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FINAL TECHNICAL MEMORANDUM FOR THE EVALUATION OF GEOCHEMICAL PROCESSES SUPPORTING THE NATURAL ATTENUATION OF ARSENIC IN GROUNDWATER AT POSSIBLE SITE OF CONTAMINATION (PSC) 47 NAS JACKSONVILLE FL

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AGVIQ, LLC

Evaluation of Geochemical Processes Supporting the Natural Attenuation of Arsenic in Groundwater at PSC 47, NAS Jacksonville, Florida

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AGVIQ, LLC (AGVIQ) has been contracted by the U.S. Naval Facilities Engineering Command, Southeast (NAVFAC SE) to perform an evaluation of geochemical processes supporting the natural attenuation of arsenic in groundwater at Potential Source of Contamination (PSC) 47, located at Naval Air Station (NAS) Jacksonville, Florida. The evaluation was performed to establish lines of evidence demonstrating arsenic immobilization in-situ, as part of the overall effectiveness of the remedial action selected for the site. The work included the collection and synthesis of field screening data and laboratory analytical results, and was performed in accordance with the *Phase 3 Vapor Intrusion Investigation, PSC 47 Efforts, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Work Plan* (AGVIQ, 2013), under contract No. N62470-12-D-7004, Task Order No. JM10.

1.0 Introduction

This section presents a description and history of the site and regulatory framework, and a summary of applicable guidance for this evaluation.

1.1 Site History and Regulatory Framework

PSC 47 consists of an area centered on the former Pesticide Shop (Building 536) and the Disease Vector Ecology and Control Center (DVECC) (Building 937), renamed the Naval Entomology Center of Excellence (NECE) in 2007. Materials previously stored or used in the vicinity of Buildings 536 and 937 include pesticides and volatile organic compounds (VOCs). Other regulated substances, including herbicides, semi-volatile organic compounds (SVOCs), and metals (namely arsenic), have been detected at elevated concentrations in soil and/or groundwater samples during site investigations. A site location map is provided as Figure 1 and a site plan of PSC 47 is provided as Figure 2.

From approximately 1978 to 1988, a pesticide mixing room with a sink and three floor drains was located in the south-central portion of Building 937. Rinse water and excess

liquids from the sink and floor drains discharged to a 1,000-gallon fiberglass underground storage tank (UST known as the "DVECC tank"). The UST was taken out of service in 1989. Closure activities were performed by BEI from October 1995 through December 1995. Confirmatory soil and groundwater samples were collected after excavation, and indicated the presence of residual pesticide contamination, including arsenic, in both soil and groundwater. Since "clean closure" was not achieved, additional subsurface investigations were performed in December 1996 to evaluate the extent of contamination in the area (Tetra Tech NUS, Inc. [TtNUS], 2004). Soil samples were collected from 14 locations and groundwater samples were collected from 6 locations in and around the former DVECC tank excavation. Contaminant concentrations, namely pesticides (including arsenic), were again reported at values exceeding Florida Department of Environmental Protection (FDEP) cleanup target levels (CTLs) in soil and groundwater samples, although the distribution of contaminants appeared random and was not centered on the location of the former DVECC tank. This random contaminant distribution in the vicinity of the DVECC tank contributed to the uncertainty of the source area.

In 2008, a Record of Decision (ROD) was completed for the site. The selected remedial actions for the site included soil excavation, capping, groundwater monitoring, monitored natural attenuation (MNA) and land use controls. Remedial actions at PSC 47 were completed in 2008 and comprehensive site-wide groundwater monitoring commenced immediately thereafter. Results of the groundwater monitoring program have been periodically summarized and presented to both the U.S. Environmental Protection Agency (EPA) and FDEP. However, in late 2011, both agencies expressed concern that MNA may not be sufficiently reducing chemical of concern (COC) concentrations in a reasonable timeframe.

EPA and FDEP concerns regarding the effectiveness of MNA were based on traditional expectations of decreasing concentrations at individual monitoring wells, which would be more consistent with the attenuation of organic contaminants where biodegradation is the primary attenuation mechanism. For MNA of inorganic compounds including metals and metalloids, the attenuation mechanisms include adsorption and other immobilization reactions, which don't act to destroy contaminants in situ but act to bind contaminants to the aquifer solid surface. Over time, aqueous phase concentrations of inorganic contaminants are expected to decrease as more of the plume comes into contact with aquifer solids through transport.

In response to these comments, NAVFAC SE requested a detailed review of existing groundwater conditions with specific focus on MNA processes for arsenic present in site groundwater, which CH2M HILL presented in a technical memorandum in December 2011 (CH2M HILL, 2011). Actions recommended in the technical memorandum (TM) regarding arsenic attenuation were: 1) evaluate the groundwater monitoring well distribution and analytical parameter list and adjust as necessary to ensure that the plume extent and aqueous attenuation parameters are fully characterized, and 2) collect aquifer solids and perform quantitative analyses to identify solid phase species that control arsenic immobilization in the aquifer.

1.2 Hydrogeologic Setting

PSC 47 is located approximately 4,500 feet west of the St. Johns River (approximately 6,500 feet east of the Ortega River). Groundwater flow in the site area historically has been documented as northwesterly. Shallow groundwater, present at the site under unconfined conditions, is characterized as a potential source of drinking water (Class G-II) under FDEP regulations, but is currently not used. The water table is typically encountered at depths ranging from approximately 2 feet below ground surface (bgs) to 7 feet bgs.

The subsurface underlying the site is composed predominantly of fine to very fine grained sand interspersed with clay lenses up to 2 inches thick. In the southwestern section of the site, the soil contains more clay. The soil lithology grades from sand to clayey sand to predominantly clay with depth, and overlies a weathered limestone unit encountered at a depth of 45 to 53 feet bgs.

Slug tests indicate that hydraulic conductivity in the shallow zone of the surficial aquifer ranges from 3 feet per day (ft/day) to 7 ft/day, and averages 3.9 ft/day. The flow velocity was calculated to be 0.0468 ft/day or 17.08 feet per year toward the northwest (TtNUS, 2008).

1.3 Arsenic Attenuation Processes and EPA Guidance

EPA has formally recognized the potential for MNA of metals in the subsurface (EPA, 2007a). For arsenic, the application of MNA relies on contaminant immobilization and is premised on familiar in-situ attenuation processes, such as adsorption, precipitation, and co-precipitation; each of these processes is dependent on geochemical conditions. Demonstration of MNA processes for arsenic therefore requires both an understanding of immobilization processes for arsenic and the identification of aquifer properties that control the solid phase reaction products.

To support demonstration of metals MNA, EPA has developed a tiered analysis to characterize the processes responsible for MNA of inorganic contaminants, including arsenic. Demonstration of effectiveness in the initial tier qualifies the site for progressive evaluation in each successive tier. The approach includes four tiers, which are described below.

I. Demonstration that the groundwater plume is not expanding and that sorption of the contaminant onto aquifer solids is occurring where immobilization is the predominant attenuation process.

II. Determination of the mechanism and rate of the attenuation process.

III. Determination of the capacity of the aquifer to attenuate the mass of contaminant within the plume and the stability of the immobilized contaminant to resist re-mobilization.

IV. Design a performance monitoring program based on the mechanistic understanding developed for the attenuation process, and establish a contingency plan tailored to site-specific characteristics.

Historical investigation data collected at PSC 47 have demonstrated that the lateral and vertical distribution of site-related arsenic in groundwater is fully defined. Groundwater

monitoring confirms that arsenic is fully contained within the PSC47 site boundary, and that the groundwater arsenic plume is not expanding (CH2M HILL, 2011). Collectively, investigation and monitoring results satisfied the initial component of Tier I guidance; however, site specific details pertaining to mineralogy and arsenic attenuation mechanisms were not formally documented during previous investigation efforts.

In accordance with the EPA guidance for the MNA of inorganics (EPA, 2007a), a detailed study of arsenic behavior at PSC 47 was commissioned to evaluate the nature and distribution of mineral phases contributing to the attenuation of arsenic in groundwater. In addition to demonstrating Tier I process for metals MNA, the study also was constructed to satisfy Tier II requirements through determination of the mechanism and estimation of the arsenic attenuation rate.

2.0 Field Activities

The soil data acquisition phase of this evaluation was performed in concert with the fall semi-annual groundwater monitoring event, as both media were used to refine the conceptual site model (CSM) and evaluate the arsenic attenuation mechanisms. The semi-annual groundwater sampling event was performed from October 9 through 23, 2013, and included gauging water levels and sampling 27 site wells for VOCs, SVOCs, arsenic, and pesticides. From October 28 to November 1, 2013, soil samples were collected from five Direct Push Technology (DPT) borings and split for field x-ray fluorescence (XRF) analysis of arsenic, total metals analysis and sequential extraction analysis, and x-ray powder diffraction (XRD) at fixed-based laboratories. This section describes the sampling approach, collection methods, and field measurements performed during this field effort.

2.1 Groundwater Elevation Measurements

Groundwater levels were measured at 28 monitoring wells on October 9, 2013, using an electronic water level meter, as part of the semi-annual groundwater monitoring program. The elevation relative to mean sea level was calculated by subtracting the measured depth to water from the surveyed top of casing elevations. In the vicinity of Building 937, groundwater was encountered between 3.72 and 5.35 feet bgs on October 9, 2013, with an average of 4.45 feet bgs, which suggests wetter conditions than in the previous fall sampling event (average depth to water of 8.33 feet bgs in October 2011). Gauging data from the fall 2013 monitoring event are provided in Table 1 and gauging data for the monitoring wells in the vicinity of Building 937 (JAX47-937-MW01S through JAX47-937-MW04S and JAX-MW14S) for sampling events since April 2002 are provided in Table 2 and hydrographs are provided in Figure 3.

The groundwater flow direction observed during the October 2013 event was generally north to the southern side of Building 937, and then northwest toward Building 536, consistent with previous historical gauging. In the vicinity of the western portion of Building 937, localized groundwater flow is toward the west (as measured between site monitoring wells JAX47-MW04S and JAX47–MW02S), also consistent with historical gauging. A potentiometric surface map for the fall 2013 semiannual sampling event is provided on Figure 4.

2.2 Groundwater Sampling Approach

A semi-annual groundwater sampling event was conducted in October 2013 (following the rainy season). During this event, groundwater level measurements were collected from 28 monitoring wells. Groundwater samples were collected from 27 monitoring wells for Target Compound List (TCL) pesticides analysis; 26 monitoring wells for arsenic analysis; 11 monitoring wells for TCL VOCs and SVOCs analysis; and 11 monitoring wells for natural attenuation parameters. Groundwater samples from monitoring wells that contained detectable levels of total arsenic during the October 2013 sampling event were also analyzed for arsenic III and arsenic V. In addition, samples were also collected from monitoring wells JAX47-MW02S, -MW03S, and MW14S for the analysis of aqueous arsenic natural attenuation parameters. These parameters are not normally included in the semi-annual sampling schedule for these wells; however, they were included during this sampling event because they are located along the centerline of the arsenic plume and soil sampling was conducted adjacent to these wells in accordance with EPA guidance.

2.3 Soil Sampling Approach

Subsurface soil samples were collected to further evaluate the processes contributing to the natural attenuation of arsenic detected in site groundwater. After all subsurface utilities were marked and a dig permit obtained, a DPT drill rig equipped with Macro-Core® samplers was used to collect continuous soil cores at five locations from ground surface to a depth of 15 feet bgs. These five locations (DPT-1 through DPT-5) are depicted on Figure 5. The location of boring DPT-1 was selected to represent background conditions in an area not affected by historical activities at PSC47, and was adjacent to monitoring well JAX47-MW19S. In accordance with recommendations presented in the EPA guidance, the remaining four borings were positioned to support the collection of soil samples near the source area, at points moving downgradient along the centerline of the arsenic plume, and at points past the downgradient and lateral plume fronts (EPA, 2007a and 2007b). Boring DPT-2 is adjacent to monitoring well JAX47-MW03S, which historically has exhibited the highest arsenic concentration in groundwater and is believed to be near the primary release point. Boring DPT-3 is located downgradient of JAX47-MW03S and adjacent to monitoring well JAX47-MW02S, and within the arsenic plume. Boring DPT-5 is located at the downgradient front of the groundwater arsenic plume and adjacent to monitoring well JAX47-MW14S.The location of DPT-4 was selected in the field using a Triad-like approach, based upon the use of Quick™ Rapid Arsenic Test Kits for estimating arsenic concentrations in groundwater via the following procedure:

- A stainless steel screen was advanced to approximately 7 to 9 feet at four temporary boring locations (TB1 through TB4) near the southwest corner and west side of Building 937.
- A 4-micron in-line filter and peristaltic pump were attached to the DPT screen tubing at each location and the sample was purged until a visually clear sample was obtained.
- The concentrations of arsenic in groundwater at the four temporary boring locations were estimated in the field using Quick™ Rapid Arsenic Test Kits: TB1 was 60 parts per billion (ppb), TB2 was 2 ppb, TB3 was 5 ppb, and TB4 was 20 ppb. Temporary boring TB1 exhibited the highest estimated arsenic concentration and was selected as the location of DPT-4.

The field-estimated arsenic concentrations in groundwater at these temporary boring locations are also shown on Figure 5.

The observed lithologic characteristics of the soil cores collected at borings DPT-1 through DPT-5 were recorded and the resulting soil boring logs are provided in Attachment A. Although the Work Plan (AGVIQ, 2013) indicated the collection of groundwater samples from boring DPT-4 for laboratory analysis of the same parameters scheduled for existing monitoring wells, site-related construction activities prevented returning to the location for groundwater sample collection.

2.4 Subsurface Soil Sample Collection

After a boring log, describing lithology, was completed for each soil core, soil samples representative of each 1-foot interval were transferred into disposable plastic zipper top storage bags, and air was expelled to minimize the head space. Samples were homogenized in their respective bags by hand until visual and textural variations were no longer discernible, and placed in a cooler on ice pending preparation for field XRF and the collection of sample aliquots for laboratory analyses.

After homogenization, approximately 2 ounces of soil were removed from each plastic bag and dried in a toaster oven for 2 hours at 150 degrees Fahrenheit (ºF). Each dried soil sample was disaggregated to an even consistency using a mortar and pestle, placed into an XRF sample cup, and the top of the cup was sealed with thin Mylar® film. Using a handheld XRF analyzer (Innov-X Delta™) obtained from Pine Environmental (Lilburn, Georgia), soil samples were analyzed under field conditions. Prior to measurement, the XRF analyzer was calibrated according to the manufacturer's guidelines. The prepared soil samples were scanned with the XRF to determine the concentration (including standard error) of arsenic, iron, manganese, and calcium. Field screening results of XRF analysis are provided in Table 4.

In accordance with the Work Plan, one sample from the capillary fringe and one sample from the saturated zone were collected from each boring for laboratory analyses. The specific sampling intervals were chosen based primarily upon the depths of the highest arsenic concentrations in borings DPT-2 and DPT-3 (the borings located in the core of the groundwater plume).The XRF results and the sampling intervals are depicted on Figure 6. Approximately 2 feet of soil core was composited to provide sufficient sample volume for the planned laboratory analyses. Aliquots of soil from the ten samples collected were placed in four ounce glass jars with a minimum of headspace and frozen on dry ice to preserve the solid phase composition. Samples were shipped to ALS Environmental (Kelso, Washington) for sequential extraction procedure and analysis (SEP) and to Technology of Materials (Fullerton, California) for XRD analysis. Upon laboratory receipt and prior to analysis samples were stored at -20 degrees Celsius (ºC). A third aliquot of soil was shipped in a cooler with wet ice to Empirical Laboratories (Nashville, Tennessee) for total metals analysis.

3.0 Laboratory Analytical Methods and Results

This evaluation included analysis of arsenic in groundwater and soil using several different laboratory analytical techniques. The methods were selected to unify the CSM and provide results critical to demonstrating and evaluating the site specific arsenic attenuation

mechanisms. As indicated in Section 1.3, arsenic may partition to aquifer solids through adsorption on existing phases, precipitation as a new arsenic solid phase, or co-precipitation as a minor constituent during the precipitation of other common solid phase materials such as iron oxides or iron sulfides (EPA, 2007b). Characteristics of selected analytical procedures are summarized below:

- **Groundwater Analysis –** Chemical analysis of site groundwater provides information about the geochemical and spatial characteristics of the plume and the nature of site specific constituents that may interact to promote or impede the immobilization of arsenic.
- **SEP Analysis –** Identification of the nature and stability of solid phases that are responsible for removing arsenic from groundwater.
- **XRD –** Identification of crystalline solid phases in soil, (if present in sufficient quantities) that are capable of removing arsenic from groundwater.
- **Soil Analysis –** Determination of total metals in soils by SW846 Method 6010C provides concentration data suitable for comparison to regulatory screening criteria.

3.1 Groundwater

This section provides a brief discussion of the speciation of arsenic observed in Building 937 groundwater, a summary of the geochemical environment Building 937 groundwater as it relates to arsenic immobilization, and an analysis of the spatial distribution of arsenic in groundwater over time.

A comprehensive discussion about the groundwater monitoring program analytical methods and results will be provided in the 2014 Annual Groundwater Monitoring Report, after completion of the April 2014 (i.e., dry season) sampling event. The laboratory report is provided in Attachment B. For the purposes of this document, only the groundwater data pertinent to this evaluation are provided in Table 3 and discussed in this TM.

3.1.1 Groundwater Arsenic Speciation

Arsenic in groundwater is generally present in two oxidation states which exhibit different environmental properties. Arsenate (As [V]) predominates under oxidizing conditions and is easily adsorbed to soil and metal oxides. Arsenite (As [III]) is more soluble than As (V) and is the dominant form of arsenic in reducing environments. Arsenic speciation data collected since 2008 indicate that both As (III) and As (V) are present in site groundwater. In the core of the Building 937 groundwater plume, As (III) is the predominate species detected due the strong reducing conditions present in this area of the site (refer to Table 3).

The primary attenuation process for arsenic in groundwater is immobilization, although arsenic in groundwater may also attenuate naturally through dilution and dispersion over time (EPA, 2001). Arsenic in groundwater becomes immobilized primarily when it attaches to a metal oxide, clay, or sediment surface through adsorption processes; contrasting arsenic adsorption from groundwater is desorption. The processes of adsorption and desorption are complex and typically controlled by groundwater pH and oxidation-reduction potential (ORP). However, the presence of competing anions in the groundwater system can also strongly influence which processes (adsorption or desorption) is favored.

3.1.2 Groundwater Geochemical Environment

The fate and transport of arsenic are controlled by the geochemical environment of the aquifer. Groundwater pH, ORP, and the type and concentrations of co-solutes, such as sulfate and sulfides, significantly affect arsenic speciation in groundwater and the partitioning of arsenic onto aquifer solids. These parameters are discussed in this section.

pH

In the fate and transport of arsenic in groundwater, pH can be a significant factor. Under the acidic and near-neutral pH conditions measured in Building 937 groundwater, As (V) adsorbs strongly to iron-oxide surfaces. Desorption of As (V) from iron-oxide surfaces is favored as pH increases. The adsorption characteristics of As (III) to iron-oxide surfaces also increases with decreasing pH; however, bonding of As (III) to iron bearing materials is weaker than that of As (V) (Hinkle and Polette, 1999).

Oxidation-Reduction Potential

Groundwater ORP is a measure of electron activity and is an indicator of the relative tendency of a solution to accept or transfer electrons. As oxygen is depleted during aerobic degradation, other substances are used as electron acceptors, resulting in increased electron density or a negative ORP. ORP reactions in groundwater containing organic compounds are often biologically mediated and, therefore, can variably influence the rates of biodegradation. Microbial activity in a reducing environment can affect sorption through reductive dissolution of ferric iron solid phases. Consistent with historical measurements at the site, low ORP measurements (i.e., negative or below 50 millivolts [mV]), were measured in groundwater sampled within the Building 937 arsenic plume (JAX47-937-MW01S through JAX47-937–MW03S, JAX47-MW14S, and JAX47-MW15S during the October 2013 event. The ORP at JAX47-937–MW04S was anomalously high at 249.00 mV. However, the dissolved oxygen level (0.20 milligrams per liter [mg/L]) and the ferrous iron concentration (54,500 micrograms per liter µg/L, indicative of reducing conditions) indicate that the recorded ORP value, indicative of oxidizing conditions, may reflect a transient condition or be due to measurement error.

Sulfate and Sulfide

Groundwater samples collected from monitoring wells JAX47-937-MW01S through JAX47-937–MW04S and JAX47-MW14S during the October 2013 sampling event were analyzed for sulfate and sulfide. The highest concentrations of sulfate were reported in samples from wells JAX47-937-MW01S (292,000 µg/L), JAX47-937-MW02S (113,000 µg/L), and JAX47-937-MW04S (228,000 µg/L), and the lowest concentrations were reported in the samples from wells MW03S (30,200 µg/L), and JAX47-937-MW04S (6,260 µg/L). Sulfate can compete for sorption sites on aquifer solids (EPA, 2007b). This competition may contribute to the concentration fluctuations observed in the core of the Building 937 arsenic plume.

Sulfide was detected in samples from wells JAX47-937-MW01S (1,990 J µg/L), JAX47-937-MW02S (997 J µg/L), and JAX47-937-MW03S ((997 J µg/L). As (III) may co-precipitate with sulfide and ferrous iron during the formation of iron sulfides (EPA, 2007b).

3.1.3 Spatial and Temporal Characteristics of Groundwater Arsenic at Building 937

The spatial distribution of arsenic in groundwater between November 2006 and March 2011 was evaluated using Mining Visualization System (MVS) and the results were presented in a TM in late 2011 (CH2M HILL, 2011). MVS is a software program that provides advanced gridding, geostatistical analysis, and fully three-dimensional visualization tools for the analysis of chemical and spatial data. Using the same methods as employed in the 2011 evaluation, the spatial distribution of arsenic in groundwater during the three most recent sampling events (October 2011, April 2012, and October 2013) was evaluated. Concentration data obtained from monitoring wells within and surrounding the Building 937 arsenic source area were numerically interpolated and the results are shown on Figure 7. Monitoring wells JAX47-MW17, -MW17, and –MW28 were not sampled during the three most recent sampling events and were assumed to be non-detect for arsenic based on the results from previous sampling events.

Although observations of visual characteristics of the of the plume are not definitive, comparative analysis of the MVS representation of arsenic concentration in groundwater suggests there has been minimal temporal change in the spatial distribution of arsenic measured in groundwater at PSC 47. Results show fluctuation in the arsenic concentration within the plume core, but despite this variation, little change is observed in the position of the 10 µg/L contour. Change on the downgradient edge of the plume (adjacent to JAX47-MW14S and JAX47-MW15S) is also minor and arsenic concentrations within these monitoring wells are consistently observed below the 10 µg/L threshold. Results therefore suggest that the downgradient edge of the arsenic plume is not expanding or migrating beyond its historical footprint.

To further evaluate temporal stability of arsenic in PSC 47 groundwater, MVS was employed in a series of calculations to determine the volume, mass, and area of the arsenic plume defined by the 10 µg/L contour for each groundwater monitoring event performed between 2006 and 2013. The corresponding results were then evaluated as a function of time using linear regression techniques to assess the presence of increasing, decreasing or stable trends. Evaluation results, summarized in Table 5 and presented on Figure 8, illustrate that the PSC 47 arsenic plume has experienced a net decrease in area. However, the concentration fluctuations over the monitoring period and the low R^2 values of the linear regressions show no clear upward or downward trends in concentration or mass over time.

Plume area, concentration, mass, and volume subsequently were evaluated using the non-parametric Mann-Kendall analysis to identify any statistically significant trends. Results, summarized in Table 6, did not indicate statistically significant trends (increasing or decreasing) in the plume area, average concentration, mass, and volume. Since no plume trend was identified by Mann-Kendall analysis and the coefficient of variance was also small (≤1), all parameters tested were therefore considered to be stable.

In summary, evaluation of the MVS interpolations of the arsenic plume based upon visual observation, linear regression, and statistical evaluation of the plume shape, area, concentration, mass, and volume over time indicate that the arsenic plume is not expanding.

3.2 Bulk Arsenic and Sequential Extraction Procedures

ALS Environmental conducted the bulk total digestion and sequential extractions using a procedure developed by the U.S. Geological Survey for selenium in mine waste and stream sediment (Piatak et al., 2006). This procedure was selected because both selenium and arsenic are metalloids and exhibit similar geochemical behavior in the environment. The capillary fringe and saturated zone soil samples were dried, sieved to <2 millimeters (mm), and homogenized under an inert atmosphere. One aliquot of the prepared soil was collected for determination of the total bulk arsenic content. A second aliquot was collected to measure the arsenic concentrations nominally associated with the specific solid-phase fractions using a sequential extraction procedure.

3.2.1 Bulk Arsenic Procedure and Results

The total arsenic content was determined through complete digestion of the bulk soil sample. An aliquot of each prepared bulk sample was digested in a mixture of concentrated HF, HNO_3, and $HClO_4$ and then analyzed by inductively coupled plasma-mass spectrometry (ICP-MS). The arsenic concentrations are summarized in Table 7 and the complete data summary for all analyzed metals is available in Attachment C.

The total bulk arsenic concentrations in the capillary fringe and saturated zone soil samples are shown using a logarithmic concentration scale in Figure 9. Consistent with the spatial distribution of arsenic concentrations in groundwater, the highest arsenic concentrations were reported in the samples collected from DPT-2, with the second highest concentrations in the DPT-3 samples. The concentrations from the DPT-4 and DPT-5 soil samples are similar to those reported for background boring DPT-1, and are also consistent with the groundwater monitoring results.

3.2.2 Sequential Extraction Procedure and Results

The sequential extraction procedure used in this investigation employs increasingly stronger leaching solutions through progressive extraction steps. Exchangeable arsenic was leached in Step 1, arsenic associated with carbonate solid phases would be released through the dissolution of the carbonate in Step 2, and arsenic bound to organic matter would be released during Step 3. The most environmentally available and more reversibly immobilized arsenic would be expected to be released in these first three steps. In order of increasingly stable fractions, arsenic associated with amorphous iron and aluminum oxyhydroxides and crystalline manganese oxides are released in Step 4, crystalline iron oxides in Step 5, sulfides and arsenides in Step 6, and silicates in Step 7.

On a second aliquot of each prepared sample, the following seven sequential extraction steps were conducted to measure the arsenic concentrations nominally associated with the indicated solid-phase forms given in parentheses:

Step 1: (soluble, adsorbed, and exchangeable arsenic fraction) Combine 1.0 grams (g) of sample with 25 milliliter (mL) 0.1 molar (M) KH_2PO_4, agitate for 2 hours at 25ºC. Centrifuge for 10 minutes, decant extract and dilute with deionized water (DIW) to 50 mL. Add 500 microliters (µL) concentrated ultrapure HNO_3. Analyze extract by ICP-MS (Extract 1).

Step 2: (Arsenic associated with carbonates) Combine residue with 25 mL 15 percent acetic acid, agitate for 2 hours, centrifuge, decant, fill to 50 mL volume with DIW. Analyze extract by ICP-MS (Extract 2).

Step 3: (Arsenic associated with organics) Combine residue with 25 mL 0.1 M sodium pyrophosphate and agitate for 1 hour. Centrifuge and decant. Add another 25 mL 0.1 M $Na_4P_2O_7$ to residue, agitate for 1 hour, centrifuge, decant, add to first split and bring to 50 mL volume with DIW. Analyze extract by ICP-MS (Extract 3).

Step 4: (Arsenic associated with amorphous Fe- and Al-hydroxides and amorphous and crystalline Mn-oxides) Mix residue with 25 mL 0.25 M $NH_2OH \cdot HCl$ (hydroxylamine hydrochloride) 0.10 M HCl for 30 minutes in a water bath at 50-54°C. Stir occasionally. Centrifuge, decant and fill to 50 mL with DIW. Add 500 µL concentrated ultrapure HNO_3 and analyze by ICP-MS (Extract 4).

Step 5: (Arsenic associated with crystalline "Xl" Fe-oxides) Combine residue with 20 mL 1.0 M $NH_2OH \cdot HCl$ in 25 percent CH_3COOH. Cap and shake. Place in boiling water (~90° C) bath for 3 hours uncapped, mix occasionally. Centrifuge and decant. Rinse residue with 10 mL 25 percent CH_3COOH, by handshaking and then centrifuge and decant into first split. Carry out a second leach with 20 mL 1.0 M $NH_2OH \cdot HCl$ in 25 percent CH_3COOH but heat in boiling water bath for 1.5 hours. Mix occasionally. Centrifuge and decant into first split. Fill to 50 mL with DIW. Analyze extract by ICP-MS (Extract 5).

Residue 5: (Arsenic associated with sulfides and arsenides and residual arsenic) Dry residue at approximately 100°F (~38°C) and then disaggregate to homogenize. Split residue in half. Analyze half by HG-AAS (Residue 5). Treat other half of residue in next step.

Step 6: (Arsenic sulfides and arsenides- acid volatile phases volatilized; step may potentially attack surfaces, corners, or edges of silicate minerals) Add 0.5 g of $KClO_3$ to residue and mix. Slowly add 10 mL concentrated HCl and mix. Let sit for 45 minutes with occasional gentle shaking. Add 10 mL of DI, mix, centrifuge, and discard. To the residue, add 10 mL 4 N HNO_3 and heat in boiling water bath for 20 minutes, centrifuge and discard. Add 10 mL DI, shake and centrifuge for 10 minutes, also discard. Because some sulfide and arsenides may be volatilized, calculate step 6 fraction by subtracting arsenic in residue from step 5 from arsenic in residue from step 6 (Residue 5 – Residue 6).

Step 7: (residual arsenic) Dry residue at approximately 100°F (~38°C). Digest sample with mixture of HF + HNO_3 + $HClO_4$ and analyze by HG-AAS (Residue 6).

As mentioned in the introductory paragraph of this section, each succeeding extraction step represents arsenic partitioned with increasingly stable solid fractions in the aquifer matrix. In the following discussions, the term "less stable" is used to describe the first three extracted fractions and the term "more stable" is used to describe the last four extracted fractions. In general, it would a require greater change in the geochemical environment at the site to re-mobilize arsenic associated with the last four fractions than would be required to re-mobilize arsenic associated with the first three fractions. The arsenic concentrations in each fraction are summarized in Table 7 and the complete data summary for all analyzed metals is available in Attachment C.

As shown on Figure 10, approximately 88 percent of the arsenic in the capillary fringe sample from DPT-2 is associated with the more stable fractions that were extracted in Steps 4 through 7. These results are likely to be largely associated with the distinctive, 0.5-inch thick, dark-reddish-brown layer observed at a depth of approximately 4.5 feet bgs. In contrast, approximately 87 percent of the arsenic in the capillary fringe sample from DPT-3 is associated with the less stable fractions extracted in Steps 1 through 3 and no comparable reddish-brown staining was observed in the soil core from DPT-3. These results indicate that capillary fringe arsenic in the vicinity of DPT-3 may be more amenable to re-mobilization associated with shifts in the geochemical environment during periods with a higher water table elevation. However, it is anticipated that any arsenic temporarily mobilized through changes in the geochemical environment would be immobilized downgradient as the plume geochemistry returned to equilibrium.

In the capillary fringe samples from DPT-1, DPT-4, and DPT-5 the only detectable arsenic was measured in the total sulfides/arsenides and residual silicates fraction. The total bulk concentrations of arsenic at DPT-4 and DPT-5 are similar to the background levels measured at DPT-1, indicating that no secondary source of arsenic is present in the capillary fringe at those locations.

The distribution of arsenic in the saturated zone samples are provided in Figure 11. In the saturated zone sample collected at DPT-2, 81 percent of the arsenic is associated with the less stable fractions extracted in Steps 1 through 3 and 19 percent is associated with the more stable fractions that were extracted in Steps 4 through 7. In the saturated zone sample collected at DPT-3, the proportion of arsenic associated with the less stable fractions decreases to 72 percent and the proportion associated with the more stable fractions increases to twenty-eight percent, as compared to DPT-2 results.

In the saturated samples from DPT-1, the only detectable arsenic was measured in the total sulfides/arsenides and residual silicates. In the saturated zone samples from DPT-4 and DPT-5, detectable quantities of arsenic were present in the exchangeable fraction and in the total sulfides/arsenides and residual silicates fraction. The total bulk concentrations of arsenic in these samples demonstrate that the arsenic concentrations at DPT-4 and DPT-5 are similar to the background levels measured at DPT-1, indicating that a minimal amount of arsenic from the source area has migrated and been adsorbed in an exchangeable form to soil beyond the lateral and downgradient groundwater plume fronts.

3.3 X-Ray Powder Diffraction

Technology of Materials conducted the analysis of overall mineralogy. Analysis of bulk soil as well as clay (<5 microns) fraction was performed on a Phillips Diffractometer. The resulting patterns were matched with the reference standards for various inorganic minerals stored in the Joint Committee on Powder Diffraction Standards (JCPDS) database. Semi-quantitative estimation of mineral components (±8 to 10 weight percent) was carried out from the peak intensities and are provided in Table 8.

Overall, the soil samples contain mostly quartz and very trace amounts of Na-Ca feldspars. Among clay minerals, chlorite group clays are present in small amounts with very small amounts of mica/illite and kaolinite. Crystalline forms of arsenic and iron solid phases contributing to arsenic immobilization were present in quantities too low to be detectable by XRD. The XRD spectra and additional information are available in Attachment D.

3.4 Total Metals Analysis

In order to provide soil concentration data suitable for comparison to regulatory screening criteria, Empirical Laboratories analyzed each of the soil samples for total metals by SW846 Method 6010C. The laboratory report is provided in Attachment E and the results are compared to industrial soil target cleanup levels (STCLs) in Table 9. Only the arsenic concentrations in the capillary fringe and saturated zone samples from borings DPT-2 and DPT-3 exceeded the 12 mg/kg SCTL. The concentrations in the capillary fringe samples from DPT-2 and DPT-3 were 189 mg/kg and 25.7 mg/kg, respectively. The concentrations in the saturated samples from DPT-2 and DPT-3 were 456 mg/kg and 78.7 mg/kg, respectively. The concentrations of all other metals were less than their respective SCTL.

4.0 Data Evaluation and Interpretation

As stated in the EPA guidance for the MNA of inorganics(EPA, 2007a), "Evaluating the overall success of natural attenuation for inorganic contaminant remediation will require demonstrating that the rate and capacity for inorganic contaminant attenuation meets regulatory objectives and, in addition, that inorganic contaminant immobilization is sustainable to the extent that future health risks are eliminated." The information presented in Section 3 provides a basis for identifying the mechanism responsible for the attenuation of arsenic in groundwater, calculating the arsenic bulk attenuation rate along the groundwater flow path, and developing a conceptual model of arsenic fate and transport in the Building 937 groundwater plume. These three concepts are discussed in the following sections.

4.1 Arsenic Attenuation Mechanism

The natural attenuation of organic compounds occurs primarily due to biological and chemical processes that transform contaminants into environmentally innocuous forms, with physical processes such as dispersion and sorption contributing to a relatively lesser extent. In contrast, the natural attenuation of inorganic compounds such as arsenic occurs via sorption processes to the aquifer matrix as the contaminant migrates along the groundwater flow path, thereby removing the inorganic contaminant from groundwater.

The sequential extraction results demonstrated that proportionally more arsenic in the saturated zone is associated with the more stable iron hydroxides, oxides, and sulfides at DPT-3, as compared to DPT-2. In addition, arsenic concentrations in the DPT-4 and DPT-5 saturated zone soil samples were near background levels. These results indicate an increasing association with the more stable forms in the down gradient flow direction. It is reasonable to expect this trend to continue beneath Building 937 to the end of the arsenic plume.

In groundwater samples collected during the October 2013 monitoring event, the concentration of dissolved iron decreases from 18,500 µg/L in monitoring well JAX47-MW02S to 39.5 J µg/L in monitoring well JAX47-MW14S (refer to Table 3). This indicates that iron dissolved in source area groundwater is partitioning to a solid phase in soil as it moves downgradient. Although arsenic sorption has been demonstrated for a wide range minerals common in soil, iron oxides and sulfides appear to play a dominant role in oxidizing and reducing environments, respectively (EPA, 2007b). As shown on Figure 12, the concentrations of total iron in the saturated zone soil samples more than double downgradient of DPT-2. Taken together with the previously noted decrease in dissolved

iron concentrations, effectively, iron appears to be functioning as a self-sustaining reactive zone capable of immobilizing arsenic prior to reaching monitoring well JAX47-MW14S.

The relative concentrations of arsenic to iron in the aquifer solids at DPT-3, DPT-4, and DPT-5, located downgradient of the approximate source area (DPT-2 and MW-03S) indicate that a large excess capacity exists for the reactive zone to continue attenuating dissolved arsenic in the future.

4.2 Bulk Attenuation Rate

Groundwater arsenic concentration data collected from May 2008 through October remained below the Groundwater Cleanup Target Level (GCTL) at proposed compliance monitoring well JAX47-MW14S, located at the downgradient toe of the southern plume. This demonstrates that sorption is an effective attenuation mechanism for reducing arsenic concentrations in groundwater to environmentally acceptable levels within a relative short distance after leaving the source area. Using methods presented in the EPA guidance for the MNA of inorganics (EPA, 2007a) and the calculation of bulk attenuation rate constants (Newell, et al., 2002), the distance required for concentrations to reach the GCTL during arsenic migration along the groundwater flow path is calculated as follows:

Step 1: The natural log of a concentration is plotted vs. distance (C vs. D) and the slope of the best-fit line is calculated using linear regression analysis, as shown on Figure 13. The arsenic concentration data used for this calculation is from the October 2013 sampling event (refer to Table 3) for wells MW-02S (9,150 µg/L), MW03S (6,510 µg/L), and MW-14 (3U µg/L), located along the centerline of the plume. The distance from the source area (assumed to be at the location of MW-03S for the purposes of these calculations) is 42 feet for MW-02S and 118 feet for MW-14S. The slope of the C vs. D plot is -0.072 per foot of travel.

