31.26' AMSL
 Borehole Depth: 40' bgs
 Surface Elevation: NA
 Geologist: Ryan Tuttle

Boring ID: TL-10-1
 Client: Lockheed Martin Corp.
 Location: 1600 Tallevast Rd.
 Sarasota, Florida

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					ASPHALT	
		NA	NA	NA		10YR 7/1 light gray to 10YR 4/2 dark gray brown very fine poorly graded SAND, few Silt, loose, dry, no odor.	
5	-5					10YR 5/2 grayish brown very fine poorly graded SAND, trace rootlets, loose, moist to wet, no odor.	
						10YR 2/1 black very fine poorly graded SAND, little Silt, medium dense, wet, no odor.	
10-10		1	5-15'	9.0'		10YR 4/2 dark gray brown very fine poorly graded SAND, few Silt, loose, wet, no odor.	2" Schedule 40 PVC riser (0-35')
						10YR 2/1 black very fine poorly graded SAND, little Silt, dense to medium dense, wet, no odor.	
15-15		2	15-25'	8.25'		10YR 6/2 light brownish gray fine CLAYEY SAND, medium dense, wet, no odor.	Portland neat cement grout (0-31.2')



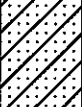
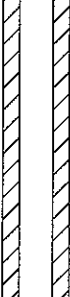
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: TL-10-1

Site Location:
1600 Tallevast Rd.
Sarasota, Florida

Borehole Depth: 40' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		2	15-25'	8.25'		10YR 6/2 light brownish gray fine CLAYEY SAND, medium dense, wet, no odor.	 Portland neat cement grout (0-31.2')
						10YR 6/1 gray fine poorly graded SAND, few Silt, loose, wet, no odor.	
						10YR 6/1 gray fine to very fine CLAYEY SAND/SANDY CLAY, soft/medium dense, low plasticity, wet, no odor.	
						10YR 6/1 gray fine poorly graded SAND, few Silt, loose, wet, no odor.	
25-25						10YR 5/2 grayish brown fine CLAYEY SAND, medium dense/soft, wet, no odor.	 2" Schedule 40 PVC riser (0-35') Bentonite chip (31.2-33.5') 20/30 Sand (33.5-40') 2" Stainless steel 10 slot well screen (35-40')
						GLEY 1 5/ gray GRAVELLY CLAY, medium to coarse angular Gravel, few coarse Sand, soft, moderate plasticity, wet, no odor.	
30-30		3	25-35'	10'		29' bgs- GLEY 1 7/ light gray.	
						GLEY 1 6/ gray CLAY, few medium angular Gravel, very stiff, friable (breaks horizontally under hand pressure), dry, no odor.	
35-35		4	35-40'	5'			



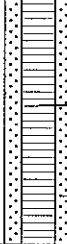
Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: TL-10-1

Site Location:
1600 Tallevast Rd.
Sarasota, Florida

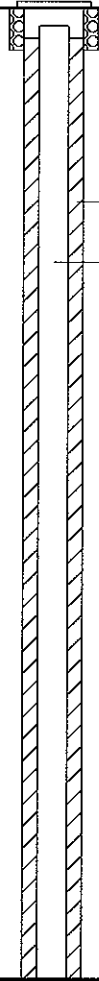
Borehole Depth: 40' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
40-40		4	35-40'	5'		GLEY 1 6/ gray CLAY, few medium angular Gravel, very stiff, friable, dry, no odor. GLEY 1 6/1 (1) greenish gray GRAVELLY CLAY, fine to coarse angular Gravel, little coarse Sand, soft, moderate plasticity, wet, no odor. GLEY 1 6/ gray CLAY, few medium angular Gravel, very stiff, friable (breaks horizontally under hand pressure), dry, no odor. 10YR 7/1 light gray medium to coarse angular GRAVEL, little coarse Sand and Clay, loose, wet, no odor.39 GLEY 1 6/ gray CLAY, few medium angular Gravel, very stiff, friable (breaks horizontally under hand pressure), dry, no odor.	 2" Stainless steel 10 slot well screen (35-40') 20/30 Sand (33.5-40')
45-45							
50-50							
55-55							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/11/08, 2/13/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1116004.26 Easting: 479781.56 Casing Elevation: 31.50' AMSL Borehole Depth: 30.42' bgs Surface Elevation: NA Geologist: S. Klimek	Boring ID: IW-2 Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0						
5	-5	NA	NA	NA		Post hole dug to 5' bgs. No Samples Collected.	 Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
10	-10						
15	-15	1	15-20	3.5		Dark brown fine SAND, some Silt, no odor, dense, moist, no visual impacts.	



Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: IW-2

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30.42' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		1	15-20	3.5		Brown fine SAND, some Silt and Clay below 16.5' bgs, dense, moist, no visual impacts.	
						Light gray brown fine SAND, some Silt seams, loose, wet.	
25-25		2	20-25	3.08		Light gray brown very fine SAND, little Silt, trace brown Silt seam from 21.8' - 22' bgs, no odor, medium dense, no visual impacts.	
						Light gray brown fine SAND, little to trace very fine Sand and Silt, no odor, medium dense to loose, wet, no visual impacts.	
30-30		3	25-30	2.0			
						Light gray CLAY and SILT, some fine to coarse Sand and fine Gravel, trace medium to coarse Gravel, moderately plastic, dense, wet.	
35-35		4	30-30.42	0.42			



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

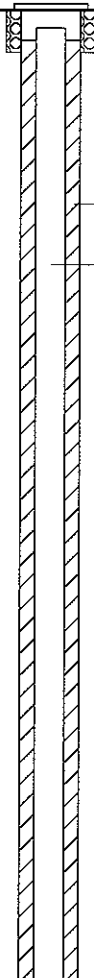
Date Start/Finish: 2/15/08
Drilling Company: Preferred
Drilling Method: HSA

Northing: 1116006.66
Easting: 479784.59
Casing Elevation: 31.47' AMSL

Boring ID: CO-A1D
Client: Lockheed Martin Corp.

Borehole Depth: 30' bgs
Surface Elevation: NA
Geologist: S. Klimek

Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-2 for soil descriptions.	 Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
-5	-5						
-10	-10						
-15	-15						



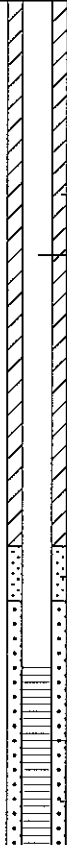
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: CO-A1D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-2 for soil descriptions.	
25-25							
30-30							
35-35							

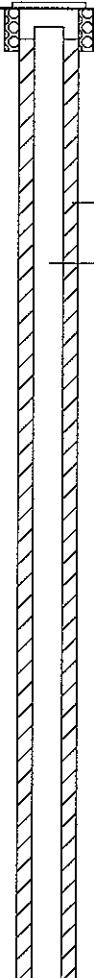


Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/15/08
Drilling Company: Preferred
Drilling Method: HSA

Northing: 1116001.89
Easting: 479784.64
Casing Elevation: 31.42' AMSL
Borehole Depth: 30' bgs
Surface Elevation: NA
Geologist: S. Klimek

Boring ID: CO-A2D
Client: Lockheed Martin Corp.
Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-2 for soil descriptions.	 Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
5	-5						
10	-10						
15	-15						



Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: CO-A2D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

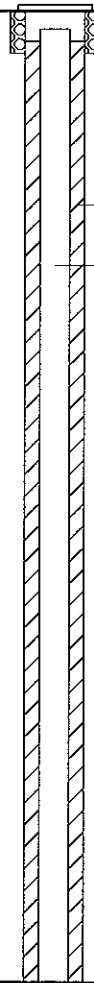
Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-2 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/13/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1116000.76 Easting: 479784.26 Casing Elevation: 31.47' AMSL Borehole Depth: 24' bgs Surface Elevation: NA Geologist: M. Sedor	Boring ID: CO-A2S Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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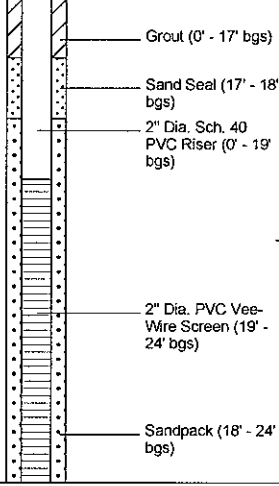
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-2 for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						
						Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level	

Client:
Lockheed Martin Corp.

Boring ID: CO-A2S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-2 for soil descriptions.	
25-25							
30-30							
35-35							

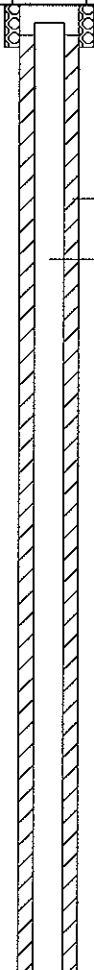


Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/14/08
 Drilling Company: Preferred
 Drilling Method: HSA

Northing: 1116000.95
 Easting: 479779.16
 Casing Elevation: 31.45' AMSL
 Borehole Depth: 30' bgs
 Surface Elevation: NA
 Geologist: M. Sedor

Boring ID: CO-A3D
 Client: Lockheed Martin Corp.
 Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-2 for soil descriptions.	 Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
-5	-5						
-10	-10						
-15	-15						



Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: CO-A3D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-2 for soil descriptions.	Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
25-25							Sand Seal (25' - 26' bgs)
30-30							2" Dia. PVC Vee- Wire Screen (27' - 30' bgs) Sandpack (26' - 30' bgs)
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/13/08
Drilling Company: Preferred
Drilling Method: HSA

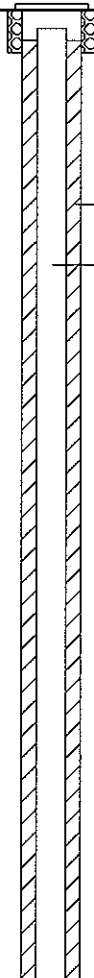
Northing: 1116002.99
Easting: 479778.46
Casing Elevation: 31.40' AMSL

Borehole Depth: 24' bgs
Surface Elevation: NA

Geologist: M. Sedor

Boring ID: CO-A3S
Client: Lockheed Martin Corp.

Location: 1600 Tallevast Rd.
Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-2 for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
-5	-5						
-10	-10						
-15	-15						



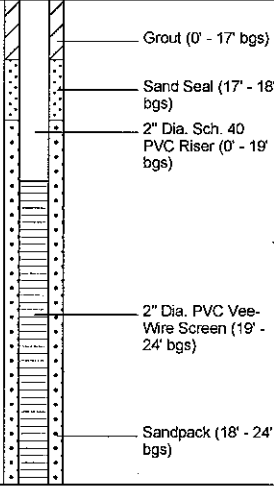
Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: CO-A3S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-2 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/14/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1116006.52 Easting: 479778.28 Casing Elevation: 31.47' AMSL Borehole Depth: 30' bgs Surface Elevation: NA Geologist: M. Sedor	Boring ID: CO-A4D Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-2 for soil descriptions.	Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)

	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
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Client:
Lockheed Martin Corp.

Boring ID: CO-A4D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-2 for soil descriptions.	Grout (0' - 25' bgs)
							2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
25-25							Sand Seal (25' - 26' bgs)
							2" Dia. PVC Vee- Wire Screen (27' - 30' bgs)
30-30							Sandpack (26' - 30' bgs)
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/15/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1116007.99 Easting: 479787.12 Casing Elevation: 31.42' AMSL Borehole Depth: 30' bgs Surface Elevation: NA Geologist: B. Burke	Boring ID: CO-B1D Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-2 for soil descriptions.	Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
5	-5						
10	-10						
15	-15						

Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: CO-B1D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

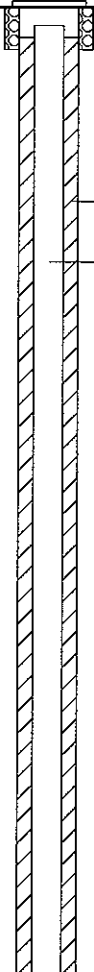
Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-2 for soil descriptions.	Grout (0' - 25' bgs)
							2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
25-25							Sand Seal (25' - 26' bgs)
							2" Dia. PVC Vee-Wire Screen (27' - 30' bgs)
30-30							Sandpack (26' - 30' bgs)
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/11/08	Northing: 1116007.46	Boring ID: CO-B1S
Drilling Company: Preferred	Easting: 479788.33	Client: Lockheed Martin Corp.
Drilling Method: HSA	Casing Elevation: 31.42' AMSL	Location: 1600 Tallevast Rd. Sarasota, FL
	Borehole Depth: 24' bgs	
	Surface Elevation: NA	
	Geologist: S. Klimek	

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-2 for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						

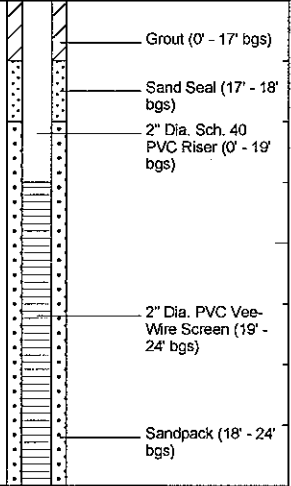
	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
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Client:
Lockheed Martin Corp.

Boring ID: CO-B1S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

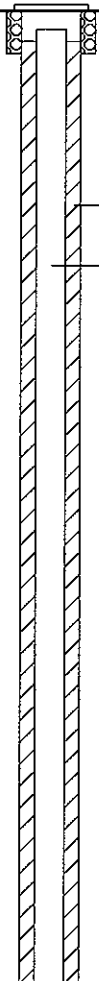
Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-2 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/15/08	Northing: 1116000.62	Boring ID: CO-B2D
Drilling Company: Preferred	Easting: 479787.67	Client: Lockheed Martin Corp.
Drilling Method: HSA	Casing Elevation: 31.47' AMSL	Location: 1600 Tallevast Rd. Sarasota, FL
	Borehole Depth: 30' bgs	
	Surface Elevation: NA	
	Geologist: S. Klimek	

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-2 for soil descriptions.	 Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
5	-5						
10	-10						
15	-15						



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: CO-B2D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-2 for soil descriptions.	Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
25-25							Sand Seal (25' - 26' bgs)
30-30							2" Dia. PVC Vee- Wire Screen (27' - 30' bgs) Sandpack (26' - 30' bgs)
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/11/08, 2/14/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1115997.40 Easting: 479781.57 Casing Elevation: 31.45' AMSL Borehole Depth: 32.17' bgs Surface Elevation: NA Geologist: M. Sedor	Boring ID: CO-B3D Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to 15' bgs.	
5	-5	NA	NA	NA			Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
10	-10						
15	-15	1	15-20	3.16		5YR 2.5/1 black SILTY SAND, soft, moist	



Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: CO-B3D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 32.17' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		1	15-20	3.16		7.5 YR 4/3 brownish gray SILTY SAND, soft, wet.	Grout (0' - 25' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs) Sand Seal (25' - 26' bgs) 2" Dia. PVC Vee- Wire Screen (27' - 30' bgs) Sandpack (26' - 32.17' bgs)
25-25		2	20-25	3.92		2.5 Y 4/3 SILTY SAND, soft, wet.	
30-30		3	25-30	0.0		No Recovery.	
35-35		4	30-32.17	2.17		10 YR 5/1 gray CLAY and GRAVEL. Gravel increases with depth.	



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: CO-B4D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

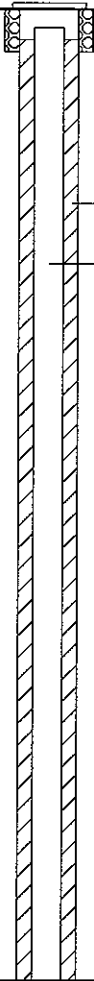
Borehole Depth: 31' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		1	15-20	3.33		10 YR 4/4 dark yellowish brown SILTY SAND, soft moist.	Grout (0' - 24.3' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs) Sand Seal (24.3' - 25.3' bgs) 2" Dia. PVC Vee-Wire Screen (27' - 30' bgs) Sandpack (25.3' - 30' bgs)
		2	20-25	3.25		10 YR 5/4 yellowish brown SILTY SAND, soft, wet.	
25-25		3	25-30	4.75		10 YR 5/4 yellowish brown SILTY SAND, little Clay, soft, wet.	
30-30		4	30-31	1.0		10 YR 2/1 black CLAYEY GRAVEL, soft, wet. 10 YR 4/2 dark grayish brown CLAYEY GRAVEL, hard, wet.	
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/14/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1116008.73 Easting: 479777.16 Casing Elevation: 31.34' AMSL Borehole Depth: 30' bgs Surface Elevation: NA Geologist: B. Burke	Boring ID: CO-B5D Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-2 for soil descriptions.	 Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
5	-5						
10	-10						
15	-15						
						Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level	

Client:
Lockheed Martin Corp.

Boring ID: CO-B5D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

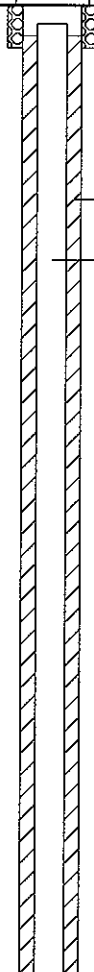
Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-2 for soil descriptions.	Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 27' bgs)
25-25							Sand Seal (24' - 25' bgs)
30-30							2" Dia. PVC Vee- Wire Screen (27' - 30' bgs) Sandpack (25' - 30' bgs)
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/13/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1116007.90 Easting: 479775.96 Casing Elevation: 31.44' AMSL Borehole Depth: 24' bgs Surface Elevation: NA Geologist: S. Klimek	Boring ID: CO-B5S Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-2 for soil descriptions.	
-5	-5						
-10	-10						
-15	-15						

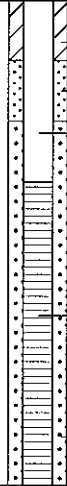
 infrastructure, environment, facilities	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
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Client:
Lockheed Martin Corp.

Boring ID: CO-B5S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

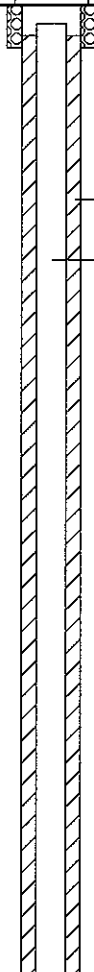
Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-2 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/12/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1116011.82 Easting: 479788.66 Casing Elevation: 31.41' AMSL Borehole Depth: 30' bgs Surface Elevation: NA Geologist: S.Klimek	Boring ID: CO-C1D Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-2 for soil descriptions.	 Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
5	-5						
10	-10						
15	-15						

 infrastructure, environment, facilities.	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
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Client:
Lockheed Martin Corp.

Boring ID: CO-C1D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

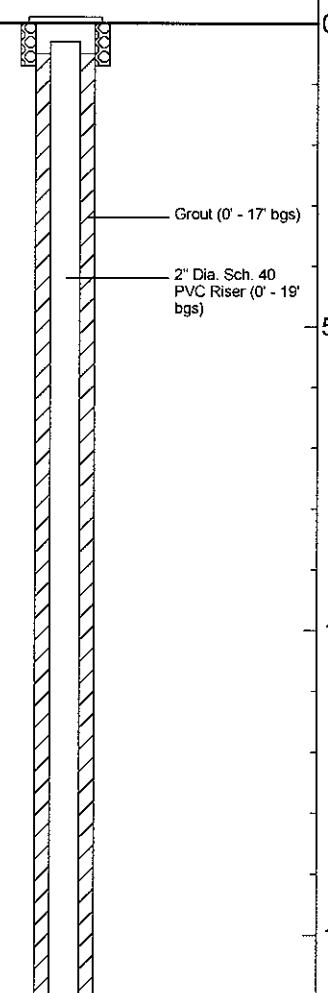
Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-2 for soil descriptions.	Grout (0' - 24' bgs)
							2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
25-25							Sand Seal (24' - 25' bgs)
							2" Dia. PVC Vee- Wire Screen (26' - 30' bgs)
30-30							Sandpack (25' - 30' bgs)
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/12/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1116010.51 Easting: 479789.72 Casing Elevation: 31.51' AMSL Borehole Depth: 24' bgs Surface Elevation: NA Geologist: S. Klimek	Boring ID: CO-C1S Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See IW-2 for soil descriptions.	

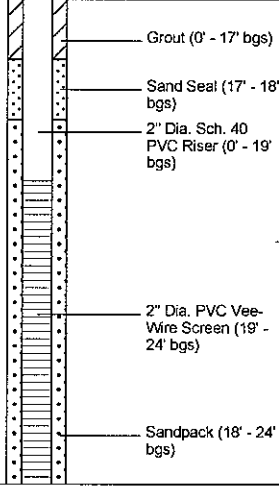
	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
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Client:
Lockheed Martin Corp.

Boring ID: CO-C1S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See IW-2 for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/11/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1116004.14 Easting: 479791.87 Casing Elevation: 31.46' AMSL Borehole Depth: 31' bgs Surface Elevation: NA Geologist: B. Burke	Boring ID: CO-C2D Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to 15' bgs.	
5	-5	NA	NA	NA			Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
10	-10						
15	-15	1	15-20	2.6		5 YR 8/2 dark brown to black very fine SILTY SAND, soft, wet. 5 YR 5/3 reddish brown very fine to fine SILTY SAND, soft, wet.	

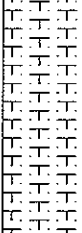
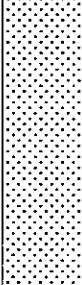
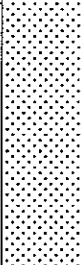
	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
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Client:
Lockheed Martin Corp.

Boring ID: CO-C2D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

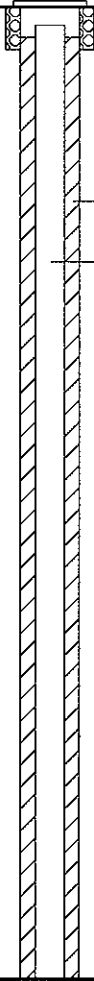
Borehole Depth: 31' bgs

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
		1	15-20	2.6		5 YR 5/3 reddish brown very fine to fine SILTY SAND, soft, wet.	
20-20		2	20-25	3.3		7.5 YR 6/2 brown to pinkish gray fine SAND, slightly Clayey from 22.25' - 22.29' bgs, loose, soft.	20
25-25		3	25-30	3.3		Clay content increases at 29' bgs.	25
30-30		4	30-31	1.0		10 YR 6/2 dark gray to light brownish gray CLAY, some Gravel, slightly cohesive. CLAY and GRAVEL, hard, slightly cohesive. Gravel content increased with depth.	30
35-35							35



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/11/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1116014.52 Easting: 479780.72 Casing Elevation: 31.52' AMSL Borehole Depth: 31.25' bgs Surface Elevation: NA Geologist: M. Sedor	Boring ID: CO-C3D Client: Lockheed Martin Corp. Location: 1600 Tallevast Rd. Sarasota, FL
--	---	---

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0						
5	-5	NA	NA	NA		Post hole dug to 5' bgs. Blind drill to 15' bgs.	 Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
15	-15	1	15-20	3.0	T T T T T T T T T T	5 YR 3.5/1 brown to black to gray inter-bedded SILTY SAND, soft, wet.	



Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp

Boring ID: CO-C3D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

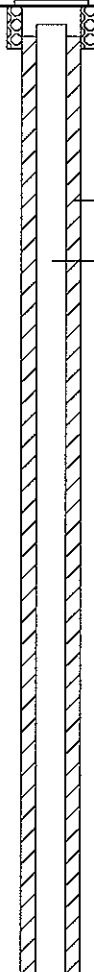
Borehole Depth: 31.25' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		1	15-20	3.0		5 YR 3.5/1 brown to black to gray inter-bedded SILTY SAND, soft, wet. 7.5 YR 3/3 dark brown inter-bedded SILTY SAND, soft, wet.	Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs) Sand Seal (24' - 25' bgs) 2" Dia. PVC Vee-Wire Screen (26' - 30' bgs) Sandpack (25' - 31.25' bgs)
25-25		2	20-25	2.3		7.5 YR 5/2 brown fine SAND, soft, wet.	
30-30		3	25-30	4.08		7.5 YR 2.5/1 dark gray CLAY, with Sand, cohesive, soft, wet.	
35-35		4	30-31.25	1.25		10 YR 5/1 gray CLAY and GRAVEL, hard, cohesive. Gravel increases with depth.	



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/11/08	Northing: 1116013.11	Boring ID: CO-C3S
Drilling Company: Preferred	Easting: 479781.46	Client: Lockheed Martin Corp.
Drilling Method: HSA	Casing Elevation: 31.27' AMSL	Location: 1600 Tallevast Rd. Sarasota, FL
	Borehole Depth: 24' bgs	
	Surface Elevation: NA	
	Geologist: S. Klimek	

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See CO-C3D for soil descriptions.	 Grout (0' - 17' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 19' bgs)
5	-5						
10	-10						
15	-15						



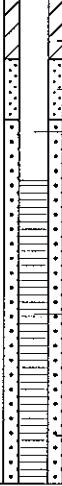
Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: CO-C3S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See CO-C3D for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/12/08 Drilling Company: Preferred Drilling Method: HSA	Northing: 1116014.50 Easting: 479791.45 Casing Elevation: 31.43' AMSL Borehole Depth: 30' bgs Surface Elevation: NA Geologist: M. Sedor	Boring ID: CO-D1D Client: Lockheed Martin Corp. Location: 1600 Taillevast Rd. Sarasota, FL
--	--	--

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth.	
5	-5	NA	NA	NA			Grout (0' - 24' bgs) 2" Dia. Sch. 40 PVC Riser (0' - 26' bgs)
10	-10						
15	-15	1	15-20	3.83		10 YR 2/2 very dark brown SILTY SAND, hard, moist. Grades with depth from 10 YR 4/6 dark yellowish brown to 10 YR 4/4 SILTY SAND, soft, moist.	

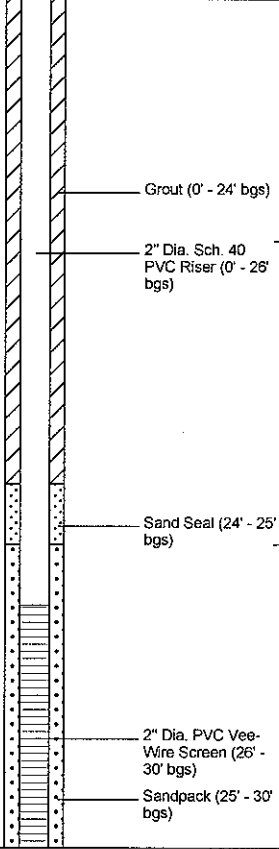
	Remarks: NA = not available/not applicable bgs = below ground surface AMSL = above mean sea level
---	--

Client:
Lockheed Martin Corp.

Boring ID: CO-D1D

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 30' bgs

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20		1	15-20	3.83		Grades with depth from 10 YR 4/6 dark yellowish brown to 10 YR 4/4 SILTY SAND, soft, moist.	
25-25		2	20-25	3.67		10 YR 4/4 dark yellowish brown SILTY SAND, with Clay.	
30-30		3	25-30	NA		No Sample Collected.	
35-35							

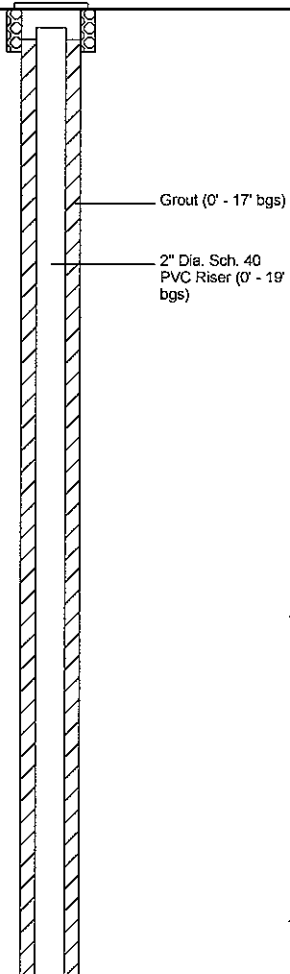


Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Date Start/Finish: 2/12/08
 Drilling Company: Preferred
 Drilling Method: HSA

Northing: 1116012.92
 Easting: 479792.88
 Casing Elevation: 31.52' AMSL
 Borehole Depth: 24' bgs
 Surface Elevation: NA
 Geologist: S. Klimek

Boring ID: CO-D1S
 Client: Lockheed Martin Corp.
 Location: 1600 Tallevast Rd.
 Sarasota, FL

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
0	0					Post hole dug to 5' bgs. Blind drill to depth. See CO-D1D for soil descriptions.	
5	-5						
10	-10						
15	-15						



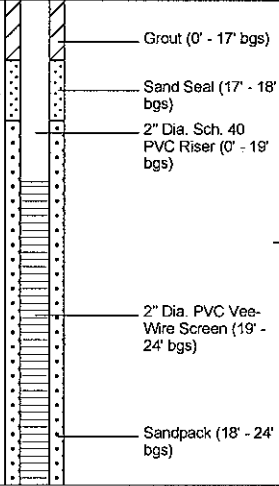
Remarks: NA = not available/not applicable
 bgs = below ground surface
 AMSL = above mean sea level

Client:
Lockheed Martin Corp.

Boring ID: CO-D1S

Site Location:
1600 Tallevast Rd.
Sarasota, FL

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Geologic Column	Stratigraphic Description	Boring Construction
20-20						Blind drill to depth. See CO-D1D for soil descriptions.	
25-25							
30-30							
35-35							



Remarks: NA = not available/not applicable
bgs = below ground surface
AMSL = above mean sea level

Appendix B

Bromide Sample Laboratory
Reports

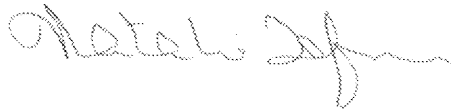
ANALYTICAL REPORT

Job Number: 660-21592-1

SDG Number: 660-21592

Job Description: TALLEVAST/Former ABC

For:
ARCADIS
3350 Buschwood Park Drive
Suite 100
Tampa, FL 33618
Attention: John Perella



Natalie Tafuni
Project Manager I
natalie.tafuni@testamericainc.com
03/12/2008

Methods: FDEP, DOH Certification #: E84282, E81005, E87177. These test results meet all the requirements of NELAC unless specified in the case narrative. All questions regarding this test report should be directed to the TestAmerica Project Manager who signed this test report. The estimated uncertainty associated with these reported results is available upon request. The results contained in this test report relate only to these samples included herein.

Job Narrative
660-J21592-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

300.0

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 660-58844 were outside control limits. The data are flagged with J3 qualifiers.

EXECUTIVE SUMMARY - Detections

Client: ARCADIS

Job Number: 660-21592-1

Sdg Number: 660-21592

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
660-21592-1 Bromide	TL-4-3	1.8	1.0	mg/L	300.0
660-21592-2 Bromide	TL-INJ	1.7	1.0	mg/L	300.0
660-21592-3 Bromide	T-A2D	1.3	1.0	mg/L	300.0
660-21592-4 Bromide	TL-7-1	1.8	1.0	mg/L	300.0
660-21592-5 Bromide	TL-4-1	1.6	1.0	mg/L	300.0
660-21592-6 Bromide	T-B2D	1.6	1.0	mg/L	300.0
660-21592-7 Bromide	IW-1	1.1	1.0	mg/L	300.0
660-21592-8 Bromide	TL-4-2	1.8	1.0	mg/L	300.0
660-21592-9 Bromide	T-B1D	1.4	1.0	mg/L	300.0
660-21592-10 Bromide	T-A1D	1.7	1.0	mg/L	300.0

METHOD SUMMARY

Client: ARCADIS

Job Number: 660-21592-1

Sdg Number: 660-21592

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Anions by Ion Chromatography	TAL TAM	MCAWW 300.0	

Lab References:

TAL TAM = TestAmerica Tampa

Method References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

METHOD / ANALYST SUMMARY

Client: ARCADIS

Job Number: 660-21592-1

Sdg Number: 660-21592

Method	Analyst	Analyst ID
MCAWW 300.0	Petterson, Alyssa	AP

SAMPLE SUMMARY

Client: ARCADIS

Job Number: 660-21592-1

Sdg Number: 660-21592

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
660-21592-1	TL-4-3	Water	03/10/2008 1717	03/11/2008 1148
660-21592-2	TL-INJ	Water	03/10/2008 1643	03/11/2008 1148
660-21592-3	T-A2D	Water	03/10/2008 1550	03/11/2008 1148
660-21592-4	TL-7-1	Water	03/10/2008 1728	03/11/2008 1148
660-21592-5	TL-4-1	Water	03/10/2008 1651	03/11/2008 1148
660-21592-6	T-B2D	Water	03/10/2008 1607	03/11/2008 1148
660-21592-7	IW-1	Water	03/10/2008 1515	03/11/2008 1148
660-21592-8	TL-4-2	Water	03/10/2008 1655	03/11/2008 1148
660-21592-9	T-B1D	Water	03/10/2008 1608	03/11/2008 1148
660-21592-10	T-A1D	Water	03/10/2008 1513	03/11/2008 1148

SAMPLE RESULTS

Analytical Data

Client: ARCADIS

Job Number: 660-21592-1

Sdg Number: 660-21592

General Chemistry

Client Sample ID: TL-4-3

Lab Sample ID: 660-21592-1

Client Matrix: Water

Date Sampled: 03/10/2008 1717

Date Received: 03/11/2008 1148

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.8		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-58844 Date Analyzed 03/11/2008 1541							

Client Sample ID: TL-INJ

Lab Sample ID: 660-21592-2

Client Matrix: Water

Date Sampled: 03/10/2008 1643

Date Received: 03/11/2008 1148

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.7		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-58844 Date Analyzed 03/11/2008 1631							

Client Sample ID: T-A2D

Lab Sample ID: 660-21592-3

Client Matrix: Water

Date Sampled: 03/10/2008 1550

Date Received: 03/11/2008 1148

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.3		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-58844 Date Analyzed 03/11/2008 1643							

Client Sample ID: TL-7-1

Lab Sample ID: 660-21592-4

Client Matrix: Water

Date Sampled: 03/10/2008 1728

Date Received: 03/11/2008 1148

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.8		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-58844 Date Analyzed 03/11/2008 1656							

Client Sample ID: TL-4-1

Lab Sample ID: 660-21592-5

Client Matrix: Water

Date Sampled: 03/10/2008 1651

Date Received: 03/11/2008 1148

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.6		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-58844 Date Analyzed 03/11/2008 1733							

Analytical Data

Client: ARCADIS

Job Number: 660-21592-1

Sdg Number: 660-21592

General Chemistry

Client Sample ID: T-B2D

Lab Sample ID: 660-21592-6

Client Matrix: Water

Date Sampled: 03/10/2008 1607

Date Received: 03/11/2008 1148

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.6		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-58844 Date Analyzed 03/11/2008 1746							

Client Sample ID: IW-1

Lab Sample ID: 660-21592-7

Client Matrix: Water

Date Sampled: 03/10/2008 1515

Date Received: 03/11/2008 1148

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.1		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-58844 Date Analyzed 03/11/2008 1758							

Client Sample ID: TL-4-2

Lab Sample ID: 660-21592-8

Client Matrix: Water

Date Sampled: 03/10/2008 1655

Date Received: 03/11/2008 1148

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.8		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-58844 Date Analyzed 03/11/2008 1811							

Client Sample ID: T-B1D

Lab Sample ID: 660-21592-9

Client Matrix: Water

Date Sampled: 03/10/2008 1608

Date Received: 03/11/2008 1148

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.4		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-58844 Date Analyzed 03/11/2008 1823							

Client Sample ID: T-A1D

Lab Sample ID: 660-21592-10

Client Matrix: Water

Date Sampled: 03/10/2008 1513

Date Received: 03/11/2008 1148

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.7		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-58844 Date Analyzed 03/11/2008 1836							

DATA REPORTING QUALIFIERS

Client: ARCADIS

Job Number: 660-21592-1

Sdg Number: 660-21592

Lab Section	Qualifier	Description
General Chemistry	J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
	U	Indicates that the compound was analyzed for but not detected.

QUALITY CONTROL RESULTS

Quality Control Results

Client: ARCADIS

Job Number: 660-21592-1

Sdg Number: 660-21592

Method Blank - Batch: 660-58844

Method: 300.0

Preparation: N/A

Lab Sample ID: MB 660-58844/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/11/2008 1503
Date Prepared: N/A

Analysis Batch: 660-58844
Prep Batch: N/A
Units: mg/L

Instrument ID: ICS 2000
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	PQL
Bromide	0.011	U	0.011	1.0

Lab Control Spike/

Lab Control Spike Duplicate Recovery Report - Batch: 660-58844

Method: 300.0

Preparation: N/A

LCS Lab Sample ID: LCS 660-58844/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/11/2008 1516
Date Prepared: N/A

Analysis Batch: 660-58844
Prep Batch: N/A
Units: mg/L

Instrument ID: ICS 2000
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 5 mL

LCSD Lab Sample ID: LCSD 660-58844/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/11/2008 1528
Date Prepared: N/A

Analysis Batch: 660-58844
Prep Batch: N/A
Units: mg/L

Instrument ID: ICS 2000
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Bromide	102	102	90 - 110	0	30		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21592-1

Sdg Number: 660-21592

Laboratory Control/ Laboratory Duplicate Data Report - Batch: 660-58844

Method: 300.0
Preparation: N/A

LCS Lab Sample ID: LCS 660-58844/2

Units: mg/L

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/11/2008 1516

Date Prepared: N/A

LCSD Lab Sample ID: LCSD 660-58844/3

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/11/2008 1528

Date Prepared: N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Bromide	5.00	5.00	5.09	5.10

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 660-58844

Method: 300.0
Preparation: N/A

MS Lab Sample ID: 660-21592-1

Analysis Batch: 660-58844

Instrument ID: ICS 2000

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 2.0

Initial Weight/Volume:

Date Analyzed: 03/11/2008 1606

Final Weight/Volume: 5 mL

Date Prepared: N/A

MSD Lab Sample ID: 660-21592-1

Analysis Batch: 660-58844

Instrument ID: ICS 2000

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 2.0

Initial Weight/Volume:

Date Analyzed: 03/11/2008 1618

Final Weight/Volume: 5 mL

Date Prepared: N/A

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Bromide	80	81	90 - 110	1	30	J3	J3

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21592-1

Sdg Number: 660-21592

Matrix Spike/

Matrix Spike Duplicate Data Report - Batch: 660-58844

Method: 300.0

Preparation: N/A

MS Lab Sample ID: 660-21592-1
Client Matrix: Water
Dilution: 2.0
Date Analyzed: 03/11/2008 1606
Date Prepared: N/A

Units: mg/L

MSD Lab Sample ID: 660-21592-1
Client Matrix: Water
Dilution: 2.0
Date Analyzed: 03/11/2008 1618
Date Prepared: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Bromide	1.8	5.00	5.00	5.85 J3	5.88 J3

Calculations are performed before rounding to avoid round-off errors in calculated results.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

660-21592

TestAmerica Tampa
6712 Benjamin Road, Suite 100
Tampa, FL 33634

Website: www.testamericainc.com
Phone: (813) 885-7427
Fax: (813) 885-7049

☐ Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE		PROJECT NO.	PROJECT LOCATION (STATE)		MATRIX TYPE	REQUIRED ANALYSIS					PAGE	OF				
TALLEYAST/Farmer ABC		60038055.000	FL													
ANALYST'S SIGNATURE <i>Jennifer King</i>		PO. NUMBER	CONTRACT NO.								STANDARD REPORT DELIVERY ☐					
CLIENT (SITE) PM John Perella		CLIENT PHONE 813-240-1605	CLIENT FAX								DATE DUE ☐					
CLIENT NAME ARCADIS		CLIENT E-MAIL JPerella@Arcadis-us.com									EXPEDITED REPORT DELIVERY (SURCHARGE) ☐					
CLIENT ADDRESS 14055 Riveredge Dr. Suite 400 Tampa FL 33637											DATE DUE _____					
COMPANY CONTRACTING THIS WORK (if applicable)											NUMBER OF COOLERS SUBMITTED PER SHIPMENT: _____					
SAMPLE	DATE	TIME	SAMPLE IDENTIFICATION		COMPOSITE (C) OR GRAB (G) INDICATE		AQUEOUS (WATER)		SOLID OR SEMISOLID		NONAQUEOUS LIQUID (OIL, SOLVENT...)		NUMBER OF CONTAINERS SUBMITTED		REMARKS	
3-10-08	1717		TL-4-3		GX							1				24hr TAT
	1643		TL-1N5		GX							1				Questions call;
	1550		T-A2D		GX							1				John Perella
	1738		TL-7-1		GX							1				
	1651		TL-4-1		GX							1				
	1607		T-B2D		GX							1				
	1515		FW-1		GX							1				
	1655		TL-4-2		GX							1				
	1608		T-B1D		GX							1				
	1513		T-A1D		GX							1				
RECEIVED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME		
<i>Jennifer King</i>		3/11/08	1730	<i>Jennifer King</i>	3/11/08	1008										
RECEIVED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME		
<i>John Perella</i>		3/11/08	1008	<i>John Perella</i>	3/11/08	1008										
RECEIVED FOR LABORATORY BY (SIGNATURE)		DATE	TIME	CUSTODY YES ☐ NO ☐	CUSTODY SEAL NO.	TAMPA LOG NO.	COOLER TEMP. UPON RECEIPT		LABORATORY REMARKS							
<i>John Perella</i>		3/11/08	1108			660-	4°C									

Login Sample Receipt Check List

Client: ARCADIS

Job Number: 660-21592-1

SDG Number: 660-21592

Login Number: 21592

Creator: Volz, Charles

List Number: 1

List Source: TestAmerica Tampa

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	4 Degrees
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	3rd item on coc bottle says TA-1S for ID-same time
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

ANALYTICAL REPORT

Job Number: 660-21664-1

SDG Number: 660-21664

Job Description: TALLEVAST

For:

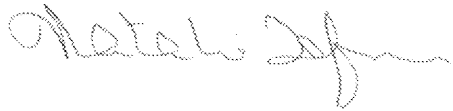
ARCADIS

3350 Buschwood Park Drive

Suite 100

Tampa, FL 33618

Attention: John Perella



Natalie Tafuni

Project Manager I

natalie.tafuni@testamericainc.com

03/25/2008

Methods: FDEP, DOH Certification #: E84282, E81005, E87177. These test results meet all the requirements of NELAC unless specified in the case narrative. All questions regarding this test report should be directed to the TestAmerica Project Manager who signed this test report. The estimated uncertainty associated with these reported results is available upon request. The results contained in this test report relate only to these samples included herein.

Job Narrative
660-J21664-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

6020

The Method Blank for batch 680-100657 contains an i value for Chromium. The data are flagged with a V qualifier.

SM 2540C

There was insufficient sample to run MS/MSD for batch 660-59020. The sample amount was reduced for the MSD, resulting in failing %RPD. The data are flagged with a J3 qualifier.

300.0

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 660-59090 were outside control limits for sulfate only. The data are flagged with a J3 qualifier.

EXECUTIVE SUMMARY - Detections

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
660-21664-1	IW-2				
1,1-Dichloroethane		80	20	ug/L	8260B
1,1-Dichloroethene		180	20	ug/L	8260B
Tetrachloroethene		1600	20	ug/L	8260B
Trichloroethene		1400	20	ug/L	8260B
1,4-Dioxane		32	1.0	ug/L	8260C SIM/ID
Sulfate		290	5.0	mg/L	300.0
Total Dissolved Solids		560	5.0	mg/L	SM 2540C
Total Recoverable					
Aluminum		650	50	ug/L	6020
Arsenic		7.5	2.5	ug/L	6020
Chromium		3.7	5.0	ug/L	6020
Copper		1.6	5.0	ug/L	6020
Iron		38000	100	ug/L	6020
Manganese		54	5.0	ug/L	6020
Nickel		3.1	1.0	ug/L	6020
Zinc		31	20	ug/L	6020
660-21664-2	CO-A1D				
1,1-Dichloroethane		52	20	ug/L	8260B
1,1-Dichloroethene		99	20	ug/L	8260B
Tetrachloroethene		930	20	ug/L	8260B
Trichloroethene		1400	20	ug/L	8260B
1,4-Dioxane		18	1.0	ug/L	8260C SIM/ID
Sulfate		350	5.0	mg/L	300.0
Total Dissolved Solids		690	5.0	mg/L	SM 2540C
Total Recoverable					
Aluminum		98	50	ug/L	6020
Arsenic		2.4	2.5	ug/L	6020
Chromium		5.7	5.0	ug/L	6020
Iron		71000	100	ug/L	6020
Manganese		77	5.0	ug/L	6020
Nickel		0.94	1.0	ug/L	6020
Zinc		27	20	ug/L	6020

EXECUTIVE SUMMARY - Detections

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
660-21664-3	CO-A2D				
1,1-Dichloroethane		230	50	ug/L	8260B
1,1-Dichloroethene		620	50	ug/L	8260B
Tetrachloroethene		13000	100	ug/L	8260B
Trichloroethene		4100	50	ug/L	8260B
1,4-Dioxane		84	1.0	ug/L	8260C SIM/ID
Sulfate		310	5.0	mg/L	300.0
Total Dissolved Solids		640	5.0	mg/L	SM 2540C
Total Recoverable					
Aluminum		190	50	ug/L	6020
Arsenic		9.8	2.5	ug/L	6020
Chromium		5.3	5.0	ug/L	6020
Copper		3.2	5.0	ug/L	6020
Iron		54000	100	ug/L	6020
Manganese		77	5.0	ug/L	6020
Nickel		2.1	1.0	ug/L	6020
Zinc		34	20	ug/L	6020
660-21664-4	CO-A2S				
Tetrachloroethene		4800	50	ug/L	8260B
Trichloroethene		2100	50	ug/L	8260B
1,4-Dioxane		5.3	1.0	ug/L	8260C SIM/ID
Sulfate		310	5.0	mg/L	300.0
Total Dissolved Solids		560	5.0	mg/L	SM 2540C
Total Recoverable					
Aluminum		650	50	ug/L	6020
Arsenic		7.5	2.5	ug/L	6020
Chromium		0.89	5.0	ug/L	6020
Iron		22000	100	ug/L	6020
Manganese		12	5.0	ug/L	6020
Nickel		2.4	1.0	ug/L	6020

EXECUTIVE SUMMARY - Detections

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
660-21664-5	CO-A3D				
1,1-Dichloroethane		42	20	ug/L	8260B
1,1-Dichloroethene		86	20	ug/L	8260B
cis-1,2-Dichloroethene		130	20	ug/L	8260B
Tetrachloroethene		3500	50	ug/L	8260B
Trichloroethene		2200	20	ug/L	8260B
1,4-Dioxane		11	1.0	ug/L	8260C SIM/ID
Sulfate		350	5.0	mg/L	300.0
Total Dissolved Solids		580	5.0	mg/L	SM 2540C
Total Recoverable					
Aluminum		490	50	ug/L	6020
Arsenic		6.3	2.5	ug/L	6020
Chromium		20 V	5.0	ug/L	6020
Copper		2.6 I	5.0	ug/L	6020
Iron		69000	100	ug/L	6020
Manganese		70	5.0	ug/L	6020
Nickel		0.95 I	1.0	ug/L	6020
Zinc		650	20	ug/L	6020
660-21664-6	CO-A3S				
1,1-Dichloroethane		29 I	50	ug/L	8260B
1,1-Dichloroethene		60	50	ug/L	8260B
Tetrachloroethene		6000	50	ug/L	8260B
Trichloroethene		1600	50	ug/L	8260B
1,4-Dioxane		3.4	1.0	ug/L	8260C SIM/ID
Sulfate		280	5.0	mg/L	300.0
Total Dissolved Solids		570	5.0	mg/L	SM 2540C
Total Recoverable					
Aluminum		440	50	ug/L	6020
Arsenic		5.6	2.5	ug/L	6020
Chromium		1.9 I V	5.0	ug/L	6020
Iron		27000	100	ug/L	6020
Manganese		20	5.0	ug/L	6020
Nickel		2.9	1.0	ug/L	6020
Lead		0.27 I	1.5	ug/L	6020
Zinc		9.6 I	20	ug/L	6020

EXECUTIVE SUMMARY - Detections

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
660-21664-7	CO-A4D				
1,1-Dichloroethane		150	20	ug/L	8260B
1,1-Dichloroethene		360	20	ug/L	8260B
cis-1,2-Dichloroethene		17 I	20	ug/L	8260B
Tetrachloroethene		3700	50	ug/L	8260B
Trichloroethene		1200	20	ug/L	8260B
1,4-Dioxane		65	1.0	ug/L	8260C SIM/ID
Sulfate		310	5.0	mg/L	300.0
Total Dissolved Solids		620	5.0	mg/L	SM 2540C
Total Recoverable					
Aluminum		270	50	ug/L	6020
Arsenic		4.5	2.5	ug/L	6020
Chromium		10 V	5.0	ug/L	6020
Iron		62000	100	ug/L	6020
Manganese		77	5.0	ug/L	6020
Nickel		1.6	1.0	ug/L	6020
Zinc		64	20	ug/L	6020
660-21664-8	CO-B1D				
1,1-Dichloroethane		52	20	ug/L	8260B
1,1-Dichloroethene		110	20	ug/L	8260B
Tetrachloroethene		4300	50	ug/L	8260B
Trichloroethene		2000	20	ug/L	8260B
1,4-Dioxane		18	1.0	ug/L	8260C SIM/ID
Sulfate		270	5.0	mg/L	300.0
Total Dissolved Solids		520	5.0	mg/L	SM 2540C
Total Recoverable					
Aluminum		60	50	ug/L	6020
Arsenic		0.94 I	2.5	ug/L	6020
Chromium		1.1 I V	5.0	ug/L	6020
Copper		4.7 I	5.0	ug/L	6020
Iron		52000	100	ug/L	6020
Manganese		55	5.0	ug/L	6020
Nickel		2.3	1.0	ug/L	6020

EXECUTIVE SUMMARY - Detections

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
660-21664-9	CO-B1S					
1,1-Dichloroethane		13	I	20	ug/L	8260B
1,1-Dichloroethene		18	I	20	ug/L	8260B
Tetrachloroethene		4500		50	ug/L	8260B
Trichloroethene		1400		20	ug/L	8260B
1,4-Dioxane		3.0		1.0	ug/L	8260C SIM/ID
Sulfate		250		5.0	mg/L	300.0
Total Dissolved Solids		450		5.0	mg/L	SM 2540C
Total Recoverable						
Aluminum		1300		50	ug/L	6020
Arsenic		6.4		2.5	ug/L	6020
Chromium		2.9	I V	5.0	ug/L	6020
Iron		17000		100	ug/L	6020
Manganese		10		5.0	ug/L	6020
Nickel		3.5		1.0	ug/L	6020
Lead		0.45	I	1.5	ug/L	6020
Zinc		7.3	I	20	ug/L	6020
660-21664-10	CO-B2D					
1,1-Dichloroethane		170	I	200	ug/L	8260B
1,1-Dichloroethene		420		200	ug/L	8260B
Tetrachloroethene		12000		200	ug/L	8260B
Trichloroethene		4500		200	ug/L	8260B
1,4-Dioxane		61		1.0	ug/L	8260C SIM/ID
Sulfate		320		5.0	mg/L	300.0
Total Dissolved Solids		640		5.0	mg/L	SM 2540C
Total Recoverable						
Aluminum		110		50	ug/L	6020
Arsenic		9.7		2.5	ug/L	6020
Chromium		5.0	V	5.0	ug/L	6020
Iron		55000		100	ug/L	6020
Manganese		79		5.0	ug/L	6020
Nickel		1.9		1.0	ug/L	6020
Zinc		36		20	ug/L	6020
660-21664-12	T-C2D					
Bromide		0.93	I	1.0	mg/L	300.0
660-21664-13	T-C2S					
Bromide		0.81	I	1.0	mg/L	300.0

EXECUTIVE SUMMARY - Detections

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
660-21664-14 Bromide	T-C1D	0.96	I	1.0	mg/L	300.0
660-21664-15 Bromide	T-C1S	0.73	I	1.0	mg/L	300.0
660-21664-16 Bromide	T-B5D	1.5		1.0	mg/L	300.0
660-21664-17 Bromide	T-C4S	0.64	I	1.0	mg/L	300.0
660-21664-18 Bromide	T-C3S	0.77	I	1.0	mg/L	300.0
660-21664-19 Bromide	T-B5S	0.95	I	1.0	mg/L	300.0
660-21664-20 Bromide	T-C4D	1.4		1.0	mg/L	300.0
660-21664-21 Bromide	T-C3D	1.3		1.0	mg/L	300.0
660-21664-22 Bromide	T-C5D	0.96	I	1.0	mg/L	300.0
660-21664-23 Bromide	T-C5S	1.1		1.0	mg/L	300.0
660-21664-24 Bromide	T-A3S	1.5		1.0	mg/L	300.0

EXECUTIVE SUMMARY - Detections

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
660-21664-25 Bromide	T-A3D	1.7	1.0	mg/L	300.0
660-21664-26 Bromide	T-B3D	1.2	1.0	mg/L	300.0
660-21664-27 Bromide	T-A4S	1.3	1.0	mg/L	300.0
660-21664-28 Bromide	T-A2S	1.5	1.0	mg/L	300.0
660-21664-29 Bromide	T-B2S	0.65 I	1.0	mg/L	300.0
660-21664-30 Bromide	T-B4D	1.3	1.0	mg/L	300.0
660-21664-31 Bromide	T-B3S	0.38 I	1.0	mg/L	300.0
660-21664-32 Bromide	T-B1S	1.1	1.0	mg/L	300.0
660-21664-33 Bromide	T-A4D	1.7	1.0	mg/L	300.0
660-21664-34 Bromide	T-A1S	1.1	1.0	mg/L	300.0
660-21664-35 Bromide	T-B4S	1.3	1.0	mg/L	300.0

METHOD SUMMARY

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS	TAL TAM	SW846 8260B	
Purge-and-Trap	TAL TAM		SW846 5030B
1,4-Dioxane by SIM/Isotopic Dilution	TAL TAM	SW846 8260C	SIM/ID
Purge-and-Trap	TAL TAM		SW846 5030B
Inductively Coupled Plasma - Mass Spectrometry	TAL SAV	SW846 6020	
Acid Digestion of Waters for Total Recoverable or	TAL SAV		SW846 3005A
Anions by Ion Chromatography	TAL TAM	MCAWW 300.0	
Total Dissolved Solids (Dried at 180 °C)	TAL TAM	SM18 SM 2540C	

Lab References:

TAL SAV = TestAmerica Savannah

TAL TAM = TestAmerica Tampa

Method References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Method	Analyst	Analyst ID
SW846 8260B	Mathew, Pinky	PM
SW846 8260C SIM/ID	Mathew, Pinky	PM
SW846 6020	Eaton, Cliff	CE
MCAWW 300.0	Petterson, Alyssa	AP
SM18 SM 2540C	Griffith, Kelly L	KLG

SAMPLE SUMMARY

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
660-21664-1	IW-2	Water	03/10/2008 1558	03/12/2008 1049
660-21664-2	CO-A1D	Water	03/10/2008 1715	03/12/2008 1049
660-21664-3	CO-A2D	Water	03/11/2008 0920	03/12/2008 1049
660-21664-4	CO-A2S	Water	03/11/2008 1025	03/12/2008 1049
660-21664-5	CO-A3D	Water	03/11/2008 1130	03/12/2008 1049
660-21664-6	CO-A3S	Water	03/11/2008 1230	03/12/2008 1049
660-21664-7	CO-A4D	Water	03/11/2008 1328	03/12/2008 1049
660-21664-8	CO-B1D	Water	03/11/2008 1424	03/12/2008 1049
660-21664-9	CO-B1S	Water	03/11/2008 1525	03/12/2008 1049
660-21664-10	CO-B2D	Water	03/11/2008 1635	03/12/2008 1049
660-21664-11	Trip Blank	Water	03/11/2008 0000	03/12/2008 1049
660-21664-12	T-C2D	Water	03/11/2008 1536	03/12/2008 1049
660-21664-13	T-C2S	Water	03/11/2008 1506	03/12/2008 1049
660-21664-14	T-C1D	Water	03/11/2008 1350	03/12/2008 1049
660-21664-15	T-C1S	Water	03/11/2008 1423	03/12/2008 1049
660-21664-16	T-B5D	Water	03/11/2008 1358	03/12/2008 1049
660-21664-17	T-C4S	Water	03/11/2008 1537	03/12/2008 1049
660-21664-18	T-C3S	Water	03/11/2008 1442	03/12/2008 1049
660-21664-19	T-B5S	Water	03/11/2008 1356	03/12/2008 1049
660-21664-20	T-C4D	Water	03/11/2008 1540	03/12/2008 1049
660-21664-21	T-C3D	Water	03/11/2008 1450	03/12/2008 1049
660-21664-22	T-C5D	Water	03/11/2008 1627	03/12/2008 1049
660-21664-23	T-C5S	Water	03/11/2008 1632	03/12/2008 1049
660-21664-24	T-A3S	Water	03/11/2008 1006	03/12/2008 1049
660-21664-25	T-A3D	Water	03/11/2008 0914	03/12/2008 1049
660-21664-26	T-B3D	Water	03/11/2008 1104	03/12/2008 1049
660-21664-27	T-A4S	Water	03/11/2008 1022	03/12/2008 1049
660-21664-28	T-A2S	Water	03/11/2008 0927	03/12/2008 1049
660-21664-29	T-B2S	Water	03/11/2008 1106	03/12/2008 1049
660-21664-30	T-B4D	Water	03/11/2008 1144	03/12/2008 1049
660-21664-31	T-B3S	Water	03/11/2008 1139	03/12/2008 1049
660-21664-32	T-B1S	Water	03/11/2008 1107	03/12/2008 1049
660-21664-33	T-A4D	Water	03/11/2008 1015	03/12/2008 1049
660-21664-34	T-A1S	Water	03/11/2008 0925	03/12/2008 1049
660-21664-35	T-B4S	Water	03/11/2008 1150	03/12/2008 1049

SAMPLE RESULTS

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: IW-2

Lab Sample ID: 660-21664-1

Client Matrix: Water

Date Sampled: 03/10/2008 1558

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2021.D

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1552

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1552

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Benzene	10	U	10	20
Bromobenzene	12	U	12	20
Chlorobromomethane	12	U	12	20
Dichlorobromomethane	7.0	U	7.0	20
Bromoform	12	U	12	20
Bromomethane	50	U	50	100
n-Butylbenzene	13	U	13	20
sec-Butylbenzene	13	U	13	20
tert-Butylbenzene	17	U	17	20
Carbon tetrachloride	8.4	U	8.4	20
Chlorobenzene	13	U	13	20
Chloroethane	50	U	50	100
Chloroform	18	U	18	20
Chloromethane	20	U	20	80
2-Chlorotoluene	13	U	13	20
4-Chlorotoluene	10	U	10	20
Chlorodibromomethane	6.8	U	6.8	20
1,2-Dibromo-3-Chloropropane	50	U	50	100
Ethylene Dibromide	10	U	10	20
Dibromomethane	8.2	U	8.2	20
1,2-Dichlorobenzene	8.8	U	8.8	20
1,3-Dichlorobenzene	13	U	13	20
1,4-Dichlorobenzene	10	U	10	20
Dichlorodifluoromethane	50	U	50	100
1,1-Dichloroethane	80		10	20
1,2-Dichloroethane	11	U	11	20
1,1-Dichloroethene	180		9.0	20
cis-1,2-Dichloroethene	13	U	13	20
trans-1,2-Dichloroethene	8.8	U	8.8	20
1,2-Dichloropropane	10	U	10	20
1,3-Dichloropropane	7.8	U	7.8	20
2,2-Dichloropropane	7.2	U	7.2	20
1,1-Dichloropropene	6.2	U	6.2	20
cis-1,3-Dichloropropene	2.8	U	2.8	20
trans-1,3-Dichloropropene	2.8	U	2.8	20
Ethylbenzene	8.8	U	8.8	20
Hexachlorobutadiene	8.0	U	8.0	20
Isopropylbenzene	3.8	U	3.8	20
4-Isopropyltoluene	14	U	14	20
Methylene Chloride	80	U	80	100
Naphthalene	50	U	50	100
N-Propylbenzene	12	U	12	20
Styrene	20	U	20	40
1,1,1,2-Tetrachloroethane	13	U	13	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: IW-2

Lab Sample ID: 660-21664-1

Date Sampled: 03/10/2008 1558

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2021.D

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1552

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1552

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,1,2,2-Tetrachloroethane	3.0	U	3.0	20
Tetrachloroethene	1600		10	20
Toluene	10	U	10	20
1,2,3-Trichlorobenzene	15	U	15	20
1,2,4-Trichlorobenzene	12	U	12	20
1,1,1-Trichloroethane	9.2	U	9.2	20
1,1,2-Trichloroethane	9.4	U	9.4	20
Trichloroethene	1400		10	20
Trichlorofluoromethane	50	U	50	100
1,2,3-Trichloropropane	3.6	U	3.6	20
1,2,4-Trimethylbenzene	17	U	17	20
1,3,5-Trimethylbenzene	11	U	11	20
Vinyl chloride	10	U	10	20
o-Xylene	10	U	10	20
Acetone	200	U	200	400
2-Butanone (MEK)	170	U	170	200
4-Methyl-2-pentanone (MIBK)	76	U	76	200
Carbon disulfide	17	U	17	20
2-Hexanone	88	U	88	200
Methyl tert-butyl ether	8.8	U	8.8	20
m-Xylene & p-Xylene	12	U	12	40

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	104	77 - 122
4-Bromofluorobenzene	111	74 - 126
Dibromofluoromethane	100	70 - 130

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A1D

Lab Sample ID: 660-21664-2

Date Sampled: 03/10/2008 1715

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2022.D

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1614

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1614

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Benzene	10	U	10	20
Bromobenzene	12	U	12	20
Chlorobromomethane	12	U	12	20
Dichlorobromomethane	7.0	U	7.0	20
Bromoform	12	U	12	20
Bromomethane	50	U	50	100
n-Butylbenzene	13	U	13	20
sec-Butylbenzene	13	U	13	20
tert-Butylbenzene	17	U	17	20
Carbon tetrachloride	8.4	U	8.4	20
Chlorobenzene	13	U	13	20
Chloroethane	50	U	50	100
Chloroform	18	U	18	20
Chloromethane	20	U	20	80
2-Chlorotoluene	13	U	13	20
4-Chlorotoluene	10	U	10	20
Chlorodibromomethane	6.8	U	6.8	20
1,2-Dibromo-3-Chloropropane	50	U	50	100
Ethylene Dibromide	10	U	10	20
Dibromomethane	8.2	U	8.2	20
1,2-Dichlorobenzene	8.8	U	8.8	20
1,3-Dichlorobenzene	13	U	13	20
1,4-Dichlorobenzene	10	U	10	20
Dichlorodifluoromethane	50	U	50	100
1,1-Dichloroethane	52		10	20
1,2-Dichloroethane	11	U	11	20
1,1-Dichloroethene	99		9.0	20
cis-1,2-Dichloroethene	13	U	13	20
trans-1,2-Dichloroethene	8.8	U	8.8	20
1,2-Dichloropropane	10	U	10	20
1,3-Dichloropropane	7.8	U	7.8	20
2,2-Dichloropropane	7.2	U	7.2	20
1,1-Dichloropropene	6.2	U	6.2	20
cis-1,3-Dichloropropene	2.8	U	2.8	20
trans-1,3-Dichloropropene	2.8	U	2.8	20
Ethylbenzene	8.8	U	8.8	20
Hexachlorobutadiene	8.0	U	8.0	20
Isopropylbenzene	3.8	U	3.8	20
4-Isopropyltoluene	14	U	14	20
Methylene Chloride	80	U	80	100
Naphthalene	50	U	50	100
N-Propylbenzene	12	U	12	20
Styrene	20	U	20	40
1,1,1,2-Tetrachloroethane	13	U	13	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A1D

Lab Sample ID: 660-21664-2

Date Sampled: 03/10/2008 1715

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2022.D

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1614

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1614

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,1,2,2-Tetrachloroethane	3.0	U	3.0	20
Tetrachloroethene	930		10	20
Toluene	10	U	10	20
1,2,3-Trichlorobenzene	15	U	15	20
1,2,4-Trichlorobenzene	12	U	12	20
1,1,1-Trichloroethane	9.2	U	9.2	20
1,1,2-Trichloroethane	9.4	U	9.4	20
Trichloroethene	1400		10	20
Trichlorofluoromethane	50	U	50	100
1,2,3-Trichloropropane	3.6	U	3.6	20
1,2,4-Trimethylbenzene	17	U	17	20
1,3,5-Trimethylbenzene	11	U	11	20
Vinyl chloride	10	U	10	20
o-Xylene	10	U	10	20
Acetone	200	U	200	400
2-Butanone (MEK)	170	U	170	200
4-Methyl-2-pentanone (MIBK)	76	U	76	200
Carbon disulfide	17	U	17	20
2-Hexanone	88	U	88	200
Methyl tert-butyl ether	8.8	U	8.8	20
m-Xylene & p-Xylene	12	U	12	40

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	108	77 - 122
4-Bromofluorobenzene	112	74 - 126
Dibromofluoromethane	101	70 - 130

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A2D

Lab Sample ID: 660-21664-3

Client Matrix: Water

Date Sampled: 03/11/2008 0920

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2023.D

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1637

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1637

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Benzene	25	U	25	50
Bromobenzene	29	U	29	50
Chlorobromomethane	29	U	29	50
Dichlorobromomethane	18	U	18	50
Bromoform	29	U	29	50
Bromomethane	120	U	120	250
n-Butylbenzene	34	U	34	50
sec-Butylbenzene	32	U	32	50
tert-Butylbenzene	42	U	42	50
Carbon tetrachloride	21	U	21	50
Chlorobenzene	32	U	32	50
Chloroethane	120	U	120	250
Chloroform	45	U	45	50
Chloromethane	50	U	50	200
2-Chlorotoluene	32	U	32	50
4-Chlorotoluene	26	U	26	50
Chlorodibromomethane	17	U	17	50
1,2-Dibromo-3-Chloropropane	120	U	120	250
Ethylene Dibromide	25	U	25	50
Dibromomethane	20	U	20	50
1,2-Dichlorobenzene	22	U	22	50
1,3-Dichlorobenzene	32	U	32	50
1,4-Dichlorobenzene	26	U	26	50
Dichlorodifluoromethane	120	U	120	250
1,1-Dichloroethane	230		26	50
1,2-Dichloroethane	28	U	28	50
1,1-Dichloroethene	620		22	50
cis-1,2-Dichloroethene	32	U	32	50
trans-1,2-Dichloroethene	22	U	22	50
1,2-Dichloropropane	26	U	26	50
1,3-Dichloropropane	20	U	20	50
2,2-Dichloropropane	18	U	18	50
1,1-Dichloropropene	16	U	16	50
cis-1,3-Dichloropropene	7.0	U	7.0	50
trans-1,3-Dichloropropene	7.0	U	7.0	50
Ethylbenzene	22	U	22	50
Hexachlorobutadiene	20	U	20	50
Isopropylbenzene	9.5	U	9.5	50
4-Isopropyltoluene	34	U	34	50
Methylene Chloride	200	U	200	250
Naphthalene	120	U	120	250
N-Propylbenzene	30	U	30	50
Styrene	49	U	49	100
1,1,1,2-Tetrachloroethane	32	U	32	50

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A2D

Lab Sample ID: 660-21664-3

Date Sampled: 03/11/2008 0920

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2023.D

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1637

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1637

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,1,2,2-Tetrachloroethane	7.5	U	7.5	50
Toluene	26	U	26	50
1,2,3-Trichlorobenzene	38	U	38	50
1,2,4-Trichlorobenzene	29	U	29	50
1,1,1-Trichloroethane	23	U	23	50
1,1,2-Trichloroethane	24	U	24	50
Trichloroethene	4100		25	50
Trichlorofluoromethane	120	U	120	250
1,2,3-Trichloropropane	9.0	U	9.0	50
1,2,4-Trimethylbenzene	43	U	43	50
1,3,5-Trimethylbenzene	27	U	27	50
Vinyl chloride	25	U	25	50
o-Xylene	25	U	25	50
Acetone	500	U	500	1000
2-Butanone (MEK)	420	U	420	500
4-Methyl-2-pentanone (MIBK)	190	U	190	500
Carbon disulfide	42	U	42	50
2-Hexanone	220	U	220	500
Methyl tert-butyl ether	22	U	22	50
m-Xylene & p-Xylene	30	U	30	100
Surrogate	%Rec		Acceptance Limits	
Toluene-d8 (Surr)	106		77 - 122	
4-Bromofluorobenzene	109		74 - 126	
Dibromofluoromethane	100		70 - 130	

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A2D

Lab Sample ID: 660-21664-3

Date Sampled: 03/11/2008 0920

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59320

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2413.D

Dilution: 100

Initial Weight/Volume: 5 mL

Date Analyzed: 03/24/2008 1352

Run Type: DL

Final Weight/Volume: 5 mL

Date Prepared: 03/24/2008 1352

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Tetrachloroethene	13000		50	100

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A2S

Lab Sample ID: 660-21664-4

Client Matrix: Water

Date Sampled: 03/11/2008 1025

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2024.D

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1659

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1659

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Benzene	25	U	25	50
Bromobenzene	29	U	29	50
Chlorobromomethane	29	U	29	50
Dichlorobromomethane	18	U	18	50
Bromoform	29	U	29	50
Bromomethane	120	U	120	250
n-Butylbenzene	34	U	34	50
sec-Butylbenzene	32	U	32	50
tert-Butylbenzene	42	U	42	50
Carbon tetrachloride	21	U	21	50
Chlorobenzene	32	U	32	50
Chloroethane	120	U	120	250
Chloroform	45	U	45	50
Chloromethane	50	U	50	200
2-Chlorotoluene	32	U	32	50
4-Chlorotoluene	26	U	26	50
Chlorodibromomethane	17	U	17	50
1,2-Dibromo-3-Chloropropane	120	U	120	250
Ethylene Dibromide	25	U	25	50
Dibromomethane	20	U	20	50
1,2-Dichlorobenzene	22	U	22	50
1,3-Dichlorobenzene	32	U	32	50
1,4-Dichlorobenzene	26	U	26	50
Dichlorodifluoromethane	120	U	120	250
1,1-Dichloroethane	26	U	26	50
1,2-Dichloroethane	28	U	28	50
1,1-Dichloroethene	22	U	22	50
cis-1,2-Dichloroethene	32	U	32	50
trans-1,2-Dichloroethene	22	U	22	50
1,2-Dichloropropane	26	U	26	50
1,3-Dichloropropane	20	U	20	50
2,2-Dichloropropane	18	U	18	50
1,1-Dichloropropene	16	U	16	50
cis-1,3-Dichloropropene	7.0	U	7.0	50
trans-1,3-Dichloropropene	7.0	U	7.0	50
Ethylbenzene	22	U	22	50
Hexachlorobutadiene	20	U	20	50
Isopropylbenzene	9.5	U	9.5	50
4-Isopropyltoluene	34	U	34	50
Methylene Chloride	200	U	200	250
Naphthalene	120	U	120	250
N-Propylbenzene	30	U	30	50
Styrene	49	U	49	100
1,1,1,2-Tetrachloroethane	32	U	32	50

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A2S

Lab Sample ID: 660-21664-4

Client Matrix: Water

Date Sampled: 03/11/2008 1025

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2024.D

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1659

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1659

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,1,2,2-Tetrachloroethane	7.5	U	7.5	50
Tetrachloroethene	4800		25	50
Toluene	26	U	26	50
1,2,3-Trichlorobenzene	38	U	38	50
1,2,4-Trichlorobenzene	29	U	29	50
1,1,1-Trichloroethane	23	U	23	50
1,1,2-Trichloroethane	24	U	24	50
Trichloroethene	2100		25	50
Trichlorofluoromethane	120	U	120	250
1,2,3-Trichloropropane	9.0	U	9.0	50
1,2,4-Trimethylbenzene	43	U	43	50
1,3,5-Trimethylbenzene	27	U	27	50
Vinyl chloride	25	U	25	50
o-Xylene	25	U	25	50
Acetone	500	U	500	1000
2-Butanone (MEK)	420	U	420	500
4-Methyl-2-pentanone (MIBK)	190	U	190	500
Carbon disulfide	42	U	42	50
2-Hexanone	220	U	220	500
Methyl tert-butyl ether	22	U	22	50
m-Xylene & p-Xylene	30	U	30	100

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	106	77 - 122
4-Bromofluorobenzene	112	74 - 126
Dibromofluoromethane	101	70 - 130

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A3D

Lab Sample ID: 660-21664-5

Client Matrix: Water

Date Sampled: 03/11/2008 1130

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2025.D

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1721

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1721

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Benzene	10	U	10	20
Bromobenzene	12	U	12	20
Chlorobromomethane	12	U	12	20
Dichlorobromomethane	7.0	U	7.0	20
Bromoform	12	U	12	20
Bromomethane	50	U	50	100
n-Butylbenzene	13	U	13	20
sec-Butylbenzene	13	U	13	20
tert-Butylbenzene	17	U	17	20
Carbon tetrachloride	8.4	U	8.4	20
Chlorobenzene	13	U	13	20
Chloroethane	50	U	50	100
Chloroform	18	U	18	20
Chloromethane	20	U	20	80
2-Chlorotoluene	13	U	13	20
4-Chlorotoluene	10	U	10	20
Chlorodibromomethane	6.8	U	6.8	20
1,2-Dibromo-3-Chloropropane	50	U	50	100
Ethylene Dibromide	10	U	10	20
Dibromomethane	8.2	U	8.2	20
1,2-Dichlorobenzene	8.8	U	8.8	20
1,3-Dichlorobenzene	13	U	13	20
1,4-Dichlorobenzene	10	U	10	20
Dichlorodifluoromethane	50	U	50	100
1,1-Dichloroethane	42		10	20
1,2-Dichloroethane	11	U	11	20
1,1-Dichloroethene	86		9.0	20
cis-1,2-Dichloroethene	130		13	20
trans-1,2-Dichloroethene	8.8	U	8.8	20
1,2-Dichloropropane	10	U	10	20
1,3-Dichloropropane	7.8	U	7.8	20
2,2-Dichloropropane	7.2	U	7.2	20
1,1-Dichloropropene	6.2	U	6.2	20
cis-1,3-Dichloropropene	2.8	U	2.8	20
trans-1,3-Dichloropropene	2.8	U	2.8	20
Ethylbenzene	8.8	U	8.8	20
Hexachlorobutadiene	8.0	U	8.0	20
Isopropylbenzene	3.8	U	3.8	20
4-Isopropyltoluene	14	U	14	20
Methylene Chloride	80	U	80	100
Naphthalene	50	U	50	100
N-Propylbenzene	12	U	12	20
Styrene	20	U	20	40
1,1,1,2-Tetrachloroethane	13	U	13	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A3D

Lab Sample ID: 660-21664-5

Date Sampled: 03/11/2008 1130

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2025.D

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1721

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1721

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,1,2,2-Tetrachloroethane	3.0	U	3.0	20
Toluene	10	U	10	20
1,2,3-Trichlorobenzene	15	U	15	20
1,2,4-Trichlorobenzene	12	U	12	20
1,1,1-Trichloroethane	9.2	U	9.2	20
1,1,2-Trichloroethane	9.4	U	9.4	20
Trichloroethene	2200		10	20
Trichlorofluoromethane	50	U	50	100
1,2,3-Trichloropropane	3.6	U	3.6	20
1,2,4-Trimethylbenzene	17	U	17	20
1,3,5-Trimethylbenzene	11	U	11	20
Vinyl chloride	10	U	10	20
o-Xylene	10	U	10	20
Acetone	200	U	200	400
2-Butanone (MEK)	170	U	170	200
4-Methyl-2-pentanone (MIBK)	76	U	76	200
Carbon disulfide	17	U	17	20
2-Hexanone	88	U	88	200
Methyl tert-butyl ether	8.8	U	8.8	20
m-Xylene & p-Xylene	12	U	12	40
Surrogate	%Rec		Acceptance Limits	
Toluene-d8 (Surr)	104		77 - 122	
4-Bromofluorobenzene	108		74 - 126	
Dibromofluoromethane	99		70 - 130	

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A3D

Lab Sample ID: 660-21664-5

Date Sampled: 03/11/2008 1130

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59320

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2414.D

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 03/24/2008 1414

Run Type: DL

Final Weight/Volume: 5 mL

Date Prepared: 03/24/2008 1414

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Tetrachloroethene	3500		25	50

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A3S

Lab Sample ID: 660-21664-6

Date Sampled: 03/11/2008 1230

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2026.D

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1744

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1744

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Benzene	25	U	25	50
Bromobenzene	29	U	29	50
Chlorobromomethane	29	U	29	50
Dichlorobromomethane	18	U	18	50
Bromoform	29	U	29	50
Bromomethane	120	U	120	250
n-Butylbenzene	34	U	34	50
sec-Butylbenzene	32	U	32	50
tert-Butylbenzene	42	U	42	50
Carbon tetrachloride	21	U	21	50
Chlorobenzene	32	U	32	50
Chloroethane	120	U	120	250
Chloroform	45	U	45	50
Chloromethane	50	U	50	200
2-Chlorotoluene	32	U	32	50
4-Chlorotoluene	26	U	26	50
Chlorodibromomethane	17	U	17	50
1,2-Dibromo-3-Chloropropane	120	U	120	250
Ethylene Dibromide	25	U	25	50
Dibromomethane	20	U	20	50
1,2-Dichlorobenzene	22	U	22	50
1,3-Dichlorobenzene	32	U	32	50
1,4-Dichlorobenzene	26	U	26	50
Dichlorodifluoromethane	120	U	120	250
1,1-Dichloroethane	29	I	26	50
1,2-Dichloroethane	28	U	28	50
1,1-Dichloroethene	60		22	50
cis-1,2-Dichloroethene	32	U	32	50
trans-1,2-Dichloroethene	22	U	22	50
1,2-Dichloropropane	26	U	26	50
1,3-Dichloropropane	20	U	20	50
2,2-Dichloropropane	18	U	18	50
1,1-Dichloropropene	16	U	16	50
cis-1,3-Dichloropropene	7.0	U	7.0	50
trans-1,3-Dichloropropene	7.0	U	7.0	50
Ethylbenzene	22	U	22	50
Hexachlorobutadiene	20	U	20	50
Isopropylbenzene	9.5	U	9.5	50
4-Isopropyltoluene	34	U	34	50
Methylene Chloride	200	U	200	250
Naphthalene	120	U	120	250
N-Propylbenzene	30	U	30	50
Styrene	49	U	49	100
1,1,1,2-Tetrachloroethane	32	U	32	50