Step 2: The bulk attenuation rate constant, k, is calculated by multiplying the negative of the slope of the regression by the contaminant velocity. The contaminant velocity equals the seepage velocity divided by the retardation factor. Because the arsenic attenuation mechanism is sorption and retardation is already accounted for in the slope of the line, the retardation factor is 1, and the contaminant velocity is 17.08 feet per year. The bulk attenuation rate is (+0.072 per foot) X (17.08 feet per year) = 1.23 per year.

Step 3: The travel time to reach the GCTL in the downgradient direction of the plume is 5.54 years, based on the calculated attenuation rate, an assumed arsenic source area concentration of 9,150 µg/L, and a cleanup goal of 10 µg/L /L: (5.54 yr = - Ln [9,150 µg/L/ 10 µg/L]/ 1.23 per y).

Step 4: The arsenic plume should extend 95 feet from the approximate source area based upon the contaminant velocity and travel time (95 feet = 17.08 feet per year X 5.55 year travel time).

Using the same calculation steps as presented for the October 2013 data, the distance from the assumed source area for arsenic concentrations along the flow path to reach the GCTL was estimated for each sampling event from May 2008 to October 2013 and are provided in Attachment F. The migration distance along the GW flow path to reach the GCTL over that time period ranged from 95 feet to 110 feet, with an average of approximately 100 feet.

4.3 Conceptual Site Model of Arsenic Fate and Transport

An illustration of the conceptual site model of arsenic fate and transport in the Building 937 groundwater arsenic plume has been developed and is depicted on Figure 14. The primary elements of the conceptual model include:

- From approximately 1978 to 1988, rinse water and excess liquids from a sink and floor drains in a pesticide mixing room discharged to a 1,000-gallon fiberglass underground storage tank (UST known as the "DVECC tank." The UST was taken out of service in 1989. In 1995 the tank and highly contaminated soil was excavated; thereby eliminating the continuing source. Confirmatory soil and groundwater samples collected after the removal indicated the presence of residual contamination.
- Arsenic concentrations in soil cores and groundwater samples indicate that wastes containing arsenic leaked from the "DVECC tank", creating residual contamination in vadose zone soil, groundwater, and aquifer solids in the vicinity of MW-03S. The majority of the residual contamination mass appears to remain in groundwater and aquifer solids, rather than in the vadose zone.
- Exchangeable arsenic and arsenic associated with organics and carbonates cycles between the capillary fringe soil, groundwater, and aquifer solids in response to changes in the water table elevation, pH, oxidation-reduction potential, and the concentration of competing solutes such as sulfate.
- Dissolved iron precipitates as amorphous and crystalline oxides and sulfides as it migrates downgradient.
- As arsenic is transported downgradient, it increasingly partitions to these relatively more stable amorphous and crystalline iron oxides and sulfides, resulting in decreasing mobility.
- The iron solids function as a self-sustaining reactive zone capable of reducing groundwater arsenic concentrations.
- Bulk attenuation rate calculations indicate the groundwater arsenic concentrations decrease to less than the GCTL within approximately 100 feet downgradient of MW-03S, prior to reaching monitoring well JAX47-MW14S.
- In summary, dissolved arsenic concentrations decrease to levels that pose no unacceptable health risks prior to migrating beyond the northern side of Building 937.

5.0 Conclusions and Recommendations

This evaluation was performed to establish lines of evidence demonstrating arsenic immobilization in-situ, as part of the overall effectiveness of the interim remedial action selected for the site. The work included the collection and synthesis of field screening data (arsenic field test kit and XRF) and laboratory analytical results (SEP, XRD, bulk total soil, and groundwater), which were used to evaluate the arsenic attenuation mechanisms and refine the CSM. The work was performed in accordance with EPA guidance for completing the second component of Tier I (immobilization is the predominant attenuation process) and all of Tier II (mechanism and rate of attenuation) for the natural attenuation of arsenic. The

following conclusions are provided based upon the information developed during this investigation and available groundwater monitoring data:

- The average concentration, mass, and area of the arsenic plume have been stable over time.
- Sorption of arsenic onto iron oxide, hydroxide, and sulfide solid phases in saturated zone soil is the mechanism responsible for immobilizing arsenic and the decreasing arsenic concentrations in groundwater with distance in the down gradient flow direction.
- Dissolved iron in the plume appears to precipitate because of changes in the geochemical environment in the downgradient flow direction, resulting in the natural development of an in-situ reaction zone capable of continuing to attenuate arsenic in groundwater to concentrations less than the GCTL within approximately 100 feet during migration beneath Building 937.

Although concentrations of dissolved arsenic in some site wells likely will continue to fluctuate, multiple lines of evidence suggest that the attenuation mechanisms (arsenic adsorption on the surface of previously formed solid iron particles and arsenic co-precipitation with newly precipitating iron solids) will continue to provide the benefit of immobilizing arsenic via natural geochemical processes, thus retarding future plume migration. Therefore, MNA appears to be an effective remedial alternative for PSC 47.

6.0 References

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Table 1
PSC-47 Water Table Elevation Data
October 24, 2011
PSC 47, NAS Jacksonville
Jacksonville, Florida

Well Number	Well History	Screened Interval (ft bls)	Total Depth of Well (ft bls)	Top of Casing Elevation (ft msl)	October 9, 2013	
					Depth to Water Below Top of Casing (ft)	Water Table Elevation (ft msl)
JAX47-						
MW10S	Installed during RI/FS Phase II, Stage 1, mid 2002, TtNUS	4.5 - 15.0	14.5	23.58	4.16	19.42
MW11S		4.5 - 15.0	14.5	23.97	4.73	19.24
MW12S		4.5 - 15.0	14.5	24.40	5.34	19.06
MW13S		4.5 - 15.0	14.5	24.67	4.72	19.95
MW14S		3.0 - 13.0	13.0	24.45	3.72	20.73
MW15S		3.0 - 13.5	13.0	24.32	3.97	20.35
MW17S		2.5 - 13.0	12.5	22.72	0.28	22.44
MW19S		2.5 - 13.0	12.5	22.68	0.31	22.37
MW25S		4.0 - 15.0	14.0	25.05	4.88	20.17
MW26S		3.0 - 14.0	13.0	24.64	4.99	19.65
MW27S		3.0 - 14.0	13.0	24.38	5.45	18.93
MW30S		3.0 - 13.0	13.0	23.57	4.92	18.65
MW32S	Installed during IRA, May 2008, CH2M HILL	3.0 - 13.0	13.0	24.30	4.77	19.53
MW33S		3.0 - 13.0	13.0	24.10	4.71	19.39
MW34S		3.0 - 13.0	13.0	24.24	4.77	19.47
MW35S		3.0 - 13.0	13.0	23.48	NM	--
MW36S		3.0 - 13.0	13.0	24.12	4.33	19.79
MW37S		3.0 - 13.0	13.0	23.54	3.52	20.02
MW38S		3.0 - 13.0	13.0	23.79	3.55	20.24
MW39S		3.0 - 13.0	13.0	23.36	3.04	20.32
MW40S		3.0 - 13.0	13.0	24.31	4.31	20.00
MW41S		3.0 - 13.0	13.0	23.68	4.17	19.51
MW42S		3.0 - 13.0	13.0	23.92	4.57	19.35
MW43S		3.0 - 13.0	13.0	23.75	4.58	19.17
937-MW01S	Installed in 1996, DVECC	5.0 - 15.0	15.0	25.71	5.35	20.36
937-MW02S		4.0 - 14.0	14.0	25.38	5.06	20.32
937-MW03S		3.0 - 13.0	13.0	24.41	3.98	20.43
937-MW04S		3.0 - 13.0	13.0	24.54	4.09	20.45

Notes:

ft msl - feet mean sea level

ft bls - feet below land surface

NM - Not Measured

TABLE 2

Building 937 Water Table Trend Data

April 12, 2002 to October 9, 2013

PSC 47, NAS Jacksonville

Jacksonville, Florida

Date Measured	Well Number JAX47-	937-MW01S	937-MW02S	937-MW03S	937-MW04S	MW14S	Average
	Top of Casing Elev. (ft. msl)	25.71	25.38	24.41	24.54	24.45	24.90
04/12/02	DTW (ft. btoc)	6.07	5.75	4.7	4.81	NA	5.33
	GW Elev. (ft. msl)	19.64	19.63	19.71	19.73	NA	19.68
11/06/02	DTW (ft. btoc)	NM	5.66	4.67	4.85	NA	5.06
	GW Elev. (ft. msl)	NM	19.72	19.74	19.69	NA	19.72
07/15/03	DTW (ft. btoc)	5.73	5.42	4.37	4.46	NA	5.00
	GW Elev. (ft. msl)	19.98	19.96	20.04	20.08	NA	20.02
11/27/06	DTW (ft. btoc)	8.43	8.08	7	7.13	NA	7.66
	GW Elev. (ft. msl)	17.28	17.3	17.41	17.41	NA	17.35
06/02/08	DTW (ft. btoc)	7.62	7.3	6.32	6.34	6.16	6.75
	GW Elev. (ft. msl)	18.09	18.08	18.09	18.2	18.29	18.15
09/24/08	DTW (ft. btoc)	3.82	3.43	2.48	2.65	2.33	2.94
	GW Elev. (ft. msl)	21.89	21.95	21.93	21.89	22.12	21.96
12/10/08	DTW (ft. btoc)	6.58	6.02	5.18	5.32	5.07	5.63
	GW Elev. (ft. msl)	19.13	19.36	19.23	19.22	19.38	19.26
03/11/09	DTW (ft. btoc)	6.55	6.19	5.13	5.3	5.33	5.70
	GW Elev. (ft. msl)	19.16	19.19	19.28	19.24	19.12	19.20
10/19/10	DTW (ft. btoc)	7.15	6.79	5.81	5.98	5.56	6.26
	GW Elev. (ft. msl)	18.56	18.59	18.6	18.56	18.89	18.64
03/11/11	DTW (ft. btoc)	7.32	6.96	5.9	6.06	5.84	6.42
	GW Elev. (ft. msl)	18.39	18.42	18.51	18.48	18.61	18.48
10/24/11	DTW (ft. btoc)	9.23	8.91	7.83	7.95	7.75	8.33
	GW Elev. (ft. msl)	16.48	16.47	16.58	16.59	16.7	16.56
04/16/12	DTW (ft. btoc)	9.96	9.6	8.51	8.59	8.51	9.03
	GW Elev. (ft. msl)	15.75	15.78	15.9	15.95	15.94	15.86
10/09/13	DTW (ft. btoc)	5.35	5.06	3.98	4.09	3.72	4.44
	GW Elev. (ft. msl)	20.36	20.32	20.43	20.45	20.73	20.46
Avg, DTW (ft. btoc)		**7.71**	**7.26**	**6.32**	**6.44**	**6.70**	**6.89**
Avg, GW Elev. (ft. msl)		**18.05**	**18.17**	**18.14**	**18.15**	**17.83**	**18.07**

Notes:

Elev. - Elevation

ft. msl - feet mean sea level

ft. btoc - feet below top of casing

NM - Not Measured

NA - Not Available

Avg. - Average

Table 3
Building 937 Groundwater Analytical Results for Inorganic Analytes and Water Quality Parameters
PSC 47, NAS Jacksonville
Jacksonville, Florida

Well ID	Top of Casing Elevation (ft MSL)	Total Depth (TOC-ft)	Date	Groundwater Elevation (ft msl)	pH*	ORP*	DO* (mg/L)	Temp °C	Turbidity (NTU)	Nitrate (µg/L)	Iron (µg/L)	Fe^{2+} (µg/L)	Mn (µg/L)	Sulfide (µg/L)	Sulfate (µg/L)	Alkalinity (µg/L)	TOC (µg/L)	Arsenic (µg/L)	Arsenic III (µg/L)	Arsenic V (µg/L)
JAX47-937-MW01S	25.71	15	5/28/2008	18.12	5.01	NM	0.34	23.32	2.39	26.8 J	774	360 U	91.6	600 J	116000	9000 J	7600 J	39.9	34	10
			9/25/2008	21.75	5.20	-12.70	1.10	24.97	1.21	100 UJ	30300 JB	9510	29 JB	5800 U	47900 B	24000 JB	12000 J	460 B	400	36
			12/11/2008	19.12	4.68	85.60	0.85	22.06	1.35	100 U	13900 B	5850	75.6 B	5800 U	81000 B	27000	8600 J	341 B	300	39
			3/12/2009	18.91	4.78	20.90	0.38	21.69	4.09	100 U	13100	6670	398	5800 U	307000	22000	18000	232	150	12
			10/19/2010	18.45	5.17	-59.50	0.60	23.70	1.14	72 U	6840 B	6840 B	321	400 J	498000	23500	26000	215	173	11
			3/29/2011	18.39	5.23	-95.70	0.17	21.90	1.22	72 U	9900 B	4640	278	400 J	377000	30500	25500	183	111	53
			10/31/2011	16.40	5.02	-150.70	0.26	23.51	2.72	72 U	14800 B	3720	32.4	8000 J	31300	9000	18700	106	NA	NA
			4/23/2012	15.66	4.84	-77.60	0.30	23.95	1.36	72 U	14400	4640	22.7	12800	22900	5000	14500	104	68	3 J
			10/10/2013	20.40	6.03	-27.20	0.23	24.90	0.80	100 U	5,870	4,540 J	117	1,990 J	292,000	153,000	17,300	166	102	10 U
JAX47-937-MW02S	25.38	14	5/28/2008	18.24	5.62	NM	6.30	23.74	6.76									3,280	3400	130
			9/26/2008	21.65	5.68	81.80	1.03	26.60	6.76									11,700	11000	560
			12/10/2008	20.20	5.43	64.90	0.94	22.06	6.34									8,540 B	7100	420
			3/12/2009	19.15	5.24	-40.20	0.24	22.20	5.29									4,520	3900	160
			10/22/2010	18.48	5.50	-85.10	0.20	25.95	1.47									6,660	4660	123
			4/6/2011	18.73	5.27	-41.20	0.14	22.75	2.45									10,200	9790	1,180
			11/1/2011	16.41	5.04	-56.40	0.27	25.23	3.47									15,800	NA	NA
			4/20/2012	15.68	4.90	-42.50	0.34	24.01	4.49									16,000	13300	364
			10/10/2013	20.40	5.08	5.90	0.13	26.40	2.77	100 U	18,500	18,700 J	109	997 J	113,000	14,400	15,700	6,510	5640	820
JAX47-937-MW03S	24.41	13	5/28/2008	18.31	4.95	NM	3.50	25.00	47.30									8,150	4900	4400
			9/26/2008	21.69	5.62	75.10	0.84	28.06	1.27									13,200 B	23000	5800
			12/17/2008	19.16	5.24	-11.70	1.09	21.64	4.92									8,980	4500	560
			3/16/2009	19.13	5.17	-4.90	0.93	19.68	16.70									4,870	5300	900
			10/20/2010	18.55	5.02	-42.40	0.88	26.39	4.29									10,800	9810	361
			4/6/2011	18.81	5.21	-20.40	1.34	20.66	6.27									4,040	2690	879
			10/26/2011	16.48	5.12	-44.10	0.42	24.95	40.30									16,400	NA	NA
			4/20/2012	20.58	5.35	5.20	0.32	22.88	4.56									27,400	18900	3,720
			10/10/2013	20.51	5.83	-40.70	0.10	26.00	3.20	100 U	18,500	51,500 J	117	997 J	30,200	61,200	48,200	9,150	7860	690
JAX47-937-MW04S	24.54	13	6/2/2008	18.20	4.21	NM	0.25	26.58	2.95	100 U	28800	7210	299	3,000	92200 B	20,000	35000	6.23 J		
			9/21/2008	21.29	4.65	-110.90	NM	29.76	1.13	1170 J	19900 JB	4570	222 JB	69	89100 JB	50000 JB	21000 J	14.5 B		
			12/11/2008	19.21	3.65	51.70	0.74	22.80	2.27	100 U	30100 B	4130	285 B	5.8 U	243000 B	13000 J	18000	10.1 B		
			3/12/2009	19.21	3.81	-35.20	0.05	23.67	4.01	27.4 B	25700	7490	159	5.8 U	302000	9000 J	21000	7.26 J		
			10/19/2010	18.55	4.21	-80.40	0.57	28.94	7.02	72 U	20800 B	20800 B	79.4	0.6 J	165000	1000 U	33600	9.69 J		
			3/30/2011	18.47	4.41	-102.70	0.11	21.69	2.21	360	12100	4470	72.2 B	0.4 J	211000	1000 U	28000	6.62 U		
			10/31/2011	16.52	4.05	-80.10	0.21	27.35	6.94	72 U	22700 B	4980	146	4000 J	214000	1000 U	18000	5.31 J		
			4/23/2012	15.95	4.15	41.20	0.44	23.11	2.64	330	15100	1930	113	1800 J	225000	1000 U	9330	4.15 J	5 U	5 U
			10/15/2013	20.21	4.16	249.00	0.20	28.30	1.70	4,620	48,500	54,500 J	233	1,690 U	228,000	1,000 U	14,600	6 U		
JAX47-MW14S	24.45	13	6/2/2008	18.29	6.63	NM	4.20	22.46	45.00									4.3 U	5 U	5 U
			9/29/2008	21.51	6.23	23.30	0.32	25.04	0.91									7.96 B	0.3 U	0.28 U
			12/17/2008	19.29	6.73	130.30	1.73	20.31	3.91									3.84 J	0.3 U	0.28 U
			3/17/2009	19.20	6.77	129.90	4.03	18.91	7.21									3.88 J	0.3 U	0.3 U
			10/22/2010	18.80	6.80	117.40	0.32	24.43	1.67									8.75 J	5 U	5 U
			4/4/2011	18.85	6.32	-12.60	3.10	22.42	182.00									6.62 U	5 U	0.5 J
			10/28/2011	16.54	5.94	-42.40	0.10	24.96	8.21									6.62 U		
			4/19/2012	15.85	5.97	-26.60	0.31	21.97	14.80									4.68 J	5 U	5 U
			10/11/2013	20.65	6.55	4.60	0.43	25.60	0.69		38.9 J		25.8	1,850 U	6,260	150,000	9,280 J	6 U		

Table 3
Building 937 Groundwater Analytical Results for Inorganic Analytes and Water Quality Parameters
PSC 47, NAS Jacksonville
Jacksonville, Florida

Well ID	Top of Casing Elevation (ft MSL)	Total Depth (TOC-ft)	Date	Groundwater Elevation (ft msl)	pH*	ORP*	DO* (mg/L)	Temp °C	Turbidity (NTU)	Nitrate (µg/L)	Iron (µg/L)	Fe^{2+} (µg/L)	Mn (µg/L)	Sulfide (µg/L)	Sulfate (µg/L)	Alkalinity (µg/L)	TOC (µg/L)	Arsenic (µg/L)	Arsenic III (µg/L)	Arsenic V (µg/L)
JAX47-MW15S	24.32	13	6/2/2008	17.97	5.50	NM	9.56	24.00	30.30									4.3 U	5.0 U	5.0 U
			9/29/2008	21.42	5.95	1.60	0.16	26.53	3.65									6.45 B	0.3 U	0.28 U
			12/17/2008	19.02	5.58	-71.70	0.40	22.64	9.56									4.16 J	0.3 U	0.28 U
			3/17/2009	18.97	5.35	-38.50	0.29	20.26	32.90									3.31 U	0.3 U	0.3 U
			10/26/2010	18.62	5.59	-7.40	0.15	25.94	6.88									6.62 U	5 U	4 J
			4/5/2011	18.52	5.50	-56.80	0.09	20.51	3.82									6.62 U	5 U	5 U
			11/1/2011	16.25	5.11	-61.00	0.23	24.78	8.84									5.22 J		
			4/19/2012	15.48	5.22	-78.40	0.31	22.36	14.00									6.62 U		
			10/17/2013	20.03	6.02	-0.20	0.26	27.10	14.70									6 U		
JAX47-MW19S	22.68	12.5	10/26/2010	18.52	6.60	-60.70	0.33	25.95	20.50									6.62 U		
			4/1/2011	19.94	6.59	-80.30	0.28	20.46	19.20									6.62 U		
			11/3/2011	17.33	6.64	-121.20	0.20	25.12	39.00									7.23 J		
			4/20/2012	16.53	6.69	19.40	1.50	25.68	172.00									6.17 J	2 J	5 U
			10/18/2013	20.11	6.54	51.60	0.12	27.80	2.23									6 U		

Notes:
J - estimated value
B - also detected in blank
U - analyte not detected above method detection limit
NA - not available
GCTL - Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Level
NADC - FDEP Natural Attenuation Default Concentration
µg/L - micrograms per liter
mg/L - milligrams per liter

ft msl - feet above mean sea level
TOC-ft - feet below top of casing
ORP - oxidation reduction potential
DO - dissolved oxygen
Temp °C - temperature in degrees celsius
Fe^{2+} - ferrous iron
NTU - nephelometric turbidity units
* measured in the field

Table 4
Field XRF Results
PSC 47, NAS Jacksonville
Jacksonville, Florida

DPT Boring Location Identifier	Depth Interval (ft. bgs)	Arsenic (ppm)	Iron (ppm)	Manganese (ppm)	Calcium (ppm)
DPT-1	0-1	2.7 (+/- 0.8)	1075 (+/- 16)	39 (+/- 4)	4250 (+/- 72)
	1-2	<2.3	807 (+/- 13)	39 (+/- 3)	669 (+/- 33)
	2-3	<2.3	740 (+/- 13)	43 (+/- 3)	380 (+/- 28)
	3-4	<2.4	583 (+/- 11)	36 (+/- 3)	351 (+/- 28)
	4-5	<2.3	724 (+/- 12)	47 (+/- 3)	380 (+/- 29)
	5-6	<2.3	949 (+/- 14)	33 (+/- 3)	714 (+/- 33)
	6-7	<2.5	501 (+/- 11)	31 (+/- 3)	307 (+/- 28)
	7-8	<2.5	1481 (+/- 19)	31 (+/- 3)	415 (+/- 29)
	8-9	<2.6	2974 (+/- 29)	48 (+/- 3)	922 (+/- 35)
	9-10	<2.4	2830 (+/- 26)	33 (+/- 3)	507 (+/- 32)
	10-11	<2.7	3305 (+/- 31)	44 (+/- 3)	264 (+/- 29)
	11-12	<2.9	4031 (+/- 35)	37 (+/- 3)	228 (+/- 29)
	12-13	<3.1	4397 (+/- 37)	45 (+/- 4)	230 (+/- 31)
	13-14	<2.5	1916 (+/- 22)	33 (+/- 3)	187 (+/- 26)
	14-15	<2.9	5250 (+/- 42)	54 (+/- 4)	339 (+/- 33)
DPT-2	0.5-1	<3.3	804 (+/- 21)	30 (+/- 6)	390032 (+/- 4225)
	1-2	5.5 (+/- 1.2)	511 (+/- 18)	40 (+/- 6)	67376 (+/- 824)
	2-3	28.9 (+/- 1.2)	975 (+/- 15)	11 (+/- 3)	6264 (+/- 87)
	3-4	27.1 (+/- 1.2)	1156 (+/- 18)	7 (+/- 4)	2073 (+/- 57)
	4-5	416 (+/- 4)	10107 (+/- 68)	51 (+/- 5)	1293 (+/- 51)
	5-6	31.8 (+/- 1.2)	991 (+/- 16)	9 (+/- 4)	3655 (+/- 70)
	6-7	7.4 (+/- 0.9)	282 (+/- 9)	10 (+/- 3)	858 (+/- 37)
	7-8	73.9 (+/- 1.6)	651 (+/- 13)	6 (+/- 3)	555 (+/- 34)
	8-9	348 (+/- 3)	3119 (+/- 28)	38 (+/- 3)	1439 (+/- 42)
	9-10	629 (+/- 5)	5318 (+/- 40)	23 (+/- 4)	1589 (+/- 48)
	10-11	275 (+/- 3)	5350 (+/- 40)	36 (+/- 4)	1019 (+/- 41)
	11-12	64.5 (+/- 1.6)	7135 (+/- 49)	10 (+/- 4)	1205 (+/- 45)
	12-13	46.2 (+/- 1.3)	8448 (+/- 52)	32 (+/- 4)	2912 (+/- 56)
	13-14	31.6 (+/- 1.3)	16272 (+/- 87)	59 (+/- 5)	2288 (+/- 56)
	14-15	5 (+/- 0.9)	2653 (+/- 25)	24 (+/- 3)	1694 (+/- 45)
DPT-3	0.5-1	27 (+/- 1.3)	725 (+/- 16)	24 (+/- 4)	221094 (+/- 1943)
	1-2	2.7 (+/- 0.9)	462 (+/- 11)	16 (+/- 3)	4075 (+/- 69)
	2-3	<2.5	363 (+/- 10)	9 (+/- 3)	1378 (+/- 43)
	3-4	<2.5	773 (+/- 13)	16 (+/- 3)	985 (+/- 37)
	4-5	16.5 (+/- 1)	774 (+/- 13)	42 (+/- 3)	731 (+/- 33)
	5-6	32.5 (+/- 1.1)	684 (+/- 12)	46 (+/- 3)	2525 (+/- 50)
	6-7	25.3 (+/- 1)	955 (+/- 14)	31 (+/- 3)	4045 (+/- 63)
	7-8	18.7 (+/- 1.1)	686 (+/- 13)	28 (+/- 3)	402 (+/- 29)
	8-9	108.4 (+/- 1.8)	8284 (+/- 51)	33 (+/- 4)	617 (+/- 34)
	9-10	46.7 (+/- 1.3)	7327 (+/- 46)	37 (+/- 4)	689 (+/- 34)
	10-11	41.8 (+/- 1.3)	5096 (+/- 37)	39 (+/- 4)	667 (+/- 34)
	10-11	45.5 (+/- 1.3)	5114 (+/- 37)	50 (+/- 4)	613 (+/- 33)
	11-12	48.9 (+/- 1.5)	5899 (+/- 44)	55 (+/- 4)	275 (+/- 30)
	12-13	45.6 (+/- 1.3)	5208 (+/- 38)	54 (+/- 4)	206 (+/- 29)
	13-14	21.7 (+/- 1)	2722 (+/- 25)	43 (+/- 3)	112 (+/- 26)
	14-15	11.3 (+/- 1)	2069 (+/- 23)	33 (+/- 3)	224 (+/- 27)

Table 4
Field XRF Results
PSC 47, NAS Jacksonville
Jacksonville, Florida

DPT Boring Location Identifier	Depth Interval (ft. bgs)	Arsenic (ppm)	Iron (ppm)	Manganese (ppm)	Calcium (ppm)
DPT-4	0.5-1	<2.8	1216 (+/- 18)	15 (+/- 4)	74779 (+/- 660)
	1-2	<2.7	1095 (+/- 16)	60 (+/- 4)	21163 (+/- 196)
	2-2.5	<2.4	268 (+/- 9)	16 (+/- 3)	2531 (+/- 56)
	2.5-3	<2.4	547 (+/- 12)	16 (+/- 3)	4374 (+/- 70)
	3-3.5	<2.4	640 (+/- 13)	6 (+/- 3)	4436 (+/- 75)
	3.5-4	<2.2	769 (+/- 13)	32 (+/- 3)	581 (+/- 30)
	4-5	<2.6	646 (+/- 14)	28 (+/- 4)	610 (+/- 38)
	5-6	<2.3	922 (+/- 14)	40 (+/- 3)	650 (+/- 31)
	6-7	<2.6	3313 (+/- 28)	36 (+/- 3)	1250 (+/- 40)
	7-8	<2.7	2995 (+/- 29)	46 (+/- 3)	1185 (+/- 38)
	8-9	<2.4	3112 (+/- 27)	29 (+/- 3)	1276 (+/- 39)
	9-10	4.4 (+/- 0.9)	6848 (+/- 46)	24 (+/- 4)	321 (+/- 32)
	10-11.5	<2.8	7044 (+/- 49)	37 (+/- 4)	402 (+/- 36)
	11.5-12	3.1 (+/- 0.9)	5546 (+/- 40)	43 (+/- 4)	415 (+/- 33)
	12-13	5.7 (+/- 0.9)	2519 (+/- 25)	20 (+/- 3)	425 (+/- 32)
	13-14	6.8 (+/- 0.9)	1981 (+/- 22)	19 (+/- 3)	24 (+/- 27)
	14-15	4.9 (+/- 0.8)	1307 (+/- 17)	31 (+/- 3)	125 (+/- 25)
DPT-5	0-1	2.5 (+/- 0.8)	1065 (+/- 15)	23 (+/- 3)	3804 (+/- 63)
	1-2	<2.6	605 (+/- 13)	7 (+/- 3)	6958 (+/- 96)
	2-3	<2.7	947 (+/- 15)	19 (+/- 3)	6314 (+/- 89)
	3-4	<2.6	784 (+/- 14)	20 (+/- 3)	3424 (+/- 62)
	4-5	<2.5	700 (+/- 12)	36 (+/- 3)	5622 (+/- 75)
	5-6	<2.6	756 (+/- 14)	38 (+/- 3)	2597 (+/- 50)
	6-7	<2.8	7637 (+/- 53)	36 (+/- 4)	1184 (+/- 40)
	7-8	<2.5	5764 (+/- 40)	71 (+/- 4)	755 (+/- 35)
	8-9	<2.7	7133 (+/- 50)	35 (+/- 4)	470 (+/- 31)
	9-10	3.6 (+/- 0.8)	6511 (+/- 43)	46 (+/- 4)	329 (+/- 30)
	10-11	<2.8	4603 (+/- 38)	45 (+/- 4)	423 (+/- 32)
	11-12	<2.6	3234 (+/- 30)	47 (+/- 3)	186 (+/- 27)
	12-13	<2.3	1911 (+/- 20)	33 (+/- 3)	161 (+/- 25)
	13-14	<2.2	1447 (+/- 17)	27 (+/- 3)	146 (+/- 25)
	14-15	<2.3	1358 (+/- 18)	26 (+/- 3)	206 (+/- 26)

Notes: Gray shading indicates laboratory sample interval
ppm - parts per million ft. bgs - feet below ground surface

TABLE 5

Building 937 Arsenic Plume Area, Concentration, and Mass

November 2006 through October 2013

PSC 47, NAS Jacksonville

Jacksonville, Florida

Sample Period	Plume Area (ft^2)	Plume Volume (ft^3)	Average Concentration (µg/L)	Arsenic Mass (kg)	Center of Mass		
					X	*Y*	*Z*
Nov-06	35,266	121,646	737	2.54	436887.1	2139838	17.2
May-08	24,825	83,751	264	0.63	436865.2	2139845	17.0
Sep-08	34,918	126,854	344	1.24	436869.9	2139857	17.0
Dec-08	28,020	97,098	325	0.89	436868.6	2139854	17.0
Mar-09	25,359	85,840	224	0.54	436867.6	2139853	17.0
Oct-10	29,320	102,443	339	0.98	436867	2139851	17.0
Mar-11	24,393	83,562	273	0.65	436865.2	2139858	16.9
Oct-11	26,328	96,058	622	1.69	436865.6	2139853	16.9
Apr-12	26,912	97,630	801	2.21	436865	2139851	16.9
Oct-13	24,899	89,120	371	0.94	436864.8	2139852	16.9

Notes:

ft^2 - square feet

ft^3 - cubic feet

µg/L - micrograms per liter

kg - kilograms

TABLE 6

Building 937 Arsenic Plume Non-Parametric Trend Analysis

November 2006 through October 2013

PSC 47, NAS Jacksonville

Jacksonville, Florida

Well	Detect	Nondetect	Total Samples	Detection Frequency	Min	Max	Mean	Median	MK Result	Trend	Stability
Area (ft^2)	10	0	10	100	24,393	35,266	28,024	26,620	89.2% (-)	**No Trend**	**Stable**
Average Concentration (µg/	10	0	10	100	224	801	430	342	75.8% (+)	**No Trend**	**Stable**
Mass (kg)	10	0	10	100	0.544	2.54	1.23	0.960	56.9% (+)	**No Trend**	**Stable**
Volume (ft^3)	10	0	10	100	83,562	126,854	98,400	96,578	75.8% (-)	**No Trend**	**Stable**

Notes:

Trend analysis performed using Mann Kendall single-tailed test at 0.05 significance level.

For monitoring points exhibiting no trend at the 95% confidence level, concentrations are deemed stable if the coefficient of variation (COV) is equal to or less than one.

ft^2 - square feet

ft^3 - cubic feet

µg/L - micrograms per liter

kg - kilograms

Table 7

Summary of Arsenic Concentrations in Sequential Extraction Fractions

PSC 47, NAS Jacksonville

Jacksonville, Florida

Boring ID	Sampling Depth Interval (ft. bgs)	Exchangeable	Carbonate	Organic	Amorphous Fe- & Al-oxides and Xl Man-oxides	Xl Fe-oxides	Sulfides/ Arsenides[1]	Total sulfides/ Arsenides & Residual Silicates	Residual Silicates	Bulk Total
DPT-1	**4 - 6**	0.1 U	1 U	0.5 U	0.1 U	4.8 U	**0.7**	**0.7**	0.5 U	**0.8**
	8 - 10	0.1 U	1 U	0.5 U	0.1 U	4.8 U	**0.6**	**0.6**	0.5 U	**1**
DPT-2	**4 - 6**	**6.4**	**7.1**	**20.1**	**22.6**	**99.8**	**111.1**	**117**	**5.9**	**434**
	8 - 10	**221**	**83**	**51.3**	**35.7**	**29.9**	**7.1**	**20.4**	**13.3**	**342**
DPT-3	**4 - 6**	**8.3**	**12.8**	**2.1**	**1.5**	4.6 U	**0.7**	**1.8**	**1.1**	**25**
	8 - 10	**29.5**	**11.4**	**17.9**	**10**	**9.9**	**1.9**	**3.9**	**2**	**65.4**
DPT-4	**4 - 5**	0.1 U	1 U	0.5 U	0.1 U	4.8 U	**0.6**	**0.6**	0.5 U	**0.7**
	9 - 11.5	**0.2**	0.9 U	0.5 U	**0.2**	4.6 U	**0.6**	**1.2**	**0.6**	**2.5**
DPT-5	**3 - 5**	0.1 U	0.9 U	0.5 U	0.1 U	4.5 U	**0.7**	**0.7**	0.5 U	**1.1**
	8 - 10	**0.1**	1 U	0.5 U	0.1 U	4.8 U	**0.8**	**0.8**	0.5 U	**1.8**

Notes:

[1] The concentration of arsenic was calculated by subtracting the Residual Silicates value from the Total Sulfides/Arsenides & Residual Silicates value. Non-detect results for Residual Silicates were treated as equal to zero.

All concentrations are in units of milligram per kilogram

Bold font indicates arsenic detection

Xl - crystalline

ft. bgs - feet below ground surface

U - Arsenic was not detected above the reported sample quantitation limit.