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A3S

Lab Sample ID: 660-21664-6

Date Sampled: 03/11/2008 1230

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2026.D

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1744

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1744

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,1,2,2-Tetrachloroethane	7.5	U	7.5	50
Tetrachloroethene	6000		25	50
Toluene	26	U	26	50
1,2,3-Trichlorobenzene	38	U	38	50
1,2,4-Trichlorobenzene	29	U	29	50
1,1,1-Trichloroethane	23	U	23	50
1,1,2-Trichloroethane	24	U	24	50
Trichloroethene	1600		25	50
Trichlorofluoromethane	120	U	120	250
1,2,3-Trichloropropane	9.0	U	9.0	50
1,2,4-Trimethylbenzene	43	U	43	50
1,3,5-Trimethylbenzene	27	U	27	50
Vinyl chloride	25	U	25	50
o-Xylene	25	U	25	50
Acetone	500	U	500	1000
2-Butanone (MEK)	420	U	420	500
4-Methyl-2-pentanone (MIBK)	190	U	190	500
Carbon disulfide	42	U	42	50
2-Hexanone	220	U	220	500
Methyl tert-butyl ether	22	U	22	50
m-Xylene & p-Xylene	30	U	30	100

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	99	77 - 122
4-Bromofluorobenzene	108	74 - 126
Dibromofluoromethane	97	70 - 130

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A4D

Lab Sample ID: 660-21664-7

Client Matrix: Water

Date Sampled: 03/11/2008 1328

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2027.D

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1806

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1806

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Benzene	10	U	10	20
Bromobenzene	12	U	12	20
Chlorobromomethane	12	U	12	20
Dichlorobromomethane	7.0	U	7.0	20
Bromoform	12	U	12	20
Bromomethane	50	U	50	100
n-Butylbenzene	13	U	13	20
sec-Butylbenzene	13	U	13	20
tert-Butylbenzene	17	U	17	20
Carbon tetrachloride	8.4	U	8.4	20
Chlorobenzene	13	U	13	20
Chloroethane	50	U	50	100
Chloroform	18	U	18	20
Chloromethane	20	U	20	80
2-Chlorotoluene	13	U	13	20
4-Chlorotoluene	10	U	10	20
Chlorodibromomethane	6.8	U	6.8	20
1,2-Dibromo-3-Chloropropane	50	U	50	100
Ethylene Dibromide	10	U	10	20
Dibromomethane	8.2	U	8.2	20
1,2-Dichlorobenzene	8.8	U	8.8	20
1,3-Dichlorobenzene	13	U	13	20
1,4-Dichlorobenzene	10	U	10	20
Dichlorodifluoromethane	50	U	50	100
1,1-Dichloroethane	150		10	20
1,2-Dichloroethane	11	U	11	20
1,1-Dichloroethene	360		9.0	20
cis-1,2-Dichloroethene	17	I	13	20
trans-1,2-Dichloroethene	8.8	U	8.8	20
1,2-Dichloropropane	10	U	10	20
1,3-Dichloropropane	7.8	U	7.8	20
2,2-Dichloropropane	7.2	U	7.2	20
1,1-Dichloropropene	6.2	U	6.2	20
cis-1,3-Dichloropropene	2.8	U	2.8	20
trans-1,3-Dichloropropene	2.8	U	2.8	20
Ethylbenzene	8.8	U	8.8	20
Hexachlorobutadiene	8.0	U	8.0	20
Isopropylbenzene	3.8	U	3.8	20
4-Isopropyltoluene	14	U	14	20
Methylene Chloride	80	U	80	100
Naphthalene	50	U	50	100
N-Propylbenzene	12	U	12	20
Styrene	20	U	20	40
1,1,1,2-Tetrachloroethane	13	U	13	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A4D

Lab Sample ID: 660-21664-7

Date Sampled: 03/11/2008 1328

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2027.D

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1806

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1806

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,1,2,2-Tetrachloroethane	3.0	U	3.0	20
Toluene	10	U	10	20
1,2,3-Trichlorobenzene	15	U	15	20
1,2,4-Trichlorobenzene	12	U	12	20
1,1,1-Trichloroethane	9.2	U	9.2	20
1,1,2-Trichloroethane	9.4	U	9.4	20
Trichloroethene	1200		10	20
Trichlorofluoromethane	50	U	50	100
1,2,3-Trichloropropane	3.6	U	3.6	20
1,2,4-Trimethylbenzene	17	U	17	20
1,3,5-Trimethylbenzene	11	U	11	20
Vinyl chloride	10	U	10	20
o-Xylene	10	U	10	20
Acetone	200	U	200	400
2-Butanone (MEK)	170	U	170	200
4-Methyl-2-pentanone (MIBK)	76	U	76	200
Carbon disulfide	17	U	17	20
2-Hexanone	88	U	88	200
Methyl tert-butyl ether	8.8	U	8.8	20
m-Xylene & p-Xylene	12	U	12	40
Surrogate	%Rec		Acceptance Limits	
Toluene-d8 (Surr)	107		77 - 122	
4-Bromofluorobenzene	112		74 - 126	
Dibromofluoromethane	103		70 - 130	

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A4D

Lab Sample ID: 660-21664-7

Date Sampled: 03/11/2008 1328

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59320

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2415.D

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 03/24/2008 1437

Run Type: DL

Final Weight/Volume: 5 mL

Date Prepared: 03/24/2008 1437

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Tetrachloroethene	3700		25	50

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B1D

Lab Sample ID: 660-21664-8

Date Sampled: 03/11/2008 1424

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2028.D

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1829

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1829

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Benzene	10	U	10	20
Bromobenzene	12	U	12	20
Chlorobromomethane	12	U	12	20
Dichlorobromomethane	7.0	U	7.0	20
Bromoform	12	U	12	20
Bromomethane	50	U	50	100
n-Butylbenzene	13	U	13	20
sec-Butylbenzene	13	U	13	20
tert-Butylbenzene	17	U	17	20
Carbon tetrachloride	8.4	U	8.4	20
Chlorobenzene	13	U	13	20
Chloroethane	50	U	50	100
Chloroform	18	U	18	20
Chloromethane	20	U	20	80
2-Chlorotoluene	13	U	13	20
4-Chlorotoluene	10	U	10	20
Chlorodibromomethane	6.8	U	6.8	20
1,2-Dibromo-3-Chloropropane	50	U	50	100
Ethylene Dibromide	10	U	10	20
Dibromomethane	8.2	U	8.2	20
1,2-Dichlorobenzene	8.8	U	8.8	20
1,3-Dichlorobenzene	13	U	13	20
1,4-Dichlorobenzene	10	U	10	20
Dichlorodifluoromethane	50	U	50	100
1,1-Dichloroethane	52		10	20
1,2-Dichloroethane	11	U	11	20
1,1-Dichloroethene	110		9.0	20
cis-1,2-Dichloroethene	13	U	13	20
trans-1,2-Dichloroethene	8.8	U	8.8	20
1,2-Dichloropropane	10	U	10	20
1,3-Dichloropropane	7.8	U	7.8	20
2,2-Dichloropropane	7.2	U	7.2	20
1,1-Dichloropropene	6.2	U	6.2	20
cis-1,3-Dichloropropene	2.8	U	2.8	20
trans-1,3-Dichloropropene	2.8	U	2.8	20
Ethylbenzene	8.8	U	8.8	20
Hexachlorobutadiene	8.0	U	8.0	20
Isopropylbenzene	3.8	U	3.8	20
4-Isopropyltoluene	14	U	14	20
Methylene Chloride	80	U	80	100
Naphthalene	50	U	50	100
N-Propylbenzene	12	U	12	20
Styrene	20	U	20	40
1,1,1,2-Tetrachloroethane	13	U	13	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B1D

Lab Sample ID: 660-21664-8

Date Sampled: 03/11/2008 1424

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2028.D

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1829

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1829

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,1,2,2-Tetrachloroethane	3.0	U	3.0	20
Toluene	10	U	10	20
1,2,3-Trichlorobenzene	15	U	15	20
1,2,4-Trichlorobenzene	12	U	12	20
1,1,1-Trichloroethane	9.2	U	9.2	20
1,1,2-Trichloroethane	9.4	U	9.4	20
Trichloroethene	2000		10	20
Trichlorofluoromethane	50	U	50	100
1,2,3-Trichloropropane	3.6	U	3.6	20
1,2,4-Trimethylbenzene	17	U	17	20
1,3,5-Trimethylbenzene	11	U	11	20
Vinyl chloride	10	U	10	20
o-Xylene	10	U	10	20
Acetone	200	U	200	400
2-Butanone (MEK)	170	U	170	200
4-Methyl-2-pentanone (MIBK)	76	U	76	200
Carbon disulfide	17	U	17	20
2-Hexanone	88	U	88	200
Methyl tert-butyl ether	8.8	U	8.8	20
m-Xylene & p-Xylene	12	U	12	40
Surrogate	%Rec		Acceptance Limits	
Toluene-d8 (Surr)	104		77 - 122	
4-Bromofluorobenzene	113		74 - 126	
Dibromofluoromethane	100		70 - 130	

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B1D

Lab Sample ID: 660-21664-8

Date Sampled: 03/11/2008 1424

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59320

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2416.D

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 03/24/2008 1459

Run Type: DL

Final Weight/Volume: 5 mL

Date Prepared: 03/24/2008 1459

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Tetrachloroethene	4300		25	50

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B1S

Lab Sample ID: 660-21664-9

Client Matrix: Water

Date Sampled: 03/11/2008 1525

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2029.D

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1851

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1851

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Benzene	10	U	10	20
Bromobenzene	12	U	12	20
Chlorobromomethane	12	U	12	20
Dichlorobromomethane	7.0	U	7.0	20
Bromoform	12	U	12	20
Bromomethane	50	U	50	100
n-Butylbenzene	13	U	13	20
sec-Butylbenzene	13	U	13	20
tert-Butylbenzene	17	U	17	20
Carbon tetrachloride	8.4	U	8.4	20
Chlorobenzene	13	U	13	20
Chloroethane	50	U	50	100
Chloroform	18	U	18	20
Chloromethane	20	U	20	80
2-Chlorotoluene	13	U	13	20
4-Chlorotoluene	10	U	10	20
Chlorodibromomethane	6.8	U	6.8	20
1,2-Dibromo-3-Chloropropane	50	U	50	100
Ethylene Dibromide	10	U	10	20
Dibromomethane	8.2	U	8.2	20
1,2-Dichlorobenzene	8.8	U	8.8	20
1,3-Dichlorobenzene	13	U	13	20
1,4-Dichlorobenzene	10	U	10	20
Dichlorodifluoromethane	50	U	50	100
1,1-Dichloroethane	13	I	10	20
1,2-Dichloroethane	11	U	11	20
1,1-Dichloroethene	18	I	9.0	20
cis-1,2-Dichloroethene	13	U	13	20
trans-1,2-Dichloroethene	8.8	U	8.8	20
1,2-Dichloropropane	10	U	10	20
1,3-Dichloropropane	7.8	U	7.8	20
2,2-Dichloropropane	7.2	U	7.2	20
1,1-Dichloropropene	6.2	U	6.2	20
cis-1,3-Dichloropropene	2.8	U	2.8	20
trans-1,3-Dichloropropene	2.8	U	2.8	20
Ethylbenzene	8.8	U	8.8	20
Hexachlorobutadiene	8.0	U	8.0	20
Isopropylbenzene	3.8	U	3.8	20
4-Isopropyltoluene	14	U	14	20
Methylene Chloride	80	U	80	100
Naphthalene	50	U	50	100
N-Propylbenzene	12	U	12	20
Styrene	20	U	20	40
1,1,1,2-Tetrachloroethane	13	U	13	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B1S

Lab Sample ID: 660-21664-9

Date Sampled: 03/11/2008 1525

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2029.D

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1851

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1851

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,1,2,2-Tetrachloroethane	3.0	U	3.0	20
Toluene	10	U	10	20
1,2,3-Trichlorobenzene	15	U	15	20
1,2,4-Trichlorobenzene	12	U	12	20
1,1,1-Trichloroethane	9.2	U	9.2	20
1,1,2-Trichloroethane	9.4	U	9.4	20
Trichloroethene	1400		10	20
Trichlorofluoromethane	50	U	50	100
1,2,3-Trichloropropane	3.6	U	3.6	20
1,2,4-Trimethylbenzene	17	U	17	20
1,3,5-Trimethylbenzene	11	U	11	20
Vinyl chloride	10	U	10	20
o-Xylene	10	U	10	20
Acetone	200	U	200	400
2-Butanone (MEK)	170	U	170	200
4-Methyl-2-pentanone (MIBK)	76	U	76	200
Carbon disulfide	17	U	17	20
2-Hexanone	88	U	88	200
Methyl tert-butyl ether	8.8	U	8.8	20
m-Xylene & p-Xylene	12	U	12	40
Surrogate	%Rec		Acceptance Limits	
Toluene-d8 (Surr)	112		77 - 122	
4-Bromofluorobenzene	119		74 - 126	
Dibromofluoromethane	111		70 - 130	

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B1S

Lab Sample ID: 660-21664-9

Date Sampled: 03/11/2008 1525

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59320

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2417.D

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 03/24/2008 1521

Run Type: DL

Final Weight/Volume: 5 mL

Date Prepared: 03/24/2008 1521

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Tetrachloroethene	4500		25	50

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B2D

Lab Sample ID: 660-21664-10

Date Sampled: 03/11/2008 1635

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59320

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2418.D

Dilution: 200

Initial Weight/Volume: 5 mL

Date Analyzed: 03/24/2008 1544

Final Weight/Volume: 5 mL

Date Prepared: 03/24/2008 1544

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Benzene	100	U	100	200
Bromobenzene	120	U	120	200
Chlorobromomethane	120	U	120	200
Dichlorobromomethane	70	U	70	200
Bromoform	120	U	120	200
Bromomethane	500	U	500	1000
n-Butylbenzene	130	U	130	200
sec-Butylbenzene	130	U	130	200
tert-Butylbenzene	170	U	170	200
Carbon tetrachloride	84	U	84	200
Chlorobenzene	130	U	130	200
Chloroethane	500	U	500	1000
Chloroform	180	U	180	200
Chloromethane	200	U	200	800
2-Chlorotoluene	130	U	130	200
4-Chlorotoluene	100	U	100	200
Chlorodibromomethane	68	U	68	200
1,2-Dibromo-3-Chloropropane	500	U	500	1000
Ethylene Dibromide	100	U	100	200
Dibromomethane	82	U	82	200
1,2-Dichlorobenzene	88	U	88	200
1,3-Dichlorobenzene	130	U	130	200
1,4-Dichlorobenzene	100	U	100	200
Dichlorodifluoromethane	500	U	500	1000
1,1-Dichloroethane	170	I	100	200
1,2-Dichloroethane	110	U	110	200
1,1-Dichloroethene	420		90	200
cis-1,2-Dichloroethene	130	U	130	200
trans-1,2-Dichloroethene	88	U	88	200
1,2-Dichloropropane	100	U	100	200
1,3-Dichloropropane	78	U	78	200
2,2-Dichloropropane	72	U	72	200
1,1-Dichloropropene	62	U	62	200
cis-1,3-Dichloropropene	28	U	28	200
trans-1,3-Dichloropropene	28	U	28	200
Ethylbenzene	88	U	88	200
Hexachlorobutadiene	80	U	80	200
Isopropylbenzene	38	U	38	200
4-Isopropyltoluene	140	U	140	200
Methylene Chloride	800	U	800	1000
Naphthalene	500	U	500	1000
N-Propylbenzene	120	U	120	200
Styrene	200	U	200	400
1,1,1,2-Tetrachloroethane	130	U	130	200

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B2D

Lab Sample ID: 660-21664-10

Client Matrix: Water

Date Sampled: 03/11/2008 1635

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59320

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2418.D

Dilution: 200

Initial Weight/Volume: 5 mL

Date Analyzed: 03/24/2008 1544

Final Weight/Volume: 5 mL

Date Prepared: 03/24/2008 1544

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,1,2,2-Tetrachloroethane	30	U	30	200
Tetrachloroethene	12000		100	200
Toluene	100	U	100	200
1,2,3-Trichlorobenzene	150	U	150	200
1,2,4-Trichlorobenzene	120	U	120	200
1,1,1-Trichloroethane	92	U	92	200
1,1,2-Trichloroethane	94	U	94	200
Trichloroethene	4500		100	200
Trichlorofluoromethane	500	U	500	1000
1,2,3-Trichloropropane	36	U	36	200
1,2,4-Trimethylbenzene	170	U	170	200
1,3,5-Trimethylbenzene	110	U	110	200
Vinyl chloride	100	U	100	200
o-Xylene	100	U	100	200
Acetone	2000	U	2000	4000
2-Butanone (MEK)	1700	U	1700	2000
4-Methyl-2-pentanone (MIBK)	760	U	760	2000
Carbon disulfide	170	U	170	200
2-Hexanone	880	U	880	2000
Methyl tert-butyl ether	88	U	88	200
m-Xylene & p-Xylene	120	U	120	400

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	107	77 - 122
4-Bromofluorobenzene	114	74 - 126
Dibromofluoromethane	99	70 - 130

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: Trip Blank

Lab Sample ID: 660-21664-11

Client Matrix: Water

Date Sampled: 03/11/2008 0000

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2020.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1530

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1530

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Benzene	0.50	U	0.50	1.0
Bromobenzene	0.58	U	0.58	1.0
Chlorobromomethane	0.58	U	0.58	1.0
Dichlorobromomethane	0.35	U	0.35	1.0
Bromoform	0.58	U	0.58	1.0
Bromomethane	2.5	U	2.5	5.0
n-Butylbenzene	0.67	U	0.67	1.0
sec-Butylbenzene	0.63	U	0.63	1.0
tert-Butylbenzene	0.84	U	0.84	1.0
Carbon tetrachloride	0.42	U	0.42	1.0
Chlorobenzene	0.63	U	0.63	1.0
Chloroethane	2.5	U	2.5	5.0
Chloroform	0.90	U	0.90	1.0
Chloromethane	1.0	U	1.0	4.0
2-Chlorotoluene	0.65	U	0.65	1.0
4-Chlorotoluene	0.52	U	0.52	1.0
Chlorodibromomethane	0.34	U	0.34	1.0
1,2-Dibromo-3-Chloropropane	2.5	U	2.5	5.0
Ethylene Dibromide	0.50	U	0.50	1.0
Dibromomethane	0.41	U	0.41	1.0
1,2-Dichlorobenzene	0.44	U	0.44	1.0
1,3-Dichlorobenzene	0.64	U	0.64	1.0
1,4-Dichlorobenzene	0.52	U	0.52	1.0
Dichlorodifluoromethane	2.5	U	2.5	5.0
1,1-Dichloroethane	0.52	U	0.52	1.0
1,2-Dichloroethane	0.57	U	0.57	1.0
1,1-Dichloroethene	0.45	U	0.45	1.0
cis-1,2-Dichloroethene	0.65	U	0.65	1.0
trans-1,2-Dichloroethene	0.44	U	0.44	1.0
1,2-Dichloropropane	0.52	U	0.52	1.0
1,3-Dichloropropane	0.39	U	0.39	1.0
2,2-Dichloropropane	0.36	U	0.36	1.0
1,1-Dichloropropene	0.31	U	0.31	1.0
cis-1,3-Dichloropropene	0.14	U	0.14	1.0
trans-1,3-Dichloropropene	0.14	U	0.14	1.0
Ethylbenzene	0.44	U	0.44	1.0
Hexachlorobutadiene	0.40	U	0.40	1.0
Isopropylbenzene	0.19	U	0.19	1.0
4-Isopropyltoluene	0.69	U	0.69	1.0
Methylene Chloride	4.0	U	4.0	5.0
Naphthalene	2.5	U	2.5	5.0
N-Propylbenzene	0.59	U	0.59	1.0
Styrene	0.98	U	0.98	2.0
1,1,1,2-Tetrachloroethane	0.63	U	0.63	1.0

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: Trip Blank

Lab Sample ID: 660-21664-11

Date Sampled: 03/11/2008 0000

Client Matrix: Water

Date Received: 03/12/2008 1049

8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2020.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1530

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1530

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,1,2,2-Tetrachloroethane	0.15	U	0.15	1.0
Tetrachloroethene	0.50	U	0.50	1.0
Toluene	0.51	U	0.51	1.0
1,2,3-Trichlorobenzene	0.77	U	0.77	1.0
1,2,4-Trichlorobenzene	0.58	U	0.58	1.0
1,1,1-Trichloroethane	0.46	U	0.46	1.0
1,1,2-Trichloroethane	0.47	U	0.47	1.0
Trichloroethene	0.50	U	0.50	1.0
Trichlorofluoromethane	2.5	U	2.5	5.0
1,2,3-Trichloropropane	0.18	U	0.18	1.0
1,2,4-Trimethylbenzene	0.86	U	0.86	1.0
1,3,5-Trimethylbenzene	0.54	U	0.54	1.0
Vinyl chloride	0.50	U	0.50	1.0
o-Xylene	0.50	U	0.50	1.0
Acetone	9.9	U	9.9	20
2-Butanone (MEK)	8.4	U	8.4	10
4-Methyl-2-pentanone (MIBK)	3.8	U	3.8	10
Carbon disulfide	0.85	U	0.85	1.0
2-Hexanone	4.4	U	4.4	10
Methyl tert-butyl ether	0.44	U	0.44	1.0
m-Xylene & p-Xylene	0.60	U	0.60	2.0

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	91	77 - 122
4-Bromofluorobenzene	97	74 - 126
Dibromofluoromethane	86	70 - 130

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: IW-2

Lab Sample ID: 660-21664-1

Date Sampled: 03/10/2008 1558

Client Matrix: Water

Date Received: 03/12/2008 1049

8260C SIM/ID 1,4-Dioxane by SIM/Isotopic Dilution

Method: 8260C SIM/ID

Analysis Batch: 660-59279

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC1757.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 03/18/2008 0644

Final Weight/Volume: 5 mL

Date Prepared: 03/18/2008 0644

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,4-Dioxane	32		0.54	1.0

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A1D

Lab Sample ID: 660-21664-2

Date Sampled: 03/10/2008 1715

Client Matrix: Water

Date Received: 03/12/2008 1049

8260C SIM/ID 1,4-Dioxane by SIM/Isotopic Dilution

Method: 8260C SIM/ID

Analysis Batch: 660-59279

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC1758.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 03/18/2008 0706

Final Weight/Volume: 5 mL

Date Prepared: 03/18/2008 0706

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,4-Dioxane	18		0.54	1.0

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A2D

Lab Sample ID: 660-21664-3

Date Sampled: 03/11/2008 0920

Client Matrix: Water

Date Received: 03/12/2008 1049

8260C SIM/ID 1,4-Dioxane by SIM/Isotopic Dilution

Method: 8260C SIM/ID

Analysis Batch: 660-59279

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC1759.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 03/18/2008 0728

Final Weight/Volume: 5 mL

Date Prepared: 03/18/2008 0728

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,4-Dioxane	84		0.54	1.0

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A2S

Lab Sample ID: 660-21664-4

Date Sampled: 03/11/2008 1025

Client Matrix: Water

Date Received: 03/12/2008 1049

8260C SIM/ID 1,4-Dioxane by SIM/Isotopic Dilution

Method: 8260C SIM/ID

Analysis Batch: 660-59279

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC1760.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 03/18/2008 0751

Final Weight/Volume: 5 mL

Date Prepared: 03/18/2008 0751

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,4-Dioxane	5.3		0.54	1.0

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A3D

Lab Sample ID: 660-21664-5

Date Sampled: 03/11/2008 1130

Client Matrix: Water

Date Received: 03/12/2008 1049

8260C SIM/ID 1,4-Dioxane by SIM/Isotopic Dilution

Method: 8260C SIM/ID

Analysis Batch: 660-59279

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC1761.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 03/18/2008 0813

Final Weight/Volume: 5 mL

Date Prepared: 03/18/2008 0813

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,4-Dioxane	11		0.54	1.0

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A3S

Lab Sample ID: 660-21664-6

Date Sampled: 03/11/2008 1230

Client Matrix: Water

Date Received: 03/12/2008 1049

8260C SIM/ID 1,4-Dioxane by SIM/Isotopic Dilution

Method: 8260C SIM/ID

Analysis Batch: 660-59279

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC1762.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 03/18/2008 0835

Final Weight/Volume: 5 mL

Date Prepared: 03/18/2008 0835

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,4-Dioxane	3.4		0.54	1.0

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A4D

Lab Sample ID: 660-21664-7

Date Sampled: 03/11/2008 1328

Client Matrix: Water

Date Received: 03/12/2008 1049

8260C SIM/ID 1,4-Dioxane by SIM/Isotopic Dilution

Method: 8260C SIM/ID

Analysis Batch: 660-59279

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC1763.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 03/18/2008 0858

Final Weight/Volume: 5 mL

Date Prepared: 03/18/2008 0858

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,4-Dioxane	65		0.54	1.0

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B1D

Lab Sample ID: 660-21664-8

Date Sampled: 03/11/2008 1424

Client Matrix: Water

Date Received: 03/12/2008 1049

8260C SIM/ID 1,4-Dioxane by SIM/Isotopic Dilution

Method: 8260C SIM/ID

Analysis Batch: 660-59279

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC1764.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 03/18/2008 0920

Final Weight/Volume: 5 mL

Date Prepared: 03/18/2008 0920

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,4-Dioxane	18		0.54	1.0

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B1S

Lab Sample ID: 660-21664-9

Date Sampled: 03/11/2008 1525

Client Matrix: Water

Date Received: 03/12/2008 1049

8260C SIM/ID 1,4-Dioxane by SIM/Isotopic Dilution

Method: 8260C SIM/ID

Analysis Batch: 660-59279

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC1765.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 03/18/2008 0943

Final Weight/Volume: 5 mL

Date Prepared: 03/18/2008 0943

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,4-Dioxane	3.0		0.54	1.0

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B2D

Lab Sample ID: 660-21664-10

Date Sampled: 03/11/2008 1635

Client Matrix: Water

Date Received: 03/12/2008 1049

8260C SIM/ID 1,4-Dioxane by SIM/Isotopic Dilution

Method: 8260C SIM/ID

Analysis Batch: 660-59279

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC1766.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 03/18/2008 1005

Final Weight/Volume: 5 mL

Date Prepared: 03/18/2008 1005

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,4-Dioxane	61		0.54	1.0

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: Trip Blank

Lab Sample ID: 660-21664-11

Date Sampled: 03/11/2008 0000

Client Matrix: Water

Date Received: 03/12/2008 1049

8260C SIM/ID 1,4-Dioxane by SIM/Isotopic Dilution

Method: 8260C SIM/ID

Analysis Batch: 660-59199

Instrument ID: BVMJ GC/MS

Preparation: 5030B

Lab File ID: 1JC2020.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1530

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1530

Analyte	Result (ug/L)	Qualifier	MDL	PQL
1,4-Dioxane	0.54	U	0.54	1.0

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: IW-2

Lab Sample ID: 660-21664-1

Date Sampled: 03/10/2008 1558

Client Matrix: Water

Date Received: 03/12/2008 1049

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method:	6020	Analysis Batch:	680-100763	Instrument ID:	ICP MS
Preparation:	3005A	Prep Batch:	680-100657	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/19/2008 1910			Final Weight/Volume:	250 mL
Date Prepared:	03/19/2008 1123				

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Aluminum	650		15	50
Arsenic	7.5		0.28	2.5
Beryllium	0.065	U	0.065	0.50
Cadmium	0.12	U	0.12	0.50
Chromium	3.7	I V	0.60	5.0
Copper	1.6	I	1.2	5.0
Iron	38000		12	100
Manganese	54		0.95	5.0
Nickel	3.1		0.32	1.0
Lead	0.15	U	0.15	1.5
Zinc	31		6.5	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A1D

Lab Sample ID: 660-21664-2

Date Sampled: 03/10/2008 1715

Client Matrix: Water

Date Received: 03/12/2008 1049

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method:	6020	Analysis Batch:	680-100763	Instrument ID:	ICP MS
Preparation:	3005A	Prep Batch:	680-100657	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/19/2008 1944			Final Weight/Volume:	250 mL
Date Prepared:	03/19/2008 1123				

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Aluminum	98		15	50
Arsenic	2.4	I	0.28	2.5
Beryllium	0.065	U	0.065	0.50
Cadmium	0.12	U	0.12	0.50
Chromium	5.7	V	0.60	5.0
Copper	1.2	U	1.2	5.0
Iron	71000		12	100
Manganese	77		0.95	5.0
Nickel	0.94	I	0.32	1.0
Lead	0.15	U	0.15	1.5
Zinc	27		6.5	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A2D

Lab Sample ID: 660-21664-3

Date Sampled: 03/11/2008 0920

Client Matrix: Water

Date Received: 03/12/2008 1049

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method:	6020	Analysis Batch:	680-100763	Instrument ID:	ICP MS
Preparation:	3005A	Prep Batch:	680-100657	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/19/2008 1950			Final Weight/Volume:	250 mL
Date Prepared:	03/19/2008 1123				

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Aluminum	190		15	50
Arsenic	9.8		0.28	2.5
Beryllium	0.065	U	0.065	0.50
Cadmium	0.12	U	0.12	0.50
Chromium	5.3	V	0.60	5.0
Copper	3.2	I	1.2	5.0
Iron	54000		12	100
Manganese	77		0.95	5.0
Nickel	2.1		0.32	1.0
Lead	0.15	U	0.15	1.5
Zinc	34		6.5	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A2S

Lab Sample ID: 660-21664-4

Date Sampled: 03/11/2008 1025

Client Matrix: Water

Date Received: 03/12/2008 1049

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method:	6020	Analysis Batch:	680-100763	Instrument ID:	ICP MS
Preparation:	3005A	Prep Batch:	680-100657	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/19/2008 1957			Final Weight/Volume:	250 mL
Date Prepared:	03/19/2008 1123				

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Aluminum	650		15	50
Arsenic	7.5		0.28	2.5
Beryllium	0.065	U	0.065	0.50
Cadmium	0.12	U	0.12	0.50
Chromium	0.89	I V	0.60	5.0
Copper	1.2	U	1.2	5.0
Iron	22000		12	100
Manganese	12		0.95	5.0
Nickel	2.4		0.32	1.0
Lead	0.15	U	0.15	1.5
Zinc	6.5	U	6.5	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A3D

Lab Sample ID: 660-21664-5

Date Sampled: 03/11/2008 1130

Client Matrix: Water

Date Received: 03/12/2008 1049

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method:	6020	Analysis Batch:	680-100763	Instrument ID:	ICP MS
Preparation:	3005A	Prep Batch:	680-100657	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/19/2008 2017			Final Weight/Volume:	250 mL
Date Prepared:	03/19/2008 1123				

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Aluminum	490		15	50
Arsenic	6.3		0.28	2.5
Beryllium	0.065	U	0.065	0.50
Cadmium	0.12	U	0.12	0.50
Chromium	20	V	0.60	5.0
Copper	2.6	I	1.2	5.0
Iron	69000		12	100
Manganese	70		0.95	5.0
Nickel	0.95	I	0.32	1.0
Lead	0.15	U	0.15	1.5
Zinc	650		6.5	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A3S

Lab Sample ID: 660-21664-6

Date Sampled: 03/11/2008 1230

Client Matrix: Water

Date Received: 03/12/2008 1049

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method:	6020	Analysis Batch:	680-100763	Instrument ID:	ICP MS
Preparation:	3005A	Prep Batch:	680-100657	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/19/2008 2024			Final Weight/Volume:	250 mL
Date Prepared:	03/19/2008 1123				

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Aluminum	440		15	50
Arsenic	5.6		0.28	2.5
Beryllium	0.065	U	0.065	0.50
Cadmium	0.12	U	0.12	0.50
Chromium	1.9	I V	0.60	5.0
Copper	1.2	U	1.2	5.0
Iron	27000		12	100
Manganese	20		0.95	5.0
Nickel	2.9		0.32	1.0
Lead	0.27	I	0.15	1.5
Zinc	9.6	I	6.5	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-A4D

Lab Sample ID: 660-21664-7

Date Sampled: 03/11/2008 1328

Client Matrix: Water

Date Received: 03/12/2008 1049

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method:	6020	Analysis Batch:	680-100763	Instrument ID:	ICP MS
Preparation:	3005A	Prep Batch:	680-100657	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/19/2008 2031			Final Weight/Volume:	250 mL
Date Prepared:	03/19/2008 1123				

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Aluminum	270		15	50
Arsenic	4.5		0.28	2.5
Beryllium	0.065	U	0.065	0.50
Cadmium	0.12	U	0.12	0.50
Chromium	10	V	0.60	5.0
Copper	1.2	U	1.2	5.0
Iron	62000		12	100
Manganese	77		0.95	5.0
Nickel	1.6		0.32	1.0
Lead	0.15	U	0.15	1.5
Zinc	64		6.5	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B1D

Lab Sample ID: 660-21664-8

Date Sampled: 03/11/2008 1424

Client Matrix: Water

Date Received: 03/12/2008 1049

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method:	6020	Analysis Batch:	680-100763	Instrument ID:	ICP MS
Preparation:	3005A	Prep Batch:	680-100657	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/19/2008 2038			Final Weight/Volume:	250 mL
Date Prepared:	03/19/2008 1123				

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Aluminum	60		15	50
Arsenic	0.94	I	0.28	2.5
Beryllium	0.065	U	0.065	0.50
Cadmium	0.12	U	0.12	0.50
Chromium	1.1	I V	0.60	5.0
Copper	4.7	I	1.2	5.0
Iron	52000		12	100
Manganese	55		0.95	5.0
Nickel	2.3		0.32	1.0
Lead	0.15	U	0.15	1.5
Zinc	6.5	U	6.5	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B1S

Lab Sample ID: 660-21664-9

Date Sampled: 03/11/2008 1525

Client Matrix: Water

Date Received: 03/12/2008 1049

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method:	6020	Analysis Batch:	680-100763	Instrument ID:	ICP MS
Preparation:	3005A	Prep Batch:	680-100657	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/19/2008 2044			Final Weight/Volume:	250 mL
Date Prepared:	03/19/2008 1123				

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Aluminum	1300		15	50
Arsenic	6.4		0.28	2.5
Beryllium	0.065	U	0.065	0.50
Cadmium	0.12	U	0.12	0.50
Chromium	2.9	I V	0.60	5.0
Copper	1.2	U	1.2	5.0
Iron	17000		12	100
Manganese	10		0.95	5.0
Nickel	3.5		0.32	1.0
Lead	0.45	I	0.15	1.5
Zinc	7.3	I	6.5	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Client Sample ID: CO-B2D

Lab Sample ID: 660-21664-10

Date Sampled: 03/11/2008 1635

Client Matrix: Water

Date Received: 03/12/2008 1049

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method:	6020	Analysis Batch:	680-100763	Instrument ID:	ICP MS
Preparation:	3005A	Prep Batch:	680-100657	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	03/19/2008 2051			Final Weight/Volume:	250 mL
Date Prepared:	03/19/2008 1123				

Analyte	Result (ug/L)	Qualifier	MDL	PQL
Aluminum	110		15	50
Arsenic	9.7		0.28	2.5
Beryllium	0.065	U	0.065	0.50
Cadmium	0.12	U	0.12	0.50
Chromium	5.0	V	0.60	5.0
Copper	1.2	U	1.2	5.0
Iron	55000		12	100
Manganese	79		0.95	5.0
Nickel	1.9		0.32	1.0
Lead	0.15	U	0.15	1.5
Zinc	36		6.5	20

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

General Chemistry

Client Sample ID: IW-2

Lab Sample ID: 660-21664-1

Date Sampled: 03/10/2008 1558

Client Matrix: Water

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Sulfate	290		mg/L	2.0	5.0	1.0	300.0
Any Batch: 660-59095		Date Analyzed	03/17/2008 1619				

Analyte	Result	Qual	Units	PQL	PQL	Dil	Method
Total Dissolved Solids	560		mg/L	5.0	5.0	1.0	SM 2540C
Any Batch: 660-59009		Date Analyzed	03/17/2008 0922				

Client Sample ID: CO-A1D

Lab Sample ID: 660-21664-2

Date Sampled: 03/10/2008 1715

Client Matrix: Water

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Sulfate	350		mg/L	2.0	5.0	1.0	300.0
Any Batch: 660-59095		Date Analyzed	03/17/2008 1631				

Analyte	Result	Qual	Units	PQL	PQL	Dil	Method
Total Dissolved Solids	690		mg/L	5.0	5.0	1.0	SM 2540C
Any Batch: 660-59009		Date Analyzed	03/17/2008 0922				

Client Sample ID: CO-A2D

Lab Sample ID: 660-21664-3

Date Sampled: 03/11/2008 0920

Client Matrix: Water

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Sulfate	310		mg/L	2.0	5.0	1.0	300.0
Any Batch: 660-59095		Date Analyzed	03/17/2008 1644				

Analyte	Result	Qual	Units	PQL	PQL	Dil	Method
Total Dissolved Solids	640		mg/L	5.0	5.0	1.0	SM 2540C
Any Batch: 660-59020		Date Analyzed	03/17/2008 1132				

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

General Chemistry**Client Sample ID: CO-A2S**

Lab Sample ID: 660-21664-4

Client Matrix: Water

Date Sampled: 03/11/2008 1025

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Sulfate	310		mg/L	2.0	5.0	1.0	300.0
	Anly Batch: 660-59095	Date Analyzed	03/17/2008	1721			

Analyte	Result	Qual	Units	PQL	PQL	Dil	Method
Total Dissolved Solids	560		mg/L	5.0	5.0	1.0	SM 2540C
	Anly Batch: 660-59020	Date Analyzed	03/17/2008	1134			

Client Sample ID: CO-A3D

Lab Sample ID: 660-21664-5

Client Matrix: Water

Date Sampled: 03/11/2008 1130

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Sulfate	350		mg/L	2.0	5.0	1.0	300.0
	Anly Batch: 660-59095	Date Analyzed	03/17/2008	1734			

Analyte	Result	Qual	Units	PQL	PQL	Dil	Method
Total Dissolved Solids	580		mg/L	5.0	5.0	1.0	SM 2540C
	Anly Batch: 660-59020	Date Analyzed	03/17/2008	1135			

Client Sample ID: CO-A3S

Lab Sample ID: 660-21664-6

Client Matrix: Water

Date Sampled: 03/11/2008 1230

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Sulfate	280		mg/L	2.0	5.0	1.0	300.0
	Anly Batch: 660-59095	Date Analyzed	03/17/2008	1746			

Analyte	Result	Qual	Units	PQL	PQL	Dil	Method
Total Dissolved Solids	570		mg/L	5.0	5.0	1.0	SM 2540C
	Anly Batch: 660-59020	Date Analyzed	03/17/2008	1135			

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

General Chemistry

Client Sample ID: CO-A4D

Lab Sample ID: 660-21664-7

Client Matrix: Water

Date Sampled: 03/11/2008 1328

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Sulfate	310		mg/L	2.0	5.0	1.0	300.0
	Anly Batch: 660-59095	Date Analyzed	03/17/2008	1759			