Table 8

Summary of Mineralogical Composition by X-Ray Powder Diffraction

PSC 47, NAS Jacksonville

Jacksonville, Florida

Boring ID	Sampling Depth Interval (ft. bgs)	Quartz	Chlorite	Mica/Illite	Kaolinite	Ca-Na Feldspars	Calcite
DPT-1	4 - 6	~90	~5	~2	~ 1	~2	**<1**
	8 - 10	~81	~14	~2	~ 3	~1	<1
DPT-2	4 - 6	~83	~8	~2	~ 3	~2	**~2**
	8 - 10	~85	~8	~3	~ 3	<1	<1
DPT-3	4 - 6	~90	~4	~2	~ 2	~1	**<1**
	8 - 10	~90	~4	~2	~ 2	~1	<1
DPT-4	4 - 5	~90	~4	~2	~ 2	~1	**<1**
	9 - 11.5	~81	~13	~2	~ 3	~1	<1
DPT-5	3 - 5	~90	~4	~2	~ 1	~1	**<1**
	8 - 10	~90	~5	~1	~ 2	~1	<1

Notes:

Concentrations are in weight percent

Ca - Calcium

Na - Sodium

ft. bgs - feet below ground surface

Table 9
Total Metals in Soil Data Summary Table
PSC 47, NAS Jacksonville
Jacksonville, Florida

Location			DPT1		DPT2		DPT3		DPT4		DPT5	
Sample ID			JM10-DPT1-0406	JM10-DPT1-0810	JM10-DPT2-0406	JM10-DPT2-0810	JM10-DPT3-0406	JM10-DPT3-0810	JM10-DPT4-0405	JM10-DPT4-0911H	JM10-DPT5-0305	JM10-DPT5-0810
Sample Depth (ft)			4 - 6	8 - 10	4 - 6	8 - 10	4 - 6	8 - 10	4 - 5	9 - 11.5	3 - 5	8 - 10
Sample Date			10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/29/2013	10/29/2013	10/30/2013	10/30/2013
Analyte	**Units**	**SCTL [1 IND]**										
LYDKHN (MG/KG)												
Total Organic Carbon	MG/KG	--	**414 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW6010C (MG/KG)												
Aluminum	MG/KG	--	**1130**	**14900**	**563**	**9520**	**1140**	**18000**	**1180**	**17600**	**1400**	**19500**
Antimony	MG/KG	370	2.22 U	2.39 U	**3.01 J**	**10.3**	2.32 U	2.43 U	2.48 U	2.44 U	2.04 U	2.38 U
Arsenic	MG/KG	12	1.66 U	**0.965 J**	**189**	**456**	**25.7**	**78.7**	1.86 U	**3.3**	1.53 U	**2.05 J**
Barium	MG/KG	130000	5.55 U	**22**	5.66 U	**21.1**	5.79 U	**24.8**	6.2 U	**31.9**	5.09 U	**26.3**
Beryllium	MG/KG	1400	0.555 U	0.597 U	0.566 U	0.559 U	0.579 U	0.608 U	0.62 U	0.609 U	0.509 U	0.595 U
Cadmium	MG/KG	1700	0.555 U	0.597 U	0.566 U	0.559 U	0.579 U	0.608 U	0.62 U	0.609 U	0.509 U	0.595 U
Calcium	MG/KG	--	555 U	**489 J**	**1380 J**	559 U	**2520**	608 U	**464 J**	609 U	**5780**	595 U
Chromium	MG/KG	470	**4.68**	**13.6**	**3.5**	**8.93**	**2.23 J**	**16.3**	**1.84 J**	**19.9**	**2.86**	**22.6**
Cobalt	MG/KG	42000	2.77 U	2.98 U	2.83 U	2.79 U	2.89 U	3.04 U	3.1 U	3.05 U	2.55 U	2.97 U
Copper	MG/KG	89000	2.22 U	2.39 U	**1.82 J**	**1.22 J**	2.32 U	2.43 U	2.48 U	2.44 U	**1.85 J**	2.38 U
Iron	MG/KG	--	**389**	**2710**	**6060**	**3100**	**295**	**8720**	**277**	**8960**	**511**	**7010**
Lead	MG/KG	1400	**2.32**	**6.38**	**6.24**	**8.73**	**1.95**	**7.62**	**2.32**	**9.08**	**6.79**	**9.42**
Magnesium	MG/KG	--	832 U	**538 J**	850 U	**343 J**	868 U	**527 J**	931 U	**747 J**	764 U	**685 J**
Manganese	MG/KG	43000	**6.7**	**5.99**	**31.8**	**4.61**	**5.33**	**6.51**	**6.15**	**6.4**	**7.42**	**8.06**
Nickel	MG/KG	35000	1.66 U	**2.65 J**	**0.943 J**	**2.09 J**	1.74 U	**3.84**	1.86 U	**2.6 J**	1.53 U	**2.4 J**
Potassium	MG/KG	--	832 U	**398 J**	850 U	838 U	868 U	**395 J**	931 U	**550 J**	764 U	**581 J**
Selenium	MG/KG	11000	1.39 U	1.49 U	1.42 U	1.4 U	1.45 U	1.52 U	1.55 U	1.52 U	1.27 U	1.49 U
Silver	MG/KG	8200	0.555 U	0.597 U	0.566 U	0.559 U	0.579 U	0.608 U	0.62 U	0.609 UJ	0.509 U	0.595 U
Sodium	MG/KG	--	832 U	895 U	850 U	838 U	868 U	911 U	931 U	914 U	764 U	892 U
Thallium	MG/KG	150	1.11 U	1.19 U	1.13 U	1.12 U	1.16 U	1.22 U	1.24 U	1.22 U	1.02 U	1.19 U
Vanadium	MG/KG	10000	2.77 U	**14.9**	2.83 U	**10.3**	**1.58 J**	**22.8**	3.1 U	**34.8**	**1.73 J**	**20.9**
Zinc	MG/KG	630000	2.77 U	**4.23 J**	**11.6**	**4.57 J**	2.89 U	**4.83 J**	3.1 U	**5.65 J**	**11.6**	**5.82 J**
SW7471B (MG/KG)												
Mercury	MG/KG	17	0.0373 U	0.0415 U	**0.124**	0.035 U	0.0382 U	0.0384 U	0.0405 U	0.0419 U	0.0332 U	0.0396 U

Notes:

NA Not analyzed

J -- The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

U -- The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ -- The analyte was below the reported sample quantitation limit. However, the reported value is approximate.

mg/kg -- Milligrams per Kilogram

Bold indicates the analyte was detected

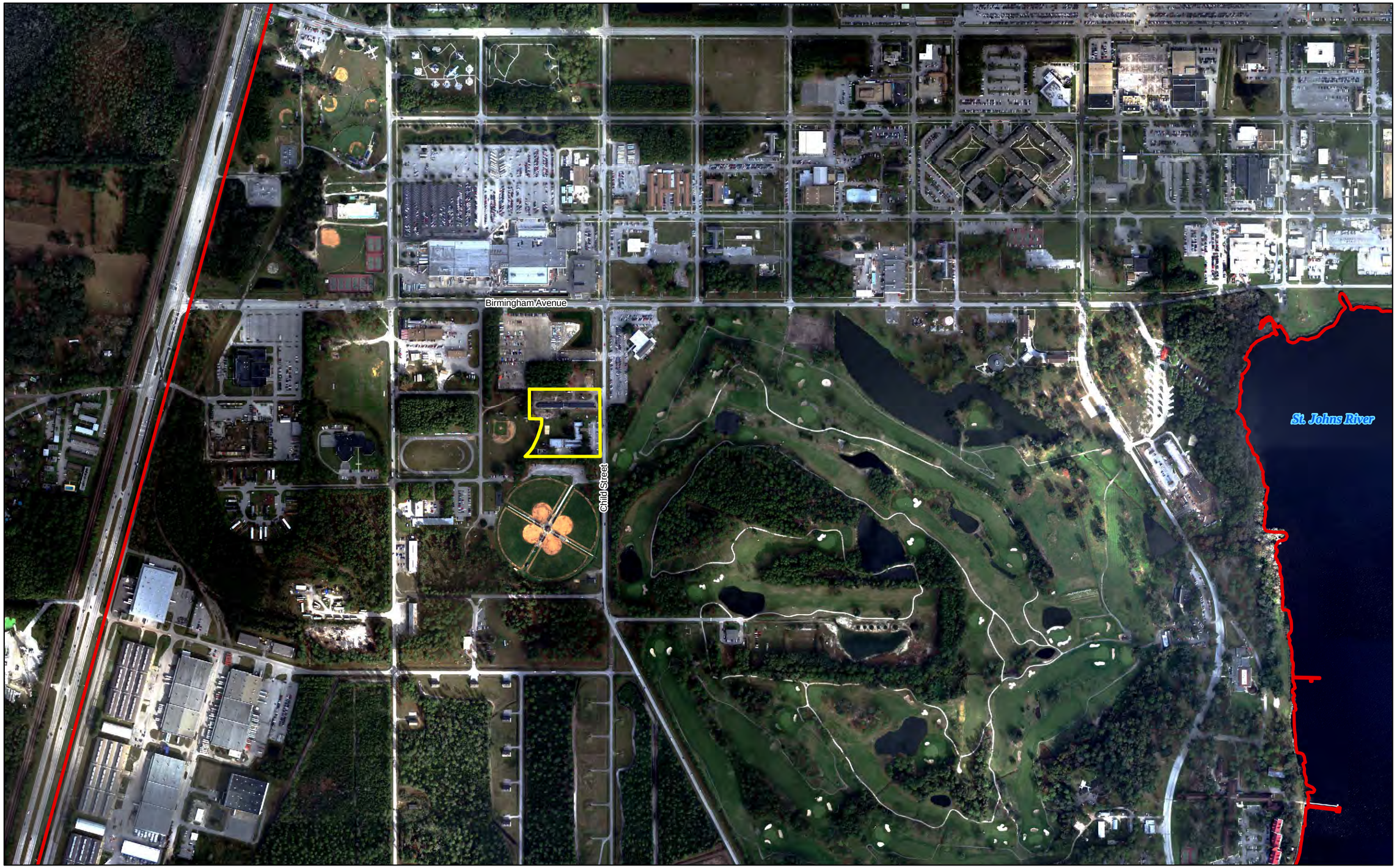
Shading indicates the analyte exceded screening criteria

SCTL [1 IND] - Soil Cleanup Target Level Industrial

1 = Ch 62-777 F.A.C Soil Cleanup Target Level (SCTLs) reported in mg/kg

Figures

1 Site Location Map
2 Site Plan
3 Building 937 Water Level Trends
4 Potentiometric Surface Map of the Shallow Aquifer
5 Sample Locations
6 Field X-Ray Fluorescence Arsenic Results
7 Building 937 Arsenic Groundwater Plume
8 Building 937 Arsenic Plume Area, Average Concentration, and Mass Trends
9 Total Bulk Arsenic in Soil
10 Arsenic Sequential Extraction Results in Capillary Fringe Samples
11 Arsenic Sequential Extraction Results in Saturated Zone Samples
12 Total Iron Concentrations in the Saturated Zone Soil Samples
13 October 2013 Arsenic Concentrations vs. Distance along Building 937 Plume Centerline
14 Conceptual Model of Arsenic Fate and Transport



Facility Boundary

PSC 47

N

0 500 1,000 2,000 Feet

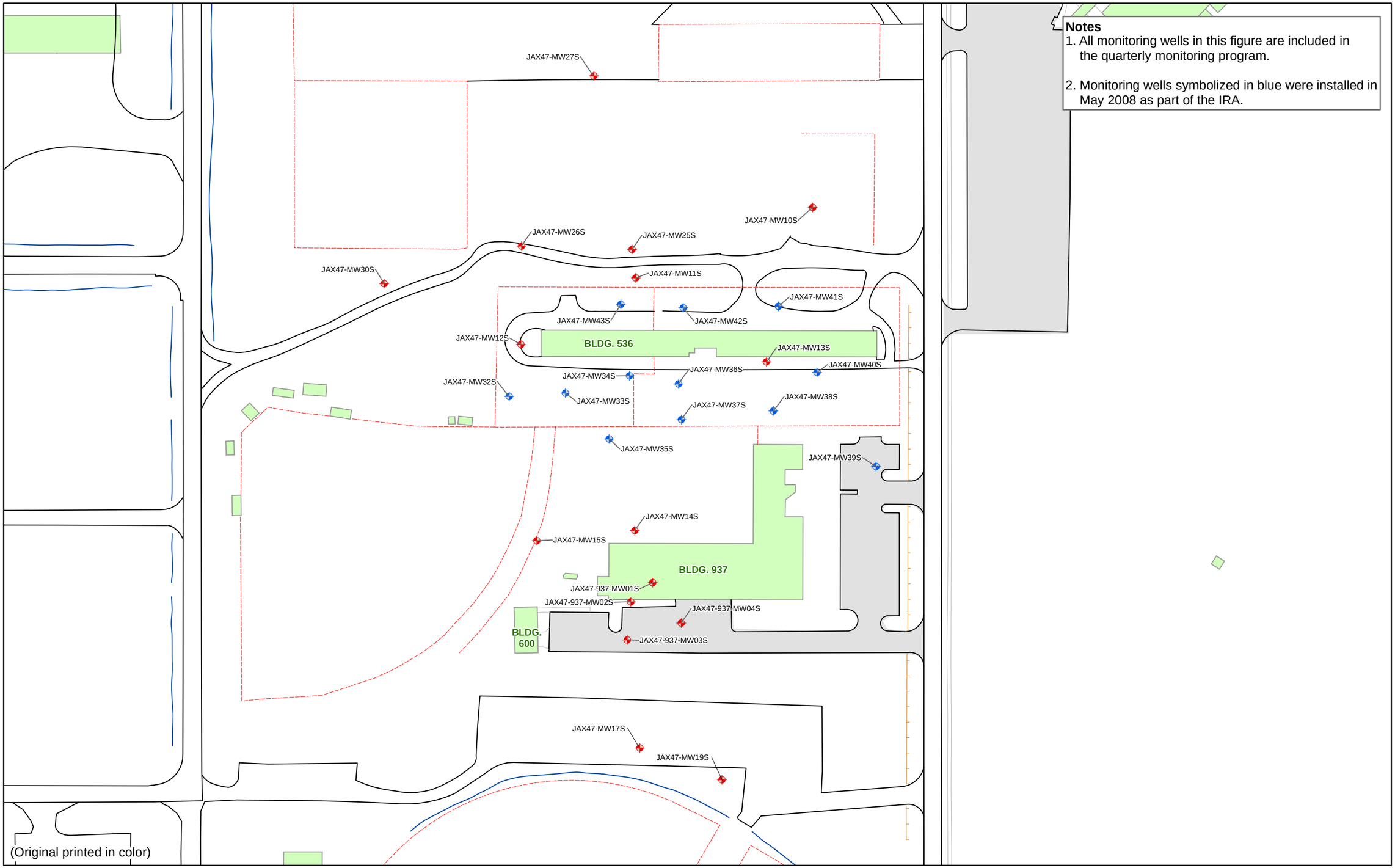
FIGURE 1
Site Location
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida
(Original printed in color)

AGVIQ

ES031814042743WDC Figure_1_Site_Location_Map_v1 03/18/14 BP

Notes

1. All monitoring wells in this figure are included in the quarterly monitoring program.
2. Monitoring wells symbolized in blue were installed in May 2008 as part of the IRA.



Monitoring Well Installed in 2008
Monitoring Well Installed Prior to 2008
Road Curb Line
Sidewalk
Ditch
Fence
Surface Water
Building
Parking Area

N

0 50 100 200 Feet

FIGURE 2
Site Plan
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida

AGVIO

ES031814042743WDC Figure_2_Site_Plan_v1 03/18/14 BP

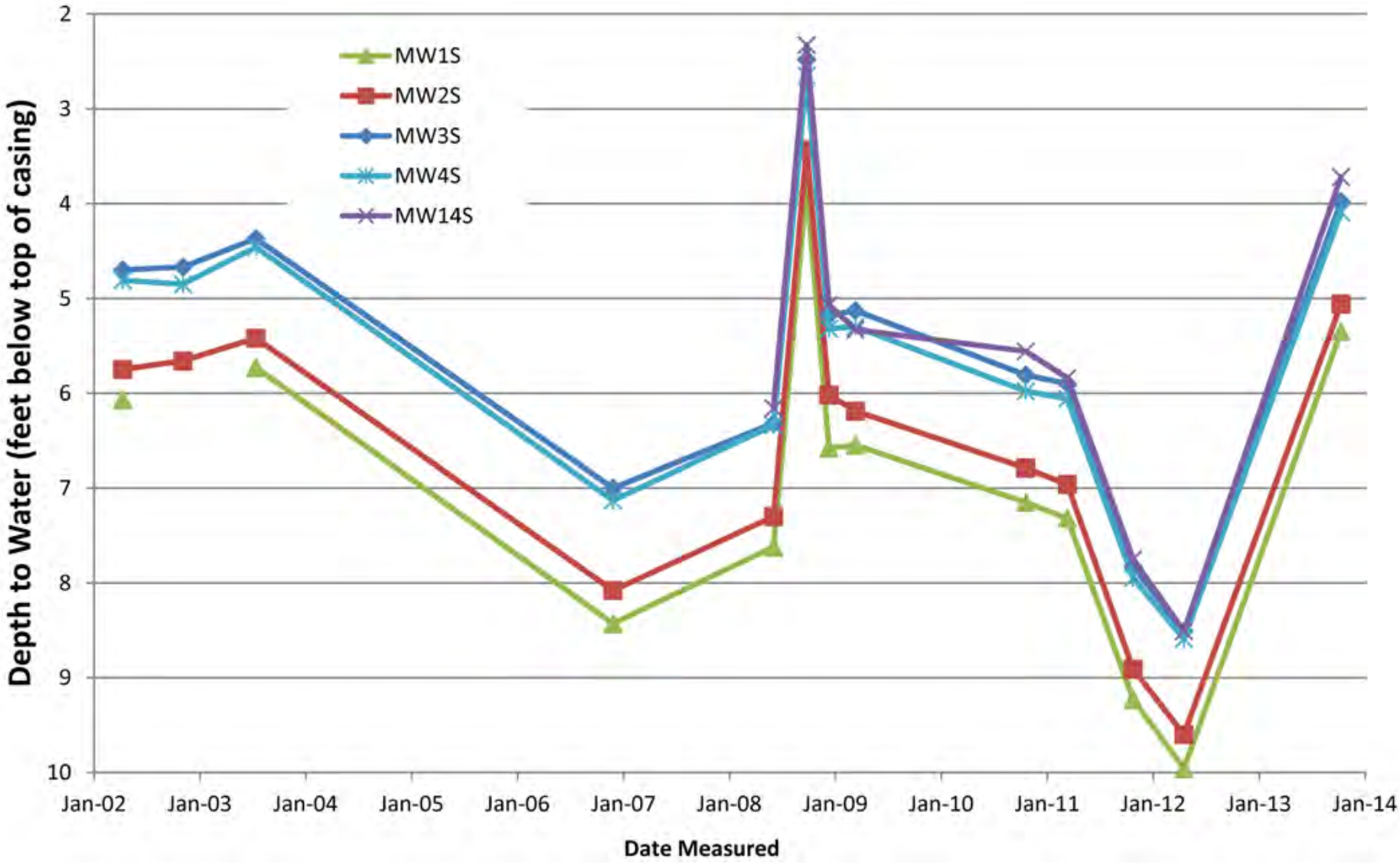
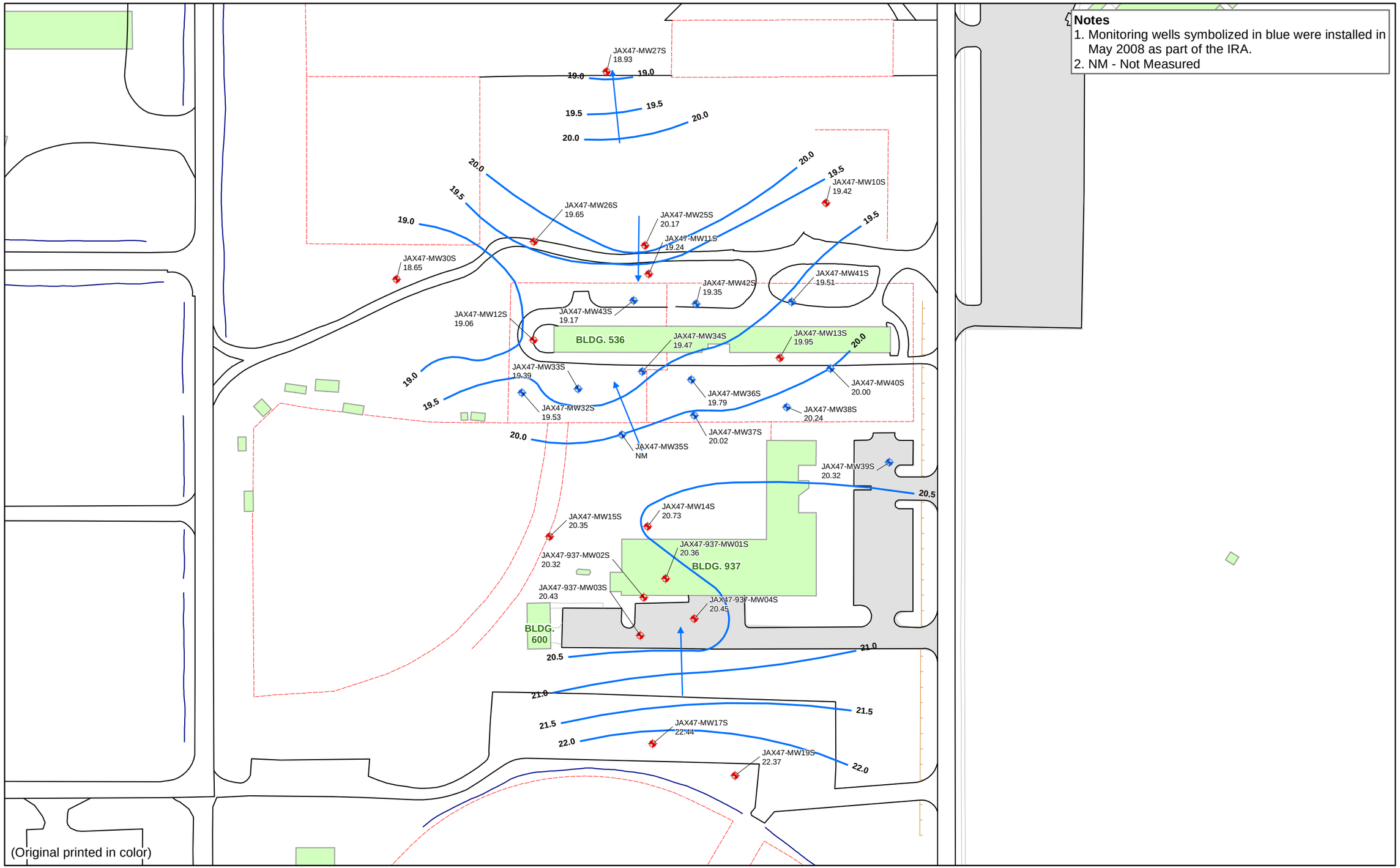


FIGURE 3
Building 937 Water Level Trends
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida



Notes
1. Monitoring wells symbolized in blue were installed in May 2008 as part of the IRA.
2. NM - Not Measured

(Original printed in color)

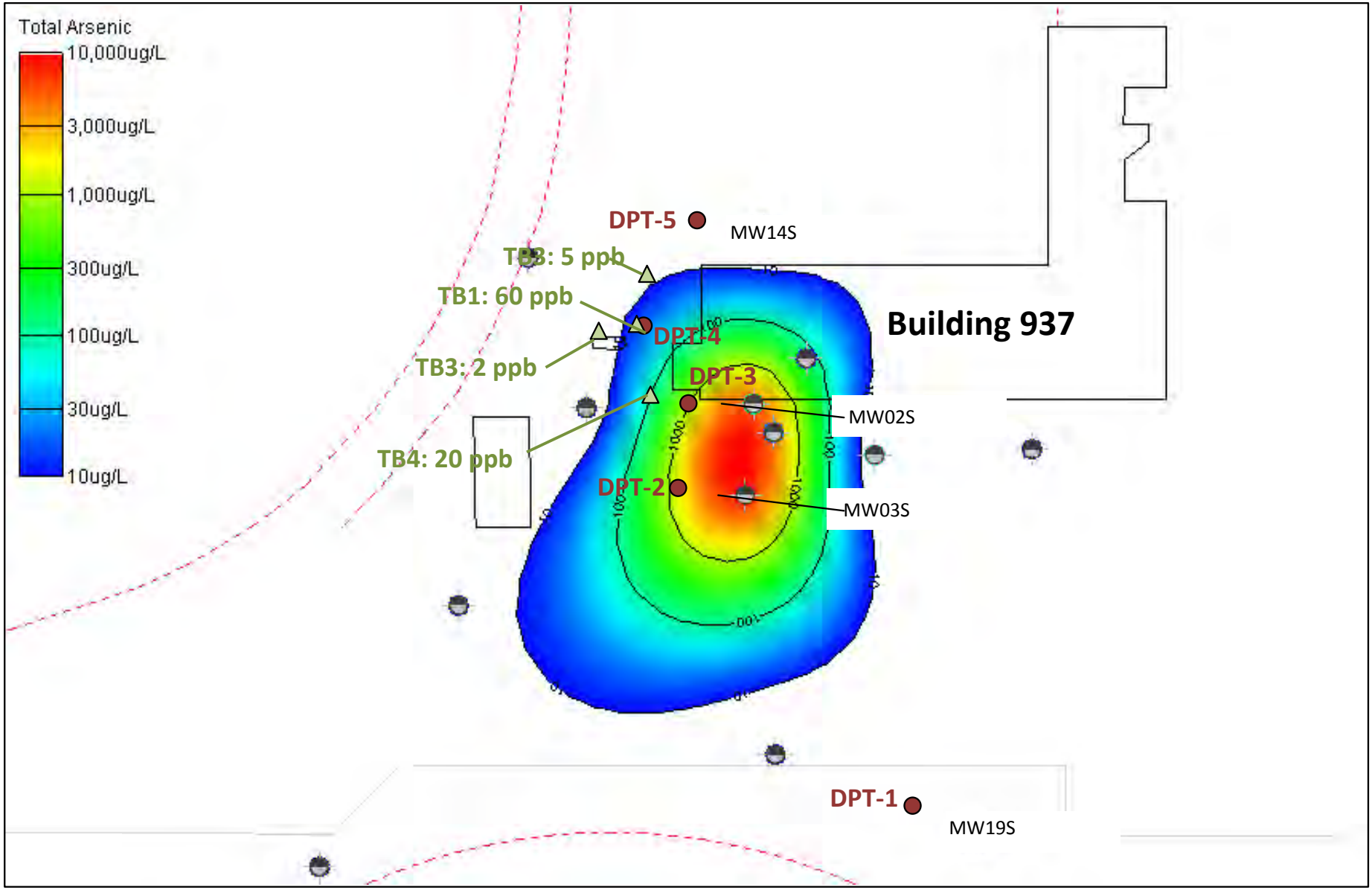
Monitoring Well Installed in 2008
Monitoring Well Installed Prior to 2008
Road Curb Line
Sidewalk
Ditch
Fence
Surface Water
Groundwater Flow Direction
Potentiometric Contour (Interval = 0.5 ft msl)
Building
Parking Area

N

0 100 200 Feet

FIGURE 4
Potentiometric Surface Map
End of Rainy Season - October 9, 2013
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida

ES031814042743WDC Figure_4_Potentiometric_Surface_Map_v1 03/18/14 BP



Legend

TB1: 20 ppb
- Field GW Arsenic Test Kit Sampling Location and Result
- DPT Boring Location
- Existing Monitoring Well

0 75 150 Feet

FIGURE 5
Sample Locations
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida

AGVIO

ES031814042743WDC Figure_5_Sample_Locations_v2 06/03/14 BP

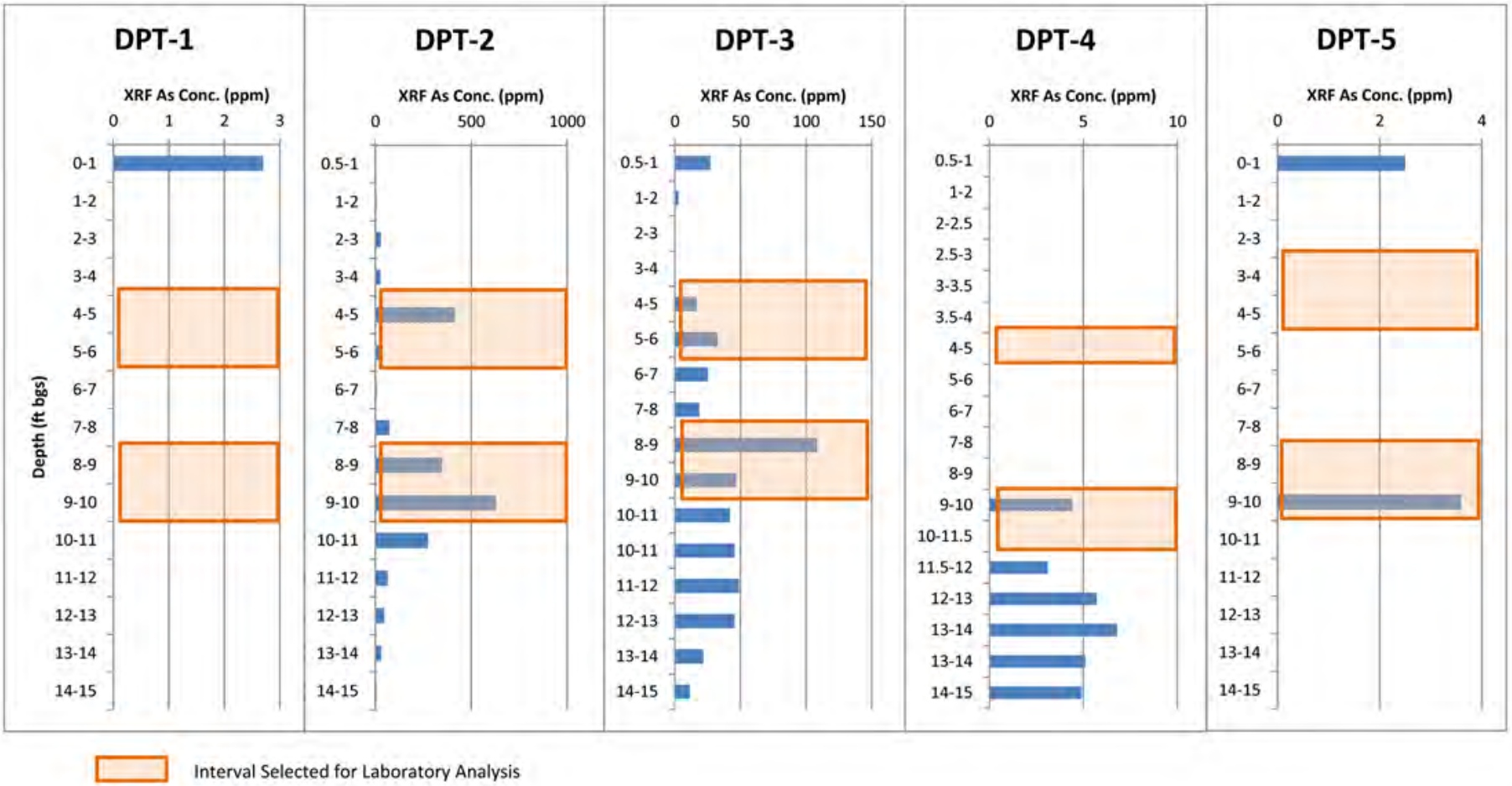
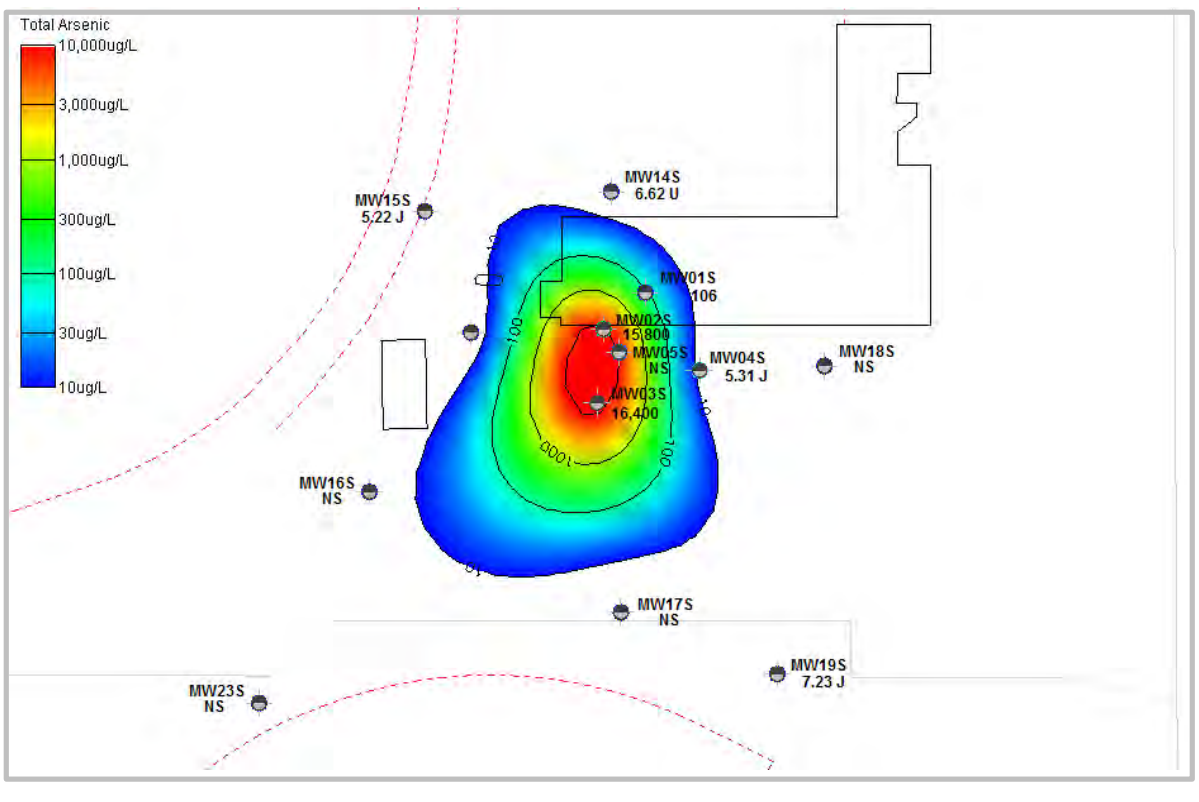
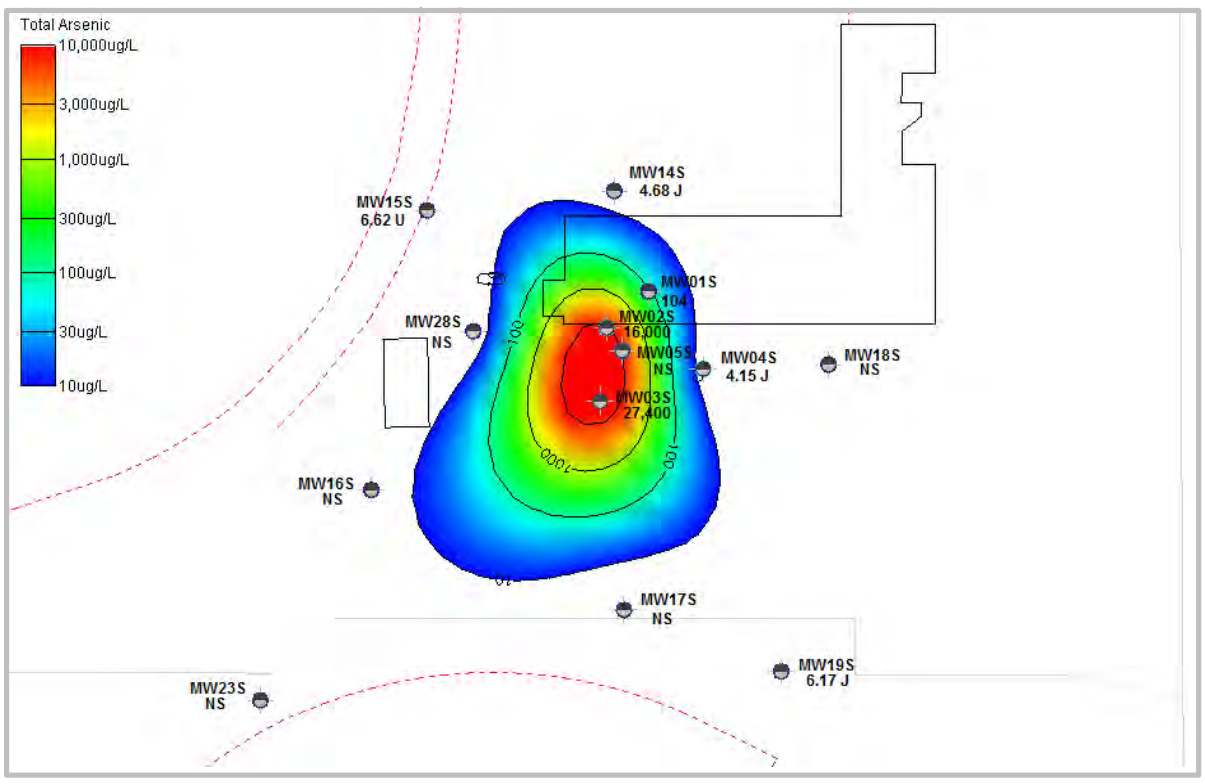


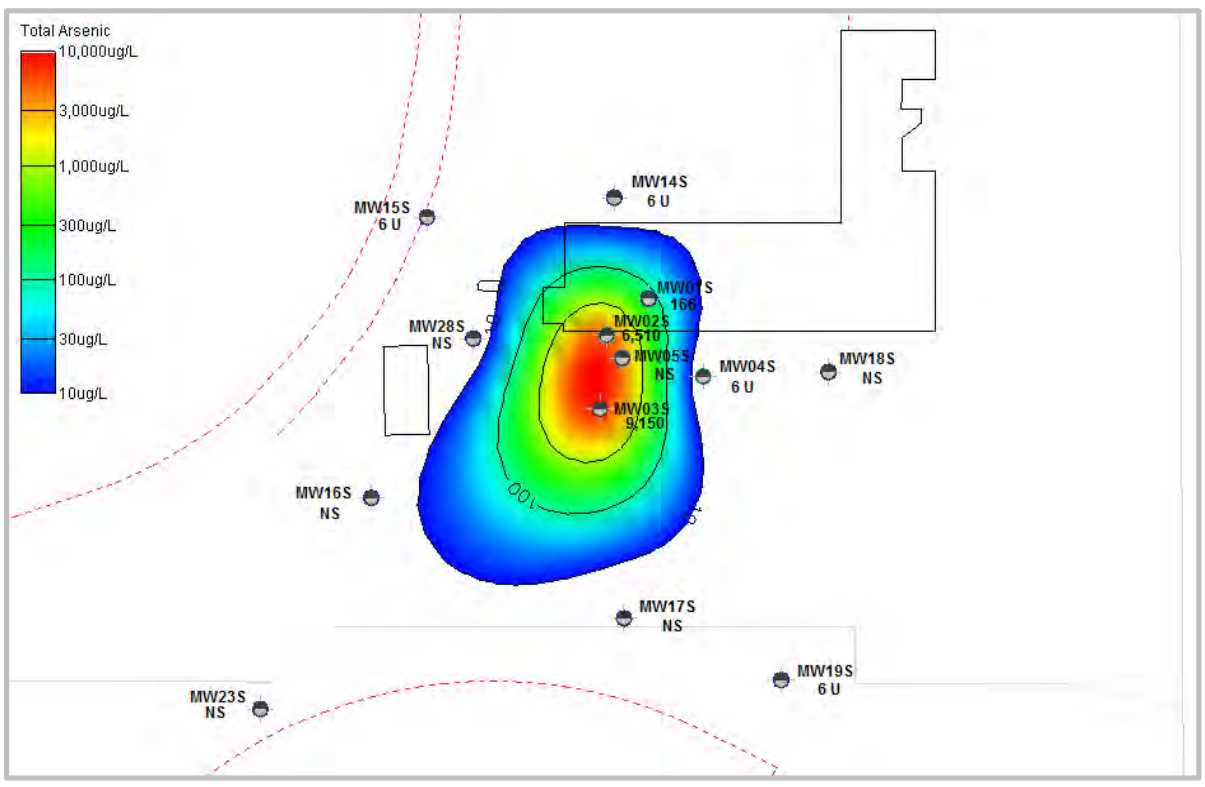
FIGURE 6
Field X-Ray Flourescence Arsenic Results
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida



Interpolated Arsenic Concentrations in Groundwater, October 2011



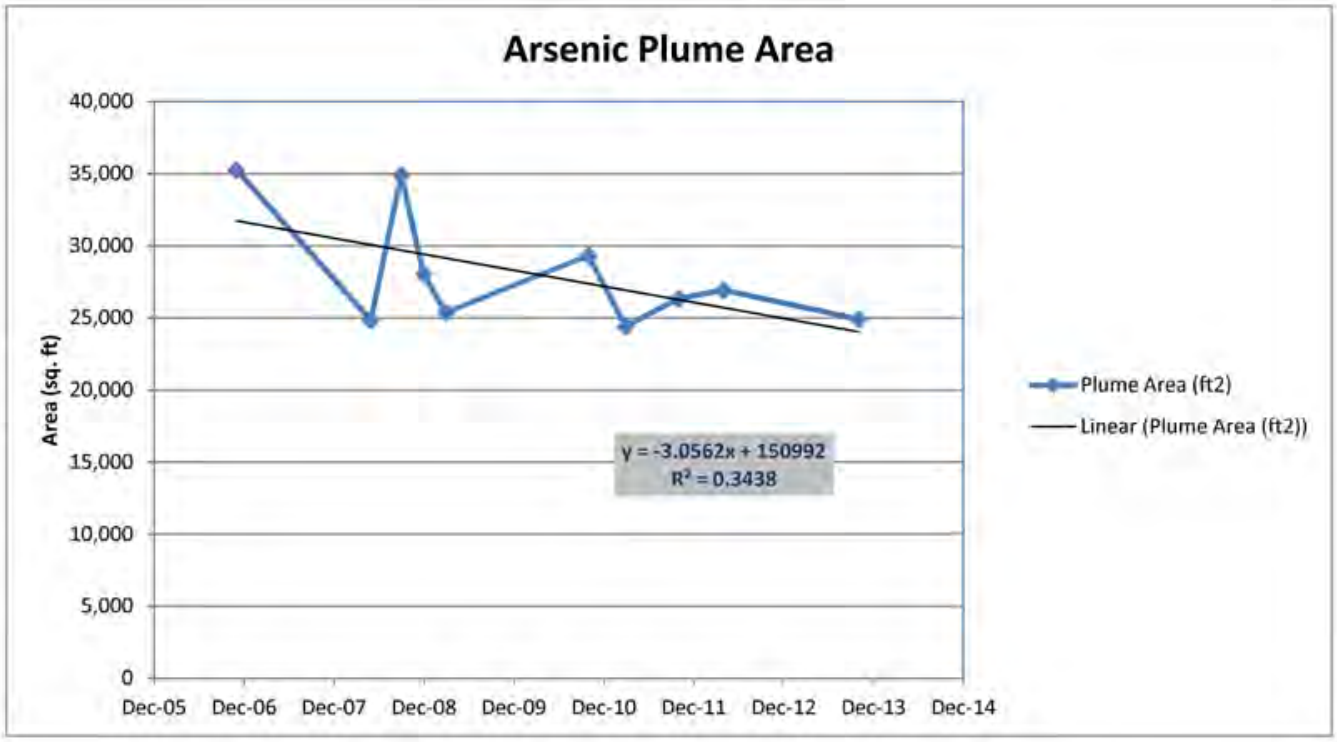
Interpolated Arsenic Concentrations in Groundwater, April 2012



Interpolated Arsenic Concentrations in Groundwater, October 2013

0 113 226 Feet

FIGURE 7
Building 937 Arsenic Groundwater Plume
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida



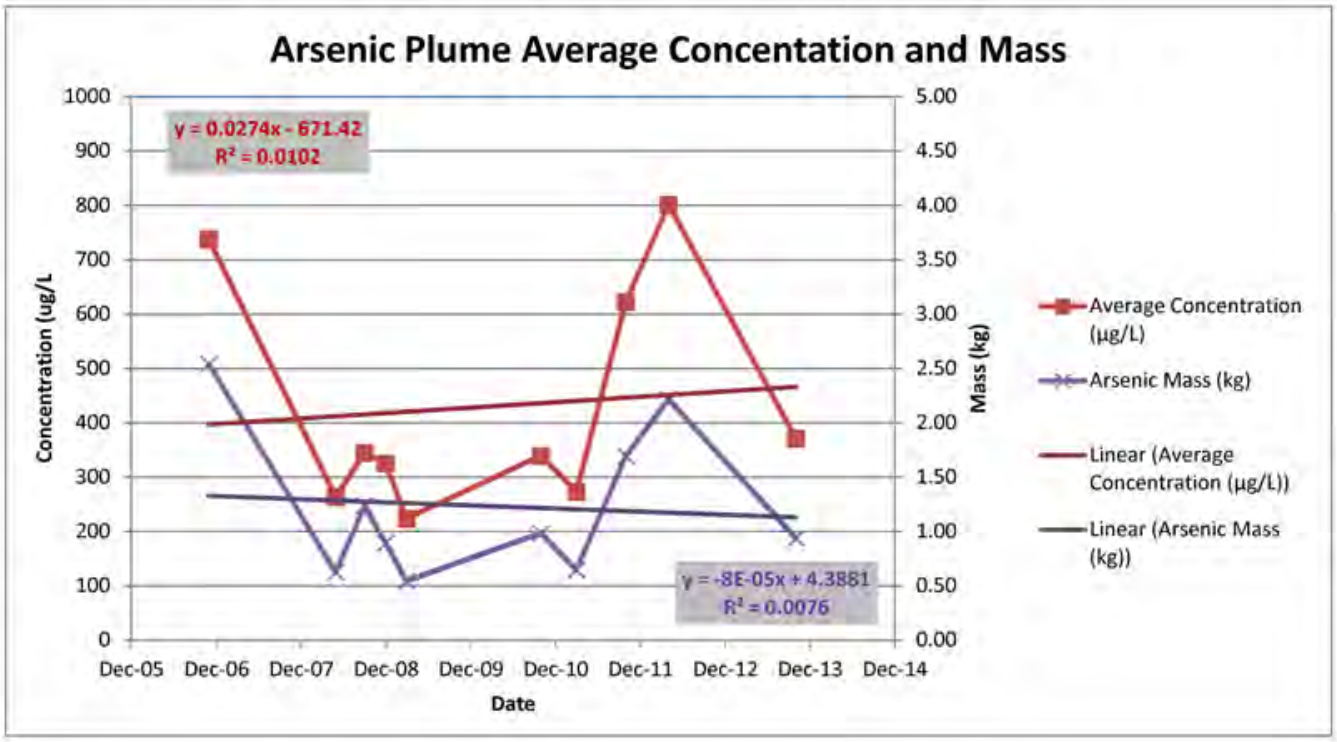
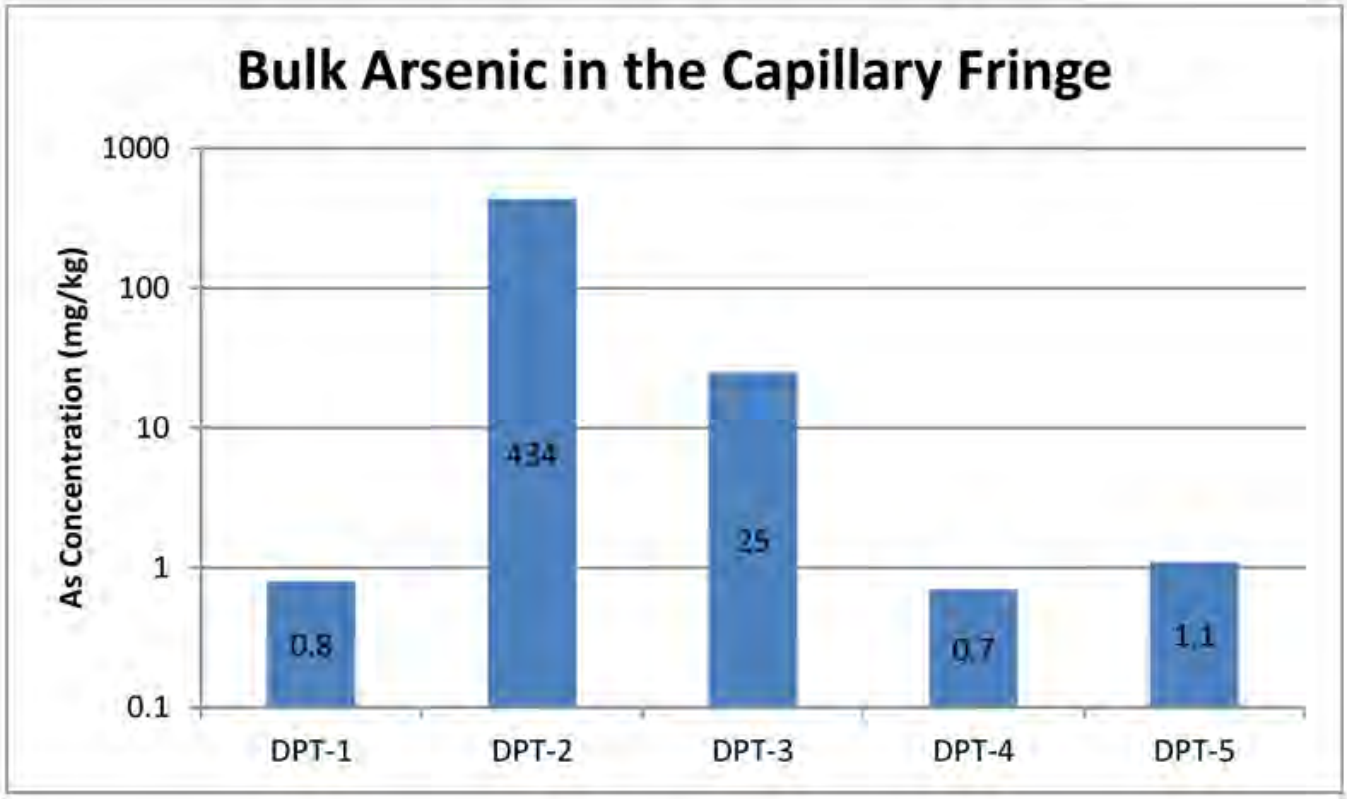


FIGURE 8
Building 937 Arsenic Plume Area, Average Concentration, and Mass Trends
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida



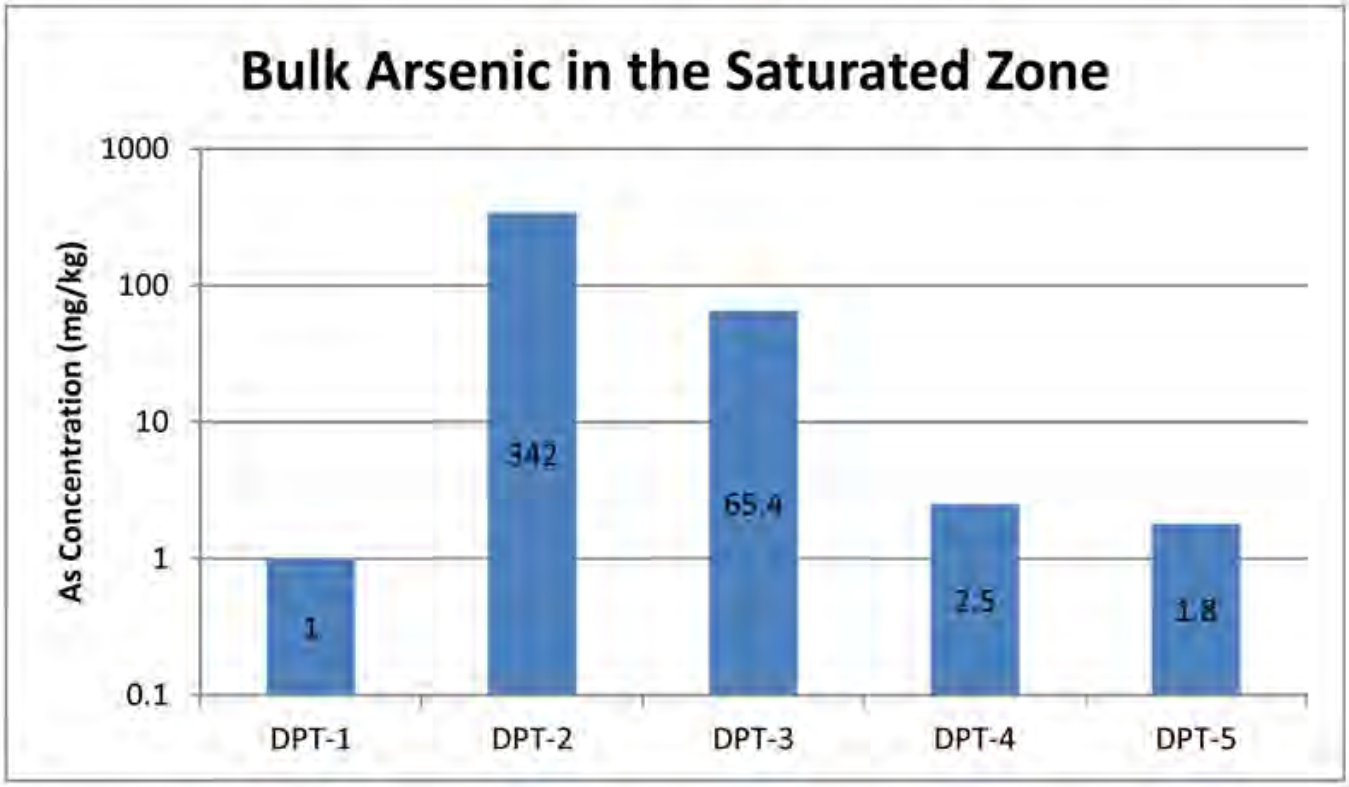
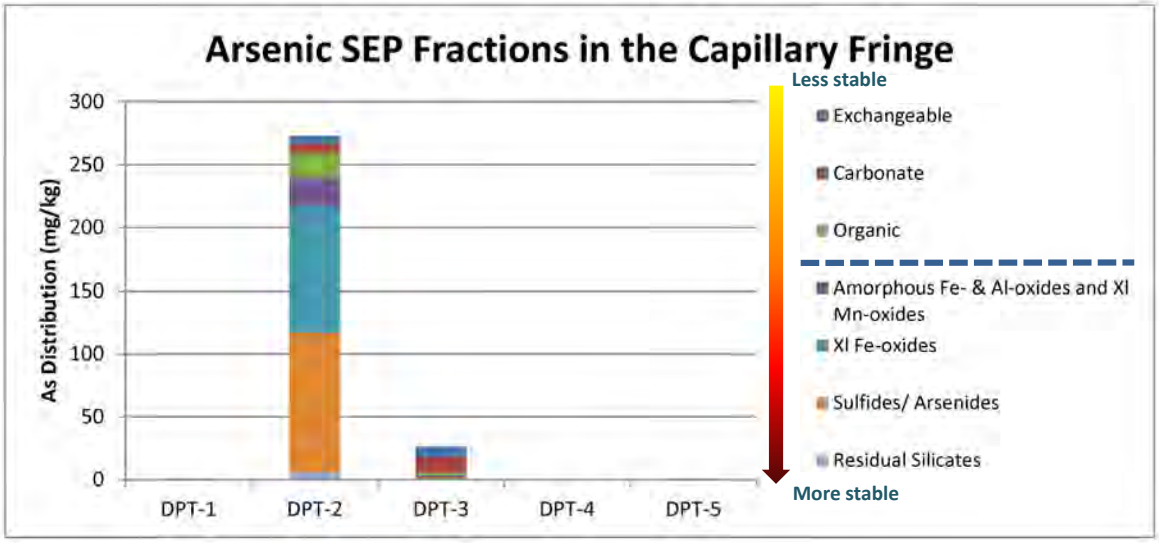
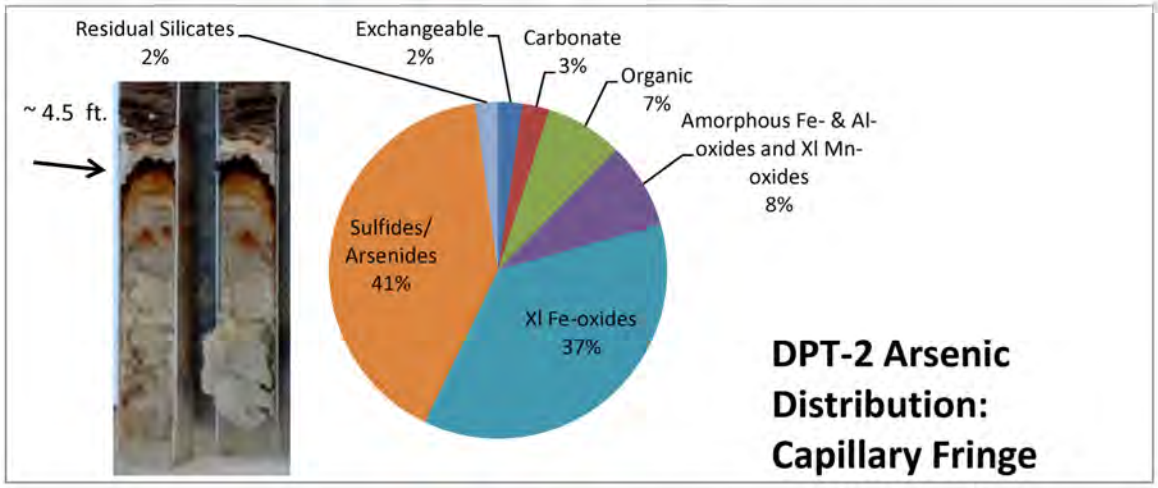


FIGURE 9
Total Bulk Arsenic Concentrations in Soil
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida





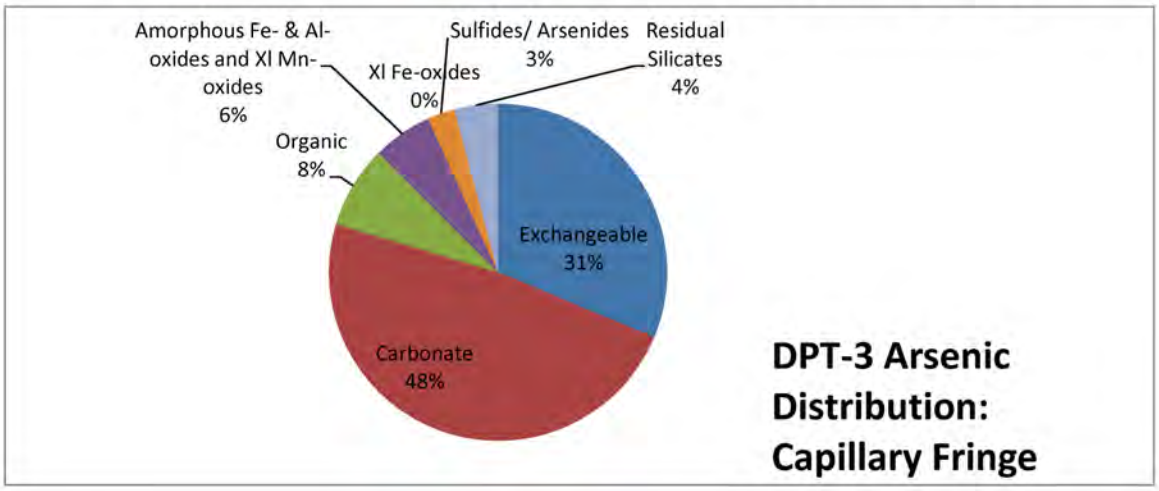
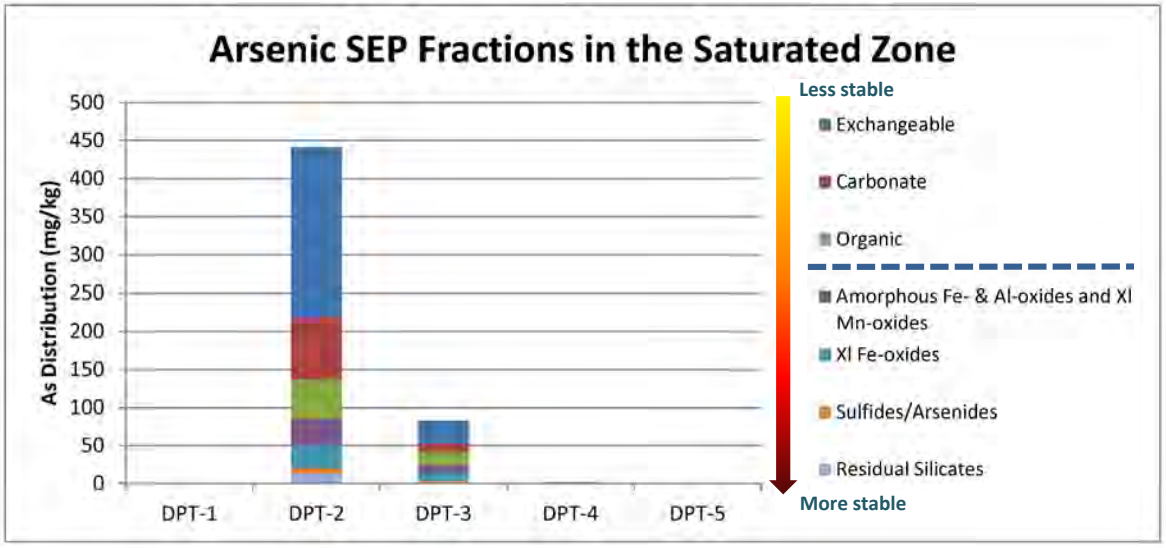
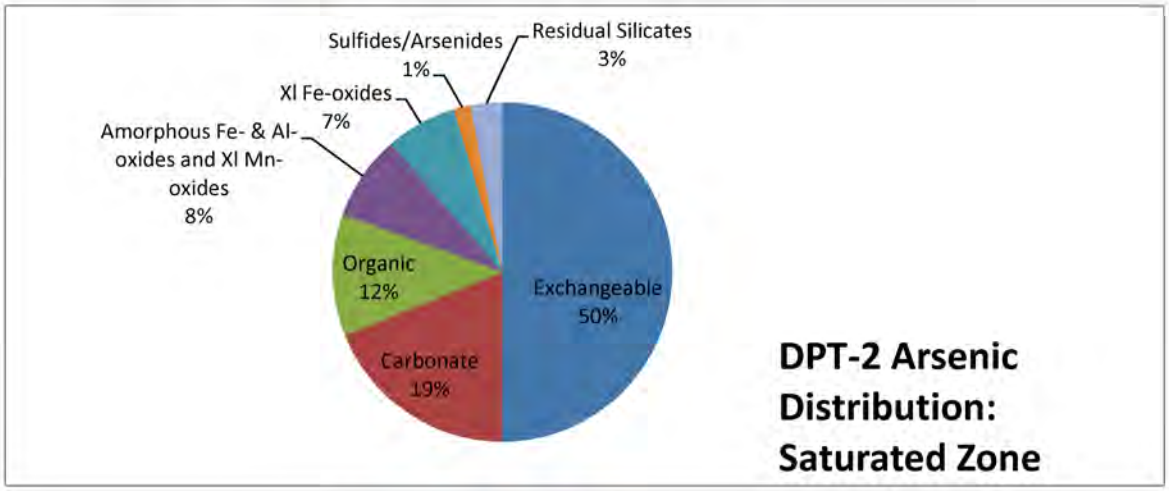


FIGURE 10
Arsenic Sequential Extraction Results in Capillary Fringe Samples
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida





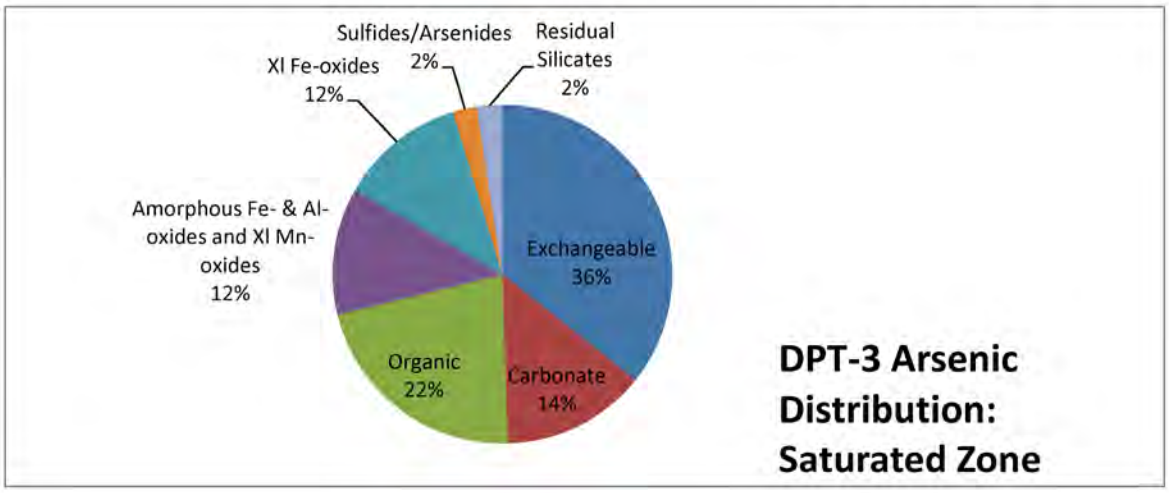


FIGURE 11
Arsenic Sequential Extraction Results in Saturated Zone Samples
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida

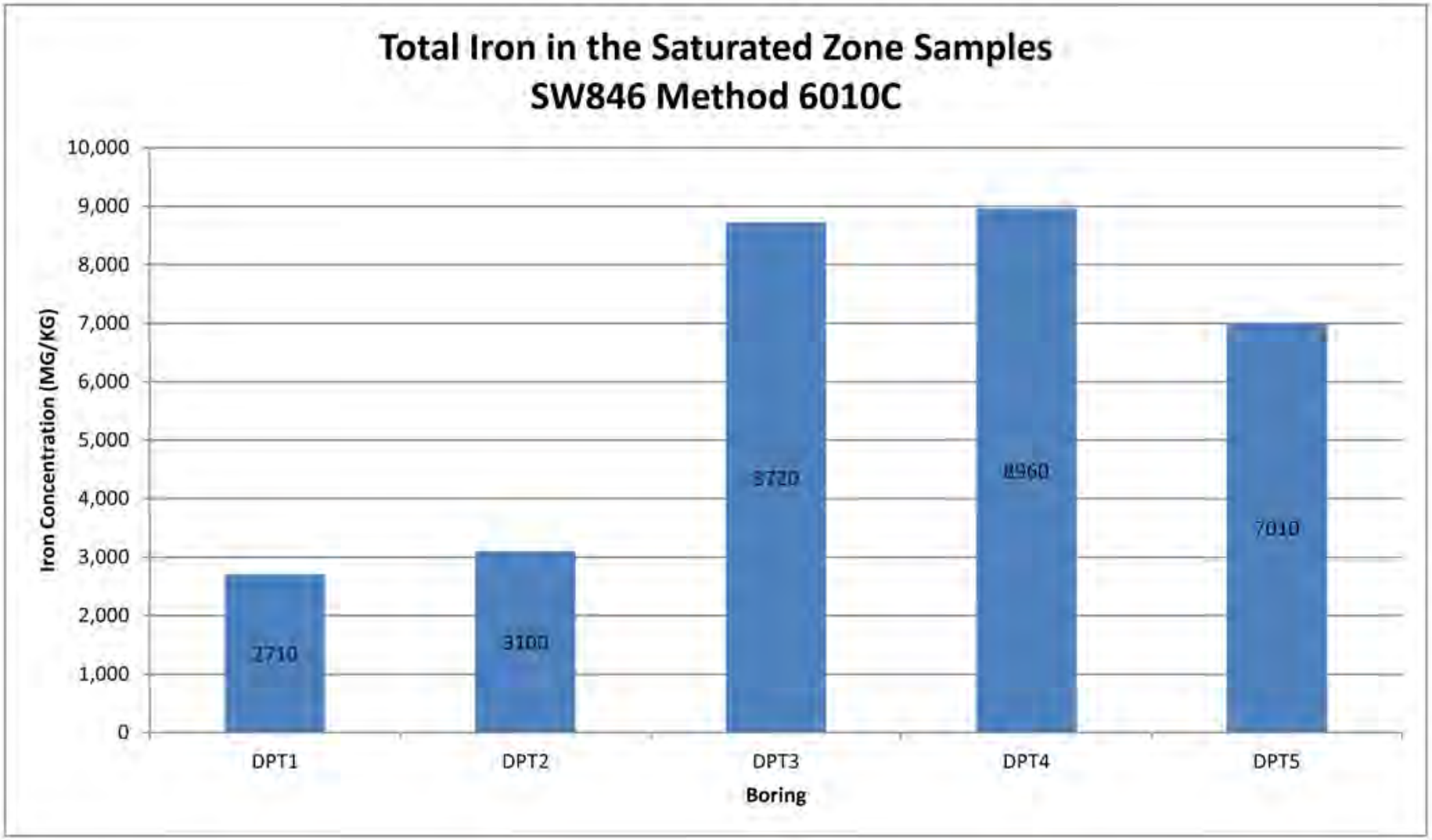


FIGURE 12
Total Iron in the Saturated Zone Soil Samples
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida

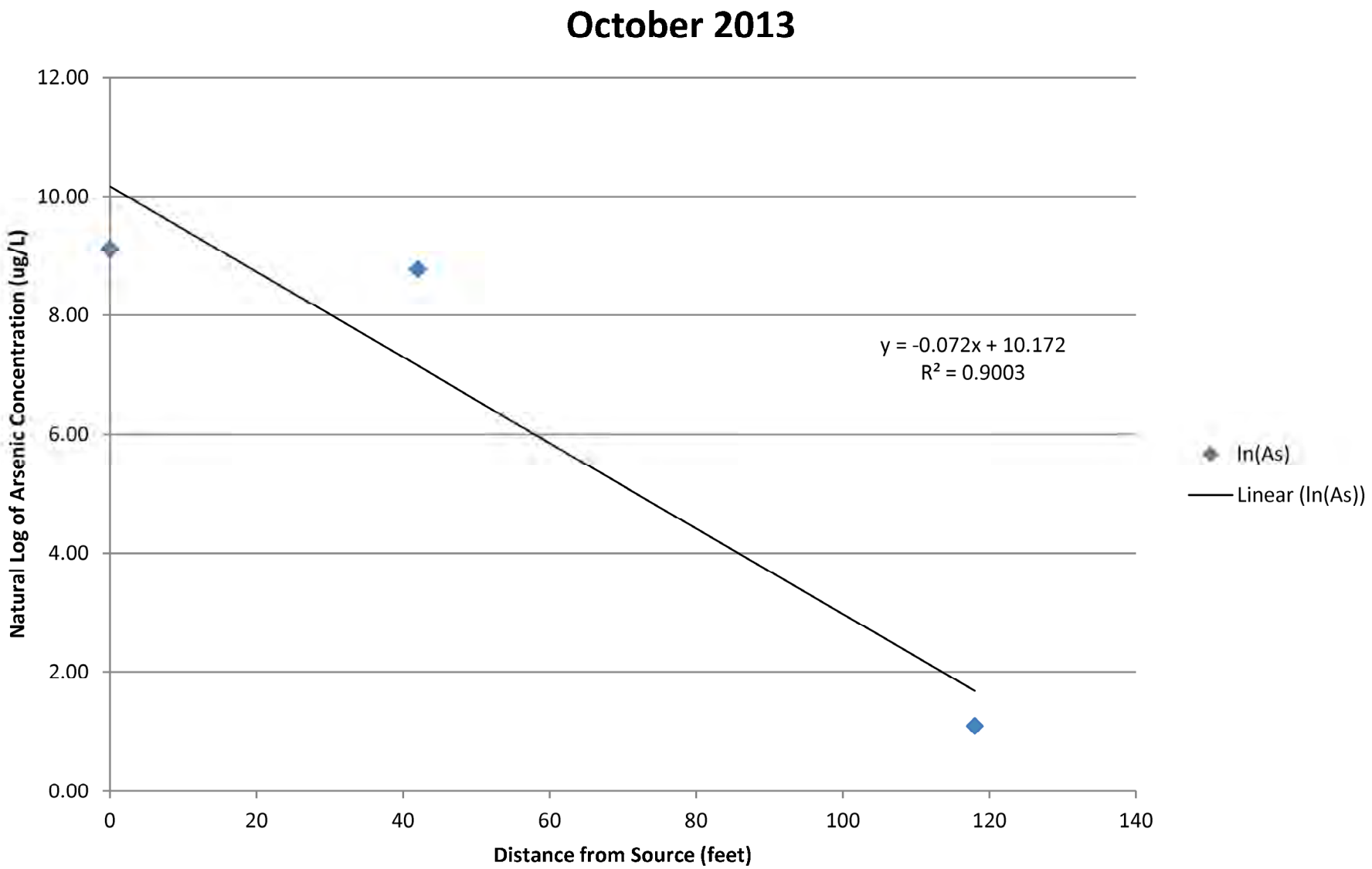
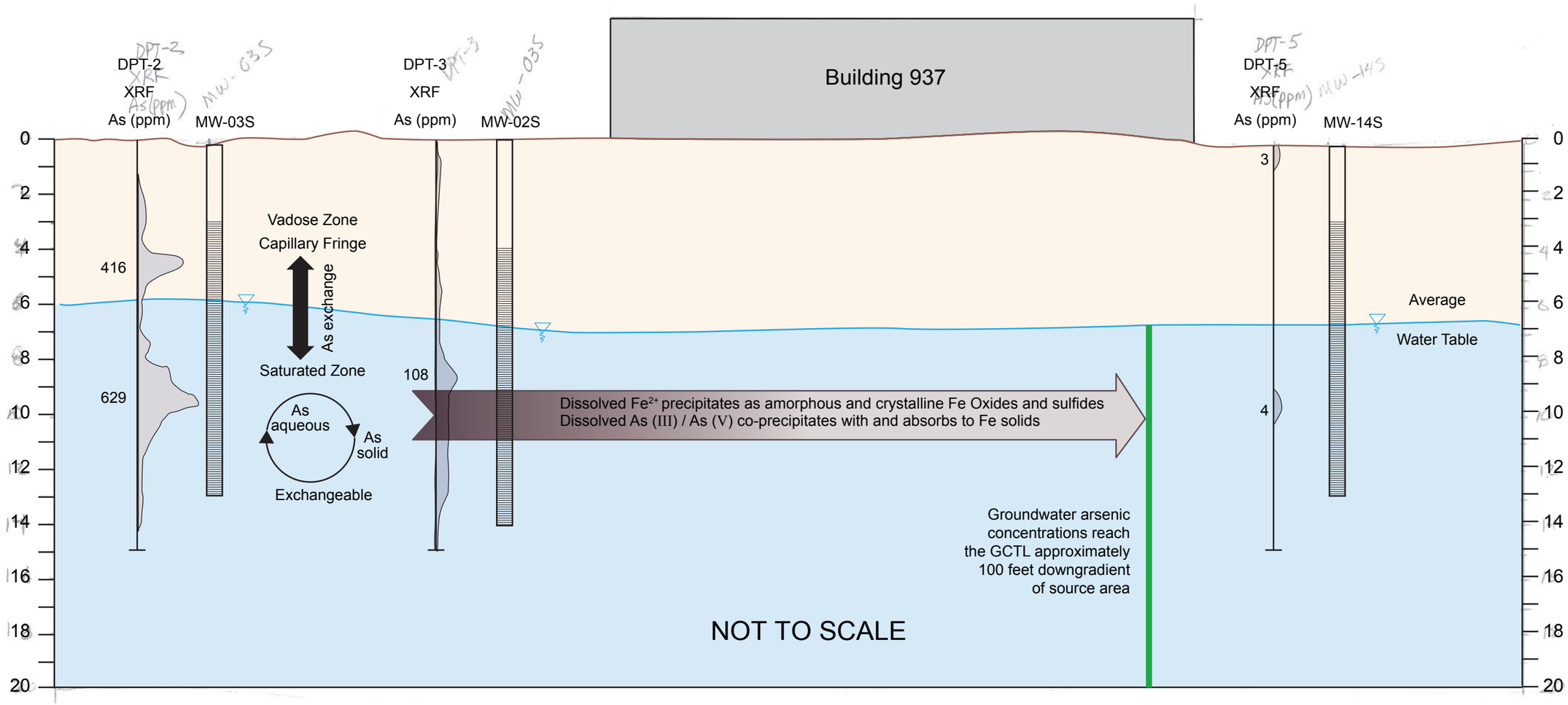