Analyte	Result	Qual	Units	PQL	PQL	Dil	Method
Total Dissolved Solids	620		mg/L	5.0	5.0	1.0	SM 2540C
	Anly Batch: 660-59020	Date Analyzed	03/17/2008	1136			

Client Sample ID: CO-B1D

Lab Sample ID: 660-21664-8

Client Matrix: Water

Date Sampled: 03/11/2008 1424

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Sulfate	270		mg/L	2.0	5.0	1.0	300.0
	Anly Batch: 660-59095	Date Analyzed	03/17/2008	1811			

Analyte	Result	Qual	Units	PQL	PQL	Dil	Method
Total Dissolved Solids	520		mg/L	5.0	5.0	1.0	SM 2540C
	Anly Batch: 660-59020	Date Analyzed	03/17/2008	1136			

Client Sample ID: CO-B1S

Lab Sample ID: 660-21664-9

Client Matrix: Water

Date Sampled: 03/11/2008 1525

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Sulfate	250		mg/L	2.0	5.0	1.0	300.0
	Anly Batch: 660-59090	Date Analyzed	03/15/2008	0018			

Analyte	Result	Qual	Units	PQL	PQL	Dil	Method
Total Dissolved Solids	450		mg/L	5.0	5.0	1.0	SM 2540C
	Anly Batch: 660-59020	Date Analyzed	03/17/2008	1137			

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

General Chemistry**Client Sample ID: CO-B2D**

Lab Sample ID: 660-21664-10

Client Matrix: Water

Date Sampled: 03/11/2008 1635

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Sulfate	320		mg/L	2.0	5.0	1.0	300.0
Any Batch: 660-59090		Date Analyzed	03/15/2008 0108				

Analyte	Result	Qual	Units	PQL	PQL	Dil	Method
Total Dissolved Solids	640		mg/L	5.0	5.0	1.0	SM 2540C
Any Batch: 660-59020		Date Analyzed	03/17/2008 1137				

Client Sample ID: T-C2D

Lab Sample ID: 660-21664-12

Client Matrix: Water

Date Sampled: 03/11/2008 1536

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	0.93	I	mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-59090		Date Analyzed	03/15/2008 0120				

Client Sample ID: T-C2S

Lab Sample ID: 660-21664-13

Client Matrix: Water

Date Sampled: 03/11/2008 1506

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	0.81	I	mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-59090		Date Analyzed	03/15/2008 0133				

Client Sample ID: T-C1D

Lab Sample ID: 660-21664-14

Client Matrix: Water

Date Sampled: 03/11/2008 1350

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	0.96	I	mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-59090		Date Analyzed	03/15/2008 0210				

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

General Chemistry

Client Sample ID: T-C1S

Lab Sample ID: 660-21664-15

Client Matrix: Water

Date Sampled: 03/11/2008 1423

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	0.73	I	mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-59090		Date Analyzed	03/15/2008 0223				

Client Sample ID: T-B5D

Lab Sample ID: 660-21664-16

Client Matrix: Water

Date Sampled: 03/11/2008 1358

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.5		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-59090		Date Analyzed	03/15/2008 0235				

Client Sample ID: T-C4S

Lab Sample ID: 660-21664-17

Client Matrix: Water

Date Sampled: 03/11/2008 1537

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	0.64	I	mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-59090		Date Analyzed	03/15/2008 0248				

Client Sample ID: T-C3S

Lab Sample ID: 660-21664-18

Client Matrix: Water

Date Sampled: 03/11/2008 1442

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	0.77	I	mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-59090		Date Analyzed	03/15/2008 0300				

Client Sample ID: T-B5S

Lab Sample ID: 660-21664-19

Client Matrix: Water

Date Sampled: 03/11/2008 1356

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	0.95	I	mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-59090		Date Analyzed	03/15/2008 0313				

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

General Chemistry

Client Sample ID: T-C4D

Lab Sample ID: 660-21664-20

Client Matrix: Water

Date Sampled: 03/11/2008 1540

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.4		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-59128		Date Analyzed	03/18/2008 1514				

Client Sample ID: T-C3D

Lab Sample ID: 660-21664-21

Client Matrix: Water

Date Sampled: 03/11/2008 1450

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.3		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-59128		Date Analyzed	03/18/2008 1604				

Client Sample ID: T-C5D

Lab Sample ID: 660-21664-22

Client Matrix: Water

Date Sampled: 03/11/2008 1627

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	0.96	I	mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-59128		Date Analyzed	03/18/2008 1616				

Client Sample ID: T-C5S

Lab Sample ID: 660-21664-23

Client Matrix: Water

Date Sampled: 03/11/2008 1632

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.1		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-59128		Date Analyzed	03/18/2008 1629				

Client Sample ID: T-A3S

Lab Sample ID: 660-21664-24

Client Matrix: Water

Date Sampled: 03/11/2008 1006

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.5		mg/L	0.011	1.0	1.0	300.0
Any Batch: 660-59128		Date Analyzed	03/18/2008 1641				

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

General Chemistry

Client Sample ID: T-A3D

Lab Sample ID: 660-21664-25

Client Matrix: Water

Date Sampled: 03/11/2008 0914

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.7		mg/L	0.011	1.0	1.0	300.0
	Any Batch: 660-59128	Date Analyzed	03/18/2008	1654			

Client Sample ID: T-B3D

Lab Sample ID: 660-21664-26

Client Matrix: Water

Date Sampled: 03/11/2008 1104

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.2		mg/L	0.011	1.0	1.0	300.0
	Any Batch: 660-59128	Date Analyzed	03/18/2008	1706			

Client Sample ID: T-A4S

Lab Sample ID: 660-21664-27

Client Matrix: Water

Date Sampled: 03/11/2008 1022

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.3		mg/L	0.011	1.0	1.0	300.0
	Any Batch: 660-59128	Date Analyzed	03/18/2008	1744			

Client Sample ID: T-A2S

Lab Sample ID: 660-21664-28

Client Matrix: Water

Date Sampled: 03/11/2008 0927

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.5		mg/L	0.011	1.0	1.0	300.0
	Any Batch: 660-59128	Date Analyzed	03/18/2008	1756			

Client Sample ID: T-B2S

Lab Sample ID: 660-21664-29

Client Matrix: Water

Date Sampled: 03/11/2008 1106

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	0.65	I	mg/L	0.011	1.0	1.0	300.0
	Any Batch: 660-59128	Date Analyzed	03/18/2008	1809			

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

General Chemistry

Client Sample ID: T-B4D

Lab Sample ID: 660-21664-30

Client Matrix: Water

Date Sampled: 03/11/2008 1144

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.3		mg/L	0.011	1.0	1.0	300.0
	Any Batch: 660-59128	Date Analyzed	03/18/2008	1821			

Client Sample ID: T-B3S

Lab Sample ID: 660-21664-31

Client Matrix: Water

Date Sampled: 03/11/2008 1139

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	0.38	I	mg/L	0.011	1.0	1.0	300.0
	Any Batch: 660-59128	Date Analyzed	03/18/2008	1834			

Client Sample ID: T-B1S

Lab Sample ID: 660-21664-32

Client Matrix: Water

Date Sampled: 03/11/2008 1107

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.1		mg/L	0.011	1.0	1.0	300.0
	Any Batch: 660-59128	Date Analyzed	03/18/2008	1846			

Client Sample ID: T-A4D

Lab Sample ID: 660-21664-33

Client Matrix: Water

Date Sampled: 03/11/2008 1015

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.7		mg/L	0.011	1.0	1.0	300.0
	Any Batch: 660-59128	Date Analyzed	03/18/2008	1859			

Client Sample ID: T-A1S

Lab Sample ID: 660-21664-34

Client Matrix: Water

Date Sampled: 03/11/2008 0925

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.1		mg/L	0.011	1.0	1.0	300.0
	Any Batch: 660-59128	Date Analyzed	03/18/2008	1911			

Analytical Data

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

General Chemistry

Client Sample ID: T-B4S

Lab Sample ID: 660-21664-35

Date Sampled: 03/11/2008 1150

Client Matrix: Water

Date Received: 03/12/2008 1049

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Bromide	1.3		mg/L	0.011	1.0	1.0	300.0
	Anly Batch: 660-59128	Date Analyzed	03/18/2008	1924			

DATA REPORTING QUALIFIERS

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Indicates that the compound was analyzed for but not detected.
	I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
Metals		
	U	Indicates that the compound was analyzed for but not detected.
	V	Indicates the analyte was detected in both the sample and the associated method blank.
	I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
General Chemistry		
	J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
	U	Indicates that the compound was analyzed for but not detected.
	I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

QUALITY CONTROL RESULTS

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Surrogate Recovery Report

8260B Volatile Organic Compounds by GC/MS

Client Matrix: Water

Lab Sample ID	Client Sample ID	TOL %Rec	BFB %Rec	DBFM %Rec
660-21664-1	IW-2	104	111	100
660-21664-2	CO-A1D	108	112	101
660-21664-3	CO-A2D	106	109	100
660-21664-4	CO-A2S	106	112	101
660-21664-5	CO-A3D	104	108	99
660-21664-6	CO-A3S	99	108	97
660-21664-7	CO-A4D	107	112	103
660-21664-8	CO-B1D	104	113	100
660-21664-9	CO-B1S	112	119	111
660-21664-10	CO-B2D	107	114	99
660-21664-11	Trip Blank	91	97	86
MB 660-59285/1		90	95	87
MB 660-59320/1		98	106	92
LCS 660-59285/14		96	100	92
LCS 660-59320/2		99	109	93
LCSD 660-59285/2		91	94	87
LCSD 660-59320/3		96	105	90

Surrogate	Acceptance Limits
TOL = Toluene-d8 (Surr)	77-122
BFB = 4-Bromofluorobenzene	74-126
DBFM = Dibromofluoromethane	70-130

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Method Blank - Batch: 660-59285

Method: 8260B

Preparation: 5030B

Lab Sample ID: MB 660-59285/1

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Client Matrix: Water

Prep Batch: N/A

Lab File ID: 1JC2018.D

Dilution: 1.0

Units: ug/L

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1445

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1445

Analyte	Result	Qual	MDL	PQL
Benzene	0.50	U	0.50	1.0
Bromobenzene	0.58	U	0.58	1.0
Chlorobromomethane	0.58	U	0.58	1.0
Dichlorobromomethane	0.35	U	0.35	1.0
Bromoform	0.58	U	0.58	1.0
Bromomethane	2.5	U	2.5	5.0
n-Butylbenzene	0.67	U	0.67	1.0
sec-Butylbenzene	0.63	U	0.63	1.0
tert-Butylbenzene	0.84	U	0.84	1.0
Carbon tetrachloride	0.42	U	0.42	1.0
Chlorobenzene	0.63	U	0.63	1.0
Chloroethane	2.5	U	2.5	5.0
Chloroform	0.90	U	0.90	1.0
Chloromethane	1.0	U	1.0	4.0
2-Chlorotoluene	0.65	U	0.65	1.0
4-Chlorotoluene	0.52	U	0.52	1.0
Chlorodibromomethane	0.34	U	0.34	1.0
1,2-Dibromo-3-Chloropropane	2.5	U	2.5	5.0
Ethylene Dibromide	0.50	U	0.50	1.0
Dibromomethane	0.41	U	0.41	1.0
1,2-Dichlorobenzene	0.44	U	0.44	1.0
1,3-Dichlorobenzene	0.64	U	0.64	1.0
1,4-Dichlorobenzene	0.52	U	0.52	1.0
Dichlorodifluoromethane	2.5	U	2.5	5.0
1,1-Dichloroethane	0.52	U	0.52	1.0
1,2-Dichloroethane	0.57	U	0.57	1.0
1,1-Dichloroethene	0.45	U	0.45	1.0
cis-1,2-Dichloroethene	0.65	U	0.65	1.0
trans-1,2-Dichloroethene	0.44	U	0.44	1.0
1,2-Dichloropropane	0.52	U	0.52	1.0
1,3-Dichloropropane	0.39	U	0.39	1.0
2,2-Dichloropropane	0.36	U	0.36	1.0
1,1-Dichloropropene	0.31	U	0.31	1.0
cis-1,3-Dichloropropene	0.14	U	0.14	1.0
trans-1,3-Dichloropropene	0.14	U	0.14	1.0
Ethylbenzene	0.44	U	0.44	1.0
Hexachlorobutadiene	0.40	U	0.40	1.0
Isopropylbenzene	0.19	U	0.19	1.0
4-Isopropyltoluene	0.69	U	0.69	1.0
Methylene Chloride	4.0	U	4.0	5.0
Naphthalene	2.5	U	2.5	5.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Method Blank - Batch: 660-59285

Method: 8260B

Preparation: 5030B

Lab Sample ID: MB 660-59285/1

Analysis Batch: 660-59285

Instrument ID: BVMJ GC/MS

Client Matrix: Water

Prep Batch: N/A

Lab File ID: 1JC2018.D

Dilution: 1.0

Units: ug/L

Initial Weight/Volume: 5 mL

Date Analyzed: 03/20/2008 1445

Final Weight/Volume: 5 mL

Date Prepared: 03/20/2008 1445

Analyte	Result	Qual	MDL	PQL
N-Propylbenzene	0.59	U	0.59	1.0
Styrene	0.98	U	0.98	2.0
1,1,1,2-Tetrachloroethane	0.63	U	0.63	1.0
1,1,2,2-Tetrachloroethane	0.15	U	0.15	1.0
Tetrachloroethene	0.50	U	0.50	1.0
Toluene	0.51	U	0.51	1.0
1,2,3-Trichlorobenzene	0.77	U	0.77	1.0
1,2,4-Trichlorobenzene	0.58	U	0.58	1.0
1,1,1-Trichloroethane	0.46	U	0.46	1.0
1,1,2-Trichloroethane	0.47	U	0.47	1.0
Trichloroethene	0.50	U	0.50	1.0
Trichlorofluoromethane	2.5	U	2.5	5.0
1,2,3-Trichloropropane	0.18	U	0.18	1.0
1,2,4-Trimethylbenzene	0.86	U	0.86	1.0
1,3,5-Trimethylbenzene	0.54	U	0.54	1.0
Vinyl chloride	0.50	U	0.50	1.0
o-Xylene	0.50	U	0.50	1.0
Acetone	9.9	U	9.9	20
2-Butanone (MEK)	8.4	U	8.4	10
4-Methyl-2-pentanone (MIBK)	3.8	U	3.8	10
Carbon disulfide	0.85	U	0.85	1.0
2-Hexanone	4.4	U	4.4	10
Methyl tert-butyl ether	0.44	U	0.44	1.0
m-Xylene & p-Xylene	0.60	U	0.60	2.0

Surrogate	% Rec	Acceptance Limits
Toluene-d8 (Surr)	90	77 - 122
4-Bromofluorobenzene	95	74 - 126
Dibromofluoromethane	87	70 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

**Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 660-59285**

**Method: 8260B
Preparation: 5030B**

LCS Lab Sample ID: LCS 660-59285/14
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/20/2008 1423
Date Prepared: 03/20/2008 1423

Analysis Batch: 660-59285
Prep Batch: N/A
Units: ug/L

Instrument ID: BVMJ GC/MS
Lab File ID: 1JC2017.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

LCSD Lab Sample ID: LCSD 660-59285/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/20/2008 1507
Date Prepared: 03/20/2008 1507

Analysis Batch: 660-59285
Prep Batch: N/A
Units: ug/L

Instrument ID: BVMJ GC/MS
Lab File ID: 1JC2019.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Benzene	100	98	62 - 135	2	37		
Chlorobenzene	103	95	72 - 127	8	22		
1,1-Dichloroethene	111	110	46 - 147	1	30		
Toluene	102	95	68 - 131	7	33		
Trichloroethene	94	92	56 - 143	2	35		

**Laboratory Control/
Laboratory Duplicate Data Report - Batch: 660-59285**

**Method: 8260B
Preparation: 5030B**

LCS Lab Sample ID: LCS 660-59285/14
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/20/2008 1423
Date Prepared: 03/20/2008 1423

Units: ug/L

LCSD Lab Sample ID: LCSD 660-59285/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/20/2008 1507
Date Prepared: 03/20/2008 1507

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Benzene	50.0	50.0	49.9	48.8
Chlorobenzene	50.0	50.0	51.3	47.3
1,1-Dichloroethene	50.0	50.0	55.5	55.0
Toluene	50.0	50.0	50.9	47.5
Trichloroethene	50.0	50.0	47.2	46.2

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Method Blank - Batch: 660-59320

Lab Sample ID: MB 660-59320/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/24/2008 1200
Date Prepared: 03/24/2008 1200

Analysis Batch: 660-59320
Prep Batch: N/A
Units: ug/L

Method: 8260B Preparation: 5030B

Instrument ID: BVMJ GC/MS
Lab File ID: 1JC2408.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	PQL
Benzene	0.50	U	0.50	1.0
Bromobenzene	0.58	U	0.58	1.0
Chlorobromomethane	0.58	U	0.58	1.0
Dichlorobromomethane	0.35	U	0.35	1.0
Bromoform	0.58	U	0.58	1.0
Bromomethane	2.5	U	2.5	5.0
n-Butylbenzene	0.67	U	0.67	1.0
sec-Butylbenzene	0.63	U	0.63	1.0
tert-Butylbenzene	0.84	U	0.84	1.0
Carbon tetrachloride	0.42	U	0.42	1.0
Chlorobenzene	0.63	U	0.63	1.0
Chloroethane	2.5	U	2.5	5.0
Chloroform	0.90	U	0.90	1.0
Chloromethane	1.0	U	1.0	4.0
2-Chlorotoluene	0.65	U	0.65	1.0
4-Chlorotoluene	0.52	U	0.52	1.0
Chlorodibromomethane	0.34	U	0.34	1.0
1,2-Dibromo-3-Chloropropane	2.5	U	2.5	5.0
Ethylene Dibromide	0.50	U	0.50	1.0
Dibromomethane	0.41	U	0.41	1.0
1,2-Dichlorobenzene	0.44	U	0.44	1.0
1,3-Dichlorobenzene	0.64	U	0.64	1.0
1,4-Dichlorobenzene	0.52	U	0.52	1.0
Dichlorodifluoromethane	2.5	U	2.5	5.0
1,1-Dichloroethane	0.52	U	0.52	1.0
1,2-Dichloroethane	0.57	U	0.57	1.0
1,1-Dichloroethene	0.45	U	0.45	1.0
cis-1,2-Dichloroethene	0.65	U	0.65	1.0
trans-1,2-Dichloroethene	0.44	U	0.44	1.0
1,2-Dichloropropane	0.52	U	0.52	1.0
1,3-Dichloropropane	0.39	U	0.39	1.0
2,2-Dichloropropane	0.36	U	0.36	1.0
1,1-Dichloropropene	0.31	U	0.31	1.0
cis-1,3-Dichloropropene	0.14	U	0.14	1.0
trans-1,3-Dichloropropene	0.14	U	0.14	1.0
Ethylbenzene	0.44	U	0.44	1.0
Hexachlorobutadiene	0.40	U	0.40	1.0
Isopropylbenzene	0.19	U	0.19	1.0
4-Isopropyltoluene	0.69	U	0.69	1.0
Methylene Chloride	4.0	U	4.0	5.0
Naphthalene	2.5	U	2.5	5.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Method Blank - Batch: 660-59320

Method: 8260B

Preparation: 5030B

Lab Sample ID: MB 660-59320/1

Analysis Batch: 660-59320

Instrument ID: BVMJ GC/MS

Client Matrix: Water

Prep Batch: N/A

Lab File ID: 1JC2408.D

Dilution: 1.0

Units: ug/L

Initial Weight/Volume: 5 mL

Date Analyzed: 03/24/2008 1200

Final Weight/Volume: 5 mL

Date Prepared: 03/24/2008 1200

Analyte	Result	Qual	MDL	PQL
N-Propylbenzene	0.59	U	0.59	1.0
Styrene	0.98	U	0.98	2.0
1,1,1,2-Tetrachloroethane	0.63	U	0.63	1.0
1,1,2,2-Tetrachloroethane	0.15	U	0.15	1.0
Tetrachloroethene	0.50	U	0.50	1.0
Toluene	0.51	U	0.51	1.0
1,2,3-Trichlorobenzene	0.77	U	0.77	1.0
1,2,4-Trichlorobenzene	0.58	U	0.58	1.0
1,1,1-Trichloroethane	0.46	U	0.46	1.0
1,1,2-Trichloroethane	0.47	U	0.47	1.0
Trichloroethene	0.50	U	0.50	1.0
Trichlorofluoromethane	2.5	U	2.5	5.0
1,2,3-Trichloropropane	0.18	U	0.18	1.0
1,2,4-Trimethylbenzene	0.86	U	0.86	1.0
1,3,5-Trimethylbenzene	0.54	U	0.54	1.0
Vinyl chloride	0.50	U	0.50	1.0
o-Xylene	0.50	U	0.50	1.0
Acetone	9.9	U	9.9	20
2-Butanone (MEK)	8.4	U	8.4	10
4-Methyl-2-pentanone (MIBK)	3.8	U	3.8	10
Carbon disulfide	0.85	U	0.85	1.0
2-Hexanone	4.4	U	4.4	10
Methyl tert-butyl ether	0.44	U	0.44	1.0
m-Xylene & p-Xylene	0.60	U	0.60	2.0

Surrogate	% Rec	Acceptance Limits
Toluene-d8 (Surr)	98	77 - 122
4-Bromofluorobenzene	106	74 - 126
Dibromofluoromethane	92	70 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

**Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 660-59320**

**Method: 8260B
Preparation: 5030B**

LCS Lab Sample ID: LCS 660-59320/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/24/2008 1222
Date Prepared: 03/24/2008 1222

Analysis Batch: 660-59320
Prep Batch: N/A
Units: ug/L

Instrument ID: BVMJ GC/MS
Lab File ID: 1JC2409.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

LCSD Lab Sample ID: LCSD 660-59320/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/24/2008 1245
Date Prepared: 03/24/2008 1245

Analysis Batch: 660-59320
Prep Batch: N/A
Units: ug/L

Instrument ID: BVMJ GC/MS
Lab File ID: 1JC2410.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Benzene	102	99	62 - 135	3	37		
Chlorobenzene	97	96	72 - 127	2	22		
1,1-Dichloroethene	116	111	46 - 147	4	30		
Toluene	104	101	68 - 131	3	33		
Trichloroethene	96	94	56 - 143	2	35		

**Laboratory Control/
Laboratory Duplicate Data Report - Batch: 660-59320**

**Method: 8260B
Preparation: 5030B**

LCS Lab Sample ID: LCS 660-59320/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/24/2008 1222
Date Prepared: 03/24/2008 1222

Units: ug/L

LCSD Lab Sample ID: LCSD 660-59320/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/24/2008 1245
Date Prepared: 03/24/2008 1245

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Benzene	50.0	50.0	51.0	49.5
Chlorobenzene	50.0	50.0	48.6	47.8
1,1-Dichloroethene	50.0	50.0	58.0	55.5
Toluene	50.0	50.0	52.0	50.6
Trichloroethene	50.0	50.0	47.8	46.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Method Blank - Batch: 660-59199

Lab Sample ID: MB 660-59199/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/20/2008 1445
Date Prepared: 03/20/2008 1445

Analysis Batch: 660-59199
Prep Batch: N/A
Units: ug/L

Method: 8260C SIM/ID Preparation: 5030B

Instrument ID: BVMJ GC/MS
Lab File ID: 1JC2018.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	PQL
1,4-Dioxane	0.54	U	0.54	1.0

Lab Control Spike/ Lab Control Spike Duplicate Recovery Report - Batch: 660-59199

Method: 8260C SIM/ID Preparation: 5030B

LCS Lab Sample ID: LCS 660-59199/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/20/2008 1423
Date Prepared: 03/20/2008 1423

Analysis Batch: 660-59199
Prep Batch: N/A
Units: ug/L

Instrument ID: BVMJ GC/MS
Lab File ID: 1JC2017.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

LCSD Lab Sample ID: LCSD 660-59199/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/20/2008 1507
Date Prepared: 03/20/2008 1507

Analysis Batch: 660-59199
Prep Batch: N/A
Units: ug/L

Instrument ID: BVMJ GC/MS
Lab File ID: 1JC2019.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
1,4-Dioxane	114	77	50 - 150	39	50		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

**Laboratory Control/
Laboratory Duplicate Data Report - Batch: 660-59199**

**Method: 8260C SIM/ID
Preparation: 5030B**

LCS Lab Sample ID: LCS 660-59199/1

Units: ug/L

LCSD Lab Sample ID: LCSD 660-59199/3

Client Matrix: Water

Client Matrix: Water

Dilution: 1.0

Dilution: 1.0

Date Analyzed: 03/20/2008 1423

Date Analyzed: 03/20/2008 1507

Date Prepared: 03/20/2008 1423

Date Prepared: 03/20/2008 1507

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
1,4-Dioxane	24.9	24.9	28.4	19.1

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Method Blank - Batch: 660-59279

Lab Sample ID: MB 660-59279/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/18/2008 0215
Date Prepared: 03/18/2008 0215

Analysis Batch: 660-59279
Prep Batch: N/A
Units: ug/L

Method: 8260C SIM/ID Preparation: 5030B

Instrument ID: BVMJ GC/MS
Lab File ID: 1JC1745.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	PQL
1,4-Dioxane	0.54	U	0.54	1.0

Lab Control Spike/ Lab Control Spike Duplicate Recovery Report - Batch: 660-59279

Method: 8260C SIM/ID Preparation: 5030B

LCS Lab Sample ID: LCS 660-59279/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/18/2008 0131
Date Prepared: 03/18/2008 0131

Analysis Batch: 660-59279
Prep Batch: N/A
Units: ug/L

Instrument ID: BVMJ GC/MS
Lab File ID: 1JC1743.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

LCSD Lab Sample ID: LCSD 660-59279/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/18/2008 0153
Date Prepared: 03/18/2008 0153

Analysis Batch: 660-59279
Prep Batch: N/A
Units: ug/L

Instrument ID: BVMJ GC/MS
Lab File ID: 1JC1744.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
1,4-Dioxane	115	108	50 - 150	6	50		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

**Laboratory Control/
Laboratory Duplicate Data Report - Batch: 660-59279**

**Method: 8260C SIM/ID
Preparation: 5030B**

LCS Lab Sample ID: LCS 660-59279/1

Units: ug/L

LCSD Lab Sample ID: LCSD 660-59279/2

Client Matrix: Water

Client Matrix: Water

Dilution: 1.0

Dilution: 1.0

Date Analyzed: 03/18/2008 0131

Date Analyzed: 03/18/2008 0153

Date Prepared: 03/18/2008 0131

Date Prepared: 03/18/2008 0153

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
1,4-Dioxane	24.9	24.9	28.5	26.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Method Blank - Batch: 680-100657

Lab Sample ID: MB 680-100657/19-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/19/2008 1857
Date Prepared: 03/19/2008 1123

Analysis Batch: 680-100763
Prep Batch: 680-100657
Units: ug/L

Method: 6020 Preparation: 3005A Total Recoverable

Instrument ID: ICP MS
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 250 mL

Analyte	Result	Qual	MDL	PQL
Aluminum	15	U	15	50
Arsenic	0.28	U	0.28	2.5
Beryllium	0.065	U	0.065	0.50
Cadmium	0.12	U	0.12	0.50
Chromium	0.71	I	0.60	5.0
Copper	1.2	U	1.2	5.0
Iron	12	U	12	100
Manganese	0.95	U	0.95	5.0
Nickel	0.32	U	0.32	1.0
Lead	0.15	U	0.15	1.5
Zinc	6.5	U	6.5	20

Lab Control Spike - Batch: 680-100657

Lab Sample ID: LCS 680-100657/20-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/19/2008 1903
Date Prepared: 03/19/2008 1123

Analysis Batch: 680-100763
Prep Batch: 680-100657
Units: ug/L

Method: 6020 Preparation: 3005A Total Recoverable

Instrument ID: ICP MS
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 250 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	5000	5290	106	75 - 125	
Arsenic	100	101	101	75 - 125	
Beryllium	50.0	49.0	98	75 - 125	
Cadmium	50.0	50.3	101	75 - 125	
Chromium	100	106	106	75 - 125	
Copper	100	109	109	75 - 125	
Iron	5000	5410	108	75 - 125	
Manganese	500	533	107	75 - 125	
Nickel	100	109	109	75 - 125	
Lead	50.0	50.0	100	75 - 125	
Zinc	100	102	102	75 - 125	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 680-100657

Method: 6020
Preparation: 3005A
Total Recoverable

MS Lab Sample ID: 660-21664-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/19/2008 1930
Date Prepared: 03/19/2008 1123

Analysis Batch: 680-100763
Prep Batch: 680-100657

Instrument ID: ICP MS
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 250 mL

MSD Lab Sample ID: 660-21664-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/19/2008 1937
Date Prepared: 03/19/2008 1123

Analysis Batch: 680-100763
Prep Batch: 680-100657

Instrument ID: ICP MS
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 250 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Aluminum	100	101	75 - 125	1	20		
Arsenic	102	105	75 - 125	2	20		
Beryllium	97	98	75 - 125	1	20		
Cadmium	100	101	75 - 125	1	20		
Chromium	104	105	75 - 125	1	20	V	V
Copper	104	105	75 - 125	1	20		
Iron	93	94	75 - 125	0	20		
Manganese	106	107	75 - 125	0	20		
Nickel	106	107	75 - 125	1	20		
Lead	96	97	75 - 125	1	20		
Zinc	96	94	75 - 125	1	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Matrix Spike/

Matrix Spike Duplicate Data Report - Batch: 680-100657

Method: 6020

Preparation: 3005A

Total Recoverable

MS Lab Sample ID: 660-21664-1

Units: ug/L

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/19/2008 1930

Date Prepared: 03/19/2008 1123

MSD Lab Sample ID: 660-21664-1

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/19/2008 1937

Date Prepared: 03/19/2008 1123

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Aluminum	650		5000	5000	5660		5700	
Arsenic	7.5		100	100	110		112	
Beryllium	0.065	U	50.0	50.0	48.7		49.2	
Cadmium	0.12	U	50.0	50.0	49.9		50.7	
Chromium	3.7	I	100	100	108	V	109	V
Copper	1.6	I	100	100	105		107	
Iron	38000		5000	5000	43000		43000	
Manganese	54		500	500	587		589	
Nickel	3.1		100	100	109		110	
Lead	0.15	U	50.0	50.0	48.2		48.6	
Zinc	31		100	100	127		125	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Method Blank - Batch: 660-59090

Method: 300.0
Preparation: N/A

Lab Sample ID: MB 660-59090/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/14/2008 2340
Date Prepared: N/A

Analysis Batch: 660-59090
Prep Batch: N/A
Units: mg/L

Instrument ID: ICS 2000
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	PQL
Bromide	0.011	U	0.011	1.0
Sulfate	2.0	U	2.0	5.0

Lab Control Spike/ Lab Control Spike Duplicate Recovery Report - Batch: 660-59090

Method: 300.0
Preparation: N/A

LCS Lab Sample ID: LCS 660-59090/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/14/2008 2353
Date Prepared: N/A

Analysis Batch: 660-59090
Prep Batch: N/A
Units: mg/L

Instrument ID: ICS 2000
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 5 mL

LCSD Lab Sample ID: LCSD 660-59090/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/15/2008 0005
Date Prepared: N/A

Analysis Batch: 660-59090
Prep Batch: N/A
Units: mg/L

Instrument ID: ICS 2000
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Bromide	102	102	90 - 110	0	30		
Sulfate	110	108	90 - 110	2	30		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Laboratory Control/ Laboratory Duplicate Data Report - Batch: 660-59090

Method: 300.0
Preparation: N/A

LCS Lab Sample ID: LCS 660-59090/2

Units: mg/L

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/14/2008 2353

Date Prepared: N/A

LCSD Lab Sample ID: LCSD 660-59090/3

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/15/2008 0005

Date Prepared: N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Bromide	5.00	5.00	5.11	5.11
Sulfate	40.0	40.0	43.9	43.2

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 660-59090

Method: 300.0
Preparation: N/A

MS Lab Sample ID: 660-21664-9

Client Matrix: Water

Dilution: 2.0

Date Analyzed: 03/15/2008 0043

Date Prepared: N/A

Analysis Batch: 660-59090

Prep Batch: N/A

Instrument ID: ICS 2000

Lab File ID: N/A

Initial Weight/Volume:

Final Weight/Volume: 5 mL

MSD Lab Sample ID: 660-21664-9

Client Matrix: Water

Dilution: 2.0

Date Analyzed: 03/15/2008 0055

Date Prepared: N/A

Analysis Batch: 660-59090

Prep Batch: N/A

Instrument ID: ICS 2000

Lab File ID: N/A

Initial Weight/Volume:

Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Bromide	102	103	90 - 110	1	30		
Sulfate	118	123	90 - 110	1	30	J3	J3

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Matrix Spike/ Matrix Spike Duplicate Data Report - Batch: 660-59090

Method: 300.0
Preparation: N/A

MS Lab Sample ID: 660-21664-9 Units: mg/L
Client Matrix: Water
Dilution: 2.0
Date Analyzed: 03/15/2008 0043
Date Prepared: N/A

MSD Lab Sample ID: 660-21664-9
Client Matrix: Water
Dilution: 2.0
Date Analyzed: 03/15/2008 0055
Date Prepared: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Bromide	1.1	5.00	5.00	6.19	6.23
Sulfate	250	40.0	40.0	301 J3	303 J3

Duplicate - Batch: 660-59090

Method: 300.0
Preparation: N/A

Lab Sample ID: 660-21664-9 Analysis Batch: 660-59090
Client Matrix: Water Prep Batch: N/A
Dilution: 1.0 Units: mg/L
Date Analyzed: 03/15/2008 0030
Date Prepared: N/A

Instrument ID: ICS 2000
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 5 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Bromide	1.1	1.05	4.75		
Sulfate	250	253	0.149		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Method Blank - Batch: 660-59095

Lab Sample ID: MB 660-59095/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/17/2008 1221
Date Prepared: N/A

Analysis Batch: 660-59095
Prep Batch: N/A
Units: mg/L

Method: 300.0 Preparation: N/A

Instrument ID: ICS 2000
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	PQL
Sulfate	2.0	U	2.0	5.0

Lab Control Spike/ Lab Control Spike Duplicate Recovery Report - Batch: 660-59095

Method: 300.0 Preparation: N/A

LCS Lab Sample ID: LCS 660-59095/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/17/2008 1234
Date Prepared: N/A

Analysis Batch: 660-59095
Prep Batch: N/A
Units: mg/L

Instrument ID: ICS 2000
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 5 mL

LCSD Lab Sample ID: LCSD 660-59095/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/17/2008 1246
Date Prepared: N/A

Analysis Batch: 660-59095
Prep Batch: N/A
Units: mg/L

Instrument ID: ICS 2000
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Sulfate	106	105	90 - 110	1	30		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

**Laboratory Control/
Laboratory Duplicate Data Report - Batch: 660-59095**

**Method: 300.0
Preparation: N/A**

LCS Lab Sample ID: LCS 660-59095/2

Units: mg/L

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/17/2008 1234

Date Prepared: N/A

LCSD Lab Sample ID: LCSD 660-59095/3

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/17/2008 1246

Date Prepared: N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Sulfate	40.0	40.0	42.3	41.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Method Blank - Batch: 660-59128

Lab Sample ID: MB 660-59128/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/18/2008 1225
Date Prepared: N/A

Analysis Batch: 660-59128
Prep Batch: N/A
Units: mg/L

Method: 300.0 Preparation: N/A

Instrument ID: ICS 2000
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	PQL
Bromide	0.011	U	0.011	1.0

Lab Control Spike/ Lab Control Spike Duplicate Recovery Report - Batch: 660-59128

Method: 300.0 Preparation: N/A

LCS Lab Sample ID: LCS 660-59128/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/18/2008 1238
Date Prepared: N/A

Analysis Batch: 660-59128
Prep Batch: N/A
Units: mg/L

Instrument ID: ICS 2000
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 5 mL

LCSD Lab Sample ID: LCSD 660-59128/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/18/2008 1250
Date Prepared: N/A

Analysis Batch: 660-59128
Prep Batch: N/A
Units: mg/L

Instrument ID: ICS 2000
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Bromide	100	100	90 - 110	0	30		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Laboratory Control/ Laboratory Duplicate Data Report - Batch: 660-59128

Method: 300.0
Preparation: N/A

LCS Lab Sample ID: LCS 660-59128/2

Units: mg/L

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/18/2008 1238

Date Prepared: N/A

LCSD Lab Sample ID: LCSD 660-59128/3

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/18/2008 1250

Date Prepared: N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Bromide	5.00	5.00	5.00	5.02

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 660-59128

Method: 300.0
Preparation: N/A

MS Lab Sample ID: 660-21664-20

Analysis Batch: 660-59128

Instrument ID: ICS 2000

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 2.0

Date Analyzed: 03/18/2008 1539

Initial Weight/Volume:

Date Prepared: N/A

Final Weight/Volume: 5 mL

MSD Lab Sample ID: 660-21664-20

Analysis Batch: 660-59128

Instrument ID: ICS 2000

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 2.0

Date Analyzed: 03/18/2008 1551

Initial Weight/Volume:

Date Prepared: N/A

Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Bromide	93	92	90 - 110	0	30		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Matrix Spike/

Matrix Spike Duplicate Data Report - Batch: 660-59128

Method: 300.0

Preparation: N/A

MS Lab Sample ID: 660-21664-20 Units: mg/L
Client Matrix: Water
Dilution: 2.0
Date Analyzed: 03/18/2008 1539
Date Prepared: N/A

MSD Lab Sample ID: 660-21664-20
Client Matrix: Water
Dilution: 2.0
Date Analyzed: 03/18/2008 1551
Date Prepared: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Bromide	1.4	5.00	5.00	6.06	6.06

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Method Blank - Batch: 660-59009

Lab Sample ID: MB 660-59009/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/17/2008 0930
Date Prepared: N/A

Analysis Batch: 660-59009
Prep Batch: N/A
Units: mg/L

Method: SM 2540C Preparation: N/A

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	PQL	PQL
Total Dissolved Solids	5.0	U	5.0	5.0

Lab Control Spike/ Lab Control Spike Duplicate Recovery Report - Batch: 660-59009

Method: SM 2540C Preparation: N/A

LCS Lab Sample ID: LCS 660-59009/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/17/2008 0930
Date Prepared: N/A

Analysis Batch: 660-59009
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 10 mL
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 660-59009/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/17/2008 0931
Date Prepared: N/A

Analysis Batch: 660-59009
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 10 mL
Final Weight/Volume: 50 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Total Dissolved Solids	99	100	80 - 120	1	25		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

**Laboratory Control/
Laboratory Duplicate Data Report - Batch: 660-59009**

**Method: SM 2540C
Preparation: N/A**

LCS Lab Sample ID: LCS 660-59009/2

Units: mg/L

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/17/2008 0930

Date Prepared: N/A

LCSD Lab Sample ID: LCSD 660-59009/3

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/17/2008 0931

Date Prepared: N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Total Dissolved Solids	10000	10000	9940	9990

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Method Blank - Batch: 660-59020

Method: SM 2540C

Preparation: N/A

Lab Sample ID: MB 660-59020/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/17/2008 1131
Date Prepared: N/A

Analysis Batch: 660-59020
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	PQL	PQL
Total Dissolved Solids	5.0	U	5.0	5.0

Lab Control Spike/ Lab Control Spike Duplicate Recovery Report - Batch: 660-59020

Method: SM 2540C

Preparation: N/A

LCS Lab Sample ID: LCS 660-59020/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/17/2008 1131
Date Prepared: N/A

Analysis Batch: 660-59020
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 10 mL
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 660-59020/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/17/2008 1132
Date Prepared: N/A

Analysis Batch: 660-59020
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 10 mL
Final Weight/Volume: 50 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Total Dissolved Solids	100	100	80 - 120	0	25		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Laboratory Control/ Laboratory Duplicate Data Report - Batch: 660-59020

Method: SM 2540C
Preparation: N/A

LCS Lab Sample ID: LCS 660-59020/2

Units: mg/L

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/17/2008 1131

Date Prepared: N/A

LCSD Lab Sample ID: LCSD 660-59020/3

Client Matrix: Water

Dilution: 1.0

Date Analyzed: 03/17/2008 1132

Date Prepared: N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Total Dissolved Solids	10000	10000	10000	10000

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 660-59020

Method: SM 2540C
Preparation: N/A

MS Lab Sample ID: 660-21664-3

Analysis Batch: 660-59020

Instrument ID: No Equipment Assigned

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Initial Weight/Volume: 50 mL

Date Analyzed: 03/17/2008 1133

Final Weight/Volume: 50 mL

Date Prepared: N/A

MSD Lab Sample ID: 660-21664-3

Analysis Batch: 660-59020

Instrument ID: No Equipment Assigned

Client Matrix: Water

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Initial Weight/Volume: 30 mL

Date Analyzed: 03/17/2008 1134

Final Weight/Volume: 50 mL

Date Prepared: N/A

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Total Dissolved Solids	101	101	80 - 120	40	25		J3

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: ARCADIS

Job Number: 660-21664-1

Sdg Number: 660-21664

Matrix Spike/

Matrix Spike Duplicate Data Report - Batch: 660-59020

Method: SM 2540C

Preparation: N/A

MS Lab Sample ID: 660-21664-3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/17/2008 1133
Date Prepared: N/A

Units: mg/L

MSD Lab Sample ID: 660-21664-3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/17/2008 1134
Date Prepared: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual	
Total Dissolved Solids	640	2000	3330	2670	4020	J3

Calculations are performed before rounding to avoid round-off errors in calculated results.

01559

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

666D-21664

○ Alternate Laboratory Name/Location

Fax:

Website: www.testamericainc.com
Phone: (813) 885-7427
Fax: (813) 885-7049

PROJECT REFERENCE		PROJECT NO.		PROJECT LOCATION (STATE) FL		MATRIX TYPE		REQUIRED ANALYSIS						PAGE	OF				
TALLEVA ST		B003805S.WW																	
SAMPLE'S SIGNATURE		P.O. NUMBER		CONTRACT NO.										STANDARD REPORT DELIVERY					
Demetrius King														DATE DUE ☒					
CLIENT (SITE) PM		CLIENT PHONE		CLIENT FAX										EXPEDITED REPORT DELIVERY (SURCHARGE)					
John Perrella		813-290-1605												☐					
CLIENT NAME		CLIENT E-MAIL												DATE DUE _____					
ACCAADIS		jperella@accadis-us.com																	
CLIENT ADDRESS														NUMBER OF COOLERS SUBMITTED PER SHIPMENT:					
1405 S Riverdale Dr, Ste 400 Tampa, FL 33637																			
COMPANY CONTRACTING THIS WORK (if applicable)																			
SAMPLE DATE		TIME		SAMPLE IDENTIFICATION		COMPOSITE (C) OR GRAB (G) /INDICATE		AQUEOUS (WATER)		SOLID OR SEMISOLID		AIR		NONAQUEOUS LIQUID (OIL, SOLVENT....)		NUMBER OF CONTAINERS SUBMITTED		REMARKS	
3-10-08	1558	IW-2				GX								none		1		Call John Perrella for date	
3-10-08	1715	CO-A2D				GX								300.0 sulfate 2540C FOS 250ml		3			
3-11-08	0920	CO-A2D				GX								8260 VOC (full) List 40ml vials		1			
3-11-08	1025	CO-A2S				GX								6020 metals 250 ml		1			
3-11-08	1130	CO-A3D				GX										3			
3-11-08	1230	CO-A3S				GX										1			
3-11-08	1328	CO-A4D				GX										3			
3-11-08	1424	CO-B2D				GX										1			
3-11-08	1525	CO-B2S				GX										3			
3-11-08	1635	CO-B2D				GX										1			
RELINQUISHED BY: (SIGNATURE)		DATE		TIME		RELINQUISHED BY: (SIGNATURE)		DATE		TIME		RELINQUISHED BY: (SIGNATURE)		DATE		TIME			
Demetrius King		3/10/08		1700		Demetrius King		3-12-08		1049									
RECEIVED BY: (SIGNATURE)		DATE		TIME		RECEIVED BY: (SIGNATURE)		DATE		TIME		RECEIVED BY: (SIGNATURE)		DATE		TIME			
John Perrella		3/12/08		1049		John Perrella		3/12/08		1049									
LABORATORY USE ONLY																			
RECEIVED FOR LABORATORY BY: (SIGNATURE)		DATE		TIME		CUSTODY IN TACT YES ☐ NO ☒		CUSTODY SEAL NO.		TAMPA LOG NO.		COOLER TEMP UPON RECEIPT		LABORATORY REMARKS					
Demetrius King		3/10/08		1049								1st							

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica Tampa

6712 Benjamin Road, Suite 100
Tampa, FL 33634Website: www.testamericainc.com
Phone: (813) 885-7427
Fax: (813) 885-7049

Serial Number

01563

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

LabD-21664

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE Tallentast for real	PROJECT NO. B0038055.000	PROJECT LOCATION (STATE) FL	MATRIX TYPE	REQUIRED ANALYSIS	PAGE	OF
SAMPLER'S SIGNATURE Dorinda King	P.O. NUMBER	CONTRACT NO.	AIR	STANDARD REPORT DELIVERY	DATE DUE	
CLIENT (SITE) PML John Perella	CLIENT PHONE 813-240-1605	CLIENT FAX	NONAQUEOUS LIQUID (OIL, SOLVENT...)	EXPEDITED REPORT DELIVERY (SURCHARGE)	DATE DUE	
CLIENT NAME ARCADIS	CLIENT E-MAIL JPerella@ARCADIS-US.COM					
CLIENT ADDRESS 1405 Kennedy Tampa FL 33637						
COMPANY CONTRACTING THIS WORK (if applicable)						

DATE	TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	NUMBER OF CONTAINERS SUBMITTED	REMARKS
3-11-08	1536	T-C2D	AQUEOUS (WATER)	1	Call John Perella for date due
3-11-08	1506	T-C2S	SOLID OR SEMISOLID	1	
3-11-08	1350	T-C2D	AIR	1	
3-11-08	1423	T-C2S	NONAQUEOUS LIQUID (OIL, SOLVENT...)	1	
3-11-08	1358	T-B5D		1	
3-11-08	1537	T-C4S		1	
3-11-08	1442	T-C3S		1	
3-11-08	1356	T-B5S		1	
3-11-08	1540	T-C4D		1	
3-11-08	1450	T-C3D		1	
3-11-08	1627	T-CSD		1	
3-11-08	1632	T-CSS		1	

RECEIVED FOR LABORATORY BY: (SIGNATURE) DATE TIME CUSTODY INTACT CUSTODY SEAL NO. TAMPA LOG NO. COOLER TEMP. UPON RECEIPT LABORATORY REMARKS

RECEIVED BY: (SIGNATURE) DATE TIME RELINQUISHED BY: (SIGNATURE) DATE TIME

RECEIVED BY: (SIGNATURE) DATE TIME

RECEIVED BY: (SIGNATURE) DATE TIME

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica Tampa
6712 Benjamin Road, Suite 100
Tampa, FL 33634

Website: www.testamericainc.com
Phone: (813) 885-7427
Fax: (813) 885-7049

Serial Number

015662

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

6660-211664

☐ Alternate Laboratory Name/Location

 Phone:
Fax:

PROJECT REFERENCE TA116VAST		PROJECT NO. B0038055.0000		PROJECT LOCATION (STATE) FL		MATRIX TYPE		REQUIRED ANALYSIS				PAGE		OF	
SAMPLER'S SIGNATURE <i>Jennifer King</i>		P.O. NUMBER		CONTRACT NO.								STANDARD REPORT DELIVERY			
CLIENT (SITE) John Perella		CLIENT PHONE 813-240-1605		CLIENT FAX								DATE DUE			
CLIENT NAME ARCADIS		CLIENT E-MAIL JPerella@Arcadis-us.com										EXPEDITED REPORT DELIVERY (SURCHARGE)		☐	
CLIENT ADDRESS 14055 Kennedy Dr. Ste. 400 Tampa FL, 33637												DATE DUE			
COMPANY CONTRACTING THIS WORK (if applicable)												NUMBER OF COOLERS SUBMITTED PER SHIPMENT:			

SAMPLE		SAMPLE IDENTIFICATION		COMPOSITE (C) OR GRAB (G) INDICATE		AQUEOUS (WATER)		SOLID OR SEMISOLID		AIR		NONAQUEOUS LIQUID (OIL, SOLVENT...)		NUMBER OF CONTAINERS SUBMITTED		REMARKS	
DATE	TIME																
3-11-08	1006	T-A35		GX										1			*Call John Perella for Date Due
3-11-08	0914	T-A3D		GX										1			
3-11-08	1104	T-B3D		GX										1			
3-11-08	1022	T-A4S		GX										1			
3-11-08	0927	T-A2S		GX										1			
3-11-08	1106	T-B2S		GX										1			
3-11-08	1144	T-B4D		GX										1			
3-11-08	1139	T-B3S		GX										1			
3-11-08	1107	T-B2S		GX										1			
3-11-08	1015	T-A4D		GX										1			
3-11-08	0925	T-A2S		GX										1			
3-11-08	1150	T-B4S		GX										1			

RECEIVED BY: (SIGNATURE) <i>John Perella</i>		DATE 3/26/08		TIME 1049		RELINQUISHED BY: (SIGNATURE) <i>Jennifer King</i>		DATE 3-20-08		TIME 1049		RECEIVED BY: (SIGNATURE) <i>John Perella</i>		DATE 3/26/08		TIME 1049	
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LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE) <i>John Perella</i>	DATE 3/26/08	TIME 1049	CUSTODY INTACT YES ☒ NO ☐	CUSTODY SEAL NO.	TAMPA LOG NO.	COOLER TEMP UPON RECEIPT 3°C	LABORATORY REMARKS
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Login Sample Receipt Check List

Client: ARCADIS

Job Number: 660-21664-1

SDG Number: 660-21664

Login Number: 21664

Creator: Harrison, Amanda

List Number: 1

List Source: TestAmerica Tampa

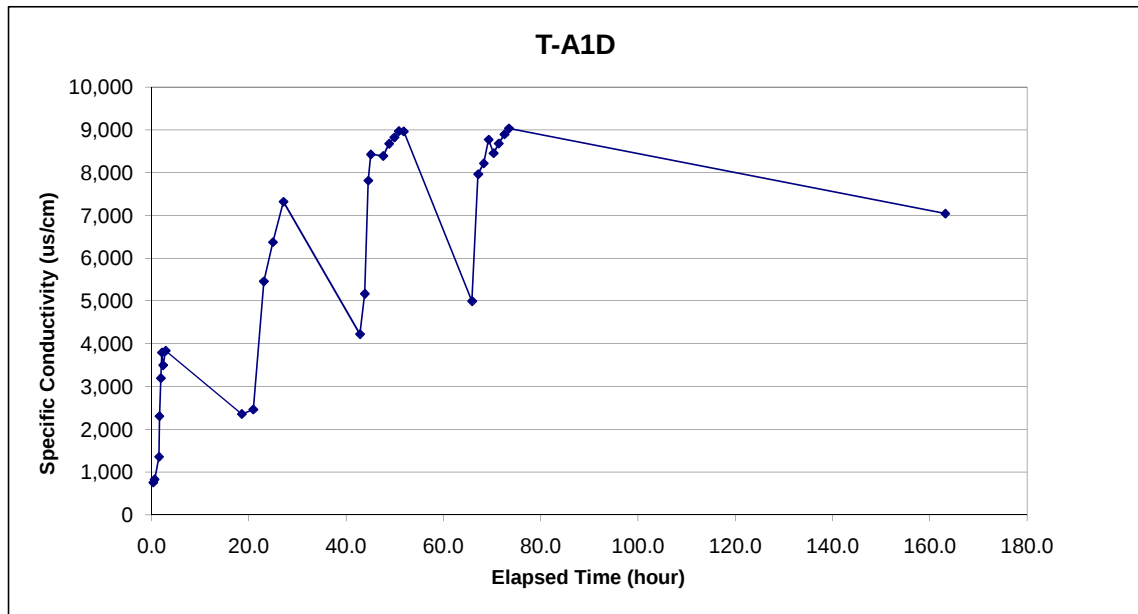
Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	3,3,1 Degrees
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Appendix C

USAS and LSAS Tracer Test Monitoring Logs

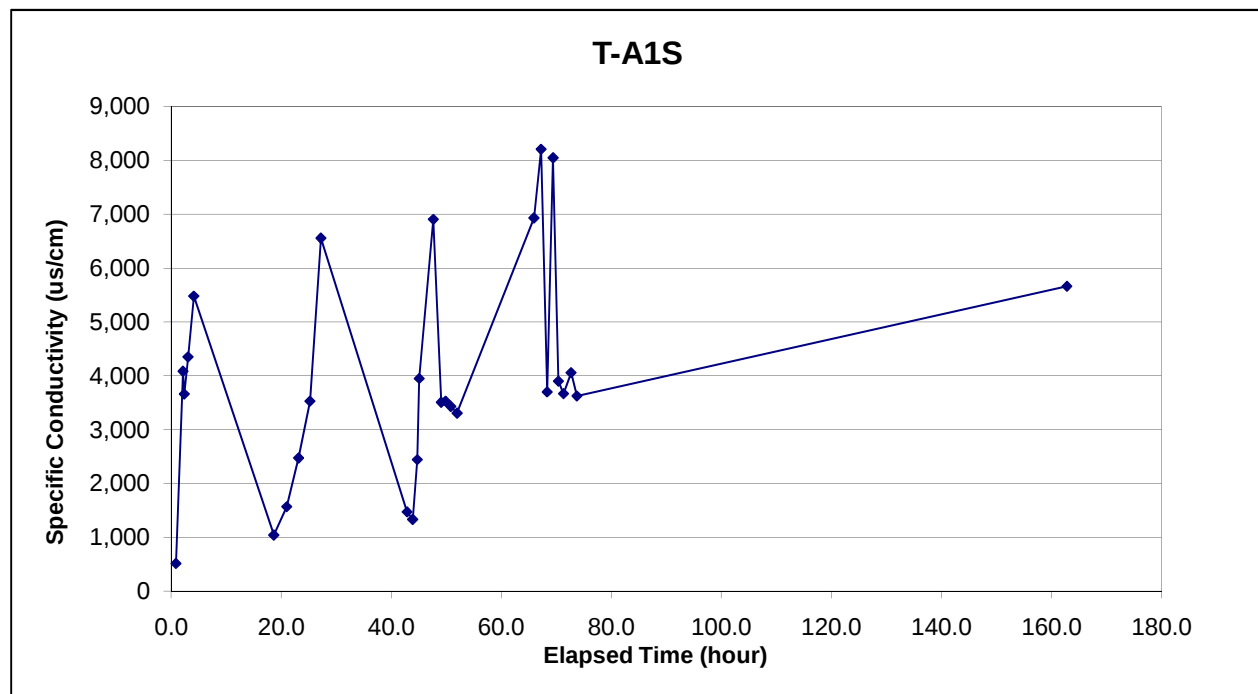
USAS Tracer Monitoring Log, T-A1D
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 14:12	0.37	760	#N/A	#N/A	
3/24/2008 14:30	0.67	832	#N/A	#N/A	
3/24/2008 14:33	0.72	#N/A	816	674	
3/24/2008 15:25	1.58	1,360	#N/A	#N/A	
3/24/2008 15:29	1.65	2,311	#N/A	#N/A	
3/24/2008 15:47	1.95	3,200	#N/A	#N/A	
3/24/2008 16:00	2.17	3,798	3,806	3,447	
3/24/2008 16:15	2.42	3,501	#N/A	#N/A	
3/24/2008 16:47	2.95	3,841	#N/A	#N/A	0
3/24/2008 17:30	3.67	#N/A	#N/A	#N/A	0
3/24/2008 17:52	4.03	#N/A	#N/A	#N/A	8
3/25/2008 8:25	18.58	2,361	#N/A	#N/A	D
3/25/2008 10:46	20.93	2,466	#N/A	#N/A	20
3/25/2008 12:56	23.10	5,462	#N/A	#N/A	20
3/25/2008 14:49	24.98	6,378	#N/A	#N/A	20
3/25/2008 16:59	27.15	7,325	#N/A	#N/A	20
3/26/2008 8:43	42.88	4,228	#N/A	#N/A	Bright green
3/26/2008 9:42	43.87	5,173	#N/A	#N/A	Bright
3/26/2008 10:25	44.58	7,819	#N/A	#N/A	Bright
3/26/2008 10:56	45.10	8,430	#N/A	#N/A	30
3/26/2008 13:29	47.65	8,395	#N/A	#N/A	30
3/26/2008 14:42	48.87	8,681	#N/A	#N/A	Orange
3/26/2008 15:47	49.95	8,828	#N/A	#N/A	Orange
3/26/2008 16:42	50.87	8,975	8,505	8,153	Deep yellow
3/26/2008 17:41	51.85	8,968	#N/A	#N/A	yellow
3/27/2008 7:45	65.92	5,001	#N/A	#N/A	8
3/27/2008 9:00	67.17	7,968	#N/A	#N/A	Orange
3/27/2008 10:09	68.32	8,221	#N/A	#N/A	Orange
3/27/2008 11:10	69.33	8,775	#N/A	#N/A	Orange
3/27/2008 12:10	70.33	8,458	#N/A	#N/A	Orange
3/27/2008 13:13	71.38	8,684	3,670	3,537	
3/27/2008 14:24	72.57	8,900	#N/A	#N/A	Orange
3/27/2008 15:19	73.48	9,038	#N/A	#N/A	Dark yellow
3/31/2008 9:01	163.18	7,046	#N/A	#N/A	V. yellow



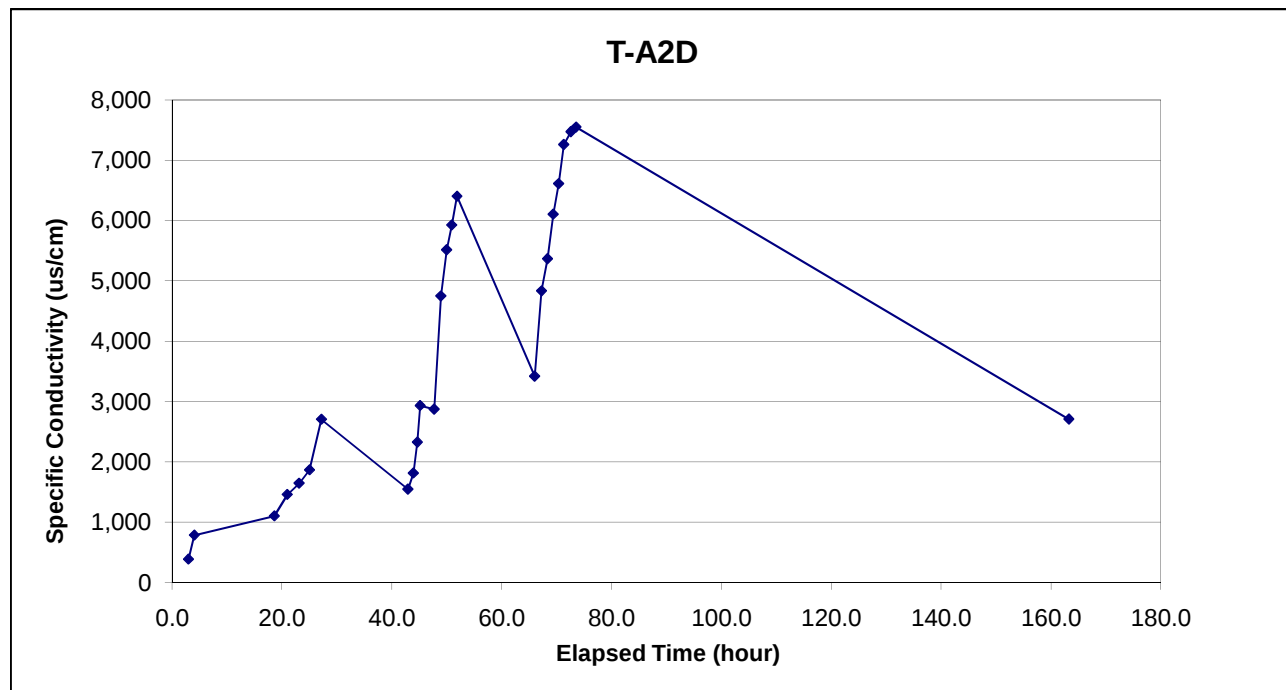
USAS Tracer Monitoring Log, T-A1S
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 14:43	0.88	516	217	125	
3/24/2008 16:00	2.17	4,084	3,604	2,863	11
3/24/2008 16:14	2.40	3,660	#N/A	#N/A	
3/24/2008 16:54	3.07	4,349	#N/A	#N/A	
3/24/2008 17:57	4.12	5,478	#N/A	#N/A	40
3/25/2008 8:30	18.67	1,042	#N/A	#N/A	D
3/25/2008 10:51	21.02	1,569	#N/A	#N/A	Slight Green
3/25/2008 13:01	23.18	2,474	#N/A	#N/A	11
3/25/2008 15:04	25.23	3,528	2,774	#N/A	8
3/25/2008 17:04	27.23	6,555	#N/A	#N/A	20
3/26/2008 8:44	42.90	1,473	#N/A	#N/A	Bright green
3/26/2008 9:45	43.92	1,335	#N/A	#N/A	Bright
3/26/2008 10:35	44.75	2,442	#N/A	#N/A	Bright
3/26/2008 10:56	45.10	3,949	#N/A	#N/A	Green
3/26/2008 13:30	47.67	6,903	#N/A	#N/A	Bright green
3/26/2008 14:56	49.10	3,507	#N/A	#N/A	Orange
3/26/2008 15:43	49.88	3,528	#N/A	#N/A	Deep Orange
3/26/2008 16:41	50.85	3,430	3,324	3,228	Deep Orange
3/26/2008 17:49	51.98	3,307	#N/A	#N/A	Orange
3/27/2008 7:47	65.95	6,930	#N/A	#N/A	Orange
3/27/2008 9:05	67.25	8,204	#N/A	#N/A	Orange
3/27/2008 10:11	68.35	3,700	#N/A	#N/A	Deep Orange
3/27/2008 11:16	69.43	8,045	#N/A	#N/A	Deep Orange
3/27/2008 12:14	70.40	3,900	#N/A	#N/A	Orange
3/27/2008 13:10	71.33	3,667	3,670	3,537	
3/27/2008 14:32	72.70	4,057	#N/A	#N/A	Deep Orange
3/27/2008 15:36	73.77	3,624	#N/A	#N/A	Orange Brown
3/31/2008 8:40	162.83	5,661	#N/A	#N/A	Orang



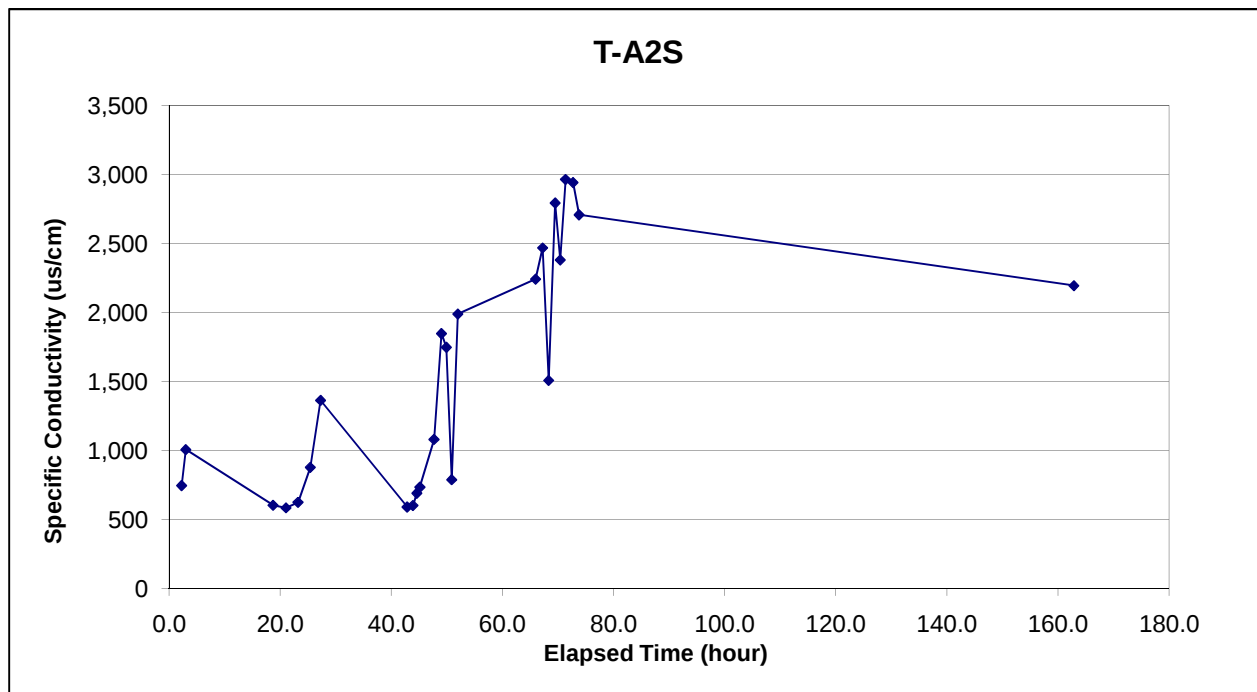
USAS Tracer Monitoring Log, T-A2D
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
		Bottom	MID	Top	
Injection time	3/24/2008 13:50				
3/24/2008 16:49	2.98	387	297	271	
3/24/2008 17:53	4.05	786	#N/A	#N/A	1
3/25/2008 8:27	18.62	1,103	#N/A	#N/A	D
3/25/2008 10:48	20.97	1,459	#N/A	#N/A	ND
3/25/2008 12:57	23.12	1,646	#N/A	#N/A	ND
3/25/2008 14:51	25.02	1,867	#N/A	#N/A	ND
3/25/2008 17:01	27.18	2,706	#N/A	#N/A	1
3/26/2008 8:45	42.92	1,548	#N/A	#N/A	ND
3/26/2008 9:45	43.92	1,814	#N/A	#N/A	8
3/26/2008 10:29	44.65	2,326	#N/A	#N/A	20
3/26/2008 10:59	45.15	2,933	#N/A	#N/A	Green
3/26/2008 13:32	47.70	2,873	#N/A	#N/A	Green
3/26/2008 14:45	48.92	4,749	#N/A	#N/A	yellow
3/26/2008 15:48	49.97	5,516	#N/A	#N/A	yellow
3/26/2008 16:44	50.90	5,926	5,749	5,106	yellow
3/26/2008 17:42	51.87	6,403	#N/A	#N/A	Deep orange
3/27/2008 7:49	65.98	3,419	#N/A	#N/A	Slight yellow
3/27/2008 9:05	67.25	4,834	#N/A	#N/A	20
3/27/2008 10:10	68.33	5,367	#N/A	#N/A	Deep yellow
3/27/2008 11:12	69.37	6,105	#N/A	#N/A	>20.0
3/27/2008 12:12	70.37	6,611	#N/A	#N/A	Yellow
3/27/2008 13:07	71.28	7,261	6,710	5,643	
3/27/2008 14:25	72.58	7,473	#N/A	#N/A	Deep yellow
3/27/2008 15:22	73.53	7,550	#N/A	#N/A	Dark yellow
3/31/2008 9:04	163.23	2,709	#N/A	#N/A	V. yellow



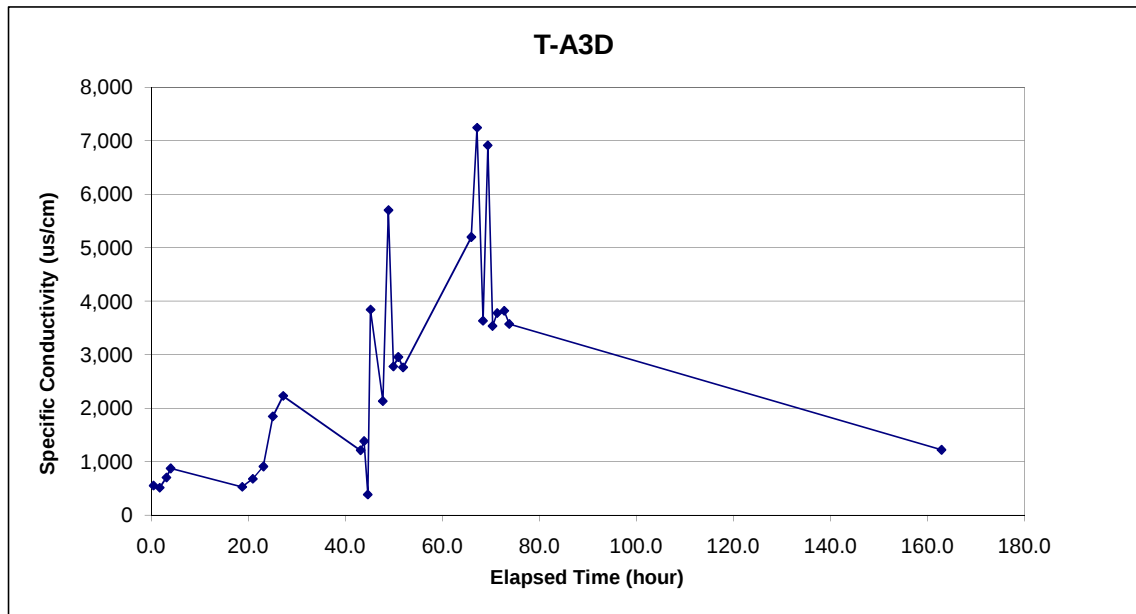
USAS Tracer Monitoring Log, T-A2S
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 16:05	2.25	748	752	646	
3/24/2008 16:50	3.00	1,009	812	443	
3/25/2008 8:33	18.72	606	#N/A	#N/A	ND
3/25/2008 10:52	21.03	587	#N/A	#N/A	ND
3/25/2008 13:02	23.20	627	#N/A	#N/A	ND
3/25/2008 15:14	25.40	880	841	#N/A	ND
3/25/2008 17:06	27.27	1,366	#N/A	#N/A	ND
3/26/2008 8:41	42.85	593	#N/A	#N/A	ND
3/26/2008 9:43	43.88	604	#N/A	#N/A	ND
3/26/2008 10:25	44.58	693	#N/A	#N/A	ND
3/26/2008 10:58	45.13	737	#N/A	#N/A	ND
3/26/2008 13:31	47.68	1,083	#N/A	#N/A	ND
3/26/2008 14:51	49.02	1,849	#N/A	#N/A	ND
3/26/2008 15:44	49.90	1,750	#N/A	#N/A	ND
3/26/2008 16:42	50.87	791	1,930	1,580	yellow
3/26/2008 17:48	51.97	1,991	#N/A	#N/A	Orange
3/27/2008 7:48	65.97	2,244	#N/A	#N/A	No
3/27/2008 9:04	67.23	2,470	#N/A	#N/A	No
3/27/2008 10:09	68.32	1,510	#N/A	#N/A	Trut of organge
3/27/2008 11:19	69.48	2,795	#N/A	#N/A	Yellow trut
3/27/2008 12:14	70.40	2,383	#N/A	#N/A	Dark yellow
3/27/2008 13:11	71.35	2,966	2,467	1,883	
3/27/2008 14:32	72.70	2,944	#N/A	#N/A	Yellow
3/27/2008 15:37	73.78	2,710	#N/A	#N/A	Dark yellow
3/31/2008 8:41	162.85	2,196	#N/A	#N/A	Black



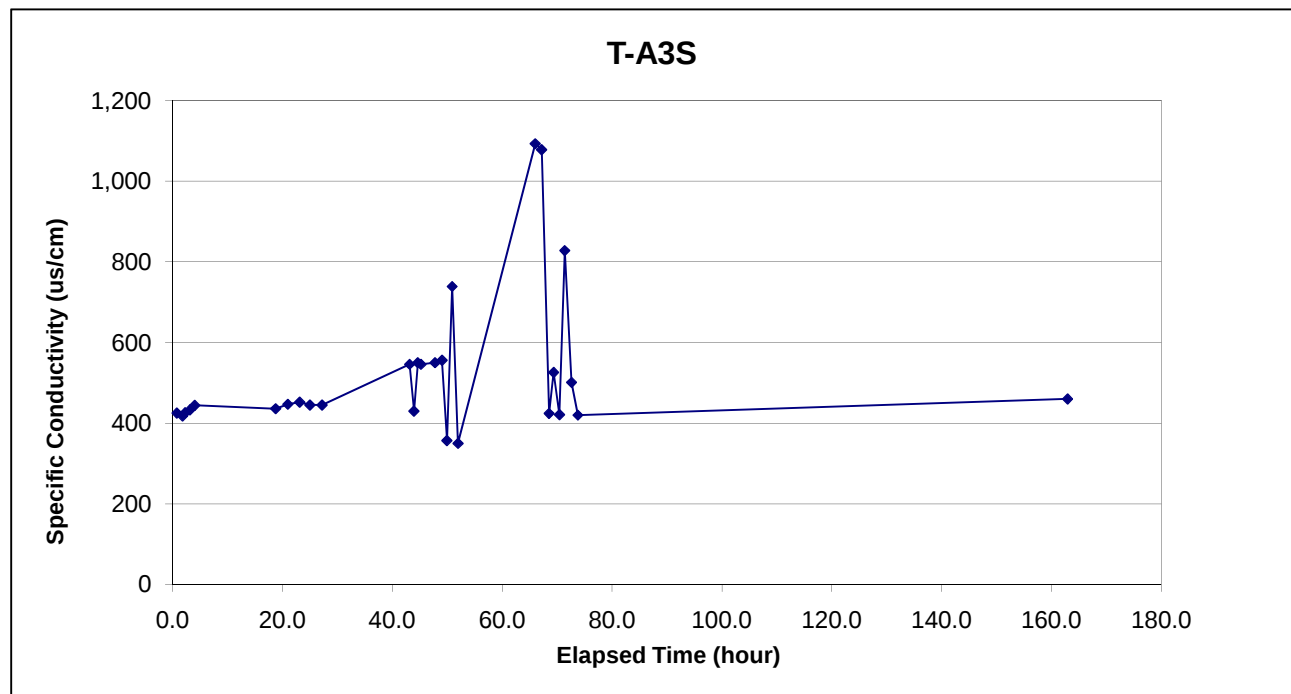
USAS Tracer Monitoring Log, T-A3D
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 14:19	0.48	555	#N/A	#N/A	
3/24/2008 15:35	1.75	516	#N/A	#N/A	
3/24/2008 16:59	3.15	706	#N/A	#N/A	
3/24/2008 17:51	4.02	877	#N/A	#N/A	
3/25/2008 8:36	18.77	531	#N/A	#N/A	ND
3/25/2008 10:47	20.95	681	#N/A	#N/A	ND
3/25/2008 12:58	23.13	913	#N/A	#N/A	0
3/25/2008 14:54	25.07	1,849	767	#N/A	1
3/25/2008 17:03	27.22	2,232	#N/A	#N/A	1
3/26/2008 9:00	43.17	1,216	#N/A	#N/A	ND
3/26/2008 9:43	43.88	1,387	#N/A	#N/A	8
3/26/2008 10:28	44.63	388	#N/A	#N/A	20
3/26/2008 11:03	45.22	3,844	#N/A	#N/A	Green
3/26/2008 13:34	47.73	2,134	#N/A	#N/A	Bright green
3/26/2008 14:45	48.92	5,702	#N/A	#N/A	Orange
3/26/2008 15:45	49.92	2,781	#N/A	#N/A	Deep yellow
3/26/2008 16:45	50.92	2,958	2,925	2,911	Orange
3/26/2008 17:45	51.92	2,765	#N/A	#N/A	20
3/27/2008 7:49	65.98	5,200	#N/A	#N/A	Slight yellow
3/27/2008 9:01	67.18	7,244	#N/A	#N/A	Orange
3/27/2008 10:13	68.38	3,635	#N/A	#N/A	Orange
3/27/2008 11:12	69.37	6,914	#N/A	#N/A	Orange
3/27/2008 12:11	70.35	3,538	#N/A	#N/A	Orange
3/27/2008 13:09	71.32	3,780	3,385	3,186	Orange
3/27/2008 14:36	72.77	3,822	#N/A	#N/A	Orange
3/27/2008 15:37	73.78	3,575	#N/A	#N/A	Orange
3/31/2008 8:44	162.90	1,224	#N/A	#N/A	L. yellow