FIGURE 13
October 2013 Arsenic Concentrations vs. Distance along Building 937 Plume Centerline
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida

Conceptual Model of Arsenic Fate and Transport within the Site PSC 47 Groundwater Plume



LEGEND TYPICAL WATERTABLE DEPTH BELOW GROUND SURFACE

TYPICAL WATER TABLE DEPTH BELOW GROUND SURFACE

CASING

SCREEN

FIGURE 14
Conceptual Model of Arsenic Fate and Transport
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida

Attachment A
Soil Boring Logs

CH2MHILL	PROJECT NUMBER 470875	BORING NUMBER JM10-DPT1

SOIL BORING LOG

PROJECT : Monitored Natural Attenuation of Pesticides
LOCATION : PSC 47 Pesticide Shop
ELEVATION :
DRILLING CONTRACTOR : Partridge Well Drilling Company, Inc.
DRILLING METHOD AND EQUIPMENT USED : Geoprobe DPT, Track Mounted
ATD WATER LEVEL :
START : 10/30/13
END : 10/30/13
LOGGER : K. Dobson

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	SAMPLE #/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N')	COPR Strata	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	USCS	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. DRILLING ACTIONS/DRILLER COMMENTS. PID Readings: Breathing Zone: Above Hole:
	0-0.4					Top Soil, black, roots		
	0.4-0.75					SAND, fine to v. fine, silty, dark brown banding, dry		
	0.75-1	42/60				SAND, fine, dark tan, dry		
	1-5					SAND, fine, silty, light tan to light gray, dry		
5								Vadose zone sample: JM10-DPT1-04-06
	5-5.5					SAND, fine, silty, dark gray with dark brown band, dry		
	5.5-7	60/60				SAND, fine, light. gray, wet		
	7-10					SAND, fine, silty, tan with a light green tint, wet		Saturated zone sample: JM10-DPT1-08-10
10								
	10-11.5					SAND, fine, silty, tan with a light green tint, wet		
	11.5-14.5	42/60				CLAY, sandy with silty sand lenses, tan with a light green tint		
	14.5-15					SAND, medium, tan with a light green tint		
15								

CH2MHILL	PROJECT NUMBER 470875	BORING NUMBER JM10-DPT2

SOIL BORING LOG

PROJECT : Monitored Natural Attenuation of Pesticides
LOCATION : PSC 47 Pesticide Shop
ELEVATION :
DRILLING CONTRACTOR : Partridge Well Drilling Company, Inc.
DRILLING METHOD AND EQUIPMENT USED : Geoprobe DPT, Track Mounted
ATD WATER LEVEL :
START : 10/30/13
END : 10/30/13
LOGGER : K. Dobson

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	SAMPLE #/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N')	COPR Strata	SOIL DESCRIPTION (SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.)	USCS	COMMENTS (DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. DRILLING ACTIONS/DRILLER COMMENTS) PID Readings: Breathing Zone: Above Hole:
	0-0.5					Asphalt		
	0.5-0.75					FILL, white, with asphalt cutting, dry		
	0.75-2.3	30/60				SAND with silt, fine, dark gray with medium gray banding, dry		
	2.3-4.25					SAND, fine, with silt, tan to medium brown with dark reddish brown nodules increasing with depth, distinct dark reddish brown band at base		
5	4.75-5					SAND with silt, fine, grayish tan with brown mottling, dry		Vadose zone sample: JM10-DPT2-04-06
	5-7.3					SAND with silt, fine, light gray, wet		
	7.3-7.8					SAND with silt, fine, light gray with yellow staining, wet		
	7.8-8.3	36/60				SAND with silt, fine, light gray, wet		
	8.3-10					SAND, fine, light grayish orange with darker orange mottling, wet		Saturated zone sample: JM10-DPT2-08-10
10	10-11.8					SAND, silty, clayey, fine, light grayish tan with orange mottling. increasing clay with depth		
	11.8-12.8	37/60				SAND, silty, clayey, fine, light to dark orange with heavy orange mottling		
	12.8-14					CLAY, fat, light greenish gray with dark grey mottling, with thin (0.5-1 inch) bands of light gray fine sand, wet		
15	14-15					SAND, silty and clayey, light greenish gray, wet		

CH2MHILL	PROJECT NUMBER 470875	BORING NUMBER JM10-DPT3

SOIL BORING LOG

PROJECT : Monitored Natural Attenuation of Pesticides
LOCATION : PSC 47 Pesticide Shop
ELEVATION :
DRILLING CONTRACTOR : Partridge Well Drilling Company, Inc.
DRILLING METHOD AND EQUIPMENT USED : Geoprobe DPT, Track Mounted
ATD WATER LEVEL :
START : 10/30/13
END : 10/30/13
LOGGER : K. Dobson

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	SAMPLE #/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N')	COPR Strata	SOIL DESCRIPTION (SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.)	USCS	COMMENTS (DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. DRILLING ACTIONS/DRILLER COMMENTS)
	0-0.3					Asphalt		PID Readings: Breathing Zone: Above Hole:
	0.3-7					FILL, white, with asphalt cuttings, dry		
	0.7-3	44/60				SAND, silty, fine, light to dark gray with medium gray banding, dry		
	3-4					SAND, silty, grayish brown to tan with dark reddish brown mottling increasing with depth		
5	4-5					SAND with silt, fine, light tan with occasional reddish brown mottling, dry		Vadose zone sample: JM10-DPT3-04-06
	5-8	44/60				SAND with silt, fine, light gray, wet		
10	8-10					SAND with silt, fine, light grayish orange with dark orange mottling, wet		Saturated zone sample: JM10-DPT3-08-10
	10-12.5	42/60				SAND, silty, light tan with orange mottling, wet		
15	12.5-15					SAND with silt fine, light gray, wet		

CH2MHILL	PROJECT NUMBER 470875	BORING NUMBER JM10-DPT4

SOIL BORING LOG

PROJECT : Monitored Natural Attenuation of Pesticides
LOCATION : PSC 47 Pesticide Shop
ELEVATION :
DRILLING CONTRACTOR : Partridge Well Drilling Company, Inc.
DRILLING METHOD AND EQUIPMENT USED : Geoprobe DPT, Track Mounted; Hand augered to 0 to 9 feet below ground surface
ATD WATER LEVEL :
START : 10/29/13
END : 10/29/13
LOGGER : K. Dobson

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	SAMPLE #/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N')	COPR Strata	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	USCS	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. DRILLING ACTIONS/DRILLER COMMENTS. PID Readings: Breathing Zone: Above Hole:
	0-0.5					Fill, gravel		
	0.5-2.5					SAND, silty, fine, grayish tan, dry		
	2.5-3	42/60				SAND, silty, light brown with dark brown mottling, dry		
	3-4.5					SAND, silty, dark brown mottling, moist		
5	4.5-5					SAND, fine, tan with dark brown mottling, wet		Vadose zone sample: JM10-DPT4-04-05
	5-7					SAND, fine, tan with dark brown mottling, wet		
	7-8.5	42/60				SAND, fine, tan, wet		
	8.5-10					SAND, fine, tan with orange mottling, wet		
10								Saturated zone sample: JM10-DPT4-09-11H
	10-11.5					SAND, fine, tan with orange mottling, wet		
	11.5-15					SAND, fine, tan, wet		
15								

CH2MHILL	PROJECT NUMBER 470875	BORING NUMBER JM10-DPT5

SOIL BORING LOG

PROJECT : Monitored Natural Attenuation of Pesticides
LOCATION : PSC 47 Pesticide Shop
ELEVATION :
DRILLING CONTRACTOR : Partridge Well Drilling Company, Inc.
DRILLING METHOD AND EQUIPMENT USED : Geoprobe DPT, Track Mounted
ATD WATER LEVEL :
START : 10/30/13
END : 10/30/13
LOGGER : K. Dobson

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	SAMPLE #/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N')	COPR Strata	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	USCS	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. DRILLING ACTIONS/DRILLER COMMENTS. PID Readings: Breathing Zone: Above Hole:
	0-0.25					Top Soil, dark brown to black, roots		
	0.25-4.75	42/60				SAND, fine to v. fine, silty, dark gray to medium dk gray. Sparse color banding from 3.75' to 4', dry		
5	4.75-5					SAND, fine to v. fine, silty, grayish tan with brown mottling, dry		Vadose zone sample: JM10-DPT5-03-05
	5-5.35					SAND, fine, dark brown with black band from 5.25 to 5.35', dry		
	5.35-6	42/60				SAND, fine, SAND med. gray, with reddish brown bands and dark red nodules, wet		
10	6-10					SAND, fine, gray with orange mottling, wet		Saturated zone sample: JM10-DPT5-08-10
	10-12					SAND, fine, gray with orange mottling, wet		
	12-13.75	40/60				SAND, fine to medium, tan to light gray, wet		
15	13.75-15					SAND, fine to medium, light brown, wet		

Attachment B
Groundwater Validated Laboratory Data Reports

NAS Jacksonville

PREPARED FOR:	NAS Jacksonville / PSC 47 Groundwater Sampling 1st Event 2013
FINAL REVIEWER/ INITIAL REVIEWER	Camden Robinson/ Project Chemist/CH2M Hill
COPIES:	Eric Davis /Project Manager/AGVIQ-CH2M HILL
DATE:	January 17th, 2014
SUBJECT:	Quality Assessment for Samples collected October 10th. 2013 thru November 4th, 2013

This quality assurance memorandum is based upon a review of analytical data generated for the groundwater samples and the associated field quality control samples collected on October 10th, 2013 thru November 4th, 2013 at the Naval Activity Station Jacksonville in Jacksonville, Florida. The samples were collected as a part of the PSC 47 Groundwater sampling 1st event conducted at the site. The specific samples and analytical fractions reviewed are summarized below in Table 1.

The Quality Control areas that were reviewed and the resulting findings are documented within each subsection that follows. Data validation was conducted using the validation criteria outlined in the Environmental Protection Agency (EPA *National Functional Guidelines for Organic Data Review (EPA 2008) and for Inorganic Data Review (EPA 2010)*, and/or the general guidance provided in the Department of Defense (DOD) Quality Systems Manual - Version 4.2 Final October 2010 (based on NELAC Voted Version – 5 June 2003). Analytical methods and laboratory standard operating procedures (SOPs) were used to evaluate compliance against quality assurance (QA)/QC criteria. If QA/QC criteria were not met, data was considered for qualification.

Samples were submitted to Empirical Laboratories, LLC. of Nashville, Tennessee for the following analyses: SW-846 8260B Volatile Organic Compounds (VOCs), SW-846 8270D Semi-volatiles Organic Compounds (SVOCs), SW-846 8270D Low Level Polycyclic Aromatic Hydrocarbons (PAHs), RSK-175 Methane, Ethane, and Ethene, SW-846 8081B Pesticides and/or Dissolved Pesticides, SW-846 6010C Select Metals – Arsenic, Dissolved Iron, and/or Dissolved Manganese, Standard Method 3500-FED-W Ferrous Iron, Standard Method 2320B Alkalinity, EPA method 300 Nitrate and Sulfate, Standard Method 4500S2CF Sulfide, and Standard Method 5310C Total Organic Carbon (TOC).

Sample results that were not within the acceptance limits were appended with a qualifying flag, which consisted of a single- or double-letter code that indicated a possible problem with the data. The qualifying flags originated during the data review and validation processes. These also include the secondary, or the two/three-digit "sub-qualifier" flags. The secondary qualifiers provide the reasoning behind the assignment of a qualifier flag to the data. The secondary qualifiers are presented and defined below.

Attachment 1 lists the changes in data qualifiers, due to the validation process.

The following primary flags were used to qualify the data:

[=] Detected. The analyte was analyzed for and detected at the concentration shown.

[J] Estimated. The analyte was present but the reported value may not be accurate or precise.

[JB] Estimated. The data validator applied this qualifier to indicate that the analyte may be present but the reported value may not be accurate or precise due to the analyte was detected in the associated field, equipment, and/or trip blank.

[B] Estimated. The data validator applied this qualifier to indicate that the analyte may be present but the reported value may not be accurate or precise due to the analyte was detected in the associated method, initial calibration, and/or continuing calibration blank.

[U] Undetected. The analyte was analyzed for but not detected above the method detection limit. The data validator may also apply this qualifier to indicate that a concentration was not detected at significantly greater than that in an associated blank.

[UJ] Detection limit estimated. The analyte was analyzed for but qualified as not detected; the result is estimated.

[UR] Rejected. The data is not useable. The absence of the analyte cannot be verified.

[R] Rejected. The data is not useable.

Secondary Qualifier Codes

Code	Definition
2SH	Second Source Accuracy High
2SL	Second Source Accuracy Low
BD	Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision
BL	Blank
BSH	Blank Spike/LCS Recovery High
BSL	Blank Spike/LCS Recovery Low
CCH	Continuing Calibration Verification Accuracy High
CCL	Continuing Calibration Verification Accuracy Low
DL	Dilution
EB	Equipment Blank
FD	Field Duplicate
LD	Laboratory Duplicate
HT	Holding Time
ICH	Initial Calibration High
ICL	Initial Calibration Low
ISH	Internal Standard Area Response High
ISL	Internal Standard Area Response Low
LR	Linear Range (Exceeded calibration range)
MD	Matrix Spike/Matrix Spike Duplicate Precision
MI	Matrix Interferences
MSH	Matrix Spike and/or Matrix Spike Duplicate Recovery High
MSL	Matrix Spike and/or Matrix Spike Duplicate Recovery Low
OT	Other
PC	Primary/Confirmation Column Imprecision
PS	Post Digest Spike
RE	Re-analysis
RF	Response Factor
SSH	Spiked Surrogate Recovery High
SSL	Spiked Surrogate Recovery Low
TB	Trip Blank
TD	Dissolved Results greater than Total Results
TN	Tune
EMPC	Estimated Maximum Possible Concentration

Table 1 - Chemical Analytical Methods – Field and Quality Control Samples

SDG	Sample ID	Lab Sample ID	Matrix	Sample Type	Date Collected	Analyses Performed
1310104	JM10-JAX47-TB01-101013	1310104-01	WQ	TB	10/10/2013	[1]
1310104	JM10-JAX47-937-MW01S-1013	1310104-02	GW	N	10/10/2013	[1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11]
1310104	JM10-JAX47-937-MW01S-1013A	1310104-03	GW	N	10/10/2013	[6]
1310104	JM10-JAX47-FD011013	1310104-04	GW	FD	10/10/2013	[1], [2], [3], [5], [6],
1310104	JM10-JAX47-937-MW03S-1013	1310104-05	GW	N	10/10/2013	[4], [5], [6], [7], [8], [9], [10], [11]
1310104	JM10-JAX47-937-MW03S-1013A	1310104-06	GW	N	10/10/2013	[5], [6]
1310104	JM10-JAX47-FD02-1013	1310104-07	GW	FD	10/10/2013	[5], [6]
1310104	JM10-JAX47-FD02-1013A	1310104-08	GW	FD	10/10/2013	[5]
1310104	JM10-JAX47-937-MW02S-1013	1310104-09	GW	N	10/10/2013	[5], [6], [7], [8], [9], [10], [11]
1310104	JM10-JAX47-937-MW02S-1013A	1310104-10	GW	N	10/10/2013	[5], [6]
1310121	JM10-JAX47-TB01-101113	1310121-01	WQ	TB	10/11/2013	[1]
1310121	JM10-JAX47-MW10S-1013	1310121-02	GW	N	10/11/2013	[1], [2], [3], [5], [6]
1310121	JM10-JAX47-MW10S-1013-MS	1310121-02MS	WQ	MS	10/11/2013	[1], [2], [3], [5], [6]
1310121	JM10-JAX47-MW10S-1013-SD	1310121-02SD	WQ	SD	10/11/2013	[1], [2], [3], [5], [6]
1310121	JM10-JAX47-MW36S-1013	1310121-03	GW	N	10/11/2013	[5]
1310121	JM10-JAX47-MW36S-1013A	1310121-04	GW	N	10/11/2013	[5]
1310121	JM10-JAX47-FD03-1013	1310121-05	GW	FD	10/11/2013	[5], [6]
1310121	JM10-JAX47-MW14S-1013	1310121-06	GW	N	10/11/2013	[5], [6]
1310139	JM10-JAX47-TB01-101513	1310139-01	WQ	TB	10/15/2013	[1]
1310139	JM10-JAX47-MW34S-1013	1310139-02	GW	N	10/15/2013	[4], [5], [6], [7], [8], [9], [10], [11]
1310139	JM10-JAX47-MW34S-1013-MS	1310139-02MS	WQ	MS	10/15/2013	[5], [6]

SDG	Sample ID	Lab Sample ID	Matrix	Sample Type	Date Collected	Analyses Performed
1310139	JM10-JAX47-MW34S-1013-SD	1310139-02SD	WQ	SD	10/15/2013	[5], [6]
1310139	JM10-JAX47-MW34S-1013A	1310139-03	GW	N	10/15/2013	[5], [6]
1310139	JM10-JAX47-MW34S-1013A-MS	1310139-03MS	WQ	MS	10/15/2013	[5], [6]
1310139	JM10-JAX47-MW34S-1013A-MS	1310139-03SD	WQ	SD	10/15/2013	[5], [6]
1310139	JM10-JAX47-MW11S-1013	1310139-04	GW	N	10/15/2013	[1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11]
1310139	JM10-JAX47-MW11S-1013A	1310139-05	GW	N	10/15/2013	[5], [6]
1310139	JM10-JAX47-937-MW04S-1013	1310139-06	GW	N	10/15/2013	[1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11]
1310139	JM10-JAX47-937-MW04S-1013A	1310139-07	GW	N	10/15/2013	[6]
1310139	JM10-JAX47-EB01-101513	1310139-08	WQ	EB	10/15/2013	[1], [2], [3], [5], [6],
1310139	JM10-JAX47-EB01-101513A	1310139-09	WQ	EB	10/15/2013	[5]
1310165	JM10-JAX47-TB01-101613	1310165-01	WQ	TB	10/16/2013	[1]
1310165	JM10-JAX47-MW13S-101613	1310165-02	GW	N	10/16/2013	[1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11]
1310165	JM10-JAX47-MW13S-101613A	1310165-03	GW	N	10/16/2013	[5], [6]
1310165	JM10-JAX47-MW42S-101613	1310165-04	GW	N	10/16/2013	[1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11]
1310165	JM10-JAX47-MW42S-101613A	1310165-05	GW	N	10/16/2013	[5], [6],
1310165	JM10-JAX47-MW25S-101613	1310165-06	GW	N	10/16/2013	[1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11]
1310165	JM10-JAX47-MW25S-101613A	1310165-07	GW	N	10/16/2013	[6]
1310180	JM10-JAX47-TB01-101713	1310180-01	WQ	TB	10/17/2013	[1]
1310180	JM10-JAX47-MW30S-1013	1310180-02	GW	N	10/17/2013	[1], [2], [3], [5], [6],
1310180	JM10-JAX47-MW15S-1013	1310180-03	GW	N	10/17/2013	[1], [2], [3], [5], [6],
1310180	JM10-JAX47-MW37S-1013	1310180-04	GW	N	10/17/2013	[4], [5], [6], [7], [8], [9], [10], [11]
1310180	JM10-JAX47-MW37S-1013A	1310180-05	GW	N	10/17/2013	[6]

SDG	Sample ID	Lab Sample ID	Matrix	Sample Type	Date Collected	Analyses Performed
1310188	JM10-JAX47-TB01-101813	1310188-01	WQ	TB	10/18/2013	[1]
1310188	JM10-JAX47-MW32S-1013	1310188-02	GW	N	10/18/2013	[4], [5], [6], [7], [8], [9], [10], [11]
1310188	JM10-JAX47-MW32S-1013A	1310188-03	GW	N	10/18/2013	[6]
1310188	JM10-JAX47-MW27S-1013	1310188-04	GW	N	10/18/2013	[1], [2], [3], [5],
1310188	JM10-JAX47-MW19S-1013	1310188-05	GW	N	10/18/2013	[1], [2], [3], [5], [6],
1310207	JM10-JAX47-MW39S-1013	1310207-01	GW	N	10/21/2013	[4], [5], [6], [7], [8], [9], [10], [11]
1310207	JM10-JAX47-MW39S-1013A	1310207-02	GW	N	10/21/2013	[6]
1310207	JM10-JAX47-MW38S-1013	1310207-03	GW	N	10/21/2013	[5], [6]
1310207	JM10-JAX47-MW26S-1013	1310207-04	GW	N	10/21/2013	[5], [6]
1310218	JM10-JAX47-MW40S-1013	1310218-01	GW	N	10/22/2013	[4], [5], [6], [7], [8], [9], [10], [11]
1310218	JM10-JAX47-MW40S-1013A	1310218-02	GW	N	10/22/2013	[6]
1310218	JM10-JAX47-MW41S-1013	1310218-03	GW	N	10/22/2013	[5], [6]
1310218	JM10-JAX47-MW12S-1013	1310218-04	GW	N	10/22/2013	[5], [6]
1310231	JM10-JAX47-MW33S-1013	1310231-01	GW	N	10/23/2013	[5], [6]
1310231	JM10-JAX47-MW43S-1013	1310231-02	GW	N	10/23/2013	[5], [6]
1311033	JM10-JAX47-MW14S-1113	1311033-01	GW	N	11/04/2013	[6], [7], [8], [9], [10], [11]

SDG	Sample ID	Lab Sample ID	Matrix	Sample Type	Date Collected	Analyses Performed

MATRIX CODE

GW – Groundwater
WQ – Water Quality Control Sample

SAMPLE TYPE CODE

N – Native Sample
EB – Equipment Blank
FD – Field Duplicate
MS – Matrix Spike
SD – Matrix Spike Duplicate
TB – Trip Blank

ANALYSIS CODE

[1] – Volatile Organic Compounds (VOCs) by SW-846 method 8260B
[2] – Semivolatile Organic Compounds (SVOCs) by SW-846 method 8270D
[3] – Polycyclic Aromatic Hydrocarbons (PAHs) by SW-846 method 8270D Low Level
[4] – Methane, Ethane, and Ethene by RSK-175
[5] – Pesticides and/or Dissolved Pesticides by SW-846 method 8081B
[6] – Select Metals – Arsenic, Dissolved Iron, and/or Dissolved Manganese by SW-846 method 6010C
[7] – Ferrous Iron by Standard Method 3500-FED-W
[8] – Alkalinity by Standard Method 2320B
[9] – Nitrate and Sulfate by EPA method 300
[10] – Sulfide by Standard Method 4500S2CF
[11] – Total Organic Carbon (TOC) by Standard Method 5310C

Organic Parameters

Quality Control Review

The following list represents the QA/QC measures that were reviewed during the data quality evaluation procedure for organic data.

- **Holding Times** – The holding times are evaluated to verify that samples were extracted and analyzed within holding times.
- **Blank samples** – Method blanks, equipment blanks, and trip blanks were provided for this project. Blank samples enable the reviewer to determine if an analyte may be attributed to sampling or laboratory procedures, rather than environmental contamination from site activities.
- **Surrogate Recoveries** – Surrogate Compounds are added to each sample and the recoveries are used to monitor lab performance and possible matrix interference.
- **Lab Control Sample (LCS)** – This sample is a "controlled matrix", either laboratory reagent water or Ottawa sand, in which target compounds have been added prior to extraction/analysis. The recoveries serve as a monitor of the overall performance of each step during the analysis, including sample preparation.
- **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples** – Spike recovery is used to evaluate potential matrix interferences, as well as accuracy. Precision information is also determined by calculating the reproducibility between the recoveries of each spiked parameter.
- **Field Duplicate Samples** – These samples are collected to determine precision between a native and it's duplicate. This information can only be determined when target compounds are detected.
- **GC/MS Tuning** – The mass spectrum of the tuning compound is evaluated for method compliance. The criteria are established to verify the proper mass assignment and mass resolution.
- **Initial Calibration** – The initial calibration ensures that the instrument is capable of producing acceptable qualitative and quantitative data for the compounds of interest.
- **Continuing Calibration** – The continuing calibration checks satisfactory performance of the instrument and its predicted response to the target compounds.
- **Internal Standards** – The internal standards (retention time and response) are evaluated for method compliance. The internal standards are used in quantitation of the target parameters and monitor the instrument sensitivity and response for stability during each analysis.

Inorganic Parameters

Quality Control Review

The following list represents the QA/QC measures that were reviewed during the data quality evaluation procedure for organic data.

- **Holding Times** – The holding times are evaluated to verify that samples were extracted and analyzed within holding times.
- **Blank samples** – Method blanks, initial calibration blanks, continuing calibration blanks, and equipment blanks were provided for this project. Blank samples enable the reviewer to determine if an analyte may be attributed to sampling or laboratory procedures, rather than environmental contamination from site activities.
- **Lab Control Sample (LCS)** – This sample is a "controlled matrix", either laboratory reagent water or Ottawa sand, in which target compounds have been added prior to extraction/analysis. The recoveries serve as a monitor of the overall performance of each step during the analysis, including sample preparation.
- **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples** – Spike recovery is used to evaluate potential matrix interferences, as well as accuracy. Precision information is also determined by calculating the reproducibility between the recoveries of each spiked parameter.
- **Field Duplicate Samples** – These samples are collected to determine precision between a native and it's duplicate. This information can only be determined when target compounds are detected.
- **Initial Calibration** – The initial calibration ensures that the instrument is capable of producing acceptable qualitative and quantitative data for the compounds of interest.
- **Continuing Calibration** – The continuing calibration checks satisfactory performance of the instrument and its predicted response to the target compounds.
- **ICP Serial Dilution** – The serial dilution of samples quantitated by ICP determines whether or not significant physical or chemical interferences exist due to sample matrix. If the analyte concentration is sufficiently high, the serial dilution analysis must agree within a 10% difference of the original determination after correction for dilution.
- **Post Digest Spike Sample** – The post digest spike sample indicates the possible presence of matrix interferences in the sample.

Volatile Organic Compounds (VOCs) Analyses

Holding Time

All samples analyses were performed within hold time.

GC/MS Instrument Performance

All GC/MS Instrument Performance criteria were met.

Calibration

All Initial, 2nd Source, and Continuing Calibration criteria were met.

Blanks

There were no detects noted in the associated method blanks. The detects noted in the equipment and/or trip blank samples did not affect the sample results except as noted in table 2 below:

TABLE 2
Blank Contamination: VOCs
JM10 PSC 47 Groundwater Sampling 1st event 2013

SDG	Sample ID	Sample Type	Parameter	Lab Result	Units	Samples Affected
1310104	JM10-JAX47-TB01-101013	TB	Acetone	5.58	ug/L	JM10-JAX47-937-MW01S-1013
1310139	JM10-JAX47-TB01-101513	TB	Methylene Chloride	10.5	ug/L	JM10-JAX47-937-MW04S-1013
1310139	JM10-JAX47-EB01-101513	EB	Methylene Chloride	1.88	ug/L	JM10-JAX47-937-MW04S-1013
1310165	JM10-JAX47-TB01-101613	TB	Acetone	11.1	ug/L	JM10-JAX47-MW25S-1013
1310180	JM10-JAX47-TB01-101713	TB	Acetone	14.8	ug/L	JM10-JAX47-MW15S-1013

Flags were applied to the analytes in the associated samples in the following manner:

When the analytes were detected in the equipment and/or trip blank samples, the detected compounds, that were less than 5 times the concentration detected for the analytes listed (10 times for common laboratory contaminants) and below the limit of quantitation (LOQ), were flagged "U" due to possible field and/or laboratory contamination with a validation note of "TB" or "EB". The detects that were above the limit of quantitation (LOQ) were qualified as estimated "JB" for equipment and trip blanks with a validation note of "TB" or "EB" due to possible field contamination.

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS/LCSD samples.

Matrix Spike and Matrix Spike Duplicate Recoveries

A matrix spike and spike duplicate samples were collected and analyzed using field sample JM10-JAX47-MW10S-1013. The matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives were met.

Surrogate Recoveries

All surrogate recoveries were within acceptable quality control limits.

Internal Standard Recoveries

All internal standard recoveries were within acceptable quality control limits.

Field Duplicates

Field sample JM10-JAX47-937-MW01S-1013 was collected and analyzed in duplicate. Field duplicate precision objectives were met.

Dilutions

The samples presented below in table 3 were analyzed at dilutions for the analysis indicated. These dilutions were required to prevent saturation of the instrument, to allow quantitation of the compounds within the linear range of the calibration curve, and/or to reduce the effects of the matrix on the target compounds. Positive results for compounds reported above the calibration range in the initial analysis have been reported from the diluted analyses.

TABLE 3
Dilutions: VOCs
JM10 PSC 47 Groundwater Sampling 1st event 2013

Sample ID	Analysis	Dilution Factor
JM10-JAX47-937-MW04S-1013	VOCs	10X

Rejected Data

No data were rejected based upon the validation process for this sampling event.

Semi-Volatile Organic Compounds (SVOCs) Analyses

Holding Time

All samples analyses were performed within hold time.

GC/MS Instrument Performance

All GC/MS Instrument Performance criteria were met.

Calibration

All Initial Calibration and 2nd Source Calibration criteria were met. Several analytes exceeded the 25% criteria for the continuing calibration (bias high), but the associated sample results were non-detect for those compounds; therefore no qualifiers were required.

Blanks

There were no detections in the method blank samples. The detects noted in the equipment blank samples did not affect the associated sample results due to the associated sample results were greater than 5 times the equipment blank detects; therefore, no qualifiers were required.

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS/LCSD samples.

Matrix Spike and Matrix Spike Duplicate Recoveries

A matrix spike and spike duplicate samples were collected and analyzed using field sample JM10-JAX47-MW10S-1013. The matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives were met.

Surrogate Recoveries

All surrogate recoveries were within acceptable quality control limits, except as noted in table 4 below:

TABLE 4
Surrogate Recoveries Out of QC Limits: SVOCs
JM10 PSC 47 Groundwater Sampling 1st Event 2013

SDG	Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Qualifiers Applied

TABLE 4
Surrogate Recoveries Out of QC Limits: SVOCs
JM10 PSC 47 Groundwater Sampling 1st Event 2013

SDG	Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Qualifiers Applied
1310139	JM10-JAX47-937-MW04S-1013	2-Fluorophenol	17.8%	20-110	JM10-JAX47-937-MW04S-1013	Detects-J Non-Detects-UJ
1310104	JM10-JAX47-937-MW03S-1013	Decachlorobiphenyl	19.5% 21.8%	30-135	JM10-JAX47-937-MW03S-1013	Detects-J Non-Detects-UJ
1310165	JM10-JAX47-MW13S-1013	2-Fluorophenol	17.1%	20-110	JM10-JAX47-MW13S-1013	Detects-J Non-Detects-UJ
1310188	JM10-JAX47-MW27S-1013	2-Fluorophenol	18%	20-110	JM10-JAX47-MW27S-1013	Non-Detects-UJ

Internal Standard Recoveries

All internal standard recoveries were within acceptable quality control limits.

Field Duplicates

Field sample JM10-JAX47-937-MW01S-1013 was collected and analyzed in duplicate. Field duplicate precision objectives were met.

Rejected Data

No data were rejected based upon the validation process for this sampling event.

Polycyclic Aromatic Hydrocarbon (PAH) Analyses

Holding Time

All samples analyses were performed within hold time

GC/MS Instrument Performance

All GC/MS Instrument Performance criteria were met.

Calibration

All Initial, 2nd Source, and Continuing Calibration criteria were met, except as noted in table 5 below:

TABLE 5
Continuing Calibration Verification Recovery Out of QC Limits: PAH
JM10 PSC 47 Groundwater Sampling 1st event 2013

Parameter	% D	Recovery Limits	Associated Samples	Qualifiers Applied
Pentachlorophenol	-39.8	25%	JM10-JAX47-MW11S-1013 JM10-JAX47-937-MW04S-1013 JM10-JAX47-MW13S-1013 JM10-JAX47-MW42S-1013 JM10-JAX47-MW25S-1013	Non-Detects -U J

Blanks

There were no detects noted in the equipment and method blank samples.

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS/LCSD samples, except as noted in Table 6 below:

TABLE 6
Laboratory Control Sample Recovery Out of QC Limits. PAH
JM10 PSC 47 Groundwater Sampling1st event 2013

QC Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Qualifiers Applied
Laboratory Control Sample	2-Methylnaphthalene	106%	45-105	JM10-JAX47-937-MW01S-1013 JM10-JAX47-FD01-1013	Detects were qualified as estimated J-BSH
Laboratory Control Samp'e Laboratory Control Sample Duplicate	2-Methylnaphthalene	112% 113%	45-105	JM10-JAX47-MW11S-1013 JM10-JAX47-937-MW04S-1013 JM10-JAX47-MW13S-1013 JM10-JAX47-MW25S-1013	Detects were qualified as estimated J-BSH

TABLE 6
Laboratory Control Sample Recovery Out of QC Limits: PAH
JM10 PSC 47 Groundwater Sampling1st event 2013

QC Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Qualifiers Applied
Laboratory Control Sample	Pentachlorophenol	120%	40-115	JM10-JAX47-MW11S-1013 JM10-JAX47-937-MW04S-1013 JM10-JAX47-MW13S-1013 JM10-JAX47-MW42S-1013 JM10-JAX47-MW25S-1013	LCSD recovery was within acceptable limits; therefore no qualifiers are required.
Laboratory Control Sample	2-Methylnaphthalene	113%	45-105	JM10-JAX47-MW30S-1013 JM10-JAX47-MW15S-1013	Sample results were non-detect; therefore no qualifiers needed!
Laboratory Control Sample	Pentachlorophenol	135%	40-115	JM10-JAX47-MW30S-1013 JM10-JAX47-MW15S-1013	Sample results were non-detect; therefore no qualifiers needed!
Laboratory Control Sample Laboratory Control Sample Duplicate	2-Methylnaphthalene	118% 117%	45-105	JM10-JAX47-MW27S-1013 JM10-JAX47-MW19S-1013	Sample results were non-detect; therefore no qualifiers needed!
Laboratory Control Sample Laboratory Control Sample Duplicate	Pentachlorophenol	120% 135%	40-115	JM10-JAX47-MW27S-1013 JM10-JAX47-MW19S-1013	Sample results were non-detect; therefore no qualifiers needed!

Matrix Spike and Matrix Spike Duplicate Recoveries

A matrix spike and spike duplicate samples were collected and analyzed using field sample JM10-JAX47-MW10S-1013. The matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives were met.

Internal Standard Recoveries

All internal standard recoveries were within acceptable quality control limits.

Surrogate Recoveries

All surrogate recoveries were within acceptable quality control limits.

Field Duplicates

Field sample JM10-JAX47-937-MW01S-1013 was collected and analyzed in duplicate. Field duplicate precision objectives were met.

Dilutions

The samples presented below in table 7 were analyzed at dilutions for the analysis indicated. These dilutions were required to prevent saturation of the instrument, to allow quantitation of the compounds within the linear range of the calibration curve, and/or to reduce the effects of the matrix on the target compounds. Positive results for compounds reported above the calibration range in the initial analysis have been reported from the diluted analyses.

TABLE 7
Dilutions: PAHs
JM10 PSC 47 Groundwater Sampling 1st event 2013

Sample ID	Analysis	Dilution Factor
JM10-JAX47-MW11S-1013	PAHs	10X

Rejected Data

No data were rejected based upon the validation process for this sampling event.

Pesticides Analyses

Holding Time

All samples analyses were performed within hold time.

GC Instrument Performance

All GC Instrument Performance criteria were met.

Calibration

All Initial, 2nd Source, and Continuing Calibration criteria were met, except as noted in table 8 below.