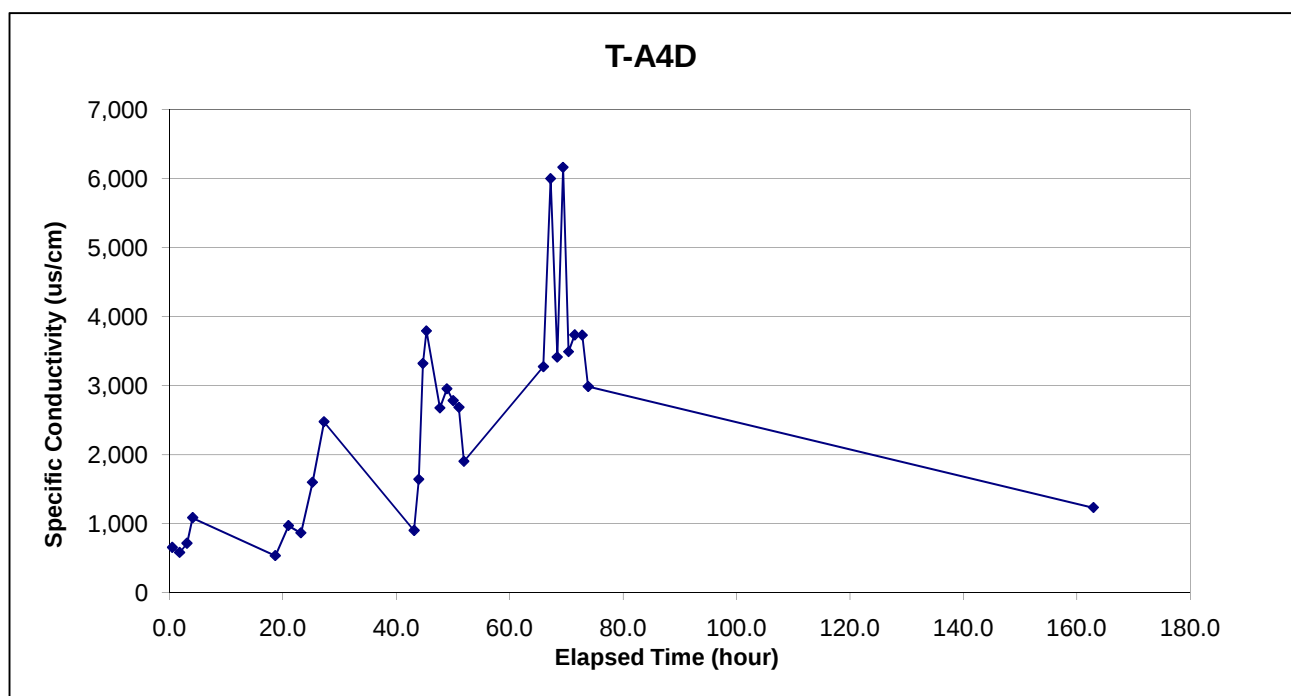
USAS Tracer Monitoring Log, T-A3S
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 14:37	0.78	425	#N/A	#N/A	
3/24/2008 15:39	1.82	418	#N/A	#N/A	
3/24/2008 16:08	2.30	426	422	432	
3/24/2008 17:00	3.17	433	#N/A	#N/A	
3/24/2008 17:52	4.03	444	#N/A	#N/A	
3/25/2008 8:35	18.75	436	#N/A	#N/A	ND
3/25/2008 10:48	20.97	447	#N/A	#N/A	ND
3/25/2008 12:57	23.12	452	#N/A	#N/A	ND
3/25/2008 14:50	25.00	445	#N/A	#N/A	ND
3/25/2008 17:02	27.20	445	#N/A	#N/A	ND
3/26/2008 8:58	43.13	546	#N/A	#N/A	ND
3/26/2008 9:45	43.92	430	#N/A	#N/A	ND
3/26/2008 10:27	44.62	550	#N/A	#N/A	ND
3/26/2008 11:02	45.20	546	#N/A	#N/A	ND
3/26/2008 13:35	47.75	550	#N/A	#N/A	ND
3/26/2008 14:52	49.03	556	#N/A	#N/A	ND
3/26/2008 15:45	49.92	357	#N/A	#N/A	ND
3/26/2008 16:43	50.88	739	357	347	ND
3/26/2008 17:47	51.95	350	#N/A	#N/A	ND
3/27/2008 7:50	66.00	1,093	#N/A	#N/A	No
3/27/2008 9:00	67.17	1,078	#N/A	#N/A	No
3/27/2008 10:21	68.52	424	#N/A	#N/A	No
3/27/2008 11:11	69.35	526	#N/A	#N/A	No
3/27/2008 12:15	70.42	421	#N/A	#N/A	No
3/27/2008 13:12	71.37	828	471	435	
3/27/2008 14:27	72.62	501	#N/A	#N/A	No
3/27/2008 15:36	73.77	420	#N/A	#N/A	No
3/31/2008 8:43	162.88	460	#N/A	#N/A	L. brown



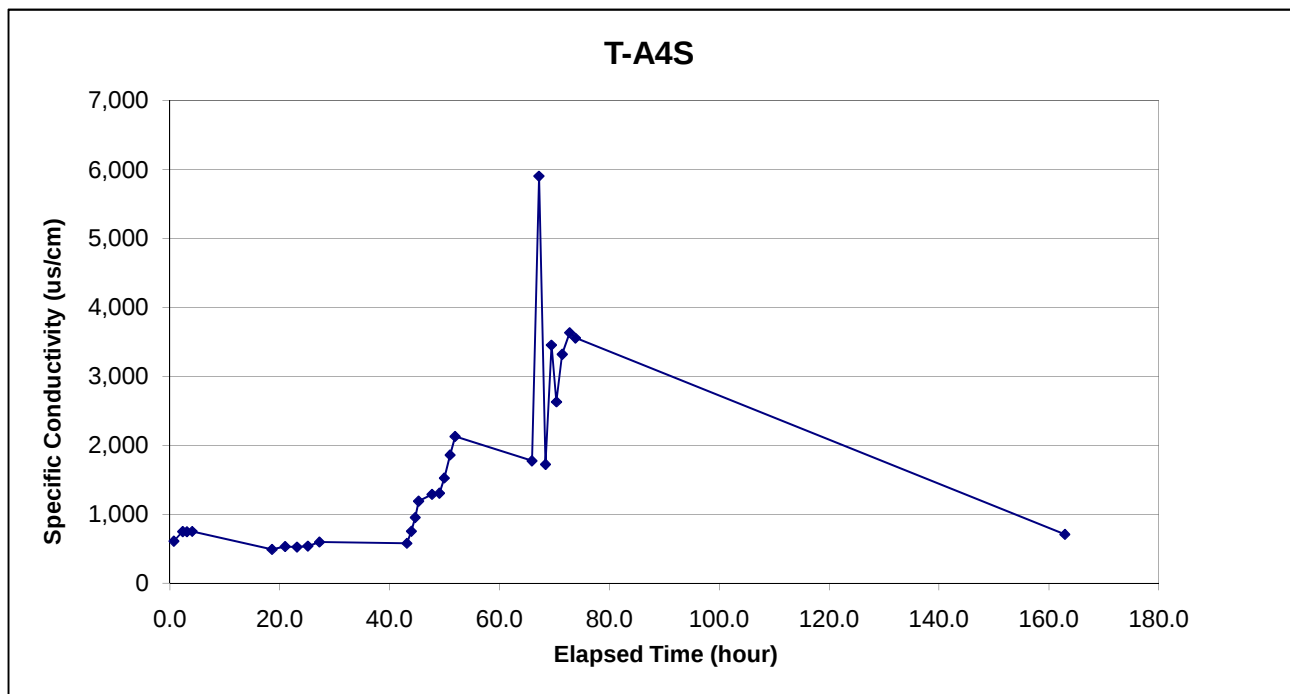
USAS Tracer Monitoring Log, T-A4D
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 14:20	0.50	658	#N/A	#N/A	
3/24/2008 15:37	1.78	584	#N/A	#N/A	
3/24/2008 16:55	3.08	717	#N/A	#N/A	
3/24/2008 17:55	4.08	1,087	#N/A	#N/A	
3/25/2008 8:29	18.65	538	#N/A	#N/A	ND
3/25/2008 10:49	20.98	974	#N/A	#N/A	1
3/25/2008 13:00	23.17	868	#N/A	#N/A	0
3/25/2008 15:02	25.20	1,600	1,292	#N/A	ND
3/25/2008 17:05	27.25	2,477	#N/A	#N/A	20
3/26/2008 8:58	43.13	903	#N/A	#N/A	ND
3/26/2008 9:47	43.95	1,643	#N/A	#N/A	20
3/26/2008 10:31	44.68	3,321	#N/A	#N/A	30
3/26/2008 11:08	45.30	3,793	#N/A	#N/A	30
3/26/2008 13:31	47.68	2,677	#N/A	#N/A	20
3/26/2008 14:45	48.92	2,955	#N/A	#N/A	Orange
3/26/2008 15:51	50.02	2,783	#N/A	#N/A	Orange
3/26/2008 16:52	51.03	2,686	2,652	2,008	Orange
3/26/2008 17:45	51.92	1,904	#N/A	#N/A	Orange
3/27/2008 7:46	65.93	3,275	#N/A	#N/A	Slight ~<0.4
3/27/2008 9:02	67.20	6,000	#N/A	#N/A	Slight Orange
3/27/2008 10:12	68.37	3,414	#N/A	#N/A	Brown yellow
3/27/2008 11:13	69.38	6,163	#N/A	#N/A	Orange
3/27/2008 12:12	70.37	3,492	#N/A	#N/A	Orange
3/27/2008 13:17	71.45	3,736	2,615	1,375	
3/27/2008 14:37	72.78	3,732	#N/A	#N/A	Deep orange
3/27/2008 15:40	73.83	2,987	#N/A	#N/A	Dark yellow
3/31/2008 8:45	162.92	1,235	#N/A	#N/A	Yellow



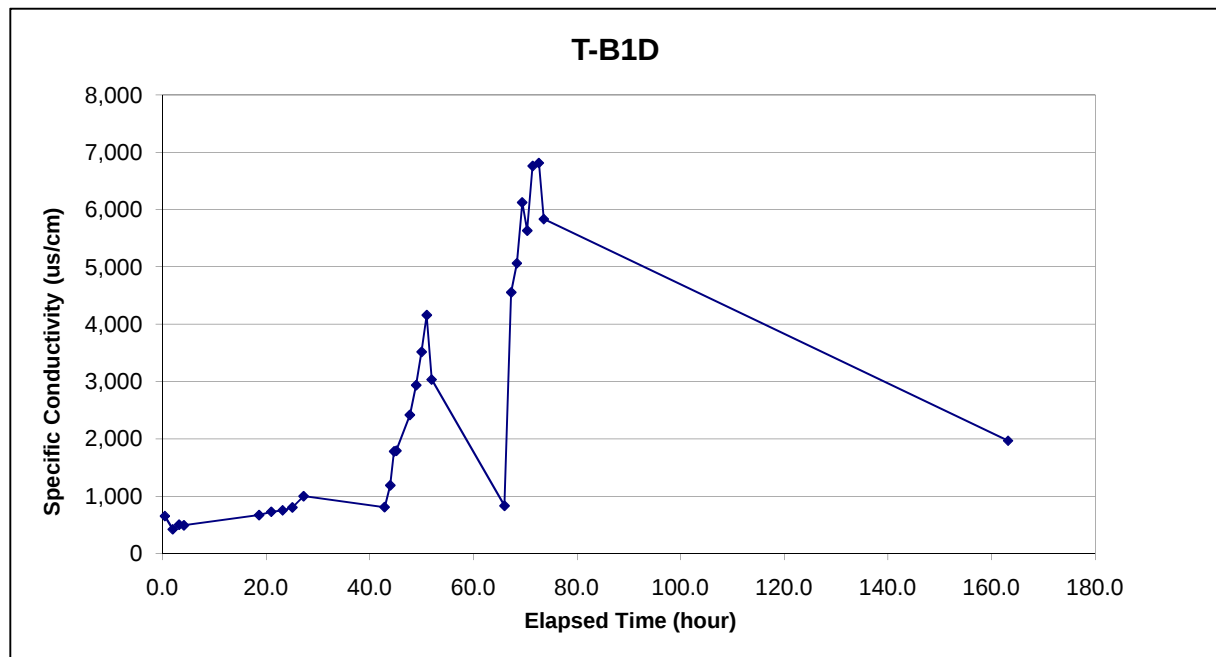
USAS Tracer Monitoring Log, T-A4S
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 14:34	0.73	610	530	#N/A	
3/24/2008 16:10	2.33	749	740	492	
3/24/2008 16:57	3.12	746	#N/A	#N/A	
3/24/2008 17:54	4.07	752	#N/A	#N/A	
3/25/2008 8:25	18.58	491	#N/A	#N/A	ND
3/25/2008 10:49	20.98	533	#N/A	#N/A	ND
3/25/2008 12:59	23.15	525	#N/A	#N/A	ND
3/25/2008 14:57	25.12	539	495	#N/A	ND
3/25/2008 17:04	27.23	598	#N/A	#N/A	ND
3/26/2008 8:59	43.15	579	#N/A	#N/A	ND
3/26/2008 9:48	43.97	754	#N/A	#N/A	ND
3/26/2008 10:30	44.67	954	#N/A	#N/A	ND
3/26/2008 11:07	45.28	1,190	#N/A	#N/A	ND
3/26/2008 13:33	47.72	1,289	#N/A	#N/A	ND
3/26/2008 14:55	49.08	1,306	#N/A	#N/A	ND
3/26/2008 15:47	49.95	1,526	#N/A	#N/A	ND
3/26/2008 16:50	51.00	1,860	1,704	1,588	staint yellow
3/26/2008 17:45	51.92	2,129	#N/A	#N/A	tint of orange
3/27/2008 7:45	65.92	1,774	#N/A	#N/A	No
3/27/2008 9:01	67.18	5,903	#N/A	#N/A	Orange tint
3/27/2008 10:13	68.38	1,723	#N/A	#N/A	Orange tint
3/27/2008 11:17	69.45	3,453	#N/A	#N/A	Orange tint
3/27/2008 12:12	70.37	2,630	#N/A	#N/A	Orange tint
3/27/2008 13:15	71.42	3,319	3,232	3,077	
3/27/2008 14:36	72.77	3,633	#N/A	#N/A	Orange
3/27/2008 15:40	73.83	3,555	#N/A	#N/A	Dark yellow
3/31/2008 8:45	162.92	709	#N/A	#N/A	L. brown



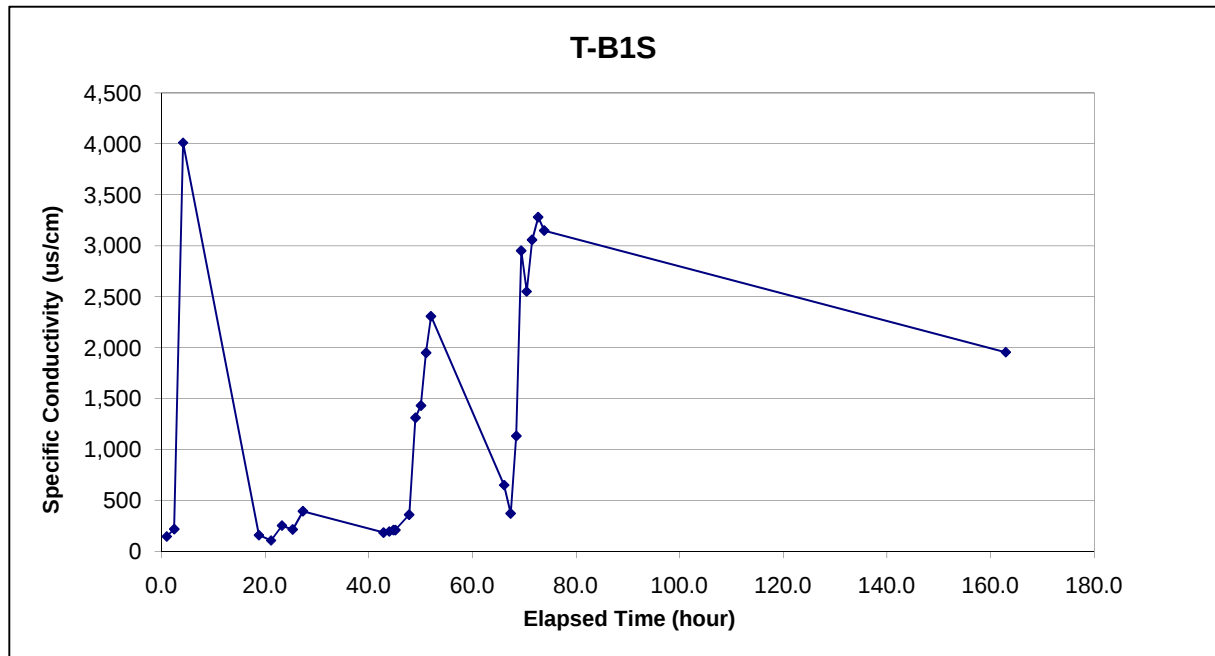
USAS Tracer Monitoring Log, T-B1D
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 14:15	0.42	649	#N/A	#N/A	
3/24/2008 15:46	1.93	418	#N/A	#N/A	
3/24/2008 17:00	3.17	500	#N/A	#N/A	
3/24/2008 17:56	4.10	489	#N/A	#N/A	
3/25/2008 8:28	18.63	668	#N/A	#N/A	ND
3/25/2008 10:49	20.98	725	#N/A	#N/A	ND
3/25/2008 12:59	23.15	750	#N/A	#N/A	ND
3/25/2008 14:52	25.03	800	#N/A	#N/A	ND
3/25/2008 17:03	27.22	997	#N/A	#N/A	ND
3/26/2008 8:41	42.85	804	#N/A	#N/A	ND
3/26/2008 9:46	43.93	1,185	#N/A	#N/A	ND
3/26/2008 10:30	44.67	1,780	#N/A	#N/A	ND
3/26/2008 10:57	45.12	1,790	#N/A	#N/A	ND
3/26/2008 13:33	47.72	2,416	#N/A	#N/A	ND
3/26/2008 14:46	48.93	2,935	#N/A	#N/A	Yellow
3/26/2008 15:49	49.98	3,515	#N/A	#N/A	Yellow
3/26/2008 16:49	50.98	4,155	3,883	2,175	Yellow
3/26/2008 17:45	51.92	3,031	#N/A	#N/A	orange
3/27/2008 7:50	66.00	829	#N/A	#N/A	No
3/27/2008 9:07	67.28	4,554	#N/A	#N/A	8
3/27/2008 10:13	68.38	5,061	#N/A	#N/A	20
3/27/2008 11:14	69.40	6,120	#N/A	#N/A	Deep orange
3/27/2008 12:12	70.37	5,633	#N/A	#N/A	Deep yellow
3/27/2008 13:16	71.43	6,759	6,233	5,430	
3/27/2008 14:27	72.62	6,812	#N/A	#N/A	Deep brown
3/27/2008 15:24	73.57	5,833	#N/A	#N/A	Dark yellow
3/31/2008 9:03	163.22	1,965	#N/A	#N/A	L. orange



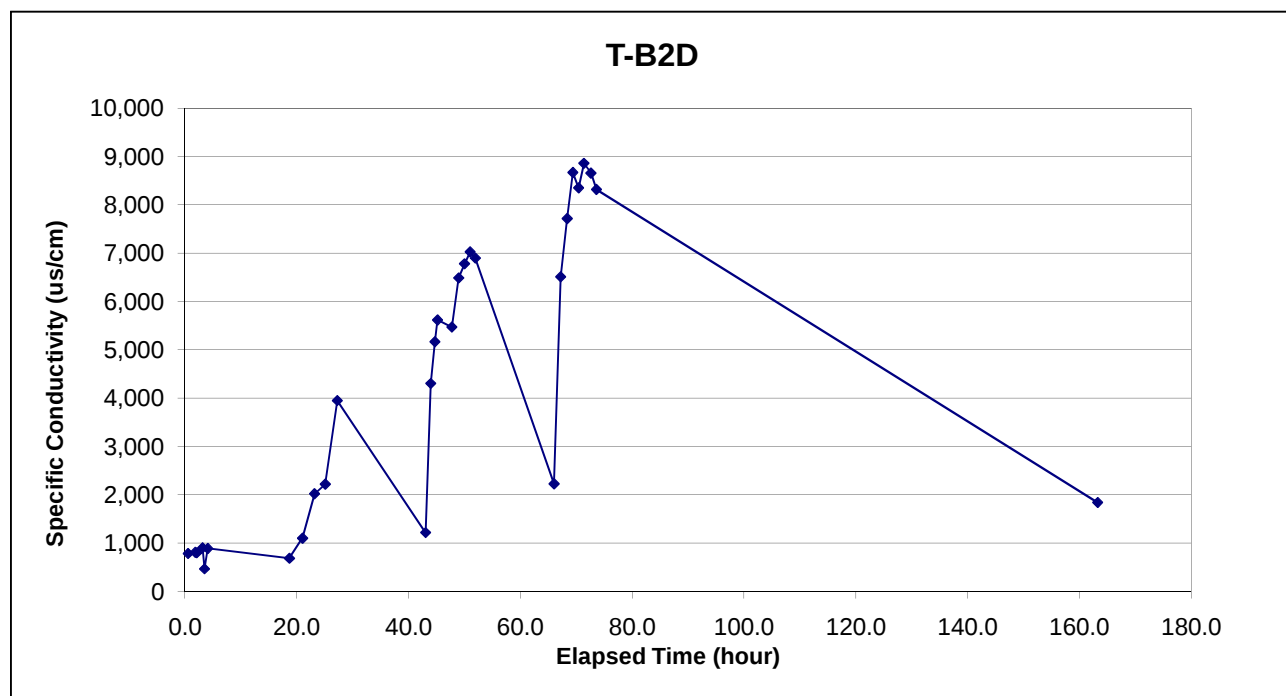
USAS Tracer Monitoring Log, T-B1S
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 14:50	1.00	146	#N/A	#N/A	
3/24/2008 16:16	2.43	220	207	156	
3/24/2008 17:59	4.15	4,011	#N/A	#N/A	
3/25/2008 8:37	18.78	161	#N/A	#N/A	ND
3/25/2008 10:58	21.13	108	#N/A	#N/A	ND
3/25/2008 13:04	23.23	254	#N/A	#N/A	ND
3/25/2008 15:09	25.32	215	154	#N/A	ND
3/25/2008 17:08	27.30	395	#N/A	#N/A	very little
3/26/2008 8:42	42.87	185	#N/A	#N/A	ND
3/26/2008 9:48	43.97	196	#N/A	#N/A	ND
3/26/2008 10:35	44.75	209	#N/A	#N/A	ND
3/26/2008 10:57	45.12	211	#N/A	#N/A	ND
3/26/2008 13:37	47.78	361	#N/A	#N/A	1
3/26/2008 14:50	49.00	1,311	#N/A	#N/A	yellow
3/26/2008 15:54	50.07	1,432	#N/A	#N/A	Orange
3/26/2008 16:53	51.05	1,950	1,839	1,564	Orange
3/26/2008 17:49	51.98	2,308	#N/A	#N/A	little yellow
3/27/2008 7:57	66.12	651	#N/A	#N/A	No
3/27/2008 9:12	67.37	372	#N/A	#N/A	4
3/27/2008 10:17	68.45	1,133	#N/A	#N/A	Orange
3/27/2008 11:15	69.42	2,951	#N/A	#N/A	Orange
3/27/2008 12:18	70.47	2,551	#N/A	#N/A	Orange
3/27/2008 13:20	71.50	3,057	2,585	737	
3/27/2008 14:31	72.68	3,280	#N/A	#N/A	Orange
3/27/2008 15:41	73.85	3,149	#N/A	#N/A	Orange
3/31/2008 8:46	162.93	1,955	#N/A	#N/A	Orange



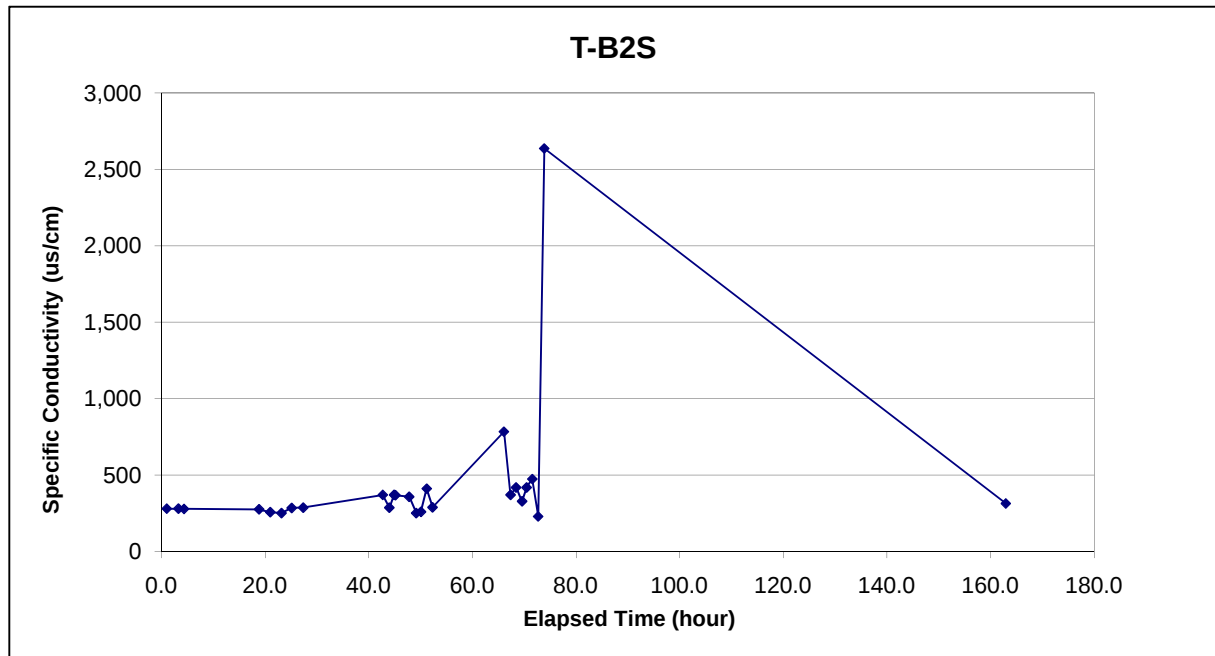
USAS Tracer Monitoring Log, T-B2D
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 14:23	0.55	787	#N/A	#N/A	
3/24/2008 15:39	1.82	810	#N/A	#N/A	
3/24/2008 15:56	2.10	800	#N/A	#N/A	
3/24/2008 16:58	3.13	905	#N/A	#N/A	
3/24/2008 17:19	3.48	469	408	306	
3/24/2008 17:54	4.07	890	#N/A	#N/A	
3/25/2008 8:30	18.67	688	#N/A	#N/A	D
3/25/2008 10:51	21.02	1,103	#N/A	#N/A	1
3/25/2008 13:00	23.17	2,022	#N/A	#N/A	ND
3/25/2008 14:55	25.08	2,221	#N/A	#N/A	ND
3/25/2008 17:04	27.23	3,952	#N/A	#N/A	0
3/26/2008 8:52	43.03	1,220	#N/A	#N/A	ND
3/26/2008 9:47	43.95	4,306	#N/A	#N/A	8
3/26/2008 10:32	44.70	5,170	#N/A	#N/A	20
3/26/2008 11:00	45.17	5,620	#N/A	#N/A	Bright green
3/26/2008 13:34	47.73	5,473	#N/A	#N/A	20
3/26/2008 14:47	48.95	6,490	#N/A	#N/A	Orange
3/26/2008 15:50	50.00	6,782	#N/A	#N/A	Deep yellow
3/26/2008 16:50	51.00	7,029	#N/A	#N/A	Orange
3/26/2008 17:46	51.93	6,901	#N/A	#N/A	Bright yellow
3/27/2008 7:51	66.02	2,229	#N/A	#N/A	Yellow
3/27/2008 9:02	67.20	6,512	#N/A	#N/A	>4.0 & <8.0
3/27/2008 10:12	68.37	7,718	#N/A	#N/A	Yellow
3/27/2008 11:13	69.38	8,672	#N/A	#N/A	20
3/27/2008 12:15	70.42	8,355	#N/A	#N/A	Orange
3/27/2008 13:11	71.35	8,862	8,186	6,259	
3/27/2008 14:27	72.62	8,660	#N/A	#N/A	Deep yellow
3/27/2008 15:26	73.60	8,320	#N/A	#N/A	Orange
3/31/2008 9:06	163.27	1,842	#N/A	#N/A	L. yellow



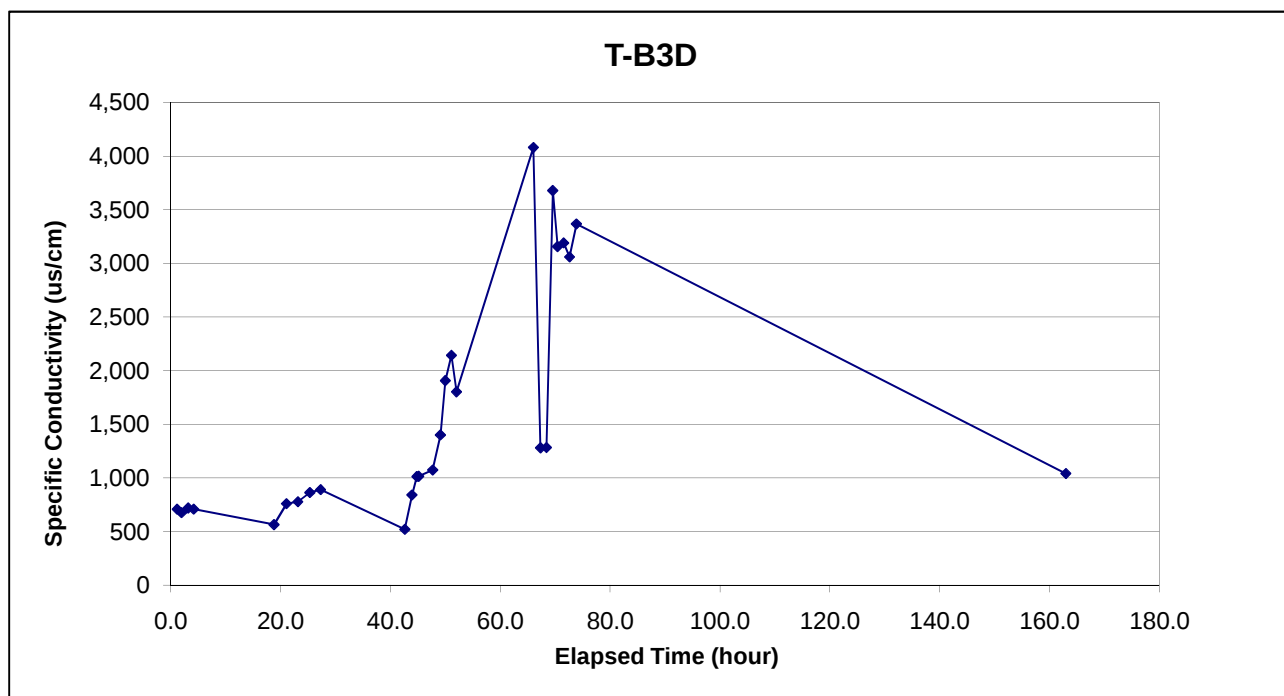
USAS Tracer Monitoring Log, T-B2S
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 14:49	0.98	280	#N/A	#N/A	
3/24/2008 17:05	3.25	280	276	276	
3/24/2008 18:09	4.32	279	#N/A	#N/A	
3/25/2008 8:38	18.80	276	#N/A	#N/A	ND
3/25/2008 10:48	20.97	257	#N/A	#N/A	ND
3/25/2008 12:59	23.15	251	#N/A	#N/A	ND
3/25/2008 14:56	25.10	285	#N/A	#N/A	ND
3/25/2008 17:09	27.32	287	#N/A	#N/A	ND
3/26/2008 8:31	42.68	370	#N/A	#N/A	ND
3/26/2008 9:47	43.95	286	#N/A	#N/A	ND
3/26/2008 10:42	44.87	370	#N/A	#N/A	ND
3/26/2008 10:59	45.15	368	#N/A	#N/A	ND
3/26/2008 13:37	47.78	358	#N/A	#N/A	ND
3/26/2008 14:59	49.15	251	#N/A	#N/A	ND
3/26/2008 15:53	50.05	260	#N/A	#N/A	ND
3/26/2008 17:00	51.17	411	261	252	ND
3/26/2008 18:08	52.30	289	#N/A	#N/A	ND
3/27/2008 7:54	66.07	784	#N/A	#N/A	No
3/27/2008 9:10	67.33	371	#N/A	#N/A	No
3/27/2008 10:15	68.42	419	#N/A	#N/A	No
3/27/2008 11:24	69.57	328	#N/A	#N/A	No
3/27/2008 12:18	70.47	419	#N/A	#N/A	No
3/27/2008 13:22	71.53	474	395	310	
3/27/2008 14:31	72.68	229	#N/A	#N/A	No
3/27/2008 15:42	73.87	2,637	#N/A	#N/A	Little yellow
3/31/2008 8:47	162.95	314	#N/A	#N/A	



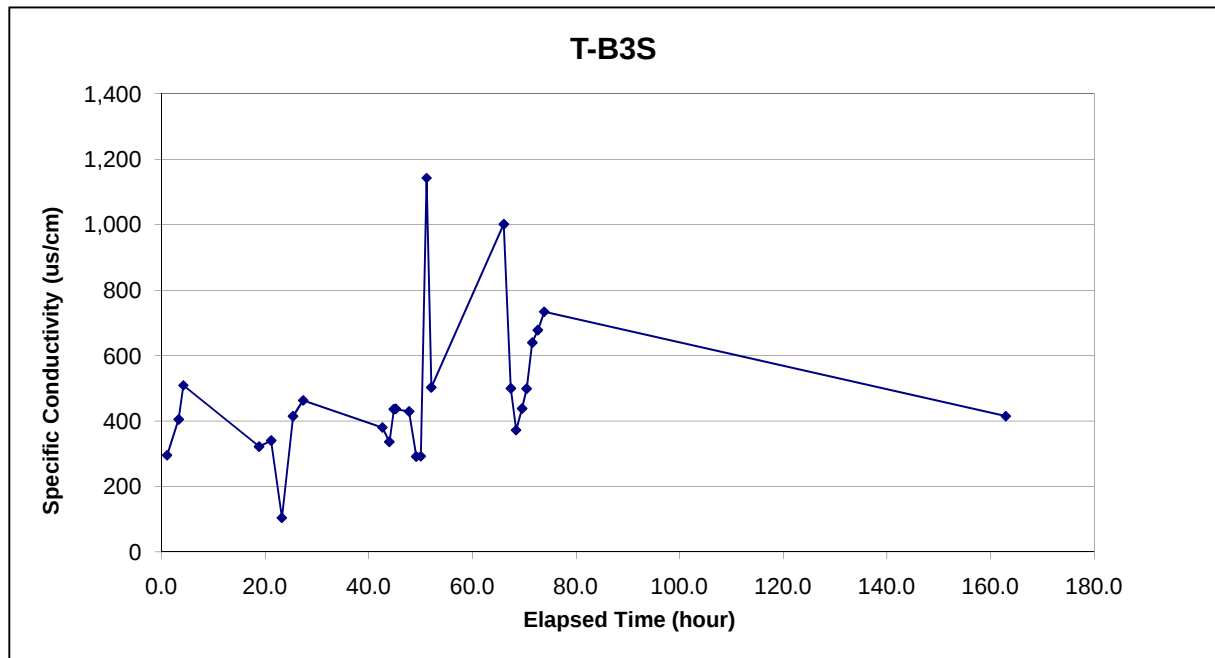
USAS Tracer Monitoring Log, T-B3D
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 15:02	1.20	708	#N/A	#N/A	
3/24/2008 15:49	1.98	675	#N/A	#N/A	
3/24/2008 17:02	3.20	719	732	703	
3/24/2008 18:03	4.22	708	#N/A	#N/A	
3/25/2008 8:40	18.83	564	#N/A	#N/A	ND
3/25/2008 10:56	21.10	759	#N/A	#N/A	ND
3/25/2008 13:01	23.18	777	#N/A	#N/A	ND
3/25/2008 15:12	25.37	863	627	#N/A	ND
3/25/2008 17:09	27.32	890	#N/A	#N/A	ND
3/26/2008 8:29	42.65	520	#N/A	#N/A	ND
3/26/2008 9:46	43.93	840	#N/A	#N/A	ND
3/26/2008 10:40	44.83	1,012	#N/A	#N/A	ND
3/26/2008 11:01	45.18	1,014	#N/A	#N/A	ND
3/26/2008 13:33	47.72	1,073	#N/A	#N/A	ND
3/26/2008 14:58	49.13	1,400	#N/A	#N/A	ND
3/26/2008 15:51	50.02	1,906	#N/A	#N/A	little yellow
3/26/2008 16:58	51.13	2,142	1,539	711	Strong Yellow
3/26/2008 17:53	52.05	1,802	#N/A	#N/A	Slight yellow
3/27/2008 7:53	66.05	4,080	#N/A	#N/A	~40.0
3/27/2008 9:11	67.35	1,280	#N/A	#N/A	4
3/27/2008 10:16	68.43	1,283	#N/A	#N/A	4
3/27/2008 11:24	69.57	3,678	#N/A	#N/A	V. yellow
3/27/2008 12:17	70.45	3,156	#N/A	#N/A	Deep yellow
3/27/2008 13:24	71.57	3,190	1,312	643	
3/27/2008 14:28	72.63	3,059	#N/A	#N/A	Orange
3/27/2008 15:43	73.88	3,367	#N/A	#N/A	Dark yellow
3/31/2008 8:49	162.98	1,040	#N/A	#N/A	V. L. yellow



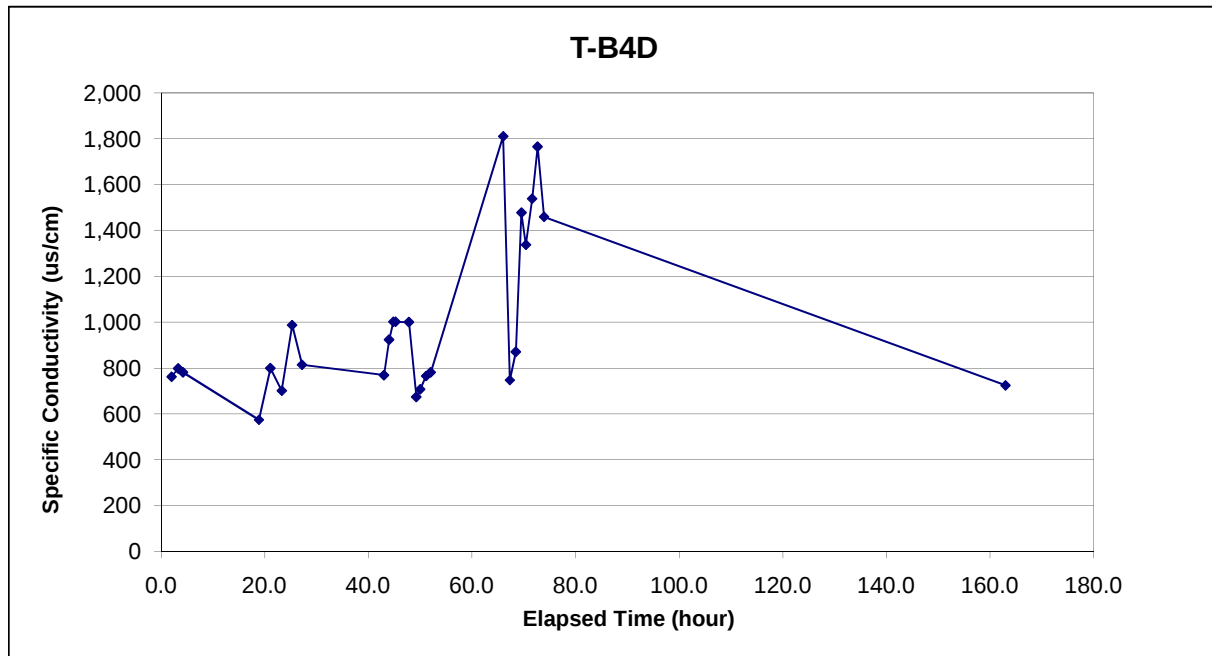
USAS Tracer Monitoring Log, T-B3S
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 14:53	1.05	295	#N/A	#N/A	
3/24/2008 17:07	3.28	405	330	305	
3/24/2008 18:02	4.20	509	#N/A	#N/A	
3/25/2008 8:39	18.82	322	#N/A	#N/A	ND
3/25/2008 10:58	21.13	340	#N/A	#N/A	ND
3/25/2008 13:02	23.20	104	#N/A	#N/A	ND
3/25/2008 15:12	25.37	415	399	#N/A	ND
3/25/2008 17:09	27.32	463	#N/A	#N/A	ND
3/26/2008 8:27	42.62	380	#N/A	#N/A	ND
3/26/2008 9:47	43.95	336	#N/A	#N/A	ND
3/26/2008 10:40	44.83	436	#N/A	#N/A	ND
3/26/2008 11:00	45.17	437	#N/A	#N/A	ND
3/26/2008 13:36	47.77	429	#N/A	#N/A	ND
3/26/2008 14:59	49.15	291	#N/A	#N/A	ND
3/26/2008 15:52	50.03	292	#N/A	#N/A	ND
3/26/2008 16:59	51.15	1,143	529	282	ND
3/26/2008 17:54	52.07	503	#N/A	#N/A	ND
3/27/2008 7:53	66.05	1,002	#N/A	#N/A	No
3/27/2008 9:14	67.40	500	#N/A	#N/A	No
3/27/2008 10:15	68.42	372	#N/A	#N/A	No
3/27/2008 11:25	69.58	438	#N/A	#N/A	No
3/27/2008 12:17	70.45	499	#N/A	#N/A	No
3/27/2008 13:23	71.55	640	415	354	
3/27/2008 14:28	72.63	678	#N/A	#N/A	No
3/27/2008 15:42	73.87	734	#N/A	#N/A	No
3/31/2008 8:47	162.95	415	#N/A	#N/A	



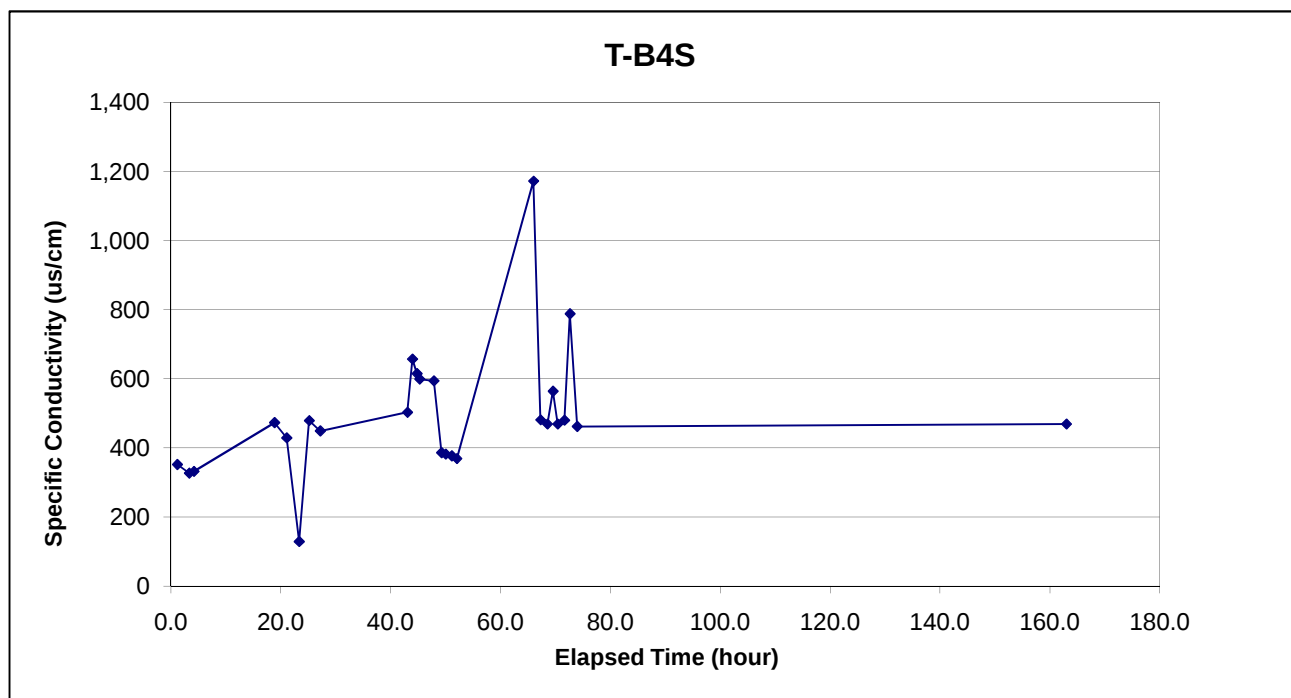
USAS Tracer Monitoring Log, T-B4D
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 15:50	2.00	762	#N/A	#N/A	
3/24/2008 17:07	3.28	798	792	778	
3/24/2008 18:02	4.20	781	#N/A	#N/A	
3/25/2008 8:42	18.87	574	#N/A	#N/A	ND
3/25/2008 10:55	21.08	799	#N/A	#N/A	ND
3/25/2008 13:07	23.28	701	#N/A	#N/A	ND
3/25/2008 15:07	25.28	987	940	#N/A	ND
3/25/2008 17:01	27.18	814	#N/A	#N/A	ND
3/26/2008 8:51	43.02	769	#N/A	#N/A	ND
3/26/2008 9:49	43.98	923	#N/A	#N/A	ND
3/26/2008 10:39	44.82	1,001	#N/A	#N/A	ND
3/26/2008 11:05	45.25	1,001	#N/A	#N/A	ND
3/26/2008 13:40	47.83	1,000	#N/A	#N/A	ND
3/26/2008 15:05	49.25	674	#N/A	#N/A	ND
3/26/2008 15:50	50.00	707	#N/A	#N/A	ND
3/26/2008 16:58	51.13	765	795	718	ND
3/26/2008 17:52	52.03	781	#N/A	#N/A	ND
3/27/2008 7:52	66.03	1,810	#N/A	#N/A	No
3/27/2008 9:08	67.30	747	#N/A	#N/A	No
3/27/2008 10:17	68.45	871	#N/A	#N/A	No
3/27/2008 11:23	69.55	1,477	#N/A	#N/A	No
3/27/2008 12:15	70.42	1,337	#N/A	#N/A	Slight yellow
3/27/2008 13:26	71.60	1,538	884	513	
3/27/2008 14:30	72.67	1,765	#N/A	#N/A	Yellow
3/27/2008 15:45	73.92	1,459	#N/A	#N/A	Dark yellow
3/31/2008 8:50	163.00	724	#N/A	#N/A	



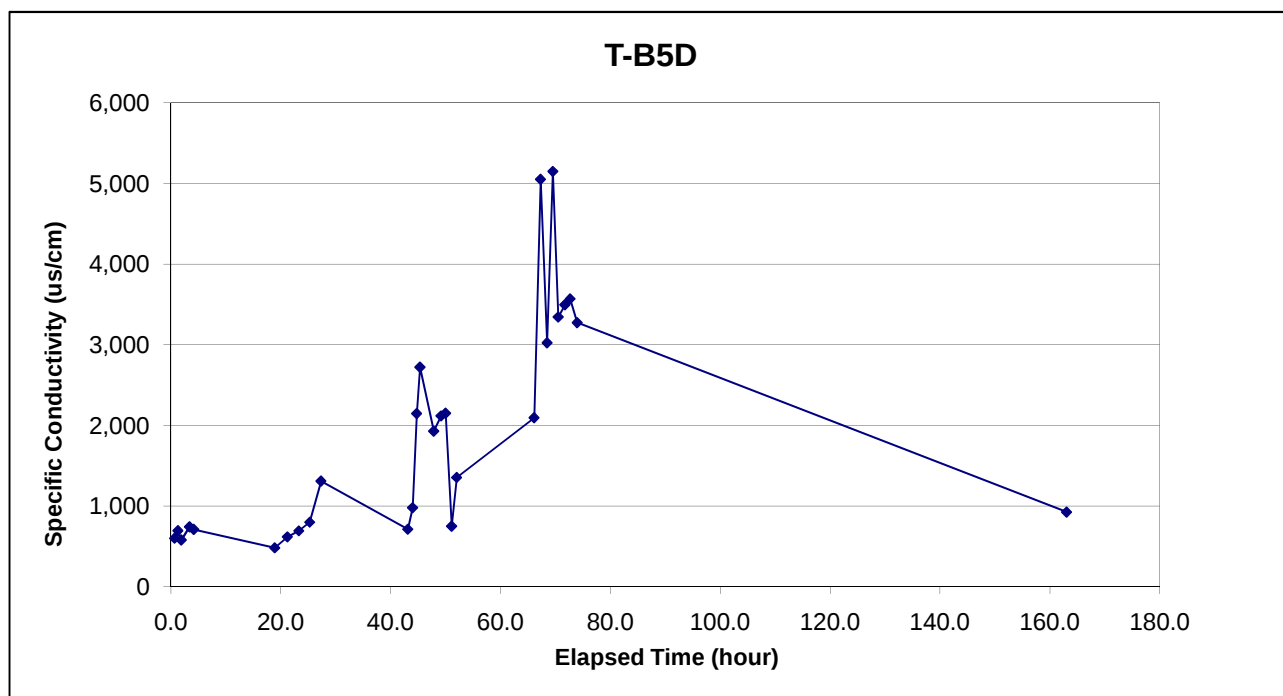
USAS Tracer Monitoring Log, T-B4S
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 14:59	1.15	352	#N/A	#N/A	
3/24/2008 17:09	3.32	327	327	328	
3/24/2008 18:01	4.18	332	#N/A	#N/A	
3/25/2008 8:41	18.85	473	#N/A	#N/A	ND
3/25/2008 10:54	21.07	429	#N/A	#N/A	ND
3/25/2008 13:09	23.32	129	#N/A	#N/A	ND
3/25/2008 15:00	25.17	479	#N/A	#N/A	ND
3/25/2008 17:00	27.17	449	#N/A	#N/A	ND
3/26/2008 8:53	43.05	503	#N/A	#N/A	ND
3/26/2008 9:48	43.97	657	#N/A	#N/A	ND
3/26/2008 10:37	44.78	615	#N/A	#N/A	ND
3/26/2008 11:06	45.27	599	#N/A	#N/A	ND
3/26/2008 13:41	47.85	594	#N/A	#N/A	ND
3/26/2008 15:05	49.25	386	#N/A	#N/A	ND
3/26/2008 15:50	50.00	382	#N/A	#N/A	ND
3/26/2008 16:57	51.12	377	373	372	ND
3/26/2008 17:52	52.03	369	#N/A	#N/A	ND
3/27/2008 7:50	66.00	1,172	#N/A	#N/A	No
3/27/2008 9:07	67.28	481	#N/A	#N/A	No
3/27/2008 10:21	68.52	469	#N/A	#N/A	No
3/27/2008 11:23	69.55	564	#N/A	#N/A	No
3/27/2008 12:15	70.42	469	#N/A	#N/A	No
3/27/2008 13:28	71.63	480	470	458	
3/27/2008 14:28	72.63	788	#N/A	#N/A	No
3/27/2008 15:46	73.93	462	#N/A	#N/A	No
3/31/2008 8:51	163.02	469	#N/A	#N/A	



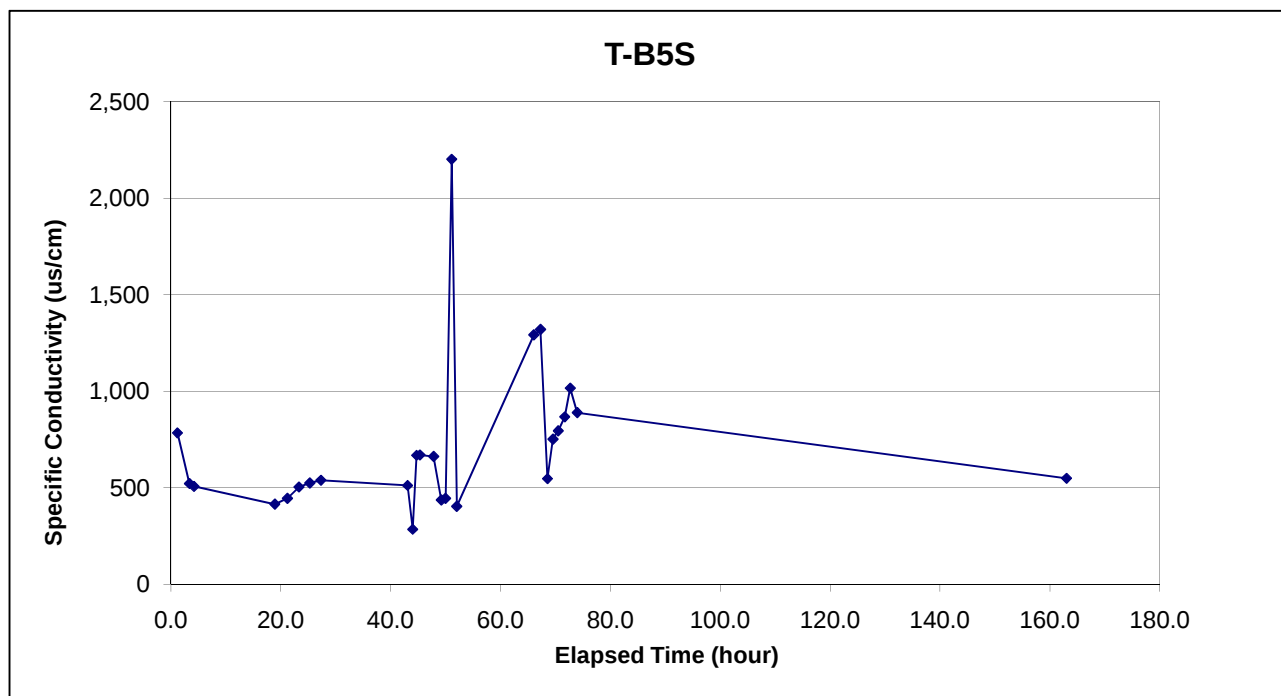
USAS Tracer Monitoring Log, T-B5D
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 14:29	0.65	600	#N/A	#N/A	
3/24/2008 15:05	1.25	693	#N/A	#N/A	
3/24/2008 15:41	1.85	578	#N/A	#N/A	
3/24/2008 17:12	3.37	742	693	675	
3/24/2008 17:58	4.13	709	#N/A	#N/A	
3/25/2008 8:43	18.88	481	#N/A	#N/A	ND
3/25/2008 11:01	21.18	617	#N/A	#N/A	ND
3/25/2008 13:06	23.27	692	#N/A	#N/A	ND
3/25/2008 15:05	25.25	799	578	#N/A	ND
3/25/2008 17:08	27.30	1,308	#N/A	#N/A	ND
3/26/2008 8:56	43.10	712	#N/A	#N/A	ND
3/26/2008 9:49	43.98	978	#N/A	#N/A	ND
3/26/2008 10:33	44.72	2,146	#N/A	#N/A	ND
3/26/2008 11:10	45.33	2,721	#N/A	#N/A	ND
3/26/2008 13:39	47.82	1,928	#N/A	#N/A	ND
3/26/2008 15:00	49.17	2,117	#N/A	#N/A	8.0
3/26/2008 15:48	49.97	2,150	#N/A	#N/A	Bright yellow
3/26/2008 16:55	51.08	749	495	460	Deep yellow
3/26/2008 17:50	52.00	1,354	#N/A	#N/A	orange
3/27/2008 7:56	66.10	2,094	#N/A	#N/A	Slight
3/27/2008 9:06	67.27	5,050	#N/A	#N/A	20.0
3/27/2008 10:18	68.47	3,023	#N/A	#N/A	Deep yellow
3/27/2008 11:21	69.52	5,148	#N/A	#N/A	orange
3/27/2008 12:19	70.48	3,343	#N/A	#N/A	orange
3/27/2008 13:32	71.70	3,494	2,556	674	
3/27/2008 14:30	72.67	3,568	#N/A	#N/A	orange
3/27/2008 15:47	73.95	3,273	#N/A	#N/A	hint of orange
3/31/2008 8:53	163.05	924	#N/A	#N/A	



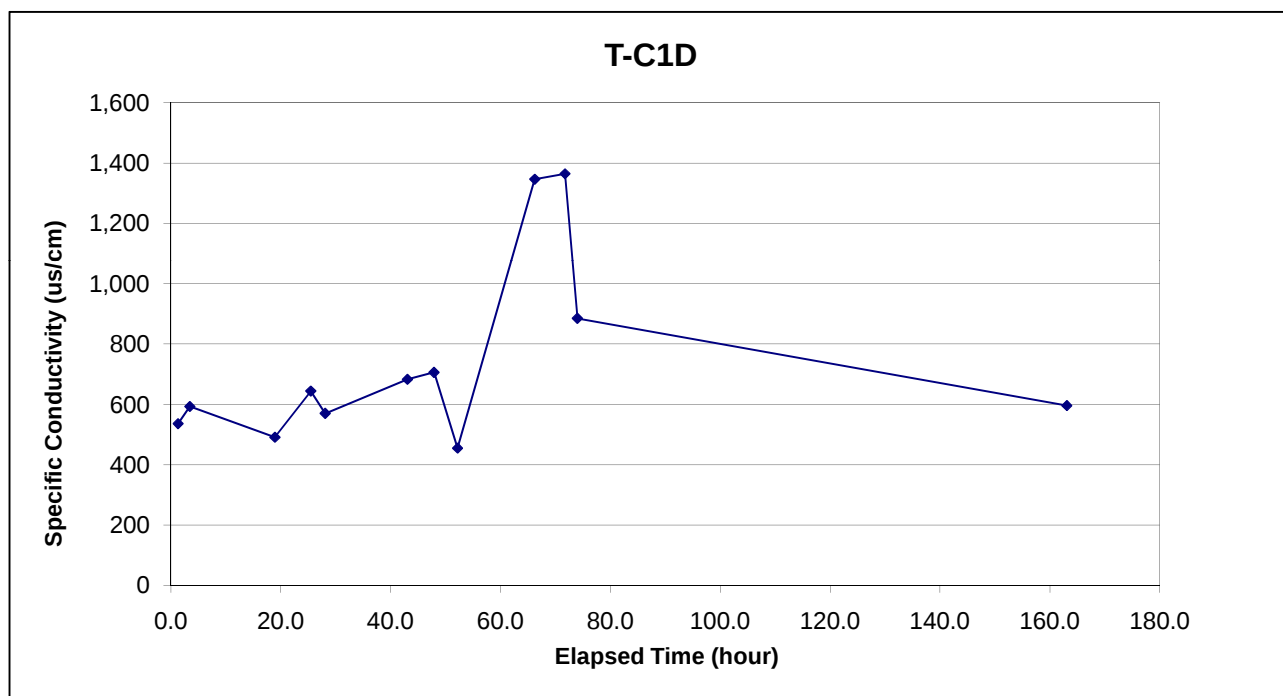
USAS Tracer Monitoring Log, T-B5S
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 15:00	1.17	784	#N/A	#N/A	
3/24/2008 17:11	3.35	522	510	500	
3/24/2008 18:01	4.18	507	#N/A	#N/A	
3/25/2008 8:44	18.90	415	#N/A	#N/A	
3/25/2008 11:01	21.18	445	#N/A	#N/A	ND
3/25/2008 13:08	23.30	504	#N/A	#N/A	ND
3/25/2008 15:06	25.27	525	504	#N/A	ND
3/25/2008 17:07	27.28	539	#N/A	#N/A	ND
3/26/2008 8:54	43.07	512	#N/A	#N/A	ND
3/26/2008 9:50	44.00	285	#N/A	#N/A	ND
3/26/2008 10:32	44.70	668	#N/A	#N/A	ND
3/26/2008 11:09	45.32	670	#N/A	#N/A	ND
3/26/2008 13:38	47.80	662	#N/A	#N/A	ND
3/26/2008 15:02	49.20	437	#N/A	#N/A	ND
3/26/2008 15:49	49.98	445	#N/A	#N/A	ND
3/26/2008 16:56	51.10	2,201	2,138	1,121	ND
3/26/2008 17:51	52.02	404	#N/A	#N/A	tint of orange
3/27/2008 7:53	66.05	1,292	#N/A	#N/A	No
3/27/2008 9:06	67.27	1,320	#N/A	#N/A	No
3/27/2008 10:22	68.53	547	#N/A	#N/A	No
3/27/2008 11:22	69.53	752	#N/A	#N/A	No
3/27/2008 12:20	70.50	795	#N/A	#N/A	No
3/27/2008 13:31	71.68	867	677	512	
3/27/2008 14:31	72.68	1,016	#N/A	#N/A	No
3/27/2008 15:47	73.95	889	#N/A	#N/A	Hint of Orange
3/31/2008 8:52	163.03	549	#N/A	#N/A	L. brown



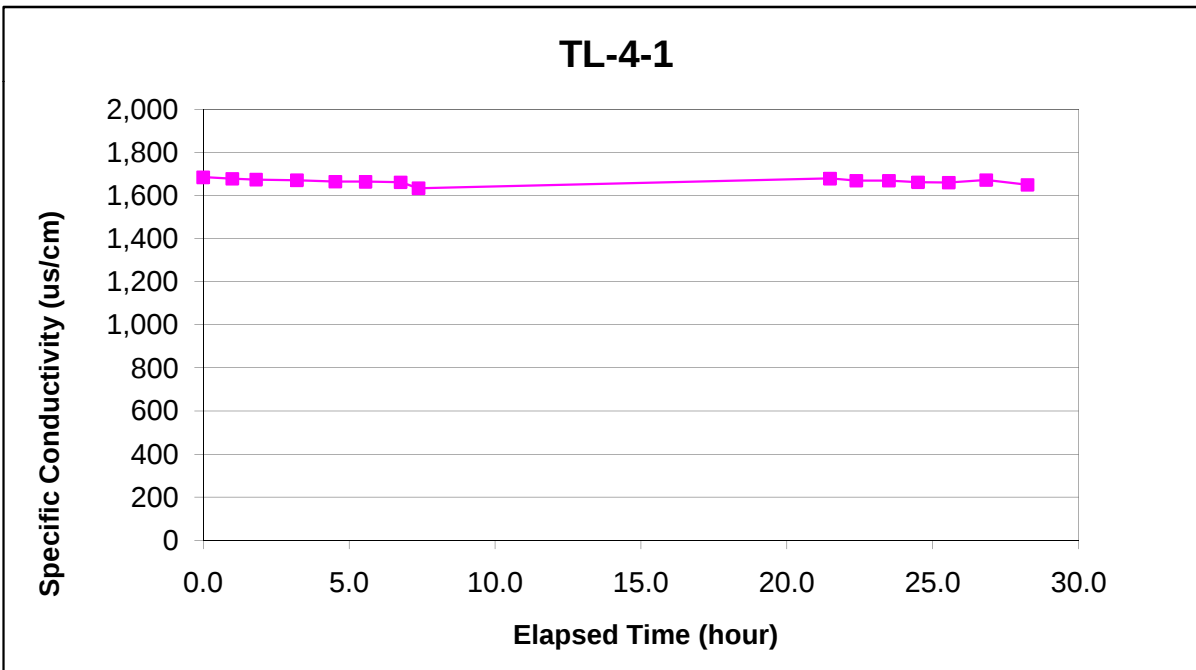
USAS Tracer Monitoring Log, T-C1D
Former ABC Site, Tallevast, Florida

Time	Elapsed Time	Specific Conductivity (1 ft above bottom of screen interval)	Specific Conductivity (2 ft above bottom of screen interval)	Specific Conductivity (3 ft above bottom of screen interval)	Dye Concentration
	(hr)	(us/cm)	(us/cm)	(us/cm)	(mg/L)
Injection time	3/24/2008 13:50				
3/24/2008 15:08	1.30	536	#N/A	#N/A	
3/24/2008 17:16	3.43	593	#N/A	533	
3/25/2008 8:45	18.92	491	#N/A	#N/A	
3/25/2008 15:17	25.45	644	638	#N/A	
3/25/2008 17:55	28.08	570	#N/A	#N/A	
3/26/2008 8:53	43.05	683	#N/A	#N/A	
3/26/2008 13:43	47.88	706	#N/A	#N/A	
3/26/2008 18:00	52.17	455	#N/A	#N/A	
3/27/2008 8:03	66.22	1,346	#N/A	#N/A	
3/27/2008 13:34	71.73	1,364	911	477	
3/27/2008 15:49	73.98	885	#N/A	#N/A	No
3/31/2008 8:54	163.07	596	#N/A	#N/A	



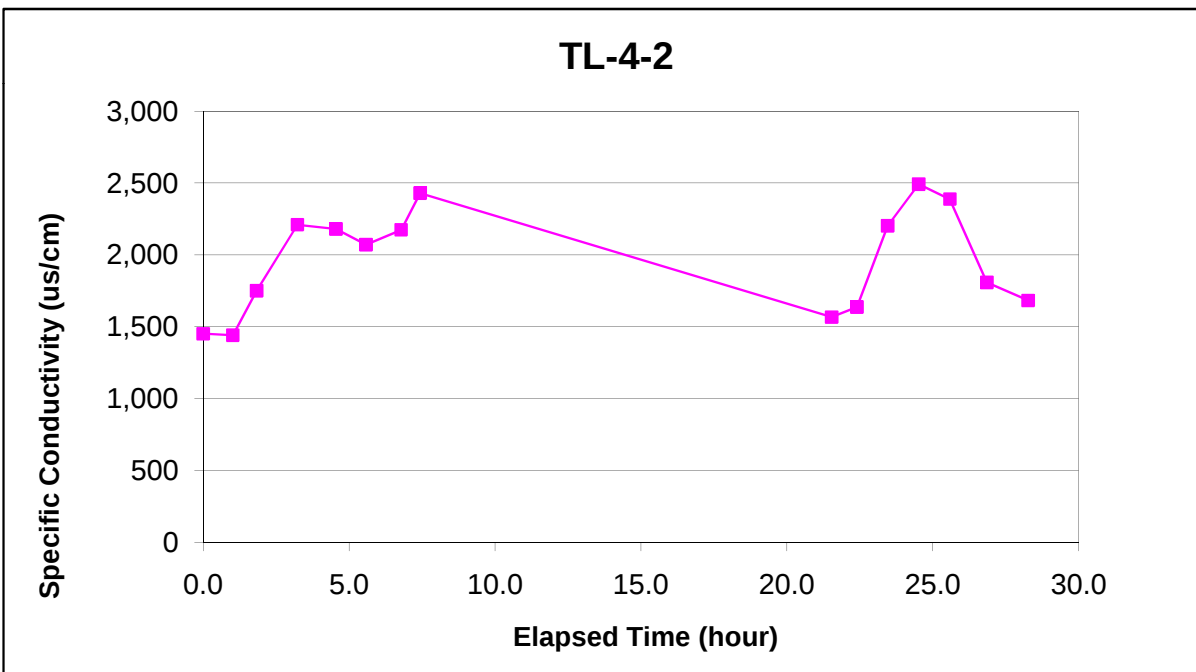
LSAS Tracer Monitoring Log, TL-4-1
Former ABC Site, Tallevast, Florida

Date	Time	Elapsed Time	Specific Conductivity	Dye Concentration
		(hr)	(us/cm)	
3/31/08	9:40			
3/31/08	9:15	0.00	1,684	
	10:40	1.00	1,677	
	11:29	1.82	1,673	
	12:53	3.22	1,670	
	14:12	4.53	1,664	
	15:14	5.57	1,663	
	16:26	6.77	1,661	
	17:03	7.38	1,633	
4/1/08	7:09	21.48	1,678	
	8:03	22.38	1,668	
	9:10	23.50	1,668	
	10:10	24.50	1,661	
	11:13	25.55	1,659	
	12:30	26.83	1,671	
	13:55	28.25	1,649	



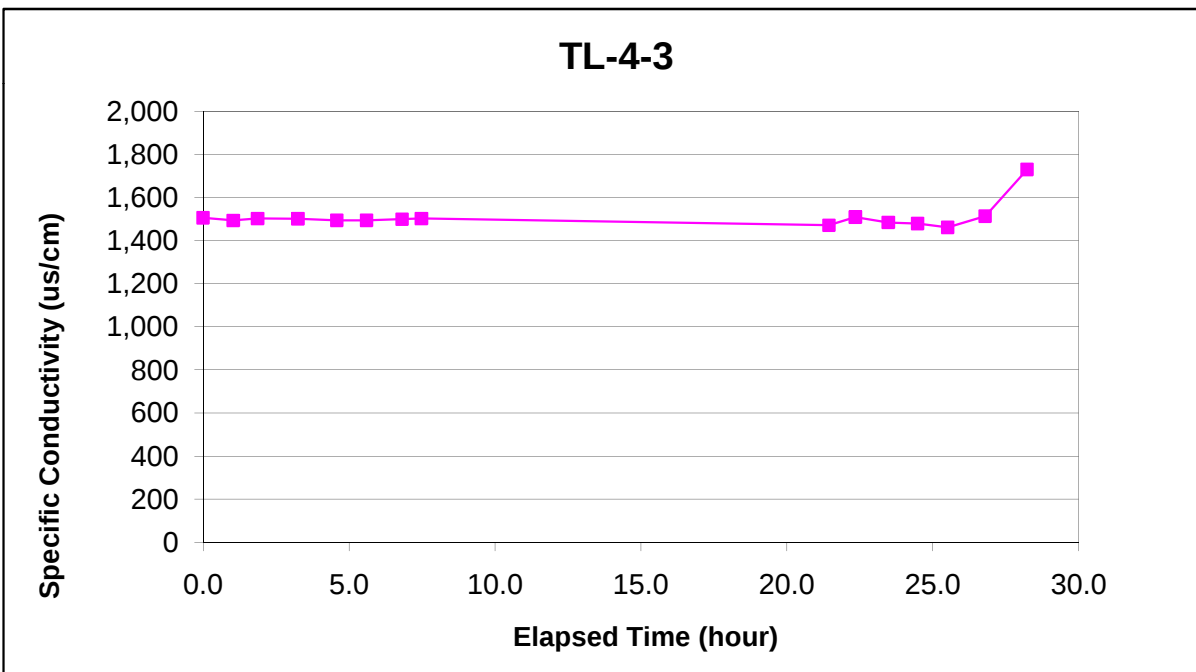
LSAS Tracer Monitoring Log, TL-4-2
Former ABC Site, Tallevast, Florida

Date	Time	Elapsed Time	Specific Conductivity	Dye Concentration
		(hr)	(us/cm)	
3/31/08	9:40			
3/31/08	9:17	0.00	1,451	
	10:41	1.02	1,440	L. green
	11:30	1.83	1,750	L. green
	12:54	3.23	2,209	L. green
	14:13	4.55	2,179	L. green
	15:15	5.58	2,070	L. green
	16:27	6.78	2,173	2-5%
	17:06	7.43	2,428	Orange
4/1/08	7:12	21.53	1,566	2-5%
	8:04	22.40	1,636	<1%
	9:07	23.45	2,201	<1%
	10:11	24.52	2,491	<1%
	11:15	25.58	2,387	<1%
	12:31	26.85	1,807	<1%
	13:56	28.27	1,682	<1%



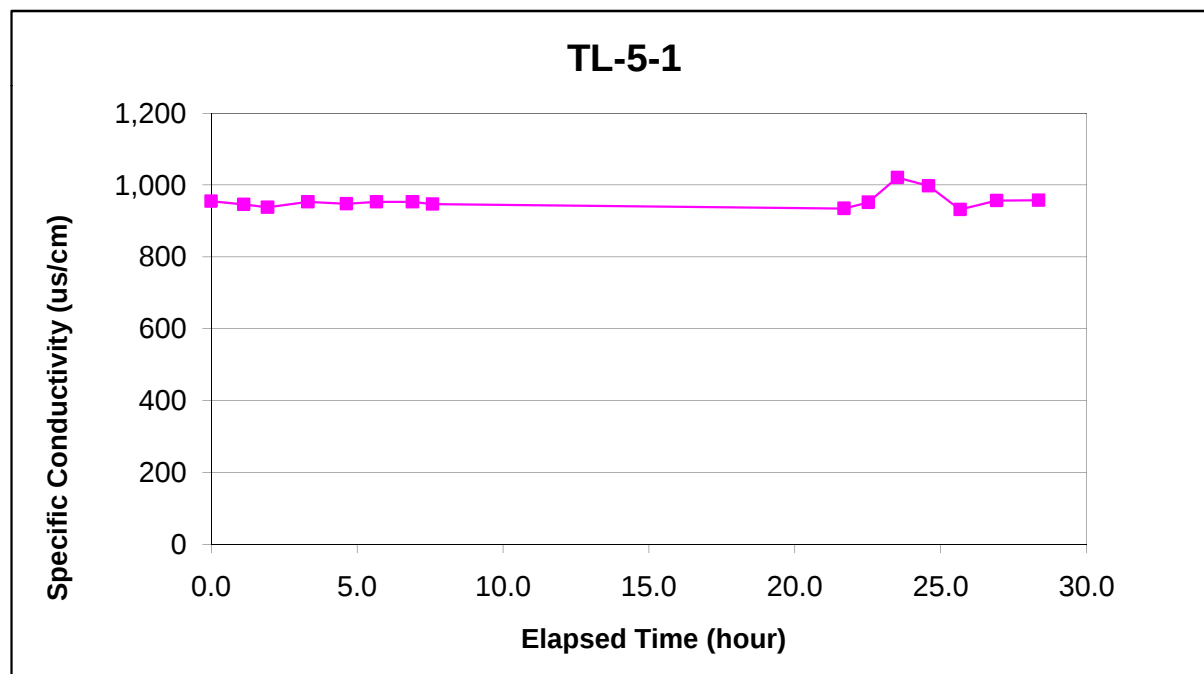
LSAS Tracer Monitoring Log, TL-4-3
Former ABC Site, Tallevast, Florida

Date	Time	Elapsed Time	Specific Conductivity	Dye Concentration
		(hr)	(us/cm)	
3/31/08	9:40			
3/31/08	9:18	0.00	1,505	
	10:42	1.03	1,492	
	11:32	1.87	1,501	
	12:55	3.25	1,500	
	14:15	4.58	1,493	
	15:16	5.60	1,493	
	16:29	6.82	1,498	
	17:09	7.48	1,501	
4/1/08	7:07	21.45	1,470	
	8:01	22.35	1,508	
	9:09	23.48	1,483	
	10:09	24.48	1,478	
	11:11	25.52	1,460	
	12:28	26.80	1,512	
	13:54	28.23	1,729	



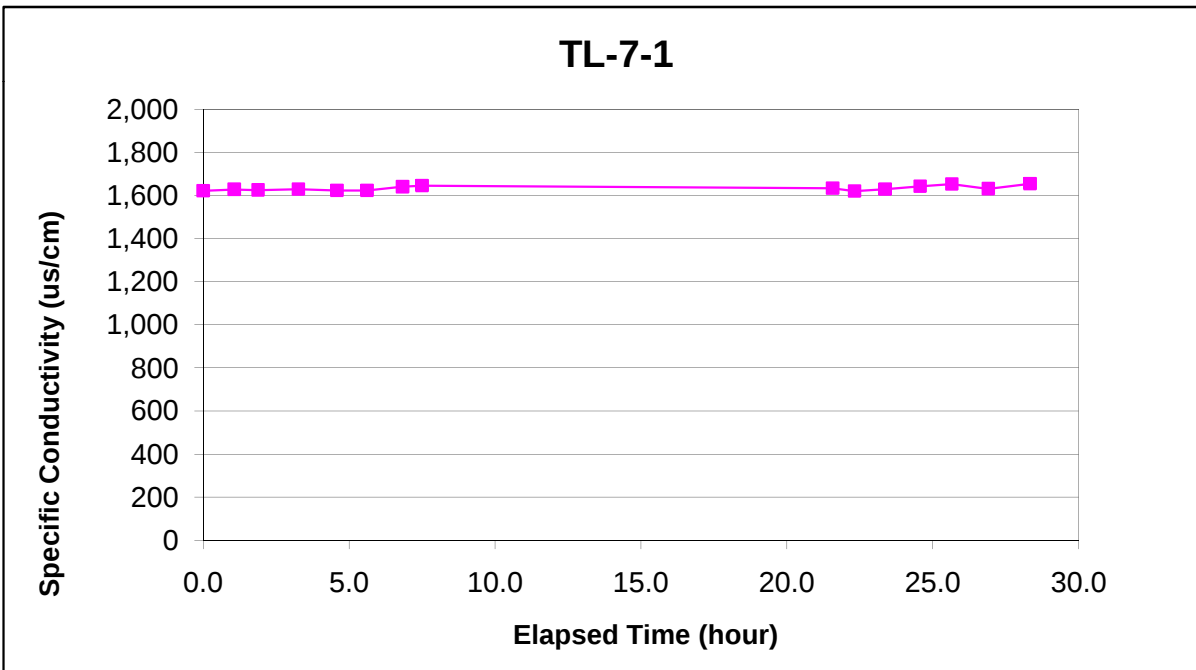
LSAS Tracer Monitoring Log, TL-5-1
Former ABC Site, Tallevast, Florida

Date	Time	Elapsed Time	Specific Conductivity	Dye Concentration
		(hr)	(us/cm)	
3/31/08	9:40			
3/31/08	9:22	0.00	955	
	10:47	1.12	946	
	11:36	1.93	938	
	12:59	3.32	953	
	14:18	4.63	948	
	15:20	5.67	953	
	16:34	6.90	953	
	17:15	7.58	947	
4/1/08	7:21	21.68	935	
	8:11	22.52	952	
	9:11	23.52	1,021	
	10:15	24.58	998	
	11:20	25.67	932	
	12:35	26.92	957	
	14:01	28.35	958	



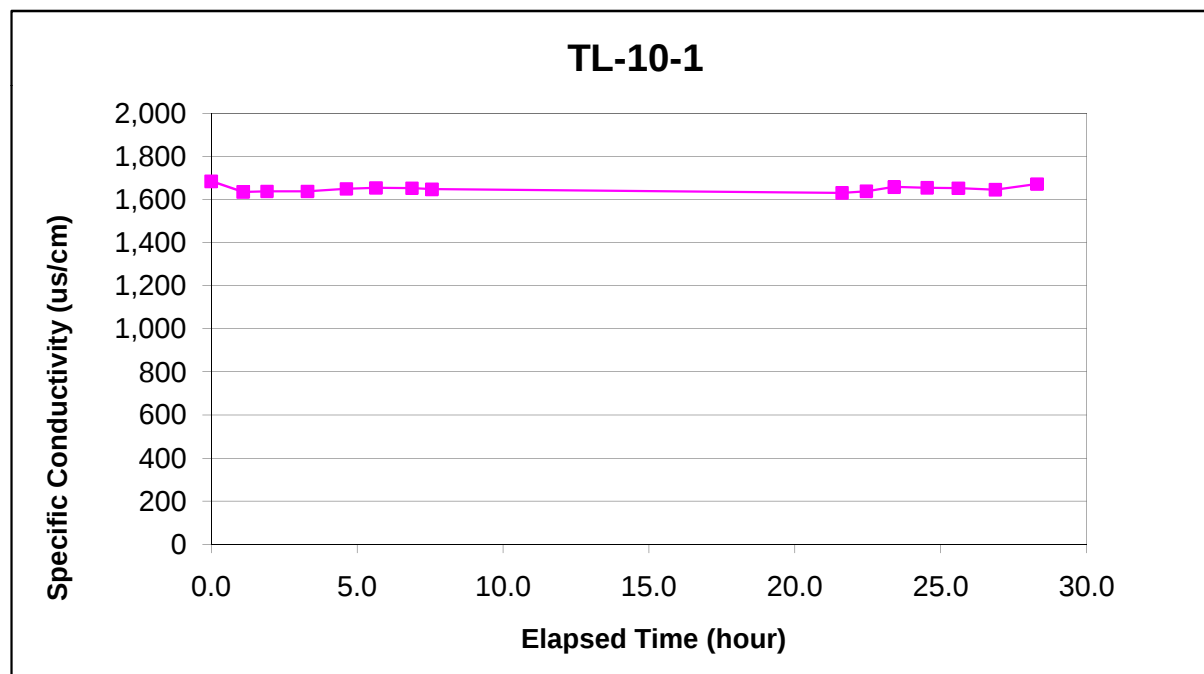
LSAS Tracer Monitoring Log, TL-7-1
Former ABC Site, Tallevast, Florida