TABLE 8
2nd Source and Continuing Calibration Verification Recovery Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st event 2013

Parameter	% D	Recovery Limits	Associated Samples	Qualifiers Applied
Methoxychlor (confirmation column)	-25.9	20%	JM10-JAX47-937-MW02S-1013 JM10-JAX47-937-MW02S-1013A	Detects-J
4,4`-DDE (primary column)	25.7	20%	JM10-JAX47-MW34S-1013 JM10-JAX47-MW34S-1013A JM10-JAX47-MW11S-1013	Detects-J
Delta-BHC (primary column)	21.2	20%	JM10-JAX47-MW34S-1013A JM10-JAX47-MW11S-1013 JM10-JAX47-MW11S-1013A	Detects-J
Gamma-BHC (primary column)	25	20%	JM10-JAX47-MW34S-1013A JM10-JAX47-MW11S-1013 JM10-JAX47-MW11S-1013A JM10-JAX47-937-MW04S-1013	Detects-J
Alpha-BHC (primary column)	21 4	20%	JM10-JAX47-MW11S-1013 JM10-JAX47-MW11S-1013A	Detects-J

TABLE 8
2nd Source and Continuing Calibration Verification Recovery Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st event 2013

Parameter	% D	Recovery Limits	Associated Samples	Qualifiers Applied
Toxaphene (confirmation column)	-26.6	20%	JM10-JAX47-MW11S-1013A	Non-Detect-UJ
4,4'-DDT (primary column)	22.8	20%	JM10-JAX47-MW13S-1013	Detects-J
Alpha-BHC (primary column)	23.9	20%	JM10-JAX47-MW13S-1013 JM10-JAX47-MW13S-1013A JM10-JAX47-MW42S-1013 JM10-JAX47-MW42S-1013A JM10-JAX47-MW25S-1013	Detects-J
Delta-BHC (primary column)	22.4	20%	JM10-JAX47-MW13S-1013 JM10-JAX47-MW13S-1013A JM10-JAX47-MW42S-1013 JM10-JAX47-MW42S-1013A JM10-JAX47-MW25S-1013	Detects-J
Heptachlor (primary column)	30.3	20%	JM10-JAX47-MW13S-1013 JM10-JAX47-MW25S-1013	Detects-J
Gamma-BHC (primary column)	21.1	20%	JM10-JAX47-MW13S-1013A JM10-JAX47-MW42S-1013 JM10-JAX47-MW25S-1013	Detects-J
4,4'-DDE (primary column)	21.8	20%	JM10-JAX47-MW42S-1013	Detects-J

TABLE 8
2nd Source and Continuing Calibration Verification Recovery Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st event 2013

Parameter	% D	Recovery Limits	Associated Samples	Qualifiers Applied
4,4'-DDD (primary column)	23.6	20%	JM10-JAX47-MW42S-1013 JM10-JAX47-MW42S-1013A	Detects-J

Blanks

The detects noted in the method blank and/or equipment blank samples did not affect the sample results except as noted in table 9 below:

TABLE9
Blank Contamination: Pesticides
JM10 PSC 47 Groundwater Sampling 1st event 2013

SDG	Sample ID	Sample Type	Parameter	Lab Result	Units	Samples Affected
1310104	Method Blank	MB	Gamma-Chlordane	0.00636	ug/L	JM10-JAX47-FD01-1013
1310139	JM10-JAX47-EB01-101513	EB	Gamma-BHC	0.00330	ug/L	JM10-JAX47-MW34S-1013
1310139	JM10-JAX47-EB01-101513	EB	Gamma-Chlordane	0.0589	ug/L	JM10-JAX47-MW34S-1013
1310139	JM10-JAX47-EB01-101513A	EB	Gamma-Chlordane	0.0419	ug/L	JM10-JAX47-MW34S-1013A JM10-JAX47-MW11S-1013A
1310165	Method Blank	MB	Gamma-Chlordane	0.0615	ug/L	JM10-JAX47-MW13S-1013A JM10-JAX47-MW42S-1013 JM10-JAX47-MW42S-1013A JM10-JAX47-MW25S-1013
1310180 1310207	Method Blank	MB	Gamma-Chlordane	0.0123	ug/L	JM10-JAX47-MW30S-1013 JM10-JAX47-MW38S-1013

TABLE9
Blank Contamination: Pesticides
JM10 PSC 47 Groundwater Sampling 1st event 2013

SDG	Sample ID	Sample Type	Parameter	Lab Result	Units	Samples Affected
1310218 1310231	Method Blank	MB	Alpha-Chlordane	0.00749	ug/L	JM10-JAX47-MW40S-1013 JM10-JAX47-MW41S-1013 JM10-JAX47-MW33S-1013
1310218	Method Blank	MB	Beta-BHC	0.00756	ug/L	JM10-JAX47-MW40S-1013
1310218	Method Blank	MB	Endosulfan I	0.00633	ug/L	JM10-JAX47-MW40S-1013
1310218 1310231	Method Blank	MB	Gamma-Chlordane	0.00629	ug/L	JM10-JAX47-MW40S-1013 JM10-JAX47-MW41S-1013 JM10-JAX47-MW12S-1013 JM10-JAX47-MW43S-1013
1310218	Method Blank	MB	Heptachlor Epoxide	0.00692	ug/L	JM10-JAX47-MW40S-1013
1310218 1310231	Method Blank	MB	Alpha-BHC	0.00593	ug/L	JM10-JAX47-MW12S-1013 JM10-JAX47-MW33S-1013
1310218 1310231	Method Blank	MB	Endrin Ketone	0.00815	ug/L	JM10-JAX47-MW12S-1013 JM10-JAX47-MW43S-1013
1310218 1310231	Method Blank	MB	Gamma-BHC	0.00624	ug/L	JM10-JAX47-MW12S-1013 JM10-JAX47-MW33S-1013
1310231	Method Blank	MB	4,4'-DDE	0.00596	ug/L	JM10-JAX47-MW33S-1013
1310231	Method Blank	MB	Aldrin	0.00457	ug/L	JM10-JAX47-MW43S-1013
1310231	Method Blank	MB	Endosulfan II	0.00790	ug/L	JM10-JAX47-MW43S-

TABLE9
Blank Contamination: Pesticides
JM10 PSC 47 Groundwater Sampling 1st event 2013

SDG	Sample ID	Sample Type	Parameter	Lab Result	Units	Samples Affected
						1013

Flags were applied to the analytes in the associated samples in the following manner:

When the analytes were detected in the method blank and/or equipment blank, the detected compounds, that were less than 5 times the concentration detected for the analytes listed and below the limit of quantitation (LOQ), were flagged "U" due to possible laboratory and/or field contamination with a validation note of "BL" for method blank contamination or "EB" for equipment blank contamination. The detects that were above the limit of quantitation (LOQ) were qualified as estimated "B" due to possible laboratory and/or field contamination with a validation note of "BL" or "EB".

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS/LCSD samples.

Matrix Spike and Matrix Spike Duplicate Recoveries

A matrix spike and spike duplicate samples were collected and analyzed using field sample JM10-JAX47-MW10S-1013, JM10-JAX47-MW34S-1013, and JM10-JAX47-MW34S-1013A. The matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives were met, except as noted in table 10 below:

TABLE 10
Matrix Spike and Matrix Spike Duplicate Recovery Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st event 2013

QC Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Qualifiers Applied
Matrix Spike Matrix Spike Duplicate	Beta-BHC (Confirmation Column)	63.3% 63.1%	65-125	JM10-JAX47-MW34S-1013	.The sample results were reported from the primary column; therefore no qualifiers are needed!
Matrix Spike Matrix Spike Duplicate	Endosulfan II (Primary Column)	141% 140%	30-130	JM10-JAX47-MW34S-1013	Sample result was non-detect; therefore no qualifiers are needed!

TABLE 10
Matrix Spike and Matrix Spike Duplicate Recovery Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st event 2013

QC Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Qualifiers Applied
Matrix Spike	Endosulfan II (Primary Column)	132%	30-130	JM10-JAX47-MW34S-1013A	Sample result was non-detect; therefore no qualifiers are needed!

Primary/Confirmation Column

The positive results for 4,4'-DDE, 4,4'-DDD, 4,4'-DDT, aldrin, alpha-bhc, beta-bhc, delta-bhc, dieldrin, gamma-bhc, gamma-chlordane, alpha chlordane, endosulfan I, endosulfan II, endosulfan sulfate, endrin, endrin ketone, heptachlor, heptachlor epoxide, methoxychlor, and/or endrin aldehyde for the samples listed in table 11 below should be considered quantitative estimates. The relative percent difference (RPD) between the results from the primary and confirmatory column analyses was greater than the acceptance criterion of 40 percent for these compounds. The positive results for 4,4'-DDE, 4,4'-DDD, 4,4'-DDT, aldrin, alpha-bhc, beta-bhc, delta-bhc, dieldrin, gamma-bhc, gamma-chlordane, alpha chlordane, endosulfan I, endosulfan II, endosulfan sulfate, endrin, endrin ketone, heptachlor, heptachlor epoxide, methoxychlor, and/or endrin aldehyde for the samples listed below have been "J" qualified on the data summary table with a validation note of "PC" to indicate that they are quantitative estimates.

TABLE 11
Primary/Confirmation Column Recoveries Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

SDG	Sample	Parameter	Qualifiers Applied
1310104	JM10-JAX47-937-MW01S-1013	4,4'-DDD 4,4'-DDT Aldrin Beta-BHC Delta-BHC Endosulfan II Endrin Ketone Gamma-BHC Gamma-Chlordane	Detects-J

TABLE 11
Primary/Confirmation Column Recoveries Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

SDG	Sample	Parameter	Qualifiers Applied
1310104	JM10-JAX47-FD01-1013	4,4'-DDD 4,4'-DDT Aldrin Beta-BHC Endosulfan II Endrin Ketone Gamma-Chlordane	Detects-J
1310104	JM10-JAX47-937-MW03S-1013	4,4'-DDE Aldrin Endosulfan I Endosulfan II Endosulfan Sulfate Endrin Aldehyde Endrin Ketone Dieldrin	Detects-J
1310104	JM10-JAX47-937-MW03S-1013A	4,4'-DDD 4,4'-DDT Dieldrin Aldrin Endrin Ketone Heptachlor Methoxychlor	Detects-J
1310104	JM10-JAX47-FD02-1013	Aldrin 4,4'-DDE Dieldrin Endosulfan Sulfate Endosulfan I Endrin Aldehyde Gamma-Chlordane Methoxychlor	Detects-J

TABLE 11
Primary/Confirmation Column Recoveries Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

SDG	Sample	Parameter	Qualifiers Applied
1310104	JM10-JAX47-FD02-1013A	4,4'-DDD 4,4'-DDT Aldrin Dieldrin Endrin Aldehyde Endrin Ketone Endosulfan Sulfate Heptachlor Methoxychlor	Detects-J
1310104	JM10-JAX47-937-MW02S-1013	4,4'-DDE 4,4'-DDD 4,4'-DDT Aldrin Alpha-Chlordane Beta-BHC Delta-BHC Endosulfan I Endrin Aldehyde Endrin Ketone Gamma-BHC Gamma-Chlordane Heptachlor Epoxide Endosulfan II Methoxychlor	Detects-J

TABLE 11
Primary/Confirmation Column Recoveries Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

SDG	Sample	Parameter	Qualifiers Applied
1310104	JM10-JAX47-937-MW02S-1013A	4,4'-DDE 4,4'-DDD 4,4'-DDT Aldrin Alpha-Chlordane Delta-BHC Dieldrin Endosulfan I Endrin Aldehyde Endrin Ketone Heptachlor Epoxide Endosulfan II Methoxychlor	Detects-J
1310121	JM10-JAX47-MW36S-1013	Alpha-Chlordane Dieldrin Endosulfan I Endrin Ketone Gamma-Chlordane	Detects-J
1310121	JM10-JAX47-MW36S-1013A	4,4'-DDE Endosulfan I Endrin Ketone Gamma-Chlordane	Detects-J
1310121	JM10-JAX47-FD03-1013	Endosulfan I Endrin Ketone Gamma-Chlordane	Detects-J

TABLE 11
Primary/Confirmation Column Recoveries Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

SDG	Sample	Parameter	Qualifiers Applied
I310121	JM10-JAX47-MW14S-1013	4,4'-DDE 4,4'-DDD Aldrin Alpha-Chlordane Beta-BHC Delta-BHC Dieldrin Endosulfan I Gamma-BHC	Detects-J
1310139	JM10-JAX47-MW34S-1013	4,4'-DDT Alpha-BHC Alpha-Chlordane Endosulfan I Gamma-Chlordane Heptachlor Epoxide	Detects-J
1310139	JM10-JAX47-MW34S-1013A	4,4'-DDE 4,4'-DDD 4,4'-DDT Alpha-Chlordane Delta-BHC Endosulfan I Endosulfan Sulfate Gamma-Chlordane Heptachlor Epoxide	Detects-J

TABLE 11
Primary/Confirmation Column Recoveries Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

SDG	Sample	Parameter	Qualifiers Applied
1310139	JM10-JAX47-MW11S-1013	4,4'-DDE 4,4'-DDD Alpha-Chlordane Dieldrin Endosulfan I Endosulfan II Endrin Endrin Ketone Heptachlor Heptachlor Epoxide	Detects-J
1310139	JM10-JAX47-MW11S-1013A	4,4'-DDE 4,4'-DDD Aldrin Dieldrin Endosulfan I Endosulfan II Endrin Heptachlor Epoxide	Detects-J
1310139	JM10-JAX47-937-MW04S-1013	4,4'-DDD Aldrin Alpha-BHC Beta-BHC Delta-BHC Endosulfan I Endosulfan Sulfate Endrin Aldehyde Gamma-BHC Heptachlor Heptachlor Epoxide Methoxychlor	Detects-J

TABLE 11
Primary/Confirmation Column Recoveries Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

SDG	Sample	Parameter	Qualifiers Applied
1310165	JM10-JAX47-MW13S-1013	4,4'-DDE 4,4'-DDD 4,4'-DDT Aldrin Alpha-Chlordane Endosulfan I Endosulfan II Endrin Heptachlor	Detects-J
1310165	JM10-JAX47-MW13S-1013A	Gamma-Chlordane Heptachlor Epoxide	Detects-J
1310165	JM10-JAX47-MW42S-1013	4,4'-DDE Alpha-Chlordane Endosulfan Sulfate Gamma-Chlordane Heptachlor	Detects-J
1310165	JM10-JAX47-MW42S-1013A	4,4'-DDD Endosulfan Sulfate	Detects-J
1310165	JM10-JAX47-MW25S-1013	Aldrin Heptachlor Epoxide	Detects-J
1310188	JM10-JAX47-MW32S-1013	Alpha-Chlordane Endosulfan I Gamma-Chlordane Heptachlor Epoxide	Detects-J
1310207	JM10-JAX47-MW38S-1013	4,4'-DDT Alpha-Chlordane	Detects-J
1310207	JM10-JAX47-MW26S-1013	Delta-BHC Heptachlor Epoxide	Detects-J
1310218	JM10-JAX47-MW41S-1013	Alpha-Chlordane Dieldrin	Detects-J

TABLE 11
Primary/Confirmation Column Recoveries Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

SDG	Sample	Parameter	Qualifiers Applied
1310218	JM10-JAX47-MW12S-1013	Alpha-Chlordane Endrin Ketone Heptachlor Epoxide	Detects-J
1310231	JM10-JAX47-MW33S-1013	4,4'-DDE Endosulfan I	Detects-J
1310231	JM10-JAX47-MW43S-1013	Alpha-Chlordane Dieldrin Endosulfan II	Detects-J

Matrix Interferences

The results for the analytes listed in table 12 below are considered estimated due to the sample matrix interfered with the quantitation of these analytes. The results were reported from the column with the lower concentration. This has been indicated by applying a "J" qualifier with a validation note of "MI" to these compounds for the samples noted below in the data summary tables.

TABLE 12
Matrix Interference: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

Client Sample ID	Parameter	Qualifiers Applied
JM10-JAX47-937-MW01S-1013	4,4'-DDD 4,4'-DDT Delta-BHC Endosulfan II Endrin Ketone Gamma-Chlordane	Detects-J
JM10-JAX47-FD01-1013	4,4'-DDD 4,4'-DDT Endosulfan II Endrin Ketone Gamma-Chlordane	Detects-J

TABLE 12
Matrix Interference: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

Client Sample ID	Parameter	Qualifiers Applied
JM10-JAX47-937-MW03S-1013	Endosulfan I Endosulfan II Endosulfan Sulfate Endrin Aldehyde Endrin Ketone Dieldrin	Detects-J
JM10-JAX47-937-MW03S-1013A	Endosulfan Sulfate Methoxychlor	Detects-J
JM10-JAX47-FD02-1013	Endrin Aldehyde Endrin Ketone 4,4'-DDE Endosulfan I Endosulfan Sulfate	Detects-J
JM10-JAX47-FD02-1013A	4,4'-DDT Dieldrin Endosulfan Sulfate	Detects-J
JM10-JAX47-937-MW02S-1013	4,4'-DDD 4,4'-DDT Aldrin Alpha-Chlordane Beta-BHC Delta-BHC Endosulfan I Endrin Ketone Methoxychlor	Detects-J

TABLE 12
Matrix Interference: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

Client Sample ID	Parameter	Qualifiers Applied
JM10-JAX47-937-MW02S-1013A	4,4'-DDD 4,4'-DDT Aldrin Alpha-Chlordane Alpha-BHC Delta-BHC Endosulfan I Endrin Ketone Methoxychlor	Detects-J
JM10-JAX47-MW36S-1013	Gamma-Chlordane	Detect-J
JM10-JAX47-MW36S-1013A	4,4'-DDE Endrin Ketone Gamma-Chlordane	Detects-J
JM10-JAX47-MW14S-1013	Aldrin Delta-BHC	Detects-J
JM10-JAX47-MW34S-1013	4,4'-DDT Alpha-BHC Alpha-Chlordane	Detects-J
JM10-JAX47-MW34S-1013A	4,4'-DDT Alpha-Chlordane Heptachlor Epoxide	Detects-J
JM10-JAX47-MW11S-1013	4,4'-DDE Alpha-Chlordane Endosulfan II Endrin Ketone Heptachlor Epoxide	Detects-J
JM10-JAX47-MW11S-1013A	Dieldrin Heptachlor Epoxide	Detects-J

TABLE 12
Matr x Interference: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

Client Sample ID	Parameter	Qualifiers Applied
JM10-JAX47-937-MW04S-1013	4,4'-DDD Aldrin Beta-BHC Endosulfan I Endosulfan Sulfate Gamma-BHC Heptachlor Heptachlor Epoxide	Detects-J
JM10-JAX47-MW13S-1013	4,4'-DDE 4,4'-DDD Aldrin Endosulfan II	Detects-J
JM10-JAX47-MW13S-1013A	Heptachlor Epoxide	Detects-J
JM10-JAX47-MW42S-1013	Endosulfan Sulfate	Detects-J
JM10-JAX47-MW42S-1013A	Endosulfan Sulfate	Detects-J
JM10-JAX47-MW25S-1013	Aldrin	Detects-J
JM10-JAX47-MW38S-1013	4,4'-DDT Alpha-Chlordane	Detects-J
JM10-JAX47-MW26S-1013	Delta-BHC	Detects-J
JM10-JAX47-MW41S-1013	Alpha-Chlordane	Detects-J
JM10-JAX47-MW33S-1013	Endosulfan I	Detects-J

Surrogate Recoveries

All surrogate recoveries were within acceptable quality control limits, except as noted in table 13 below:

TABLE 13
Surrogate Recoveries Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

SDG	Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Qualifiers Applied
1310104	JM10-JAX47-FD01-1013	Decachlorobiphenyl	29.4% 24.7%	30-135	JM10-JAX47-FD01-1013	Detects-J Non-Detects-UJ
1310104	JM10-JAX47-937-MW03S-1013	Decachlorobiphenyl	19.5% 21.8%	30-135	JM10-JAX47-937-MW03S-1013	Detects-J Non-Detects-UJ
1310104	JM10-JAX47-937-MW03S-1013	Tetrachloro-m-xylene	229% 208%	25-140	JM10-JAX47-937-MW03S-1013	Detects-J
1310104	JM10-JAX47-937-MW03S-1013A	Tetrachloro-m-xylene	246% 209%	25-140	JM10-JAX47-937-MW03S-1013A	Detects-J
1310104	JM10-JAX47-937-MW03S-1013A	Decachlorobiphenyl	25.3% 25.6%	30-135	JM10-JAX47-937-MW03S-1013A	Detects-J Non-Detects-UJ
1310104	JM10-JAX47-FD02-1013	Tetrachloro-m-xylene	248% 200%	25-140	JM10-JAX47-FD02-1013	Detects-J
1310104	JM10-JAX47-FD02-1013	Decachlorobiphenyl	22% 21.7%	30-135	JM10-JAX47-FD02-1013	Detects-J Non-Detects-UJ
1310104	JM10-JAX47-FD02-1013A	Tetrachloro-m-xylene	263% 211%	25-140	JM10-JAX47-FD02-1013A	Detects-J
1310104	JM10-JAX47-FD02-1013A	Decachlorobiphenyl	22.5% 21.0%	30-135	JM10-JAX47-FD02-1013A	Detects-J Non-Detects-UJ
1310104	JM10-JAX47-937-MW02S-1013	Tetrachloro-m-xylene	604%	25-140	JM10-JAX47-937-MW02S-1013	Detects-J
1310104	JM10-JAX47-937-MW02S-1013A	Tetrachloro-m-xylene	636%	25-140	JM10-JAX47-937-MW02S-1013A	Detects-J
1310139	JM10-JAX47-937-MW04S 1013	Tetrachloro-m-xylene	286%	25-140	JM10-JAX47-937-MW04S-1013	Detects-J
1310165	JM10-JAX47-MW25S-1013	Decachlorobiphenyl	28.7%	30-135	JM10-JAX47-MW25S-1013	Non-Detects-UJ
1310180	JM10-JAX47-MW15S-1013	Decachlorobiphenyl	18% 18.7%	30-135	JM10-JAX47-MW15S-1013	Non-Detects-UJ

TABLE 13
Surrogate Recoveries Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st Event 2013

SDG	Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Qualifiers Applied
1310180	JM10-JAX47-MW37S-1013	Decachlorobiphenyl	26.2% 26.4%	30-135	JM10-JAX47-MW37S-1013	Detects-J Non-Detects-UJ

Dissolved and Total Results

The positive results reported for total and dissolved pesticides for the samples listed in table 14 below should be considered quantitative estimates. The dissolved pesticide results for each of the samples listed below were reported at higher concentrations than the total pesticides. This indicates a possible problem with field and/or laboratory contamination for the specified pesticides. A "J" qualifier was placed next to the positive results for the total and dissolved pesticides on the data summary tables for the samples listed below.

TABLE 14
Dissolved versus Total Results: Pesticides
JM10 PSC 47 Groundwater Sampling 1st event 2013

Sample ID	Analytes
JM10-JAX47-937-MW03S-1013	Endrin Ketone Gamma-Chlordane
JM10-JAX47-FD02-1013	Aldrin Endrin Aldehyde Alpha-BHC Beta-BHC Delta-BHC Gamma-BHC Endrin Ketone Heptachlor

TABLE 14
Dissolved versus Total Results: Pesticides
JM10 PSC 47 Groundwater Sampling 1st event 2013

Sample ID	Analytes
JM10-JAX47-937-MW02S-1013	4,4'-DDD
	Beta-BHC
	Delta-BHC
	Dieldrin
	Heptachlor
	Heptachlor Epoxide
	Methoxychlor
JM10-JAX47-MW36S-1013	Endosulfan I
JM10-JAX47-MW34S-1013	4,4'-DDD
	Delta-BHC
	Gamma-Chlordane
	Endosulfan Sulfate
	Gamma-BHC
JM10-JAX47-MW11S-1013	4,4'-DDE
	4,4'-DDD
	Aldrin
	Endosulfan II
	Endrin
JM10-JAX47-MW42S-1013	Gamma-BHC

Dilutions

The samples presented below in table 15 were analyzed at dilutions for the analysis indicated. These dilutions may have resulted in surrogate compounds being diluted below the instrument detection limit; therefore surrogate recoveries may not be reported for all diluted analysis. These dilutions were required to prevent saturation of the instrument, to allow quantitation of the compounds within the linear range of the calibration curve, and/or to reduce the effects of the matrix on the target compounds. Positive results for compounds reported above the calibration range in the initial analysis have been reported from the diluted analyses.

TABLE 15
Dilutions: Pesticides
JM10 PSC 47 Groundwater Sampling 1st event 2013

Sample ID	Analysis	Dilution Factor
JM10-JAX47-937-MW03S-1013	Pesticides	10X
JM10-JAX47-937-MW03S-1013A	Pesticides	10X
JM10-JAX47-FD02-1013	Pesticides	10X
JM10-JAX47-FD02-1013A	Pesticides	10X
JM10-JAX47-937-MW02S-1013	Pesticides	20X
JM10-JAX47-937-MW02S-1013A	Pesticides	20X
JM10-JAX47-MW36S-1013	Pesticides	20X
JM10-JAX47-MW36S-1013A	Pesticides	20X
JM10-JAX47-FD03-1013	Pesticides	20X
JM10-JAX47-MW34S-1013	Pesticides	10X
JM10-JAX47-MW34S-1013A	Pesticides	10X
JM10-JAX47-MW11S-1013	Pesticides	10X
JM10-JAX47-MW11S-1013A	Pesticides	10X
JM10-JAX47-MW13S-1013	Pesticides	2X
JM10-JAX47-MW32S-1013	Pesticides	10X

Field Duplicates

Field samples JM10-JAX47-937-MW01S-1013, JM10-JAX47-937-MW03S-1013, JM10-JAX47-937-MW03S-1013S, and JM10-JAX47-MW36S-1013 were collected and analyzed in duplicate. Field duplicate precision objectives were not met for the samples listed in table 16 below, and were qualified as estimated "J":

TABLE 16
Field Duplicate RPD Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st event 2013

Compound	Affected Samples	%RPD
Dieldrin	JM10-JAX47-937-MW03S-1013 / JM10-JAX47-FD02-1013	93.9%
Endosulfan I	JM10-JAX47-937-MW03S-1013 / JM10-JAX47-FD02-1013	64.8%

TABLE 16
Field Duplicate RPD Out of QC Limits: Pesticides
JM10 PSC 47 Groundwater Sampling 1st event 2013

Compound	Affected Samples	%RPD
4,4'-DDT	JM10-JAX47-937-MW03S-1013A / JM10-JAX47-FD02-1013A	51.8%
Aldrin	JM10-JAX47-937-MW03S-1013A / JM10-JAX47-FD02-1013A	46.1%
Delta-BHC	JM10-JAX47-937-MW03S-1013A / JM10-JAX47-FD02-1013A	41.9%
Dieldrin	JM10-JAX47-937-MW03S-1013A / JM10-JAX47-FD02-1013A	48.7%
Endosulfan Sulfate	JM10-JAX47-937-MW03S-1013A / JM10-JAX47-FD02-1013A	61.6%
Endrin Ketone	JM10-JAX47-937-MW03S-1013A / JM10-JAX47-FD02-1013A	85.8%
Endrin Ketone	JM10-JAX47-MW36S-1013 / JM10-JAX47-FD03-1013	63.2%
Gamma-Chlordane	JM10-JAX47-MW36S-1013 / JM10-JAX47-FD03-1013	116%

Field duplicate precision could not be calculated for the samples listed below:

Compound	Affected Samples	Results (ug/L)
Delta-BHC	JM10-JAX47-937-MW01S-1013 / JM10-JAX47-FD01-1013	0.0206 / U
Gamma-BHC	JM10-JAX47-937-MW01S-1013 / JM10-JAX47-FD01-1013	0.0621 / U
Endosulfan II	JM10-JAX47-937-MW03S-1013 / JM10-JAX47-FD02-1013	0.0775/ U
Endrin Aldehyde	JM10-JAX47-937-MW03S-1013A / JM10-JAX47-FD02-1013A	U / 0.605

Sample heterogeneity is suspected due to field duplicate imprecision.

Methane, Ethane, and Ethene Analyses

Holding Time

All samples analyses were performed within hold time.

GC Instrument Performance

All GC Instrument Performance criteria were met.

Calibration

All Initial, 2nd Source, and Continuing Calibration criteria were met.

Blanks

There were no detections in the equipment and method blank samples.

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS/LCSD samples.

Dilutions

The samples presented below in table 17 were analyzed at dilutions for the analysis indicated. These dilutions were required to prevent saturation of the instrument, to allow quantitation of the compounds within the linear range of the calibration curve, and/or to reduce the effects of the matrix on the target compounds. Positive results for compounds reported above the calibration range in the initial analysis have been reported from the diluted analyses.

TABLE 17
Dilutions: Methane
JM10 PSC 47 Groundwater Sampling 1st event 2013

Sample ID	Analysis	Dilution Factor
JM10-JAX47-937-MW01S-1013	Methane	5X
JM10-JAX47-937-MW02S-1013	Methane	10X
JM10-JAX47-937-MW04S-1013	Methane	5X
JM10-JAX47-MW25S-1013	Methane	5X
JM10-JAX47-MW37S1013	Methane	5X
JM10-JAX47-MW32S-1013	Methane	5X

Rejected Data

No data were rejected based upon the validation process for this sampling event.

Select Metals – Arsenic, Dissolved Iron, and/or Dissolved Manganese Analyses

Holding Time

All samples analyses were performed within hold time.

Instrument Calibration

All Initial and Continuing Calibration criteria were met.

Low Level Spike Calibration Verification

All low level spike calibration verification criteria were met.

Interference Check Sample

The interference check standard criteria were met.

Serial Dilution

Serial Dilution analyses were performed using batch samples with acceptable results.

Blanks

There were no detections in the initial calibration, continuing calibration, equipment and method blank samples.

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS samples.

Matrix Spike and Matrix Spike Duplicate Recoveries

A matrix spike and spike duplicate samples were collected and analyzed using field sample JM10-JAX47-MW10S-1013, JM10-JAX47-MW34S-1013, and JM10-JAX47-MW34S-1013A. The matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives were met.

Field Duplicates

Field samples JM10-JAX47-937-MW01S-1013, JM10-JAX47-937-MW03S-1013, and JM10-JAX47-MW36S-1013 were collected and analyzed in duplicate. Field duplicate precision objectives were met.

Rejected Data

No data were rejected based upon the validation process for this sampling event.

Ferrous Iron Analyses

Laboratory Certification

The laboratory noted that the ferrous iron analysis was performed outside of their certification.

Holding Time

All samples were analyzed outside the 24-hour method holding time; therefore sample results have been qualified as estimated "UJ" for non-detects or "J" for detects with a validation note of "HT" for holding time exceedances.

Instrument Calibration

All Initial, 2nd Source, and Continuing Calibration criteria were met.

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS/LCSD samples.

Matrix Spike and Matrix Spike Duplicate Recoveries

Sample JM10-JAX47-MW34S-1013 was used as the batch quality control sample for the matrix spike and spike duplicate. The matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives were met.

Blanks

The detects noted in the method blank and/or continuing calibration blank samples did not affect the sample results except as noted in table 18 below:

TABLE18
Blank Contamination: Ferrous Iron
JM10 PSC 47 Groundwater Sampling 1st event 2013

SDG	Sample ID	Sample Type	Parameter	Lab Result	Units	Samples Affected
1310139	Method Blank	MB	Ferrous Iron	0.0281	mg/L	JM10-JAX47-MW34S-1013
1310139 1310165 1310207	Continuing Calibration Blank	CCB	Ferrous Iron	0.0221	mg/L	JM10-JAX47-MW34S-1013 JM10-JAX47-MW13S-1013 JM10-JAX47-MW42S-1013 JM10-JAX47-MW39S-1013
1310180	Continuing Calibration Blank	CCB	Ferrous Iron	0.0220	mg/L	Sample results were greater than 5 times the blank detect; therefore no qualifiers needed.
1310180	Method Blank	MB	Ferrous Iron	0.0200	mg/L	Sample results were greater than 5 times the blank detect; therefore no qualifiers needed.
1310207	Method Blank	MB	Ferrous Iron	0.0221	mg/L	JM10-JAX47-MW39S-1013
	Method Blank	MB	Gamma-Chlordane	0.458	Ug/Kg	JM10-FL1-082813 JM10-FL2-082813 JM10-FL3-082813 JM10-SW1-082813 JM10-SW2-082813 JM10-SW3-082813 JM10-SW4-082813 JM10-SW5-082813 JM10-SW6-082813 JM10-FD-082813

Flags were applied to the analytes in the associated samples in the following manner:

When the analytes were detected in the method blank and/or continuing calibration blanks, the detected compounds, that were less than 5 times the concentration detected for the analytes listed and below the limit of quantitation (LOQ), were flagged "U" due to possible laboratory contamination with a validation note of "BL". The detects that were above the limit of quantitation (LOQ) were qualified as estimated "B" due to possible laboratory contamination with a validation note of "BL".

Rejected Data

No data were rejected based upon the validation process for this sampling event.

Alkalinity Analyses

Holding Time

All samples analyses were performed within hold time.

Blanks

There were no detects noted in the associated method blanks.

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS/LCSD samples.

Matrix Spike and Matrix Spike Duplicate Recoveries

Sample JM10-JAX47-MW34S-1013 was used as the batch quality control sample for the matrix spike and spike duplicate. The matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives were met.

Rejected Data

No data were rejected based upon the validation process for this sampling event

Nitrate and Sulfate Analyses

Holding Time

All samples analyses were performed within hold time

Instrument Calibration

All Initial, 2nd Source, and Continuing Calibration criteria were met.

Blanks

There were no detects in the associated method, initial calibration, and continuing calibration blanks.

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS/LCSD samples.

Matrix Spike and Matrix Spike Duplicate Recoveries

Sample JM10-JAX47-MW34S-1013 was used as the batch quality control sample for the matrix spike and spike duplicate. The matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives were met.

Laboratory Duplicate

Sample JM10-JAX47-MW34S-1013 was used as the batch quality control sample for the laboratory duplicate. The laboratory duplicate precision objectives were met.

Rejected Data

No data were rejected based upon the validation process for this sampling event.

Sulfide Analyses

Holding Time

All samples analyses were performed within hold time

Blanks

There were no detects noted in the associated method blanks.

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS/LCSD samples.

Dilutions

The dilution factors noted for the sulfide analyses for all samples were dependent upon the volume filtered and the volume used to bring the samples to the volume needed after filtration. These dilutions were not analytical dilutions, but method or concentration dilutions required by the method.

Rejected Data

No data were rejected based upon the validation process for this sampling event.

Total Organic Carbon (TOC) Analyses

Holding Time

All samples analyses were performed within hold time.

Instrument Calibration

All Initial, 2nd Source, and Continuing Calibration criteria were met.

Blanks

There were no detects in the associated method and continuing calibration blanks.

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS/LCSD samples, except as noted in Table 19 below:

TABLE 19
Laboratory Control Sample Recovery Out of QC Limits: TOC
JM10 PSC 47 Groundwater Sampling1st event 2013

QC Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Qualifiers Applied
Laboratory Control Sample	TOC	75.4%	85-115	JM10-JAX47-MW14S-1113	Detects were qualified as estimated J-BSL

Matrix Spike and Matrix Spike Duplicate Recoveries

Sample JM10-JAX47-MW34S-1013 was used as the batch quality control sample for the matrix spike and spike duplicate. The matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives were met.

Rejected Data

No data were rejected based upon the validation process for this sampling event.

GROUNDWATER CLEANUP TARGET ACTION LEVEL LIMITS

All samples collected and analyzed during the months of October 2013 thru November 2013 for the pesticides, dissolved pesticides, arsenic, methane, ethane, ethane, polycyclic aromatic hydrocarbons, semi-volatile organic compounds, volatile organic compounds, dissolved iron, dissolved manganese, sulfate, nitrate, ferrous iron, alkalinity, sulfide, and total organic carbon (TOC) analyses were less than the action levels for groundwater cleanup target level limits with the exception of the analytes listed below:

Analyte (Pesticides)	Affected Sample	Sample Results (ug/L)	Groundwater Cleanup Target Levels (ug/L)
Alpha-BHC	JM10-JAX47-FD02-1013	3.53 J	0.006
Alpha-BHC	JM10-JAX47-937-MW03S-1013	3.72 J	0.006
Alpha-BHC	JM10-JAX47-937-MW04S-1013	0.0924 J	0.006
Alpha-BHC	JM10-JAX47-MW11S-1013	4.5 J	0.006
Alpha-BHC	JM10-JAX47-MW13S-1013	0.523 J	0.006
Alpha-BHC	JM10-JAX47-MW25S-1013	0.39 J	0.006
Alpha-BHC	JM10-JAX47-MW32S-1013	0.0893	0.006
Alpha-BHC	JM10-JAX47-FD03-1013	5.87	0.006
Alpha-BHC	JM10-JAX47-MW36S-1013	5.94	0.006
Alpha-BHC	JM10-JAX47-MW38S-1013	0.305	0.006
Alpha-BHC	JM10-JAX47-MW41S-1013	0.668	0.006
Alpha-BHC	JM10-JAX47-MW42S-1013	0.0607 J	0.006
Aldrin	JM10-JAX47-FD01-1013	0.583 J	0.002
Aldrin	JM10-JAX47-937-MW01S-1013	0.705 J	0.002
Aldrin	JM10-JAX47-937-MW02S-1013	0.782 J	0.002
Aldrin	JM10-JAX47-FD02-1013	0.437 J	0.002
Aldrin	JM10-JAX47-937-MW03S-1013	0.409 J	0.002
Aldrin	JM10-JAX47-937-MW04S-1013	0.0698 J	0.002
Aldrin	JM10-JAX47-MW11S-1013	0.0322 J	0.002
Aldrin	JM10-JAX47-MW13S-1013	0.0268 J	0.002
Aldrin	JM10-JAX47-MW14S-1013	0.00613 J	0.002
Aldrin	JM10-JAX47-MW25S-1013	0.00821 J	0.002
Beta-BHC	JM10-JAX47-FD01-1013	0.521 J	0.02

Analyte (Pesticides)	Affected Sample	Sample Results (ug/L)	Groundwater Cleanup Target Levels (ug/L)
Beta-BHC	JM10-JAX47-937-MW01S-1013	0.689 J	0.02
Beta-BHC	JM10-JAX47-937-MW02S-1013	1.79 J	0.02
Beta-BHC	JM10-JAX47-FD02-1013	2 J	0.02
Beta-BHC	JM10-JAX47-937-MW03S-1013	2.12 J	0.02
Beta-BHC	JM10-JAX47-937-MW04S-1013	0.245 J	0.02
Beta-BHC	JM10-JAX47-MW11S-1013	1.05	0.02
Beta-BHC	JM10-JAX47-MW12S-1013	0.698	0.02
Beta-BHC	JM10-JAX47-MW13S-1013	0.302	0.02
Beta-BHC	JM10-JAX47-MW14S-1013	0.0438 J	0.02
Beta-BHC	JM10-JAX47-MW25S-1013	0.844	0.02
Beta-BHC	JM10-JAX47-MW26S-1013	0.187	0.02
Beta-BHC	JM10-JAX47-MW32S-1013	2.82	0.02
Beta-BHC	JM10-JAX47-MW33S-1013	0.414	0.02
Beta-BHC	JM10-JAX47-MW34S-1013	10.2	0.02
Beta-BHC	JM10-JAX47-FD03-1013	8.44	0.02
Beta-BHC	JM10-JAX47-MW36S-1013	8.81	0.02
Beta-BHC	JM10-JAX47-MW38S-1013	0.162	0.02
Beta-BHC	JM10-JAX47-MW41S-1013	0.0931	0.02
Beta-BHC	JM10-JAX47-MW42S-1013	0.217	0.02
Beta-BHC	JM10-JAX47-MW43S-1013	0.0767	0.02
Delta-BHC	JM10-JAX47-FD02-1013	2.64 J	2.1
Delta-BHC	JM10-JAX47-937-MW03S-1013	2.84 J	2.1
Delta-BHC	JM10-JAX47-MW11S-1013	3.72 J	2.1
Delta-BHC	JM10-JAX47-MW32S-1013	5.29	2.1
Delta-BHC	JM10-JAX47-FD03-1013	3.1	2.1
Delta-BHC	JM10-JAX47-MW36S-1013	3.05	2.1
Dieldrin	JM10-JAX47-FD01-1013	0.0345 J	0.002

Analyte (Pesticides)	Affected Sample	Sample Results (ug/L)	Groundwater Cleanup Target Levels (ug/L)
Dieldrin	JM10-JAX47-937-MW01S-1013	0.0409	0.002
Dieldrin	JM10-JAX47-937-MW02S-1013	0.286 J	0.002
Dieldrin	JM10-JAX47-FD02-1013	2.88 J	0.002
Dieldrin	JM10-JAX47-937-MW03S-1013	1.04 J	0.002
Dieldrin	JM10-JAX47-MW11S-1013	0.043 J	0.002
Dieldrin	JM10-JAX47-MW12S-1013	0.169	0.002
Dieldrin	JM10-JAX47-MW13S-1013	0.0777	0.002
Dieldrin	JM10-JAX47-MW14S-1013	0.0209 J	0.002
Dieldrin	JM10-JAX47-MW32S-1013	0.134	0.002
Dieldrin	JM10-JAX47-MW33S-1013	0.0878	0.002
Dieldrin	JM10-JAX47-MW34S-1013	0.311	0.002
Dieldrin	JM10-JAX47-FD03-1013	0.0309	0.002
Dieldrin	JM10-JAX47-MW36S-1013	0.0352 J	0.002
Dieldrin	JM10-JAX47-MW41S-1013	0.0352 J	0.002
Dieldrin	JM10-JAX47-MW42S-1013	0.00708 J	0.002
Dieldrin	JM10-JAX47-MW43S-1013	0.072 J	0.002
Gamma-BHC	JM10-JAX47-FD02-1013	5.52 J	0.2
Gamma-BHC	JM10-JAX47-937-MW03S-1013	5.88 J	0.2
Gamma BHC	JM10 JAX47-MW11S-1013	6.14 J	0.2
Gamma-BHC	JM10-JAX47-MW13S-1013	0.292	0.2
Gamma-BHC	JM10-JAX47-MW25S-1013	0.748 J	0.2
Gamma-BHC	JM10-JAX47-FD03-1013	27.6	0.2
Gamma-BHC	JM10-JAX47-MW36S-1013	27.8	0.2
Gamma-BHC	JM10-JAX47-MW41S-1013	0.225	0.2
Heptachlor	JM10-JAX47-937-MW02S-1013	0.799 J	0.4
Heptachlor Epoxide	JM10-JAX47-MW13S-1013	0.655	0.2
Heptachlor Epoxide	JM10-JAX47-MW14S-1013	0.495	0.2
Heptachlor Epoxide	JM10-JAX47-MW43S-1013	0.515	0.2
4,4'-DDD	JM10-JAX47-937-MW02S-1013	1.09 J	0.1

Analyte (Pesticides)	Affected Sample	Sample Results (ug/L)	Groundwater Cleanup Target Levels (ug/L)
4,4'-DDD	JM10-JAX47-FD02-1013	12.4 J	0.1
4,4'-DDD	JM10-JAX47-937-MW03S-1013	14.3 J	0.1
4,4'-DDD	JM10-JAX47-FD03-1013	11.4	0.1
4,4'-DDD	JM10-JAX47-MW36S-1013	10.2	0.1
4,4'-DDD	JM10-JAX47-MW38S-1013	0.149	0.1
4,4'-DDD	JM10-JAX47-MW40S-1013	0.125	0.1
4,4'-DDE	JM10-JAX47-937-MW02S-1013	0.45 J	0.1
4,4'-DDE	JM10-JAX47-FD02-1013	0.16 J	0.1
4,4'-DDE	JM10-JAX47-937-MW03S-1013	0.159 J	0.1
4,4'-DDE	JM10-JAX47-937-MW04S-1013	0.238	0.1
4,4'-DDE	JM10-JAX47-MW34S-1013	0.313 J	0.1
4,4'-DDE	JM10-JAX47-FD03-1013	0.146	0.1
4,4'-DDE	JM10-JAX47-MW36S-1013	0.135	0.1
4,4'-DDT	JM10-JAX47-937-MW02S-1013	1.05 J	0.1
4,4'-DDT	JM10-JAX47-FD02-1013	0.555 J	0.1
4,4'-DDT	JM10-JAX47-937-MW03S-1013	0.628	0.1
4,4'-DDT	JM10-JAX47-FD03-1013	6.7	0.1
4,4'-DDT	JM10-JAX47-MW36S-1013	5.83	0.1

Analyte (Dissolved Pesticides)	Affected Sample	Sample Results (ug/L)	Groundwater Cleanup Target Levels (ug/L)
Alpha-BHC	JM10-JAX47-937-MW02S-1013	0.105 J	0.006
Alpha-BHC	JM10-JAX47-FD02-1013	3.68 J	0.006
Alpha-BHC	JM10-JAX47-937-MW03S-1013	3.18	0.006
Alpha-BHC	JM10-JAX47-MW11S-1013	4.05 J	0.006
Alpha-BHC	JM10-JAX47-MW13S-1013	0.252	0.006
Alpha-BHC	JM10-JAX47-MW36S-1013	5.8	0.006
Alpha-BHC	JM10-JAX47-MW42S-1013	0.0418 J	0.006

Analyte (Dissolved Pesticides)	Affected Sample	Sample Results (ug/L)	Groundwater Cleanup Target Levels (ug/L)
Aldrin	JM10-JAX47-937-MW02S-1013	0.73 J	0.002
Aldrin	JM10-JAX47-FD02-1013	0.454 J	0.002
Aldrin	JM10-JAX47-937-MW03S-1013	0.284 J	0.002
Aldrin	JM10-JAX47-MW11S-1013	0.0435 J	0.002
Beta-BHC	JM10-JAX47-937-MW02S-1013	1.8 J	0.02
Beta-BHC	JM10-JAX47-FD02-1013	2.08 J	0.02
Beta-BHC	JM10-JAX47-937-MW03S-1013	1.68 J	0.02
Beta-BHC	JM10-JAX47-MW11S-1013	1.01	0.02
Beta-BHC	JM10-JAX47-MW13S-1013	0.0935	0.02
Beta-BHC	JM10-JAX47-MW34S-1013	7.5	0.02
Beta-BHC	JM10-JAX47-MW36S-1013	8.02	0.02
Beta-BHC	JM10-JAX47-MW42S-1013	0.155	0.02
Delta-BHC	JM10-JAX47-FD02-1013	2.97 J	2.1
Delta-BHC	JM10-JAX47-MW11S-1013	3.15 J	2.1
Delta-BHC	JM10-JAX47-MW36S-1013	2.82	2.1
Dieldrin	JM10-JAX47-937-MW02S-1013	0.372 J	0.002
Dieldrin	JM10-JAX47-FD02-1013	0.0675 J	0.002
Dieldrin	JM10-JAX47-937-MW03S-1013	0.111 J	0.002
Dieldrin	JM10-JAX47-MW11S-1013	0.0103 J	0.002
Gamma-BHC	JM10-JAX47-FD02-1013	6.06 J	0.2
Gamma-BHC	JM10-JAX47-937-MW03S-1013	5.09 J	0.2
Gamma-BHC	JM10-JAX47-MW11S-1013	5.84 J	0.2
Gamma-BHC	JM10-JAX47-MW36S-1013	27.5	0.2
Heptachlor	JM10-JAX47-937-MW02S-1013	0.952 J	0.4
4,4'-DDD	JM10-JAX47-937-MW02S-1013	1.2 J	0.1
4,4'-DDD	JM10-JAX47-FD02-1013	1.38 J	0.1
4,4'-DDD	JM10-JAX47-937-MW03S-1013	1.23 J	0.1
4,4'-DDD	JM10-JAX47-MW36S-1013	0.239	0.1

Analyte (Dissolved Pesticides)	Affected Sample	Sample Results (ug/L)	Groundwater Cleanup Target Levels (ug/L)
4,4'-DDE	JM10-JAX47-937-MW02S-1013	0.414 J	0.1
4,4'-DDE	JM10-JAX47-MW36S-1013	0.265 J	0.1
4,4'-DDT	JM10-JAX47-937-MW02S-1013	1.05 J	0.1
4,4'-DDT	JM10-JAX47-FD02-1013	0.189 J	0.1
4,4'-DDT	JM10-JAX47-937-MW03S-1013	0.321 J	0.1
4,4'-DDT	JM10-JAX47-MW36S-1013	0.472	0.1

Analyte (Volatile List)	Affected Sample	Sample Results (ug/L)	Groundwater Cleanup Target Levels (ug/L)
Benzene	JM10-JAX47-MW11S-1013	1.44	1
Ethylbenzene	JM10-JAX47-937-MW04S-1013	62.8	30
Isopropylbenzene	JM10-JAX47-MW11S-1013	2.8	0.8
Tetrachloroethene	JM10-JAX47-937-MW04S-1013	18.6	3
Xylenes	JM10-JAX47-FD01-1013	23.6	20
Xylenes	JM10-JAX47-937-MW01S-1013	24.6	20
Xylenes	JM10-JAX47-937-MW04S-1013	1280	20

Analyte (Semi-Volatile List)	Affected Sample	Sample Results (ug/L)	Groundwater Cleanup Target Levels (ug/L)
4-Methylphenol	JM10-JAX47-MW25S-1013	4.46 J	3.5
Biphenyl	JM10-JAX47-MW11S-1013	4.3 J	0.5

Analyte (PAH List)	Affected Sample	Sample Results (ug/L)	Groundwater Cleanup Target Levels (ug/L)
1-Methylnaphthalene	JM10-JAX47-MW11S-1013	28.3	28
Benzo(a)anthracene	JM10-JAX47-MW11S-1013	0.0752 J	0.05
Benzo(b)fluoranthene	JM10-JAX47-MW11S-1013	0.0591 J	0.05
Naphthalene	JM10-JAX47-937-MW04S-1013	18.3	14
Naphthalene	JM10-JAX47-MW11S-1013	54	14

Analyte (Metals List)	Affected Sample	Sample Results (ug/L)	Groundwater Cleanup Target Levels (ug/L)
Arsenic	JM10-JAX47-FD01-1013	169	10
Arsenic	JM10-JAX47-937-MW01S-1013	166	10
Arsenic	JM10-JAX47-937-MW02S-1013	6510	10
Arsenic	JM10-JAX47-FD02-1013	9380	10
Arsenic	JM10-JAX47-937-MW03S-1013	9150	10
Arsenic	JM10-JAX47-MW13S-1013	48.9	10
Arsenic	JM10-JAX47-FD03-1013	534	10
Arsenic	JM10-JAX47-MW36S-1013	506	10
Arsenic	JM10-JAX47-MW37S-1013	894	10
Arsenic	JM10-JAX47-MW40S-1013	39.9	10
Arsenic	JM10-JAX47-MW41S-1013	30.2	10
Arsenic	JM10-JAX47-MW43S-1013	20.3	10
Dissolved Iron	JM10-JAX47-937-MW01S-1013	5870	300
Dissolved Iron	JM10-JAX47-937-MW02S-1013	18500	300
Dissolved Iron	JM10-JAX47-937-MW03S-1013	18500	300
Dissolved Iron	JM10-JAX47-937-MW04S-1013	48500	300
Dissolved Iron	JM10-JAX47-MW25S-1013	1690	300
Dissolved Iron	JM10-JAX47-MW32S-1013	7610	300
Dissolved Iron	JM10-JAX47-MW37S-1013	2320	300
Dissolved Manganese	JM10-JAX47-937-MW01S-1013	117	50
Dissolved Manganese	JM10-JAX47-937-MW02S-1013	109	50
Dissolved Manganese	JM10-JAX47-937-MW03S-1013	117	50
Dissolved Manganese	JM10-JAX47-937-MW04S-1013	233	50

Analyte (Sulfate/Nitrate)	Affected Sample	Sample Results (ug/L)	Groundwater Cleanup Target Levels (ug/L)
Sulfate	JM10-JAX47-937-MW01S-1013	292000	250000
Nitrate	JM10-JAX47-MW34S-1013	19500	10000

Data Usability

A review of the analytical data submitted regarding the investigation of NAS Jacksonville PSC 47 Groundwater Sampling 1st event 2013, by CH2M HILL has been completed. An overall evaluation of the data indicates that the sample handling, shipment, and analytical procedures have been adequately completed, and that the analytical results should be considered usable as qualified.

The data user can use the data recognizing the potential data biases indicated by the data qualifiers assigned to some results. Data was qualified for a subset of results based on holding time, high or low continuing calibration recoveries, low second source calibration recovery, primary/confirmation column imprecision, dissolved/total imprecision, method, continuing calibration, equipment, and/or trip blank contamination, matrix interferences, low or high laboratory control sample recovery, low and/or high surrogate recoveries, and field duplicate imprecision.

ANALYSIS DATA SHEET

JM10-JAX47-TB01-101013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-01	File ID:	1010401.D
Sampled:	10/10/13 12:00	Prepared:	10/19/13 13:26	Analyzed:	10/19/13 13:26
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J19001 Sequence: 3J29501 Calibration: 3268003 Instrument: MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**5.58**	2.50	5.00	10.0	J
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	**7.88**	0.500	1.00	2.00	
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-TB01-101013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-01	File ID:	1010401.D
Sampled:	10/10/13 12:00	Prepared:	10/19/13 13:26	Analyzed:	10/19/13 13:26
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J19001 Sequence: 3J29501 Calibration: 3268003 Instrument: MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.63	95.4	75 - 120	
Dibromofluoromethane	30.00	30.96	103	85 - 115	
1,2-Dichloroethane-d4	30.00	29.81	99.4	70 - 120	
Toluene-d8	30.00	29.12	97.1	85 - 120	

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ANALYSIS DATA SHEET

JM10-JAX47-937-MW01S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-02	File ID:	1010402.D
Sampled:	10/10/13 10:15	Prepared:	10/19/13 16:40	Analyzed:	10/19/13 16:40
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J19001 Sequence: 3J29501 Calibration: 3268003 Instrument: MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**19.5**	2.50	5.00	10.0	
71-43-2	Benzene	**0.690**	0.250	0.500	1.00	J
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene	**0.270**	0.250	0.500	1.00	J
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene	**47.2**	0.250	0.500	1.00	
156-60-5	trans-1,2-Dichloroethene	**0.520**	0.250	0.500	1.00	J
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene	**3.96**	0.250	0.500	1.00	
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene	**0.330**	0.250	0.500	1.00	J
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene	**1.65**	0.250	0.500	1.00	

U-TB

ANALYSIS DATA SHEET

JM10-JAX47-937-MW01S-10
13

Laboratory:	Empirical Laboratories, LLC			SDG:	1310104
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310104-02	File ID:	1010402 D
Sampled:	10/10/13 10:15	Prepared:	10/19/13 16:40	Analyzed:	10/19/13 16:40
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J19001 Sequence: 3J29501 Calibration: 3268003 Instrument: MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene	**0.800**	0.250	0.500	1.00	J
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene	**0.870**	0.250	0.500	1.00	J
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)	**24.6**	0.750	1.50	3.00	

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.72	95.7	75 - 120	
Dibromofluoromethane	30.00	31.13	104	85 - 115	
1,2-Dichloroethane-d4	30.00	29.85	99.5	70 - 120	
Toluene-d8	30.00	29.00	96.7	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-FD01-1013

Laboratory:	Empirical Laboratories, LLC			SDG:	1310104
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310104-04	File ID:	1010404.D
Sampled:	10/10/13 00:00	Prepared:	10/19/13 17:07	Analyzed:	10/19/13 17:07
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J19001 Sequence: 3J29501 Calibration: 3268003 Instrument: MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene	**0.680**	0.250	0.500	1.00	J
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene	**48.0**	0.250	0.500	1.00	
156-60-5	trans-1,2-Dichloroethene	**0.570**	0.250	0.500	1.00	J
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene	**3.92**	0.250	0.500	1.00	
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene	**0.300**	0.250	0.500	1.00	J
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene	**1.54**	0.250	0.500	1.00	

ANALYSIS DATA SHEET

JM10-JAX47-FD01-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-04	File ID:	1010404.D
Sampled:	10/10/13 00:00	Prepared:	10/19/13 17:07	Analyzed:	10/19/13 17:07
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J19001 Sequence: 3J29501 Calibration: 3268003 Instrument: MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene	**0.780**	0.250	0.500	1.00	J
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene	**1.04**	0.250	0.500	1.00	
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)	**23.6**	0.750	1.50	3.00	

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.25	97.5	75 - 120	
Dibromofluoromethane	30.00	31.22	104	85 - 115	
1,2-Dichloroethane-d4	30.00	28.86	96.2	70 - 120	
Toluene-d8	30.00	29.24	97.5	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-937-MW01S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-02	File ID:	1010402.D
Sampled:	10/10/13 10:15	Prepared:	10/15/13 17:00	Analyzed:	10/19/13 17:40
Solids:		Preparation:	EXT_3510	Dilution:	1
Batch:	3J15012	Sequence: 3J29614	Calibration:	3263001	Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.16	2.31	4.63	U
1912-24-9	Atrazine		1.16	2.31	4.63	U
100-52-7	Benzaldehyde		1.16	2.31	4.63	U
92-52-4	1,1-Biphenyl		1.16	2.31	4.63	U
101-55-3	4-Bromophenyl-phenylether		1.16	2.31	4.63	U
85-68-7	Butylbenzylphthalate		1.16	2.31	4.63	U
105-60-2	Caprolactam		1.16	2.31	4.63	UX
86-74-8	Carbazole		1.16	2.31	4.63	U
59-50-7	4-Chloro-3-methylphenol		1.16	2.31	4.63	U
106-47-8	4-Chloroaniline		1.16	2.31	4.63	U
111-91-1	Bis(2-chloroethoxy)methane		1.16	2.31	4.63	U
111-44-4	Bis(2-chloroethyl)ether		1.16	2.31	4.63	U
108-60-1	2,2'-Oxybis-1-chloropropane		1.16	2.31	4.63	U
91-58-7	2-Chloronaphthalene		1.16	2.31	4.63	U
95-57-8	2-Chlorophenol		1.16	2.31	4.63	U
7005-72-3	4-Chlorophenyl phenyl ether		1.16	2.31	4.63	U
132-64-9	Dibenzofuran		1.16	2.31	4.63	U
84-74-2	Di-n-butylphthalate		1.16	2.31	4.63	U
91-94-1	3,3'-Dichlorobenzidine		1.16	2.31	4.63	U
120-83-2	2,4-Dichlorophenol		1.16	2.31	4.63	U
84-66-2	Diethylphthalate		1.16	2.31	4.63	U
105-67-9	2,4-Dimethylphenol		4.63	9.26	18.5	U
131-11-3	Dimethyl phthalate		1.16	2.31	4.63	U
534-52-1	4,6-Dinitro-2-methylphenol		4.63	9.26	18.5	U
51-28-5	2,4-Dinitrophenol		7.71	23.1	46.3	UX
121-14-2	2,4-Dinitrotoluene		1.16	2.31	4.63	U
606-20-2	2,6-Dinitrotoluene		1.16	2.31	4.63	U
117-84-0	Di-n-octylphthalate		1.16	2.31	4.63	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.16	2.31	4.63	U
118-74-1	Hexachlorobenzene		1.16	2.31	4.63	U
87-68-3	Hexachlorobutadiene		1.16	2.31	4.63	U
77-47-4	Hexachlorocyclopentadiene		1.16	4.63	9.26	UX
67-72-1	Hexachloroethane		1.16	2.31	4.63	U
78-59-1	Isophorone		1.16	2.31	4.63	U
95-48-7	2-Methylphenol		1.16	2.31	4.63	U
106-44-5	4-Methylphenol		1.16	2.31	4.63	U
100-01-6	4-Nitroaniline		4.63	9.26	18.5	U
99-09-2	3-Nitroaniline		4.63	9.26	18.5	U
88-74-4	2-Nitroaniline		4.63	9.26	18.5	U
98-95-3	Nitrobenzene		1.16	2.31	4.63	U

ANALYSIS DATA SHEET

JM10-JAX47-937-MW01S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-02	File ID:	1010402.D
Sampled:	10/10/13 10:15	Prepared:	10/15/13 17:00	Analyzed:	10/19/13 17:40
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J15012 Sequence: 3J29614 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.63	9.26	18.5	U
88-75-5	2-Nitrophenol		1.16	2.31	4.63	U
86-30-6	N-Nitrosodiphenylamine		1.16	2.31	4.63	U
621-64-7	N-Nitroso-di-n-propylamine		1.16	2.31	4.63	U
108-95-2	Phenol		1.16	2.31	4.63	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.16	2.31	4.63	U
120-82-1	1,2,4-Trichlorobenzene		1.16	2.31	4.63	U
88-06-2	2,4,6-Trichlorophenol		1.16	2.31	4.63	U
95-95-4	2,4,5-Trichlorophenol		1.16	2.31	4.63	U

Total Target Analytes Reported: 49

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	32.25	69.6	50 - 110	
2-Fluorophenol	92.59	23.49	25.4	20 - 110	
Nitrobenzene-d5	46.30	32.65	70.5	40 - 110	
Phenol-d6	92.59	14.56	15.7	0 - 110	
Terphenyl-d14	46.30	37.50	81.0	50 - 135	
2,4,6-Tribromophenol	92.59	72.72	78.5	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-FD01-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-04	File ID:	1010404.D
Sampled:	10/10/13 00:00	Prepared:	10/15/13 17:00	Analyzed:	10/19/13 18:09
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J15012 Sequence: 3J29614 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.16	2.31	4.63	U
1912-24-9	Atrazine		1.16	2.31	4.63	U
100-52-7	Benzaldehyde		1.16	2.31	4.63	U
92-52-4	1,1-Biphenyl		1.16	2.31	4.63	U
101-55-3	4-Bromophenyl-phenylether		1.16	2.31	4.63	U
85-68-7	Butylbenzylphthalate		1.16	2.31	4.63	U
105-60-2	Caprolactam		1.16	2.31	4.63	UX
86-74-8	Carbazole		1.16	2.31	4.63	U
59-50-7	4-Chloro-3-methylphenol		1.16	2.31	4.63	U
106-47-8	4-Chloroaniline		1.16	2.31	4.63	U
111-91-1	Bis(2-chloroethoxy)methane		1.16	2.31	4.63	U
111-44-4	Bis(2-chloroethyl)ether		1.16	2.31	4.63	U
108-60-1	2,2'-Oxybis-1-chloropropane		1.16	2.31	4.63	U
91-58-7	2-Chloronaphthalene		1.16	2.31	4.63	U
95-57-8	2-Chlorophenol		1.16	2.31	4.63	U
7005-72-3	4-Chlorophenyl phenyl ether		1.16	2.31	4.63	U
132-64-9	Dibenzofuran		1.16	2.31	4.63	U
84-74-2	Di-n-butylphthalate		1.16	2.31	4.63	U
91-94-1	3,3'-Dichlorobenzidine		1.16	2.31	4.63	U
120-83-2	2,4-Dichlorophenol		1.16	2.31	4.63	U
84-66-2	Diethylphthalate		1.16	2.31	4.63	U
105-67-9	2,4-Dimethylphenol		4.63	9.26	18.5	U
131-11-3	Dimethyl phthalate		1.16	2.31	4.63	U
534-52-1	4,6-Dinitro-2-methylphenol		4.63	9.26	18.5	U
51-28-5	2,4-Dinitrophenol		7.71	23.1	46.3	UX
121-14-2	2,4-Dinitrotoluene		1.16	2.31	4.63	U
606-20-2	2,6-Dinitrotoluene		1.16	2.31	4.63	U
117-84-0	Di-n-octylphthalate		1.16	2.31	4.63	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.16	2.31	4.63	U
118-74-1	Hexachlorobenzene		1.16	2.31	4.63	U
87-68-3	Hexachlorobutadiene		1.16	2.31	4.63	U
77-47-4	Hexachlorocyclopentadiene		1.16	4.63	9.26	UX
67-72-1	Hexachloroethane		1.16	2.31	4.63	U
78-59-1	Isophorone		1.16	2.31	4.63	U
95-48-7	2-Methylphenol		1.16	2.31	4.63	U
106-44-5	4-Methylphenol		1.16	2.31	4.63	U
100-01-6	4-Nitroaniline		4.63	9.26	18.5	U
99-09-2	3-Nitroaniline		4.63	9.26	18.5	U
88-74-4	2-Nitroaniline		4.63	9.26	18.5	U
98-95-3	Nitrobenzene		1.16	2.31	4.63	U

ANALYSIS DATA SHEET

JM10-JAX47-FD01-1013

Laboratory:	Empirical Laboratories, LLC			SDG:	1310104
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310104-04	File ID:	1010404.D
Sampled:	10/10/13 00:00	Prepared:	10/15/13 17:00	Analyzed:	10/19/13 18:09
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3315012 Sequence: 3129614 Calibration: 3263001 Instrument: MS-BNA5

CAS NO	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.63	9.26	18.5	U
88-75-5	2-Nitrophenol		1.16	2.31	4.63	U
86-30-6	N-Nitrosodiphenylamine		1.16	2.31	4.63	U
621-64-7	N-Nitroso-di-n-propylamine		1.16	2.31	4.63	U
108-95-2	Phenol		1.16	2.31	4.63	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.16	2.31	4.63	U
120-82-1	1,2,4-Trichlorobenzene		1.16	2.31	4.63	U
88-06-2	2,4,6-Trichlorophenol		1.16	2.31	4.63	U
95-95-4	2,4,5-Trichlorophenol		1.16	2.31	4.63	U

Total Target Analytes Reported: 49

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	32.47	70.1	50 - 110	
2-Fluorophenol	92.59	24.81	26.8	20 - 110	
Nitrobenzene-d5	46.30	33.09	71.5	40 - 110	
Phenol-d6	92.59	14.52	15.7	0 - 110	
Terphenyl-d14	46.30	37.95	82.0	50 - 135	
2,4,6-Tribromophenol	92.59	74.46	80.4	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-937-MW01S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-02	File ID:	1010402.D
Sampled:	10/10/13 10:15	Prepared:	10/15/13 17:00	Analyzed:	10/25/13 21:27
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J15012 Sequence: 3J30114 Calibration: 3217001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0463	0.0926	0.185	U
208-96-8	Acenaphthylene		0.0463	0.0926	0.185	U
120-12-7	Anthracene		0.0463	0.0926	0.185	U
56-55-3	Benzo(a)anthracene		0.0463	0.0926	0.185	U
50-32-8	Benzo(a)pyrene		0.0463	0.0926	0.185	U
205-99-2	Benzo(b)fluoranthene		0.0463	0.0926	0.185	U
191-24-2	Benzo(g,h,i)perylene		0.0463	0.0926	0.185	U
207-08-9	Benzo(k)fluoranthene		0.0463	0.0926	0.185	U
218-01-9	Chrysene		0.0463	0.0926	0.185	U
53-70-3	Dibenz(a,h)anthracene		0.0463	0.0926	0.185	U
206-44-0	Fluoranthene		0.0463	0.0926	0.185	U
86-73-7	Fluorene	**0.0538**	0.0463	0.0926	0.185	J
193-39-5	Indeno(1,2,3-cd)pyrene		0.0463	0.0926	0.185	U
90-12-0	1-Methylnaphthalene	**4.10**	0.0463	0.0926	0.185	
91-57-6	2-Methylnaphthalene	**6.67**	0.0463	0.0926	0.185	Q J-BSH
91-20-3	Naphthalene	**4.29**	0.0463	0.0926	0.185	
87-86-5	Pentachlorophenol		0.231	0.463	0.926	UQ
85-01-8	Phenanthrene	**0.0528**	0.0463	0.185	0.370	J
129-00-0	Pyrene		0.0463	0.0926	0.185	U

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	40.84	88.2	50 - 110	
Terphenyl-d14	46.30	38.38	82.9	50 - 135	
2,4,6-Tribromophenol	92.59	84.47	91.2	40 - 125	

C.A

ANALYSIS DATA SHEET

JM10-JAX47-FD01-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-04	File ID:	1010404.D
Sampled:	10/10/13 00:00	Prepared:	10/15/13 17:00	Analyzed:	10/25/13 21:55
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J15012 Sequence: 3J30114 Calibration: 3217001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0463	0.0926	0.185	U
208-96-8	Acenaphthylene		0.0463	0.0926	0.185	U
120-12-7	Anthracene		0.0463	0.0926	0.185	U
56-55-3	Benzo(a)anthracene		0.0463	0.0926	0.185	U
50-32-8	Benzo(a)pyrene		0.0463	0.0926	0.185	U
205-99-2	Benzo(b)fluoranthene		0.0463	0.0926	0.185	U
191-24-2	Benzo(g,h,i)perylene		0.0463	0.0926	0.185	U
207-08-9	Benzo(k)fluoranthene		0.0463	0.0926	0.185	U
218-01-9	Chrysene		0.0463	0.0926	0.185	U
53-70-3	Dibenz(a,h)anthracene		0.0463	0.0926	0.185	U
206-44-0	Fluoranthene		0.0463	0.0926	0.185	U
86-73-7	Fluorene	**0.0636**	0.0463	0.0926	0.185	J
193-39-5	Indeno(1,2,3-cd)pyrene		0.0463	0.0926	0.185	U
90-12-0	1-Methylnaphthalene	**4.21**	0.0463	0.0926	0.185	
91-57-6	2-Methylnaphthalene	**7.04**	0.0463	0.0926	0.185	J-BSH
91-20-3	Naphthalene	**4.46**	0.0463	0.0926	0.185	
87-86-5	Pentachlorophenol		0.231	0.463	0.926	UQ
85-01-8	Phenanthrene		0.0463	0.185	0.370	U
129-00-0	Pyrene		0.0463	0.0926	0.185	U

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	38.35	82.8	50 - 110	
Terphenyl-d14	46.30	36.22	78.2	50 - 135	
2,4,6-Tribromophenol	92.59	82.41	89.0	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-937-MW01S-10
13

Laboratory	Empirical Laboratories, LLC			SDG:	1310104
Client:	CH2M Hill, Inc			Project:	NAS Jacksonville JM-10
Matrix	Water	Laboratory ID:	1310104-02	File ID:	015F1501.D\Report.TXT
Sampled:	10/10/13 10:15	Prepared:	10/16/13 08:44	Analyzed:	10/16/13 17:01
Solids:		Preparation:	RSK175	Dilution:	1

Batch: 3116006 Sequence: 3129517 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 2

ANALYSIS DATA SHEET

JM10-JAX47-937-MW01S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc		Project	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID	1310104-02RE1	File ID:	011F1101.D\Report.TXT
Sampled:	10/10/13 10:15	Prepared:	10/17/13 10:01	Analyzed:	10/17/13 17:37
Solids:		Preparation:	RSK175	Dilution	5

Batch: 3J17013 Sequence: 3J29606 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	**1350**	5.00	10.0	20.0	

Total Target Analytes Reported: 1

ANALYSIS DATA SHEET

JM10-JAX47-937-MW03S-10 13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-05	File ID:	016F1601.D\Report.TXT
Sampled:	10/10/13 12:35	Prepared:	10/16/13 08:44	Analyzed:	10/16/13 17:14
Solids:		Preparation:	RSK175	Dilution:	1

Batch: 3J16006 Sequence: 3J29517 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	**63.9**	1.00	2.00	4.00	
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 3

ANALYSIS DATA SHEET

JM10-JAX47-937-MW02S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG	1310104	
Client:	CH2M Hill, Inc		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID	1310104-09	File ID	017F1701.D\Report.TXT
Sampled	10/10/13 15:05	Prepared:	10/16/13 08:44	Analyzed:	10/16/13 17:28
Solids:		Preparation:	RSK175	Dilution:	1

Batch: 3J16006 Sequence 3J29517 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO	COMPOUND	CONC (ug/L)	DL	LOD	LOQ	Q
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 2

ANALYSIS DATA SHEET

JM10-JAX47-937-MW02S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-09RE1	File ID:	012F1201.D:Report.TXT
Sampled:	10/10/13 15:05	Prepared:	10/17/13 10:01	Analyzed:	10/17/13 17:50
Solids:		Preparation:	RSK175	Dilution:	10

Batch: 3J17013 Sequence: 3J29606 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	**2200**	10.0	20.0	40.0	~~B~~

Total Target Analytes Reported 1

ANALYSIS DATA SHEET

JM10-JAX47-937-MW01S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-02	File ID:	022F2201.D
Sampled:	10/10/13 10:15	Prepared:	10/16/13 11:39	Analyzed:	10/18/13 19:57
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J15015 Sequence: 3J29610 Calibration: 3277003 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00481	0.00962	0.0192	U
72-54-8	4,4'-DDD [2C]	0.0970	0.00481	0.00962	0.0192	~~PM~~ J-PC, MI
50-29-3	4,4'-DDT	0.0652	0.00481	0.00962	0.0192	~~PM~~ ↓
309-00-2	Aldrin	0.705	0.00317	0.00962	0.0192	~~R~~ J-PC
319-84-6	alpha-BHC		0.00317	0.00962	0.0192	U
5103-71-9	alpha-Chlordane [2C]		0.00317	0.00962	0.0192	U
319-85-7	beta-BHC	0.689	0.00317	0.00962	0.0192	~~R~~ J-PC
319-86-8	delta-BHC	0.0206	0.00317	0.00962	0.0192	~~RM~~ J-PC, MI
60-57-1	Dieldrin [2C]	0.0409	0.00481	0.00962	0.0192	
959-98-8	Endosulfan I [2C]	0.0944	0.00317	0.00962	0.0192	
33213-65-9	Endosulfan II [2C]	0.0367	0.00481	0.00962	0.0192	~~PM~~ J-PC, MI
1031-07-8	Endosulfan sulfate		0.00481	0.00962	0.0192	U
72-20-8	Endrin		0.00481	0.00962	0.0192	U
7421-93-4	Endrin aldehyde	0.0578	0.00481	0.00962	0.0192	
53494-70-5	Endrin ketone	0.0281	0.00481	0.00962	0.0192	~~PM~~ J-PC, MI
58-89-9	gamma-BHC (Lindane) [2C]	0.0621	0.00317	0.00962	0.0192	~~R~~ J-PC
5103-74-2	gamma-Chlordane [2C]	0.0321	0.00317	0.00962	0.0192	~~BRM~~ J-PC, MI
76-44-8	Heptachlor	0.0388	0.00317	0.00962	0.0192	
1024-57-3	Heptachlor epoxide		0.00317	0.00962	0.0192	U
72-43-5	Methoxychlor [2C]		0.00317	0.00962	0.0192	U
57-74-9	Chlordane (n.o.s.) [2C]		0.0163	0.0481	0.0962	U
8001-35-2	Toxaphene		0.317	0.641	0.962	U~~X~~

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4808	0.4397	91.5	25 - 140	
Tetrachloro-m-xylene [2C]	0.4808	0.2964	61.6	25 - 140	
Decachlorobiphenyl	0.4808	0.3213	66.8	30 - 135	
Decachlorobiphenyl [2C]	0.4808	0.2660	55.3	30 - 135	