Date	Time	Elapsed Time	Specific Conductivity	Dye Concentration
		(hr)	(us/cm)	
3/31/08	9:40			
3/31/08	9:19	0.00	1,621	
	10:44	1.07	1,628	
	11:33	1.88	1,625	V.L.green
	12:56	3.27	1,629	V.L.green
	14:15	4.58	1,623	V.L.green
	15:17	5.62	1,623	V.L.green
	16:30	6.83	1,640	5-10%
	17:10	7.50	1,645	V.L.green
4/1/08	7:14	21.57	1,633	1-2%
	7:59	22.32	1,620	<1%
	9:02	23.37	1,629	<1%
	10:14	24.57	1,642	1-2%
	11:19	25.65	1,653	<1%
	12:34	26.90	1,631	1-2%
	14:00	28.33	1,654	1-2%



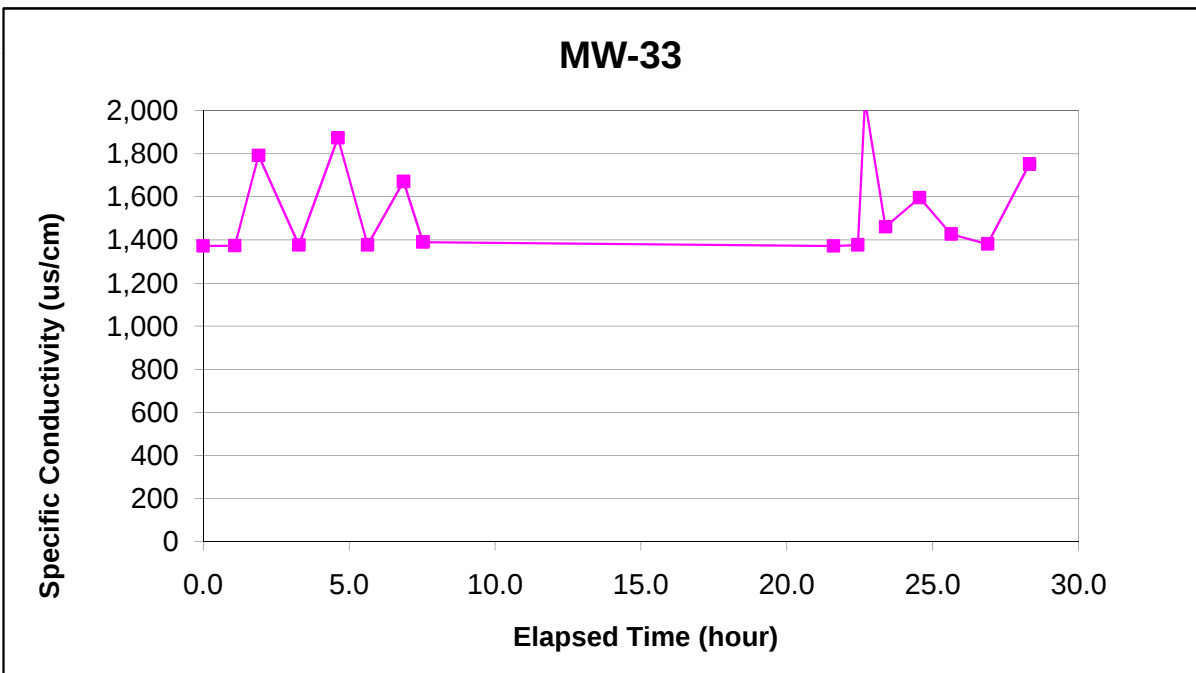
LSAS Tracer Monitoring Log, TL-10-1
Former ABC Site, Tallevast, Florida

Date	Time	Elapsed Time	Specific Conductivity	Dye Concentration
		(hr)	(us/cm)	
3/31/08	9:40			
3/31/08	9:20	0.00	1,684	
	10:46	1.10	1,635	
	11:35	1.92	1,637	
	12:58	3.30	1,637	
	14:18	4.63	1,649	
	15:19	5.65	1,653	
	16:33	6.88	1,652	
	17:14	7.57	1,647	
4/1/08	7:17	21.62	1,630	
	8:07	22.45	1,638	
	9:04	23.40	1,657	
	10:12	24.53	1,654	
	11:16	25.60	1,652	
	12:32	26.87	1,645	
	13:58	28.30	1,671	



LSAS Tracer Monitoring Log, MW-33
Former ABC Site, Tallevast, Florida

Date	Time	Elapsed Time	Specific Conductivity	Dye Concentration
		(hr)	(us/cm)	
3/31/08	9:40			
3/31/08	9:20	0.00	1,372	
	10:45	1.08	1,373	
	11:34	1.90	1,792	V.L.green
	12:57	3.28	1,376	V.L.green
	14:17	4.62	1,873	V.L.green
	15:18	5.63	1,377	V.L.green
	16:32	6.87	1,671	2-5%
	17:12	7.53	1,390	V.L.green
4/1/08	7:16	21.60	1,372	<1%
	8:06	22.43	1,377	10-20%
	8:21	22.68	2,048	Sampling time
	9:03	23.38	1,461	10-20%
	10:13	24.55	1,596	5-10%
	11:18	25.63	1,427	2-5%
	12:33	26.88	1,381	<1%
	13:59	28.32	1,751	<1%



Appendix D

USAS and LSAS Tracer Test
Injection Logs



Monitoring Zone: USAS tracer test
Personnel: AA, SW, Mark, Darren

	Batch 5	Batch 6	Batch 7
Volume of Water:	225 Gal	225 Gal	225 Gal
Mass of NaBr:	10 lb	10 lb	10 lb
Volume of Dye:	340 ml	340 ml	340 ml
Sp. Cond. (us/cm):	6654	--	--

[illegible]



Monitoring Zone: USAS tracer test
Personnel: Ally, Sara, Mark, Darren, John

	Batch14	Batch15	Batch16	Batch17	Batch18	Batch19	
Volume of Water:	225 Gal	225 Gal	225 Gal	225 Gal	225 Gal	225 Gal	
Mass of NaBr:	10 lb	10 lb	10 lb	10 lb	10 lb	10 lb	
Volume of Dye:	340 ml	340 ml	340 ml	340 ml	340 ml	340 ml	
Sp. Cond. (us/cm):	--	--	--	--	--	--	

[illegible]



Monitoring Zone: LSAS tracer test
Personnel: _____

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5		
Volume of Water:	225 Gal	225 Gal	225 Gal	225 Gal	225 Gal		
Mass of NaBr:	10 lb	10 lb	10 lb	10 lb	10 lb		
Volume of Dye:	340 ml	340 ml	340 ml	340 ml	340 ml		
Sp. Cond. (us/cm):	7076	7174	7543	--	--		

[illegible]



Monitoring Zone: LSAS tracer test
Personnel: _____

	Tank 6	Tank 7	Tank 8	Tank 9	Tank 10	Tank 11
Volume of Water:	225 Gal	225 Gal	225 Gal	225 Gal	225 Gal	225 Gal
Mass of NaBr:	10 lb	10 lb	10 lb	10 lb	10 lb	10 lb
Volume of Dye:	340 ml	340 ml	340 ml	340 ml	340 ml	340 ml
Sp. Cond. (us/cm):	7000	7482	7183	6823	--	7020

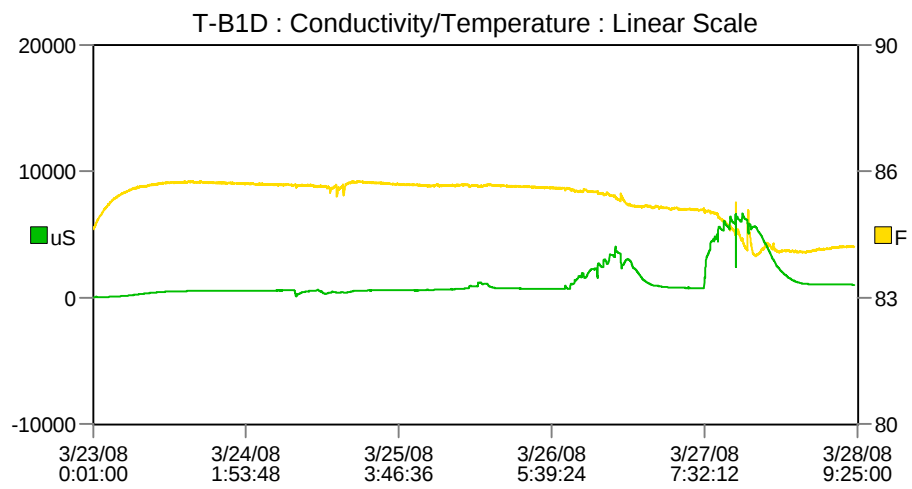
[illegible]

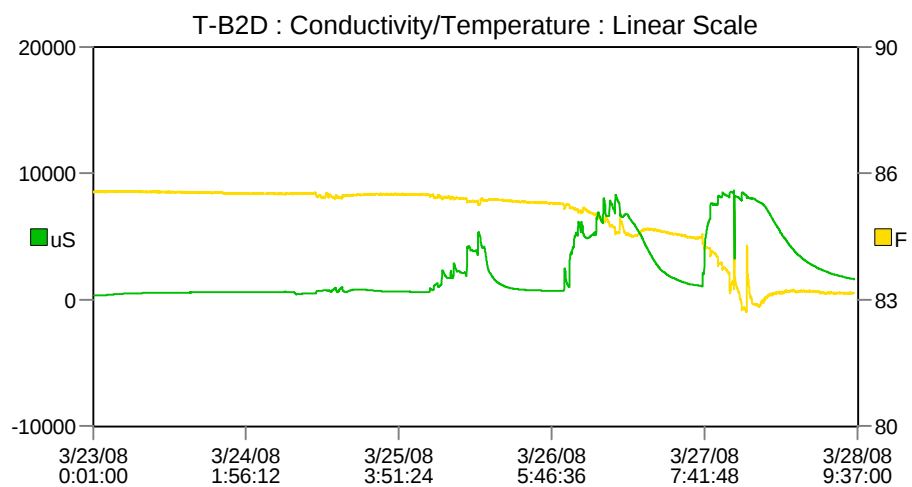
Appendix E

Plots of Continuously Logged
Conductivity Values during
Injections
(USAS_3/23/08 - 3/28/08)



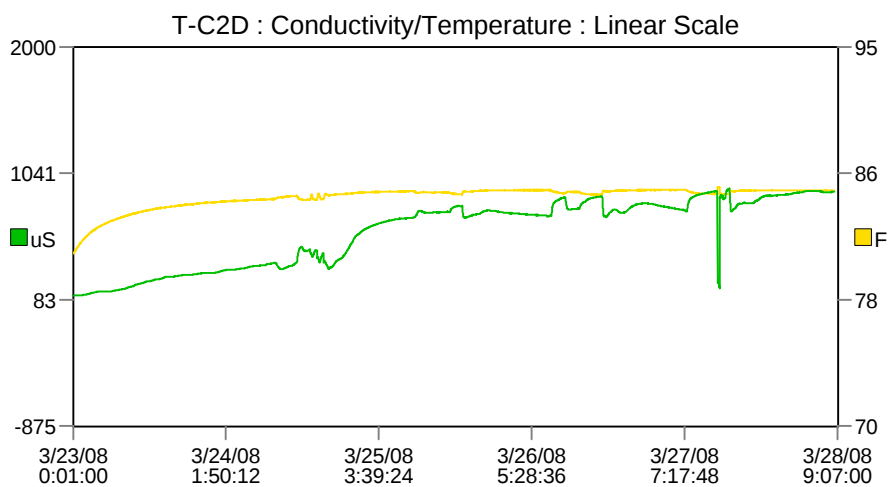
In-Situ Inc.





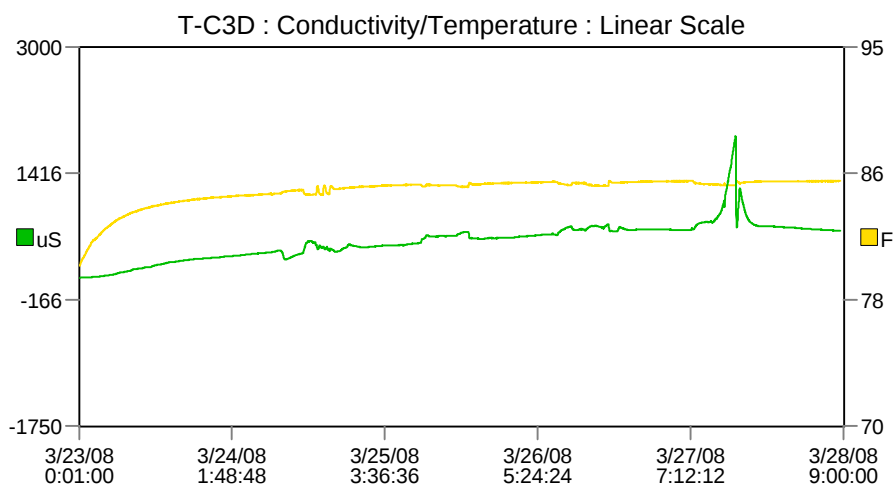


In-Situ Inc.



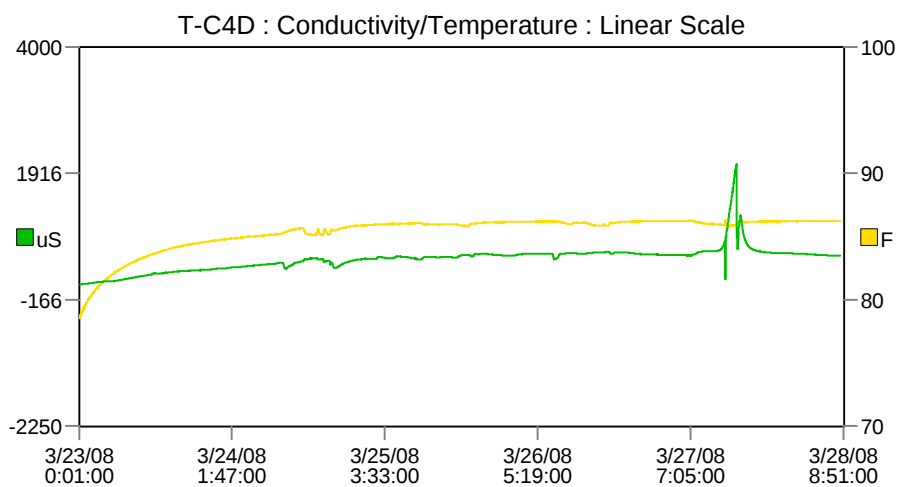


In-Situ Inc.



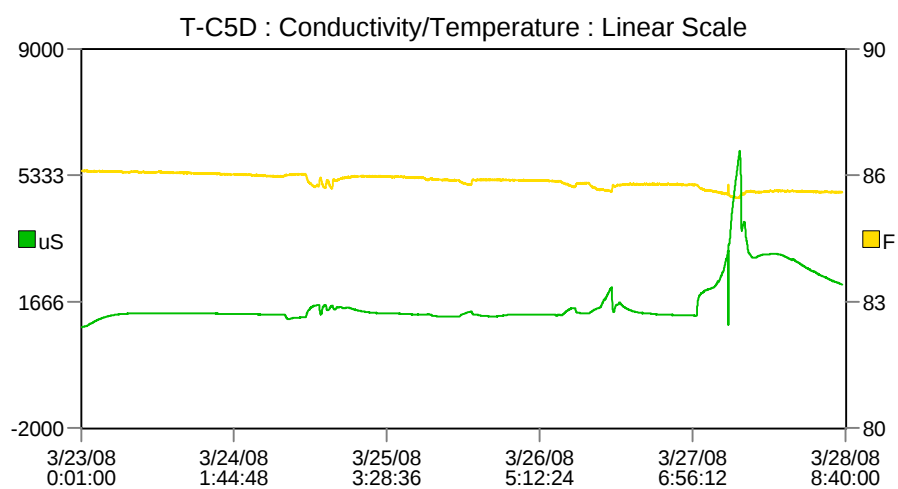


In-Situ Inc.



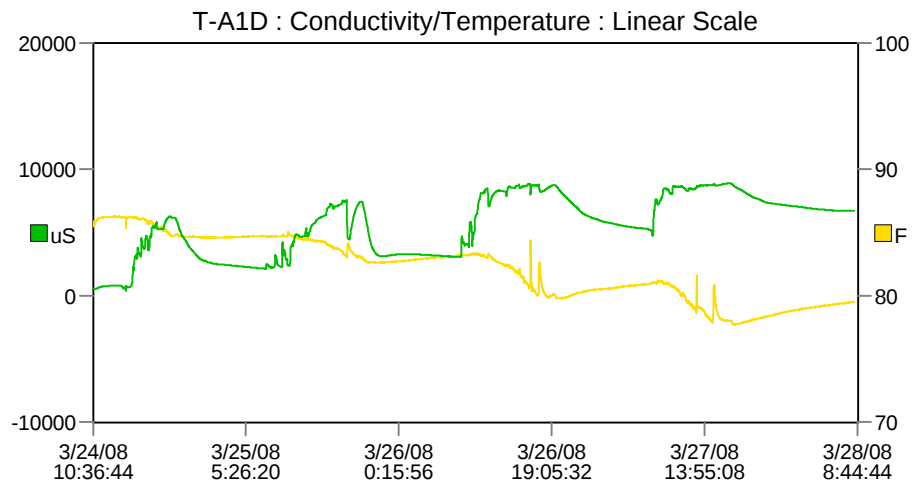


In-Situ Inc.



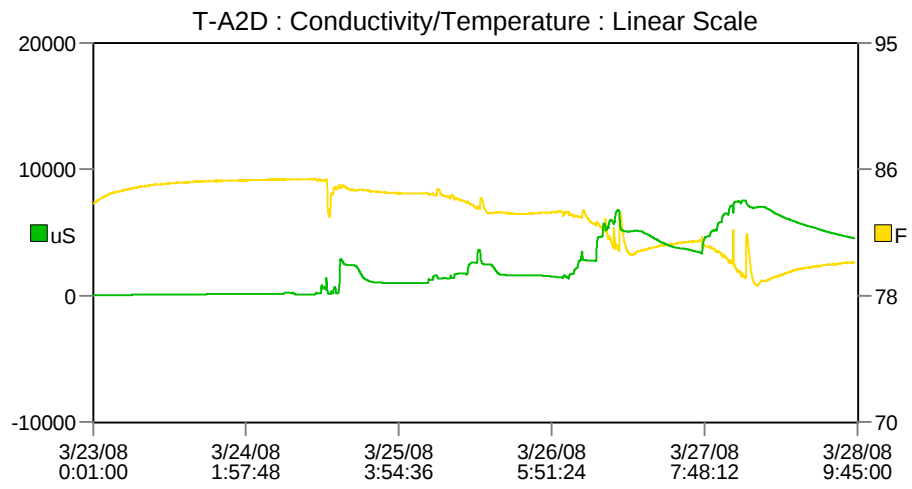


In-Situ Inc.





In-Situ Inc.

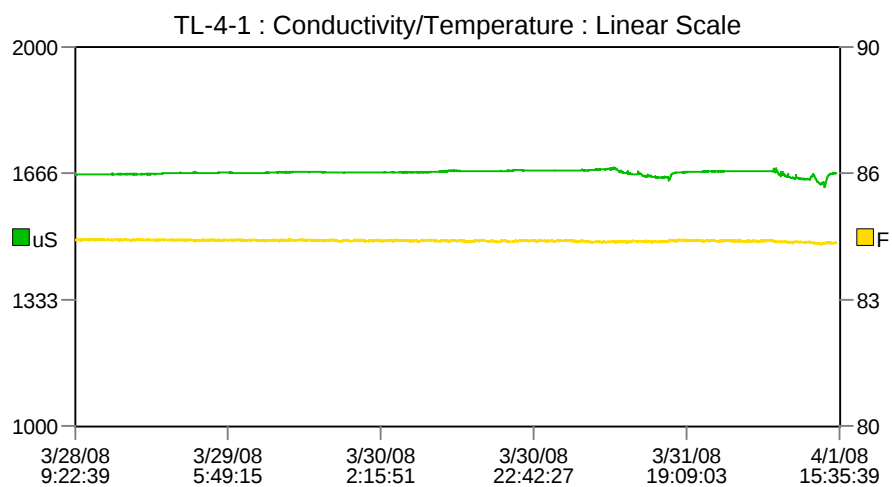


Appendix F

Plots of Continuously Logged
Conductivity Values during
Injections
(LSAS_3/23/08 - 3/28/08)

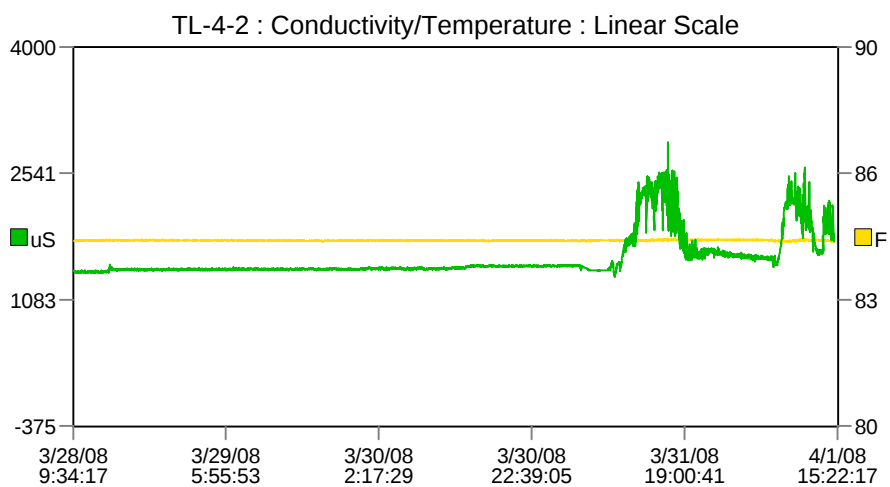


In-Situ Inc.



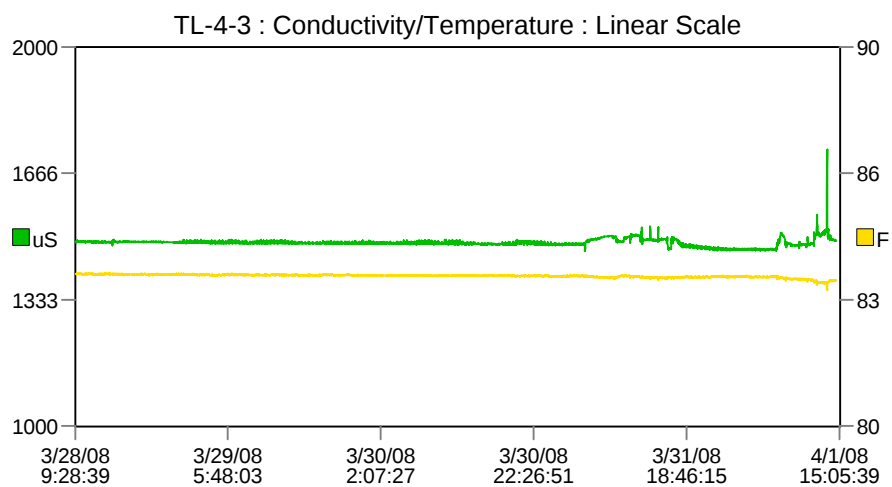


In-Situ Inc.



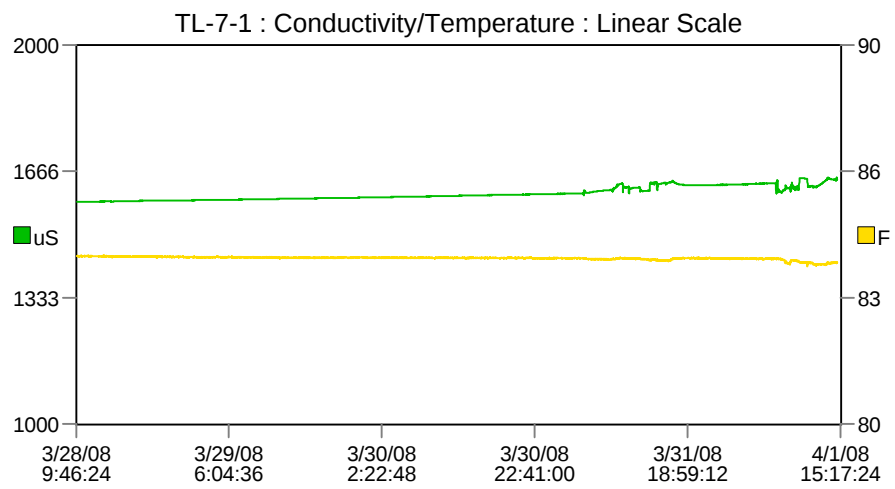


In-Situ Inc.



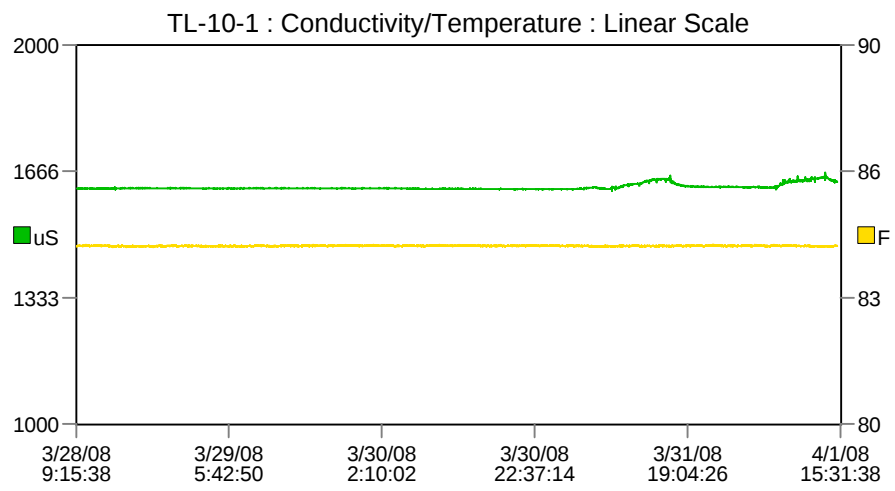


In-Situ Inc.



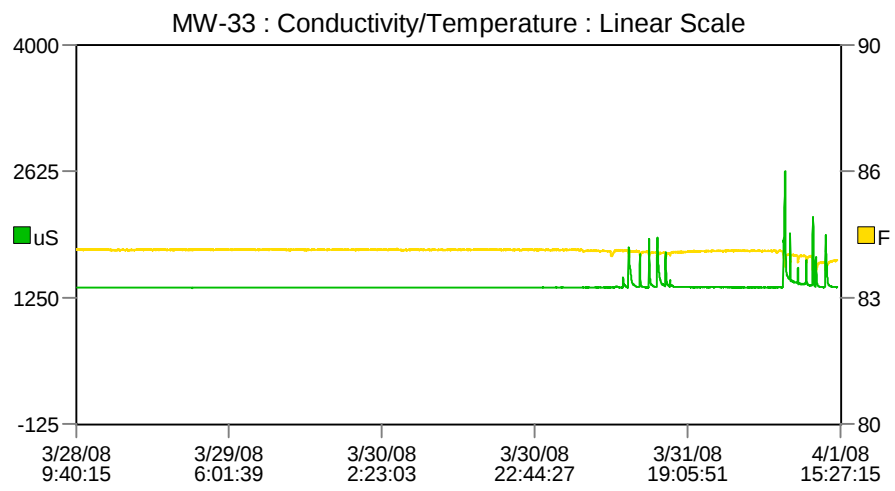


In-Situ Inc.





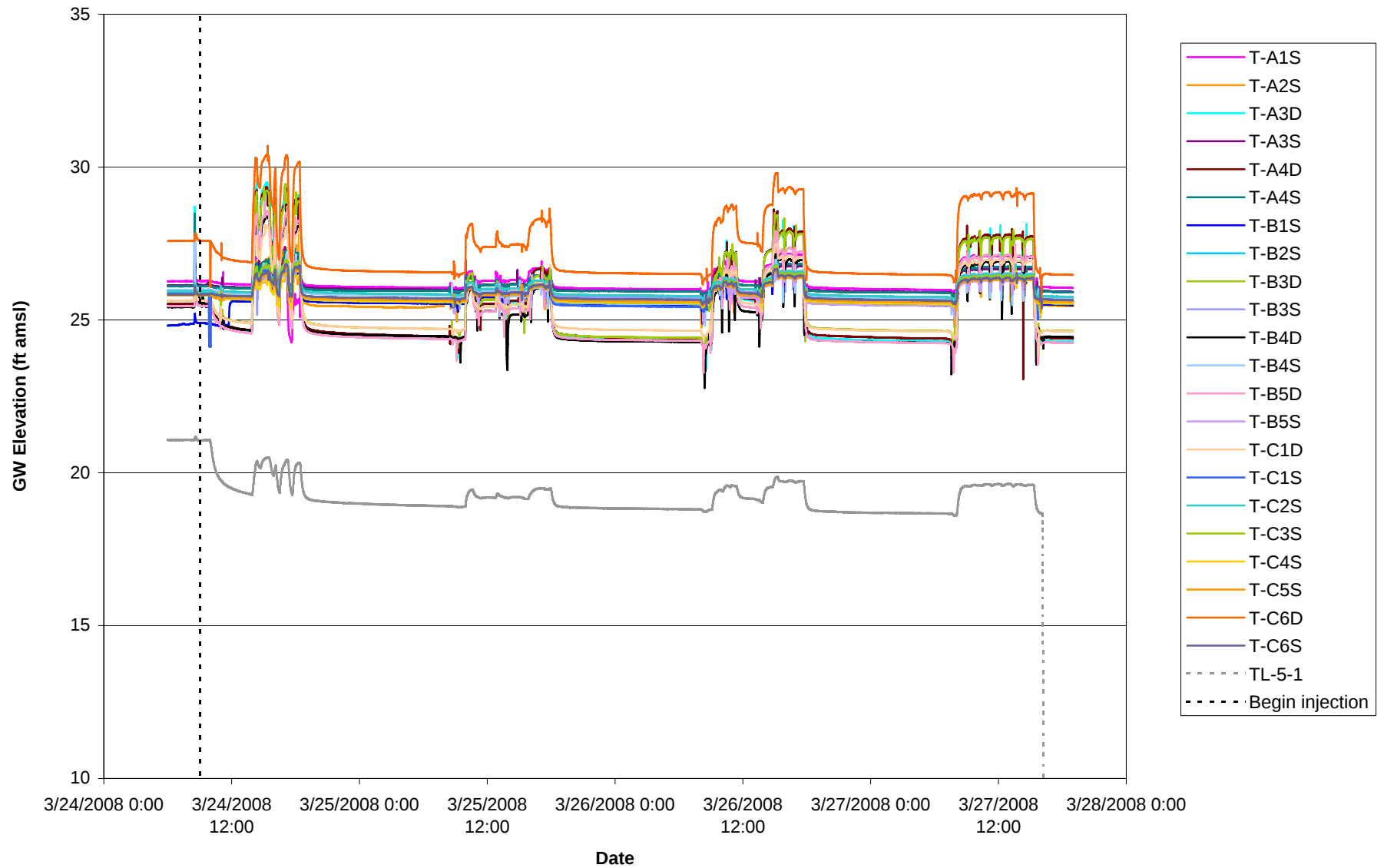
In-Situ Inc.



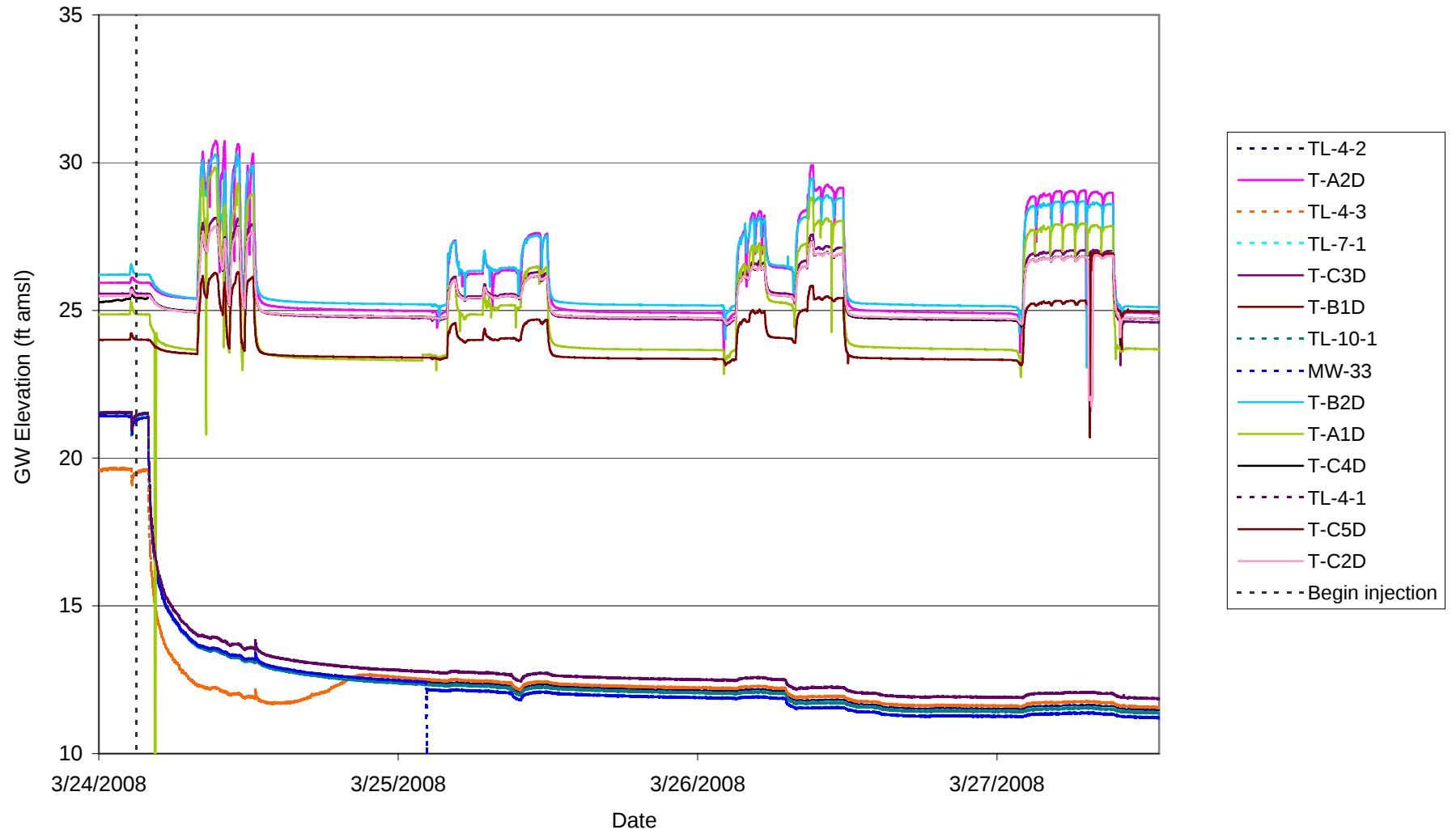
Appendix G

Plots of Continuously Logged
Water Levels during USAS
Tracer Injection

GW Elevation - USAS Tracer Test Injection



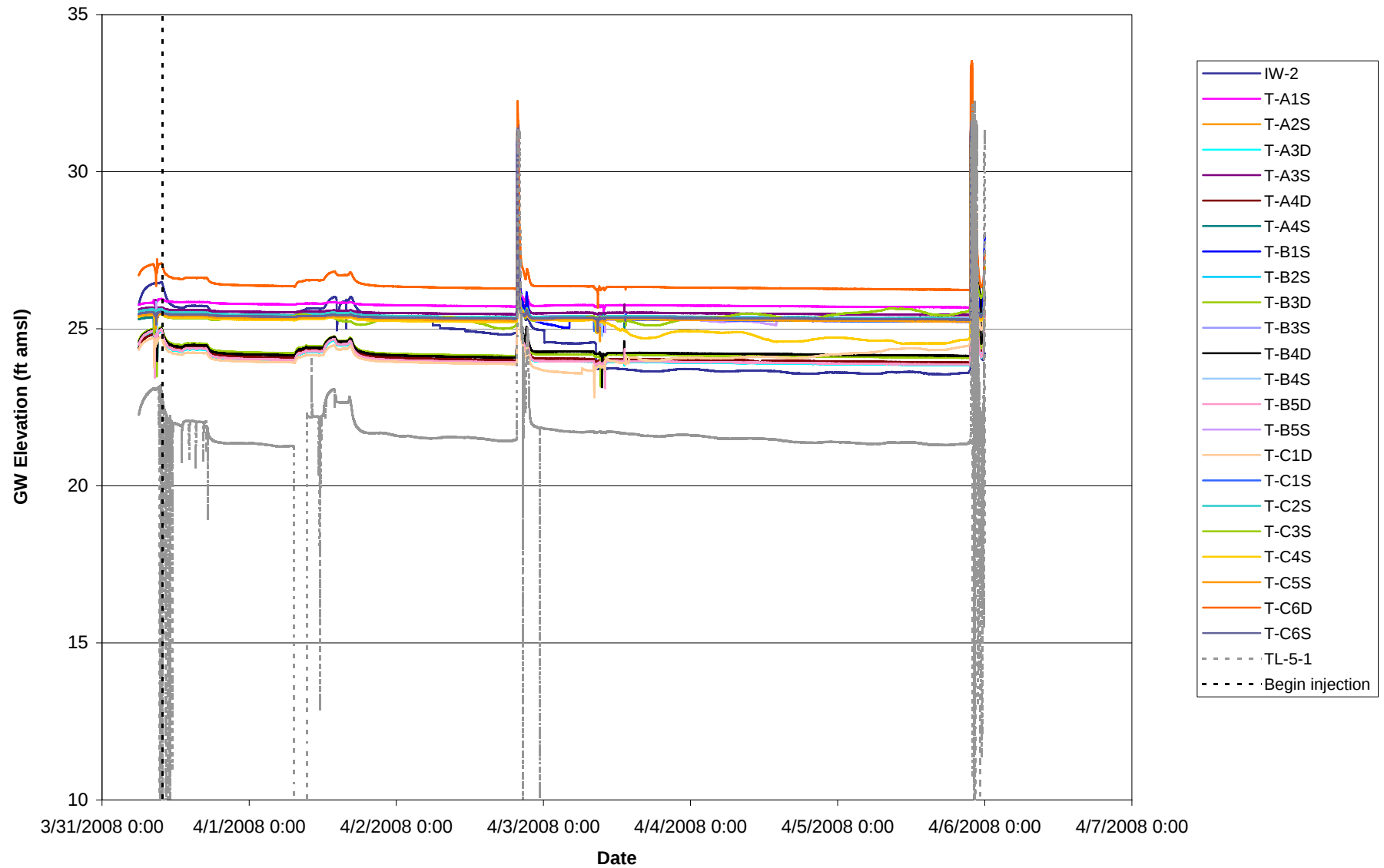
GW Elevation - USAS Tracer Test Injection



Appendix H

Plots of Continuously Logged
Water Levels during LSAS
Tracer Injection

GW Elevation - LSAS Tracer Test Injection



GW Elevation - LSAS Tracer Test Injection