CK

ANALYSIS DATA SHEET

JM10-JAX47-FD01-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-04	File ID:	023F2301.D
Sampled:	10/10/13 00:00	Prepared:	10/16/13 11:39	Analyzed:	10/18/13 20:16
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J15015 Sequence: 3J29610 Calibration: 3277003 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00472	0.00943	0.0189	~~N~~ UJ-SSL
72-54-8	4,4'-DDD [2C]	0.0983	0.00472	0.00943	0.0189	~~PM~~ J-PC, MI, SSL
50-29-3	4,4'-DDT	0.0716	0.00472	0.00943	0.0189	~~PM~~ ↓
309-00-2	Aldrin	0.583	0.00311	0.00943	0.0189	~~P~~ J-PC, SSL
319-84-6	alpha-BHC		0.00311	0.00943	0.0189	~~U~~ UJ-SSL
5103-71-9	alpha-Chlordane [2C]		0.00311	0.00943	0.0189	~~U~~ ↓
319-85-7	beta-BHC	0.521	0.00311	0.00943	0.0189	~~R~~ J-PC, SSL
319-86-8	delta-BHC		0.00311	0.00943	0.0189	~~N~~ UJ-SSL
60-57-1	Dieldrin [2C]	0.0345	0.00472	0.00943	0.0189	J-SSL
959-98-8	Endosulfan I	0.0918	0.00311	0.00943	0.0189	↓
33213-65-9	Endosulfan II [2C]	0.0354	0.00472	0.00943	0.0189	~~PM~~ J-PC, MI, SSL
1031-07-8	Endosulfan sulfate		0.00472	0.00943	0.0189	~~U~~ UJ-SSL
72-20-8	Endrin		0.00472	0.00943	0.0189	~~U~~ ↓
7421-93-4	Endrin aldehyde [2C]	0.0628	0.00472	0.00943	0.0189	J-SSL
53494-70-5	Endrin ketone	0.0274	0.00472	0.00943	0.0189	~~PM~~ J-PC, MI, SSL
58-89-9	gamma-BHC (Lindane) [2C]		0.00311	0.00943	0.0189	~~N~~ UJ-SSL
5103-74-2	gamma-Chlordane [2C]	0.0259	0.00311	0.00943	0.0189	~~BPM~~ JB-BL, PC, MI, SS
76-44-8	Heptachlor [2C]	0.0302	0.00311	0.00943	0.0189	J-SSL
1024-57-3	Heptachlor epoxide		0.00311	0.00943	0.0189	~~U~~ UJ-SSL
72-43-5	Methoxychlor [2C]		0.00311	0.00943	0.0189	~~U~~ ↓
57-74-9	Chlordane (n.o.s.)		0.0160	0.0472	0.0943	~~U~~ ↓
8001-35-2	Toxaphene		0.311	0.629	0.943	~~UK~~ ↓

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4717	0.3836	81.3	25 - 140	
Tetrachloro-m-xylene [2C]	0.4717	0.2458	52.1	25 - 140	
Decachlorobiphenyl	0.4717	0.1385	29.4	30 - 135	*
Decachlorobiphenyl [2C]	0.4717	0.1167	24.7	30 - 135	*

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ANALYSIS DATA SHEET

JM10-JAX47-937-MW03S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-05	File ID:	029R2901.D
Sampled:	10/10/13 12:35	Prepared:	10/16/13 11:39	Analyzed:	10/18/13 22:12
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J15015 Sequence: 3J29610 Calibration: 3277003 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]	0.159	0.00490	0.00980	0.0196	~~B~~ J-PC,SSL
72-54-8	4,4'-DDD	16.6	0.00490	0.00980	0.0196	~~B~~ R-DL
50-29-3	4,4'-DDT	0.628	0.00490	0.00980	0.0196	
309-00-2	Aldrin [2C]	0.409	0.00324	0.00980	0.0196	~~B~~ J-PC, SSL
319-84-6	alpha-BHC	4.57	0.00324	0.00980	0.0196	~~B~~ R-DL
5103-71-9	alpha-Chlordane [2C]		0.00324	0.00980	0.0196	~~N~~ UJ - SSL
319-85-7	beta-BHC	2.37	0.00324	0.00980	0.0196	~~B~~ R-DL
319-86-8	delta-BHC	3.63	0.00324	0.00980	0.0196	~~B~~
60-57-1	Dieldrin [2C]	2.96	0.00490	0.00980	0.0196	~~EB~~
959-98-8	Endosulfan I [2C]	0.0413	0.00324	0.00980	0.0196	~~PM~~ J-PC,MI,SSL,F
33213-65-9	Endosulfan II [2C]		0.00490	0.00980	0.0196	~~N~~ R-DL
1031-07-8	Endosulfan sulfate [2C]		0.00490	0.00980	0.0196	~~N~~
72-20-8	Endrin		0.00490	0.00980	0.0196	U
7421-93-4	Endrin aldehyde [2C]	0.144	0.00490	0.00980	0.0196	~~PM~~ J-PC, MI, SS
53494-70-5	Endrin ketone [2C]	0.380	0.00490	0.00980	0.0196	~~PM~~ J-PC, MI,SSL,T
58-89-9	gamma-BHC (Lindane)	7.28	0.00324	0.00980	0.0196	~~B~~ R-DL
5103-74-2	gamma-Chlordane	0.154	0.00324	0.00980	0.0196	~~B~~ J-SSH, TD
76-44-8	Heptachlor		0.00324	0.00980	0.0196	U
1024-57-3	Heptachlor epoxide		0.00324	0.00980	0.0196	U
72-43-5	Methoxychlor	0.217	0.00324	0.00980	0.0196	J-SSH
57-74-9	Chlordane (n.o.s.)		0.0167	0.0490	0.0980	U
8001-35-2	Toxaphene		0.324	0.654	0.980	~~U~~

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4902	1.120	229	25 - 140	*
Tetrachloro-m-xylene [2C]	0.4902	0.2790	56.9	25 - 140	
Decachlorobiphenyl	0.4902	0.1917	39.1	30 - 135	
Decachlorobiphenyl [2C]	0.4902	0.09580	19.5	30 - 135	*

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ANALYSIS DATA SHEET

JM10-JAX47-937-MW03S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-05RE1	File ID:	012R1201.D
Sampled:	10/10/13 12:35	Prepared:	10/16/13 11:39	Analyzed:	10/21/13 17:54
Solids:		Preparation:	EXT_3510	Dilution:	10

Batch: 3J15015 Sequence: 3J30002 Calibration: 3277003 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]	0.136	0.0490	0.0980	0.196	~~JDR~~ R-DL
72-54-8	4,4'-DDD	14.3	0.0490	0.0980	0.196	~~D~~ J-SSH
50-29-3	4,4'-DDT	1.19	0.0490	0.0980	0.196	~~DP~~ R-DL
309-00-2	Aldrin [2C]		0.0324	0.0980	0.196	~~U~~
319-84-6	alpha-BHC	3.72	0.0324	0.0980	0.196	~~D~~ J-SSH
5103-71-9	alpha-Chlordane		0.0324	0.0980	0.196	~~U~~ R-DL
319-85-7	beta-BHC	2.12	0.0324	0.0980	0.196	~~D~~ J-SSH
319-86-8	delta-BHC [2C]	2.84	0.0324	0.0980	0.196	~~D~~ J-SSL
60-57-1	Dieldrin	1.04	0.0490	0.0980	0.196	~~DPM~~ J-RC, ~~MJ~~, SSH, F
959-98-8	Endosulfan I		0.0324	0.0980	0.196	~~U~~ R-DL
33213-65-9	Endosulfan II	0.0775	0.0490	0.0980	0.196	~~JDR~~ J-RC, SSH,
1031-07-8	Endosulfan sulfate	0.197	0.0490	0.0980	0.196	~~DR~~ J-RC, SSH,
72-20-8	Endrin [2C]		0.0490	0.0980	0.196	~~U~~ C-DL
7421-93-4	Endrin aldehyde [2C]	0.196	0.0490	0.0980	0.196	~~DPM~~
53494-70-5	Endrin ketone [2C]	0.269	0.0490	0.0980	0.196	~~U~~
58-89-9	gamma-BHC (Lindane)	5.88	0.0324	0.0980	0.196	~~D~~ J-SSH
5103-74-2	gamma-Chlordane	0.223	0.0324	0.0980	0.196	~~BQ~~ R-DL
76-44-8	Heptachlor		0.0324	0.0980	0.196	U
1024-57-3	Heptachlor epoxide		0.0324	0.0980	0.196	U
72-43-5	Methoxychlor	0.228	0.0324	0.0980	0.196	DP
57-74-9	Chlordane (n.o.s.)		0.167	0.490	0.980	U
8001-35-2	Toxaphene		3.24	6.54	9.80	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4902	1.021	208	25 - 140	*
Tetrachloro-m-xylene [2C]	0.4902	0.3879	79.1	25 - 140	
Decachlorobiphenyl	0.4902	0.2374	48.4	30 - 135	
Decachlorobiphenyl [2C]	0.4902	0.1068	21.8	30 - 135	*Y

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ANALYSIS DATA SHEET

JM10-JAX47-937-MW03S-10
13A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-06	File ID:	030F3001.D
Sampled:	10/10/13 12:35	Prepared:	10/16/13 11:39	Analyzed:	10/18/13 22:31
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J15015 Sequence: 3J29610 Calibration: 3277003 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00490	0.00980	0.0196	U
72-54-8	4,4'-DDD	1.23	0.00490	0.00980	0.0196	p J-PC, SSH
50-29-3	4,4'-DDT	0.321	0.00490	0.00980	0.0196	p J-PC, SSH, FD
309-00-2	Aldrin [2C]	0.284	0.00324	0.00980	0.0196	J-SSL, FD
319-84-6	alpha-BHC	4.15	0.00324	0.00980	0.0196	~~B~~ R-DL
5103-71-9	alpha-Chlordane [2C]		0.00324	0.00980	0.0196	~~N~~ UJ-SSL
319-85-7	beta-BHC	1.68	0.00324	0.00980	0.0196	J-SSH
319-86-8	delta-BHC	2.55	0.00324	0.00980	0.0196	~~B~~ R-DL
60-57-1	Dieldrin [2C]	0.111	0.00490	0.00980	0.0196	~~R~~ J-PC, SSL, F
959-98-8	Endosulfan I [2C]		0.00324	0.00980	0.0196	~~U~~ UJ-SSL
33213-65-9	Endosulfan II [2C]		0.00490	0.00980	0.0196	~~U~~ ↓
1031-07-8	Endosulfan sulfate [2C]		0.00490	0.00980	0.0196	~~N~~ R-DL
72-20-8	Endrin		0.00490	0.00980	0.0196	U
7421-93-4	Endrin aldehyde [2C]		0.00490	0.00980	0.0196	~~N~~ UJ-SSL
53494-70-5	Endrin ketone	0.383	0.00490	0.00980	0.0196	~~N~~ J-PC, SSH, FD
58-89-9	gamma-BHC (Lindane)	6.85	0.00324	0.00980	0.0196	~~B~~ R-DL
5103-74-2	gamma-Chlordane	0.171	0.00324	0.00980	0.0196	~~B~~ J-SSH, TD
76-44-8	Heptachlor [2C]	0.0565	0.00324	0.00980	0.0196	~~N~~ J-PC, SSL
1024-57-3	Heptachlor epoxide		0.00324	0.00980	0.0196	U
72-43-5	Methoxychlor [2C]		0.00324	0.00980	0.0196	U R-DL
57-74-9	Chlordane (n.o.s.)		0.0167	0.0490	0.0980	U
8001-35-2	Toxaphene		0.324	0.654	0.980	U~~X~~

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4902	1.205	246	25 - 140	*
Tetrachloro-m-xylene [2C]	0.4902	0.3446	70.3	25 - 140	
Decachlorobiphenyl	0.4902	0.1964	40.1	30 - 135	
Decachlorobiphenyl [2C]	0.4902	0.1243	25.3	30 - 135	*

ANALYSIS DATA SHEET

JM10-JAX47-937-MW03S-10
13A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-06RE1	File ID:	014F1401.D
Sampled:	10/10/13 12:35	Prepared:	10/16/13 11:39	Analyzed:	10/21/13 18:33
Solids:		Preparation:	EXT_3510	Dilution:	10

Batch: 3J15015 Sequence: 3J30002 Calibration: 3277003 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.0490	0.0980	0.196	U R-OL
72-54-8	4,4'-DDD	0.884	0.0490	0.0980	0.196	D
50-29-3	4,4'-DDT [2C]		0.0490	0.0980	0.196	U
309-00-2	Aldrin [2C]		0.0324	0.0980	0.196	U
319-84-6	alpha-BHC	3.18	0.0324	0.0980	0.196	D J-SSH
5103-71-9	alpha-Chlordane		0.0324	0.0980	0.196	U R-OL
319-85-7	beta-BHC	1.46	0.0324	0.0980	0.196	D
319-86-8	delta-BHC [2C]	1.94	0.0324	0.0980	0.196	D J-SSL,FD
60-57-1	Dieldrin		0.0490	0.0980	0.196	U R-OL
959-98-8	Endosulfan I [2C]		0.0324	0.0980	0.196	U
33213-65-9	Endosulfan II [2C]		0.0490	0.0980	0.196	U
1031-07-8	Endosulfan sulfate [2C]	0.0894	0.0490	0.0980	0.196	JD J-MI,SSL,F
72-20-8	Endrin		0.0490	0.0980	0.196	U R-OL
7421-93-4	Endrin aldehyde [2C]		0.0490	0.0980	0.196	U
53494-70-5	Endrin ketone		0.0490	0.0980	0.196	U
58-89-9	gamma-BHC (Lindane)	5.09	0.0324	0.0980	0.196	D J-SSH
5103-74-2	gamma-Chlordane	0.210	0.0324	0.0980	0.196	BD R-OL
76-44-8	Heptachlor		0.0324	0.0980	0.196	U
1024-57-3	Heptachlor epoxide		0.0324	0.0980	0.196	U
72-43-5	Methoxychlor	0.138	0.0324	0.0980	0.196	JDR J-MI,PC,SS
57-74-9	Chlordane (n.o.s.)		0.167	0.490	0.980	U R-OL
8001-35-2	Toxaphene		3.24	6.54	9.80	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4902	1.025	209	25 - 140	*
Tetrachloro-m-xylene [2C]	0.4902	0.5020	102	25 - 140	
Decachlorobiphenyl	0.4902	0.2207	45.0	30 - 135	
Decachlorobiphenyl [2C]	0.4902	0.1257	25.6	30 - 135	*Y

ANALYSIS DATA SHEET

JM10-JAX47-FD02-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-07	File ID:	031F3101.D
Sampled:	10/10/13 00:00	Prepared:	10/16/13 11:39	Analyzed:	10/18/13 22:50
Solids:		Preparation:	EXT_3510	Dilution:	1
Batch:	3J15015	Sequence: 3J29610	Calibration:	3277003	Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00481	0.00962	0.0192	~~U~~ R-DL
72-54-8	4,4'-DDD	16.4	0.00481	0.00962	0.0192	E R-DL
50-29-3	4,4'-DDT	0.555	0.00481	0.00962	0.0192	J-SSH
309-00-2	Aldrin [2C]	0.437	0.00317	0.00962	0.0192	~~B~~ J-PC,SSL,TD
319-84-6	alpha-BHC	4.84	0.00317	0.00962	0.0192	~~B~~ R-DL
5103-71-9	alpha-Chlordane		0.00317	0.00962	0.0192	U
319-85-7	beta-BHC	2.50	0.00317	0.00962	0.0192	~~E~~ R-DL
319-86-8	delta-BHC	3.86	0.00317	0.00962	0.0192	E ↓
60-57-1	Dieldrin [2C]	3.02	0.00481	0.00962	0.0192	ER ↓
959-98-8	Endosulfan I [2C]		0.00317	0.00962	0.0192	~~U~~ R-DL
33213-65-9	Endosulfan II [2C]		0.00481	0.00962	0.0192	~~U~~ UJ-SSL
1031-07-8	Endosulfan sulfate [2C]		0.00481	0.00962	0.0192	~~U~~ R-DL
72-20-8	Endrin		0.00481	0.00962	0.0192	U
7421-93-4	Endrin aldehyde [2C]	0.152	0.00481	0.00962	0.0192	PM J-PC,mI,SSL
53494-70-5	Endrin ketone [2C]	0.397	0.00481	0.00962	0.0192	PM ↓
58-89-9	gamma-BHC (Lindane)	7.58	0.00317	0.00962	0.0192	~~E~~ R-DL
5103-74-2	gamma-Chlordane [2C]	0.139	0.00317	0.00962	0.0192	BR J-PC,SSL
76-44-8	Heptachlor		0.00317	0.00962	0.0192	U
1024-57-3	Heptachlor epoxide		0.00317	0.00962	0.0192	U
72-43-5	Methoxychlor [2C]	0.291	0.00317	0.00962	0.0192	~~B~~ J-PC,SSL
57-74-9	Chlordane (n.o.s.)		0.0163	0.0481	0.0962	U
8001-35-2	Toxaphene		0.317	0.641	0.962	U~~X~~

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4808	1.191	248	25 - 140	*
Tetrachloro-m-xylene [2C]	0.4808	0.2530	52.6	25 - 140	
Decachlorobiphenyl	0.4808	0.1907	39.7	30 - 135	
Decachlorobiphenyl [2C]	0.4808	0.1056	22.0	30 - 135	*

ANALYSIS DATA SHEET

JM10-JAX47-FD02-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-07RE1	File ID:	015R1501.D
Sampled:	10/10/13 00:00	Prepared:	10/16/13 11:39	Analyzed:	10/21/13 18:52
Solids:		Preparation:	EXT_3510	Dilution:	10

Batch: 3J15015 Sequence: 3J30002 Calibration: 3277003 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]	0.160	0.0481	0.0962	0.192	JDR J-PC, MI, SSL
72-54-8	4,4'-DDD	12.4	0.0481	0.0962	0.192	~~D~~ J-SSH
50-29-3	4,4'-DDT [2C]	0.260	0.0481	0.0962	0.192	DPM R-DL
309-00-2	Aldrin [2C]		0.0317	0.0962	0.192	~~U~~
319-84-6	alpha-BHC	3.53	0.0317	0.0962	0.192	~~D~~ J-SSH, TD
5103-71-9	alpha-Chlordane		0.0317	0.0962	0.192	~~U~~ R-DL
319-85-7	beta-BHC	2.00	0.0317	0.0962	0.192	~~D~~ J-SSH, TD
319-86-8	delta-BHC [2C]	2.64	0.0317	0.0962	0.192	~~D~~ J-SSL, TD
60-57-1	Dieldrin [2C]	2.88	0.0481	0.0962	0.192	~~BR~~ J-PC, SSL, FD
959-98-8	Endosulfan I	0.0809	0.0317	0.0962	0.192	JDR J-PC, MI, SSH, F
33213-65-9	Endosulfan II [2C]		0.0481	0.0962	0.192	~~U~~ R-DL
1031-07-8	Endosulfan sulfate	0.188	0.0481	0.0962	0.192	JDR J-PC, MI, SSH
72-20-8	Endrin [2C]		0.0481	0.0962	0.192	~~U~~ R-DL
7421-93-4	Endrin aldehyde [2C]	0.141	0.0481	0.0962	0.192	JDPM
53494-70-5	Endrin ketone [2C]	0.259	0.0481	0.0962	0.192	~~D~~
58-89-9	gamma-BHC (Lindane)	5.52	0.0317	0.0962	0.192	~~D~~ J-SSH, TD
5103-74-2	gamma-Chlordane	0.155	0.0317	0.0962	0.192	~~BJR~~ R-DL
76-44-8	Heptachlor		0.0317	0.0962	0.192	U
1024-57-3	Heptachlor epoxide		0.0317	0.0962	0.192	U
72-43-5	Methoxychlor	0.125	0.0317	0.0962	0.192	JD
57-74-9	Chlordane (n.o.s.)		0.163	0.481	0.962	U
8001-35-2	Toxaphene		3.17	6.41	9.62	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4808	0.9634	200	25 - 140	*
Tetrachloro-m-xylene [2C]	0.4808	0.3464	72.1	25 - 140	
Decachlorobiphenyl	0.4808	0.2325	48.4	30 - 135	
Decachlorobiphenyl [2C]	0.4808	0.1043	21.7	30 - 135	*Y

ANALYSIS DATA SHEET

JM10-JAX47-FD02-1013A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-08	File ID:	032F3201.D
Sampled:	10/10/13 00:00	Prepared:	10/16/13 11:39	Analyzed:	10/18/13 23:10
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J15015 Sequence: 3J29610 Calibration: 3277003 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00490	0.00980	0.0196	U
72-54-8	4,4'-DDD	1.38	0.00490	0.00980	0.0196	~~R~~ J-PC,SSH
50-29-3	4,4'-DDT [2C]	0.189	0.00490	0.00980	0.0196	PM J-PC,M1,SSL,FD
309-00-2	Aldrin [2C]	0.454	0.00324	0.00980	0.0196	~~R~~ J-PC,SSL,FD,T
319-84-6	alpha-BHC	5.23	0.00324	0.00980	0.0196	~~R~~ R-DL
5103-71-9	alpha-Chlordane [2C]		0.00324	0.00980	0.0196	~~R~~ UJ-SSL
319-85-7	beta-BHC	2.63	0.00324	0.00980	0.0196	~~R~~ R-DL
319-86-8	delta-BHC	4.29	0.00324	0.00980	0.0196	~~R~~ ↓
60-57-1	Dieldrin [2C]		0.00490	0.00980	0.0196	~~R~~ R-DL
959-98-8	Endosulfan I [2C]		0.00324	0.00980	0.0196	~~R~~ UJ-SSL
33213-65-9	Endosulfan II [2C]		0.00490	0.00980	0.0196	~~R~~ ↓
1031-07-8	Endosulfan sulfate [2C]		0.00490	0.00980	0.0196	~~R~~ R-DL
72-20-8	Endrin		0.00490	0.00980	0.0196	U
7421-93-4	Endrin aldehyde	0.605	0.00490	0.00980	0.0196	~~R~~ J-PC,SSH,TD
53494-70-5	Endrin ketone	0.958	0.00490	0.00980	0.0196	~~R~~ J-PC,SSH,FD,T
58-89-9	gamma-BHC (Lindane)	8.19	0.00324	0.00980	0.0196	~~R~~ R-DL
5103-74-2	gamma-Chlordane [2C]	0.130	0.00324	0.00980	0.0196	~~R~~ J-SSL
76-44-8	Heptachlor [2C]	0.0557	0.00324	0.00980	0.0196	~~R~~ J-PC,SSL,TD
1024-57-3	Heptachlor epoxide		0.00324	0.00980	0.0196	U
72-43-5	Methoxychlor [2C]		0.00324	0.00980	0.0196	~~R~~ R-DL
57-74-9	Chlordane (n.o.s.) [2C]		0.0167	0.0490	0.0980	~~R~~ UJ-SSL
8001-35-2	Toxaphene		0.324	0.654	0.980	UX

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4902	1.290	263	25 - 140	*
Tetrachloro-m-xylene [2C]	0.4902	0.5302	108	25 - 140	
Decachlorobiphenyl	0.4902	0.2102	42.9	30 - 135	
Decachlorobiphenyl [2C]	0.4902	0.1102	22.5	30 - 135	*

ct

ANALYSIS DATA SHEET

JM10-JAX47-FD02-1013A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-08RE1	File ID:	017F1701.D
Sampled:	10/10/13 00:00	Prepared:	10/16/13 11:39	Analyzed:	10/21/13 19:31
Solids:		Preparation:	EXT_3510	Dilution:	10

Batch: 3J15015 Sequence: 3J30002 Calibration: 3277003 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.0490	0.0980	0.196	U R-OL
72-54-8	4,4'-DDD	0.957	0.0490	0.0980	0.196	D
50-29-3	4,4'-DDT [2C]		0.0490	0.0980	0.196	U
309-00-2	Aldrin [2C]		0.0324	0.0980	0.196	U
319-84-6	alpha-BHC	3.68	0.0324	0.0980	0.196	D J-SSH, TD
5103-71-9	alpha-Chlordane		0.0324	0.0980	0.196	U R-OL
319-85-7	beta-BHC	2.08	0.0324	0.0980	0.196	D J-SSH, TD
319-86-8	delta-BHC [2C]	2.97	0.0324	0.0980	0.196	D J-SSL, FD, TD
60-57-1	Dieldrin	0.0675	0.0490	0.0980	0.196	JDPM J-PC, MI, SSH
959-98-8	Endosulfan I [2C]		0.0324	0.0980	0.196	U R-OL
33213-65-9	Endosulfan II [2C]		0.0490	0.0980	0.196	U
1031-07-8	Endosulfan sulfate	0.169	0.0490	0.0980	0.196	JDR J-PC, SSH, MI
72-20-8	Endrin		0.0490	0.0980	0.196	U R-OL
7421-93-4	Endrin aldehyde [2C]		0.0490	0.0980	0.196	U
53494-70-5	Endrin ketone [2C]		0.0490	0.0980	0.196	U
58-89-9	gamma-BHC (Lindane)	6.06	0.0324	0.0980	0.196	D J-SSH, TD
5103-74-2	gamma-Chlordane	0.167	0.0324	0.0980	0.196	BJD R-OL
76-44-8	Heptachlor		0.0324	0.0980	0.196	U
1024-57-3	Heptachlor epoxide		0.0324	0.0980	0.196	U
72-43-5	Methoxychlor	0.148	0.0324	0.0980	0.196	JDR J-PC, SSH
57-74-9	Chlordane (n.o.s.)		0.167	0.490	0.980	U R-OL
8001-35-2	Toxaphene		3.24	6.54	9.80	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4902	1.036	211	25 - 140	*
Tetrachloro-m-xylene [2C]	0.4902	0.4353	88.8	25 - 140	
Decachlorobiphenyl	0.4902	0.2293	46.8	30 - 135	
Decachlorobiphenyl [2C]	0.4902	0.1030	21.0	30 - 135	*Y

ANALYSIS DATA SHEET

JM10-JAX47-937-MW02S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-09	File ID:	033F3301.D
Sampled:	10/10/13 15:05	Prepared:	10/16/13 11:39	Analyzed:	10/18/13 23:29
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J15015 Sequence: 3J29610 Calibration: 3277003 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.450	0.00481	0.00962	0.0192	R J-PC, SSH
72-54-8	4,4'-DDD [2C]	1.09	0.00481	0.00962	0.0192	PM J-PC, MI, TD
50-29-3	4,4'-DDT	1.05	0.00481	0.00962	0.0192	PM J-PC, MI, SSH
309-00-2	Aldrin [2C]	0.782	0.00317	0.00962	0.0192	PM J-PC, MI
319-84-6	alpha-BHC		0.00317	0.00962	0.0192	U
5103-71-9	alpha-Chlordane [2C]	0.162	0.00317	0.00962	0.0192	PM J-PC, MI
319-85-7	beta-BHC [2C]	1.79	0.00317	0.00962	0.0192	PM J-PC, MI, TD
319-86-8	delta-BHC	0.774	0.00317	0.00962	0.0192	PM J-PC, MI, SSH, T
60-57-1	Dieldrin [2C]	0.286	0.00481	0.00962	0.0192	J-TD
959-98-8	Endosulfan I [2C]	0.292	0.00317	0.00962	0.0192	PM J-PC, MI
33213-65-9	Endosulfan II [2C]	2.58	0.00481	0.00962	0.0192	BR R-DL
1031-07-8	Endosulfan sulfate [2C]		0.00481	0.00962	0.0192	U
72-20-8	Endrin [2C]		0.00481	0.00962	0.0192	U
7421-93-4	Endrin aldehyde	1.32	0.00481	0.00962	0.0192	R J-PC, SSH
53494-70-5	Endrin ketone	0.210	0.00481	0.00962	0.0192	PM J-PC, MI, SSH
58-89-9	gamma-BHC (Lindane)	0.149	0.00317	0.00962	0.0192	R J-PC, SSH
5103-74-2	gamma-Chlordane [2C]	0.238	0.00317	0.00962	0.0192	BR J-PC
76-44-8	Heptachlor	0.799	0.00317	0.00962	0.0192	J-SSH, TD
1024-57-3	Heptachlor epoxide	0.134	0.00317	0.00962	0.0192	R J-PC, SSH, TD
72-43-5	Methoxychlor [2C]		0.00317	0.00962	0.0192	UL R-DL
57-74-9	Chlordane (n.o.s.)		0.0163	0.0481	0.0962	U
8001-35-2	Toxaphene [2C]		0.317	0.641	0.962	UX

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4808	2.905	604	25 - 140	*
Tetrachloro-m-xylene [2C]	0.4808	0.4176	86.9	25 - 140	
Decachlorobiphenyl	0.4808	0.3929	81.7	30 - 135	
Decachlorobiphenyl [2C]	0.4808	0.2310	48.0	30 - 135	

C.L

ANALYSIS DATA SHEET

JM10-JAX47-937-MW02S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-09RE1	File ID:	018F1801.D
Sampled:	10/10/13 15:05	Prepared:	10/16/13 11:39	Analyzed:	10/21/13 19:50
Solids:		Preparation:	EXT_3510	Dilution:	20

Batch: 3J15015 Sequence: 3J30002 Calibration: 3277003 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.0962	0.192	0.385	U
72-54-8	4,4'-DDD [2C]	0.187	0.0962	0.192	0.385	JDPM
50-29-3	4,4'-DDT [2C]	0.334	0.0962	0.192	0.385	JD
309-00-2	Aldrin	1.57	0.0635	0.192	0.385	D
319-84-6	alpha-BHC		0.0635	0.192	0.385	U
5103-71-9	alpha-Chlordane [2C]	0.322	0.0635	0.192	0.385	JDP
319-85-7	beta-BHC	1.99	0.0635	0.192	0.385	D
319-86-8	delta-BHC	0.0742	0.0635	0.192	0.385	JDPM
60-57-1	Dieldrin	0.220	0.0962	0.192	0.385	JD
959-98-8	Endosulfan I [2C]	0.113	0.0635	0.192	0.385	JDPM
33213-65-9	Endosulfan II [2C]	2.29	0.0962	0.192	0.385	~~DR~~ J-PC
1031-07-8	Endosulfan sulfate [2C]		0.0962	0.192	0.385	U R-DL
72-20-8	Endrin		0.0962	0.192	0.385	U
7421-93-4	Endrin aldehyde [2C]	0.496	0.0962	0.192	0.385	DPM
53494-70-5	Endrin ketone [2C]		0.0962	0.192	0.385	U
58-89-9	gamma-BHC (Lindane) [2C]	0.196	0.0635	0.192	0.385	JDP
5103-74-2	gamma-Chlordane [2C]	0.306	0.0635	0.192	0.385	BJD
76-44-8	Heptachlor [2C]	0.690	0.0635	0.192	0.385	D
1024-57-3	Heptachlor epoxide		0.0635	0.192	0.385	U
72-43-5	Methoxychlor [2C]	0.118	0.0635	0.192	0.385	~~JDPMY~~ J-PC, mJ, CCL
57-74-9	Chlordane (n.o.s.)		0.327	0.962	1.92	U R-DL
8001-35-2	Toxaphene [2C]		6.35	12.8	19.2	U

R-DL

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4808	2.163	450	25 - 140	D
Tetrachloro-m-xylene [2C]	0.4808	0.3915	81.4	25 - 140	D
Decachlorobiphenyl	0.4808	0.2802	58.3	30 - 135	D
Decachlorobiphenyl [2C]	0.4808	0.2729	56.8	30 - 135	DY

ANALYSIS DATA SHEET

JM10-JAX47-937-MW02S-10
13A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-10	File ID:	034F3401.D
Sampled:	10/10/13 15:05	Prepared:	10/16/13 11:39	Analyzed:	10/18/13 23:48
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J15015 Sequence: 3J29610 Calibration: 3277003 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.414	0.00481	0.00962	0.0192	~~P~~ J-PC,SSH
72-54-8	4,4'-DDD [2C]	1.20	0.00481	0.00962	0.0192	PM J-PC,MI,TD
50-29-3	4,4'-DDT	1.05	0.00481	0.00962	0.0192	PM J-PC,MI,SSH
309-00-2	Aldrin [2C]	0.730	0.00317	0.00962	0.0192	PM J-PC,MI
319-84-6	alpha-BHC		0.00317	0.00962	0.0192	~~N~~ R-DL
5103-71-9	alpha-Chlordane [2C]	0.182	0.00317	0.00962	0.0192	PM J-PC,MI
319-85-7	beta-BHC	4.43	0.00317	0.00962	0.0192	ER R-DL
319-86-8	delta-BHC	0.822	0.00317	0.00962	0.0192	PM J-PC,MI,SSH
60-57-1	Dieldrin [2C]	0.372	0.00481	0.00962	0.0192	~~P~~ J-PC,TD
959-98-8	Endosulfan I [2C]	0.288	0.00317	0.00962	0.0192	PM J-PC,MI
33213-65-9	Endosulfan II [2C]	2.91	0.00481	0.00962	0.0192	ER R-DL
1031-07-8	Endosulfan sulfate [2C]	0.674	0.00481	0.00962	0.0192	
72-20-8	Endrin [2C]		0.00481	0.00962	0.0192	U
7421-93-4	Endrin aldehyde	1.24	0.00481	0.00962	0.0192	~~P~~ J-PC,SSH
53494-70-5	Endrin ketone	0.196	0.00481	0.00962	0.0192	PM J-PC,MI,SSH
58-89-9	gamma-BHC (Lindane) [2C]	0.132	0.00317	0.00962	0.0192	
5103-74-2	gamma-Chlordane [2C]	0.218	0.00317	0.00962	0.0192	~~B~~ =
76-44-8	Heptachlor	0.952	0.00317	0.00962	0.0192	J-SSH,TD
1024-57-3	Heptachlor epoxide	0.150	0.00317	0.00962	0.0192	~~P~~ J-PC,SSH,TD
72-43-5	Methoxychlor [2C]		0.00317	0.00962	0.0192	~~N~~ R-DL
57-74-9	Chlordane (n.o.s.)		0.0163	0.0481	0.0962	U
8001-35-2	Toxaphene [2C]		0.317	0.641	0.962	U~~X~~

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4808	3.057	636	25 - 140	*
Tetrachloro-m-xylene [2C]	0.4808	0.3328	69.2	25 - 140	
Decachlorobiphenyl	0.4808	0.2864	59.6	30 - 135	
Decachlorobiphenyl [2C]	0.4808	0.2125	44.2	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-937-MW02S-10
13A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310104	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310104-10RE1	File ID:	019R1901.D
Sampled:	10/10/13 15:05	Prepared:	10/16/13 11:39	Analyzed:	10/21/13 20:09
Solids:		Preparation:	EXT_3510	Dilution:	20

Batch: 3J15015 Sequence: 3J30002 Calibration: 3277003 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]	0.136	0.0962	0.192	0.385	JD R-DL
72-54-8	4,4'-DDD [2C]	0.193	0.0962	0.192	0.385	JDPM
50-29-3	4,4'-DDT [2C]	0.334	0.0962	0.192	0.385	JD
309-00-2	Aldrin	1.56	0.0635	0.192	0.385	D
319-84-6	alpha-BHC [2C]	0.105	0.0635	0.192	0.385	~~JD~~ J-ML
5103-71-9	alpha-Chlordane [2C]	0.319	0.0635	0.192	0.385	~~JD~~ R-DL
319-85-7	beta-BHC [2C]	1.80	0.0635	0.192	0.385	~~D~~ J-TD
319-86-8	delta-BHC	0.0812	0.0635	0.192	0.385	JDPM R-DL
60-57-1	Dieldrin	0.218	0.0962	0.192	0.385	JD
959-98-8	Endosulfan I [2C]	0.107	0.0635	0.192	0.385	JDPM
33213-65-9	Endosulfan II [2C]	2.29	0.0962	0.192	0.385	~~DP~~ J-PC
1031-07-8	Endosulfan sulfate [2C]		0.0962	0.192	0.385	~~U~~ R-DL
72-20-8	Endrin		0.0962	0.192	0.385	U
7421-93-4	Endrin aldehyde [2C]	0.496	0.0962	0.192	0.385	DPM
53494-70-5	Endrin ketone [2C]		0.0962	0.192	0.385	U
58-89-9	gamma-BHC (Lindane) [2C]	0.188	0.0635	0.192	0.385	JDP
5103-74-2	gamma-Chlordane	0.293	0.0635	0.192	0.385	BJDP
76-44-8	Heptachlor [2C]	0.713	0.0635	0.192	0.385	D
1024-57-3	Heptachlor epoxide		0.0635	0.192	0.385	U
72-43-5	Methoxychlor [2C]	0.120	0.0635	0.192	0.385	~~JDPMY~~ J-PC, ML, CCL
57-74-9	Chlordane (n.o.s.)		0.327	0.962	1.92	~~U~~ R-DL
8001-35-2	Toxaphene [2C]		6.35	12.8	19.2	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4808	2.156	448	25 - 140	D
Tetrachloro-m-xylene [2C]	0.4808	0.3972	82.6	25 - 140	D
Decachlorobiphenyl	0.4808	0.2722	56.6	30 - 135	D
Decachlorobiphenyl [2C]	0.4808	0.2730	56.8	30 - 135	DY

ANALYSIS DATA SHEET

JM10-JAX47-937-MW01S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310104
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310104-02
Sampled:	10/10/13 10:15	Received:	10/11/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	166	3.00	6.00	10.0			SW6010C	3116014	10/21/13 22:40

ANALYSIS DATA SHEET

JM10-JAX47-937-MW01S-1013A

Laboratory: Empirical Laboratories, LLC

Client: CH2M Hill, Inc.

Matrix: Water

Sampled: 10/10/13 10:15

SDG: 1310104

Project: NAS Jacksonville JM-10

Laboratory ID: 1310104-03

Received: 10/11/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)	5870	30.0	60.0	100	1		SW6010C	3J18001	10/23/13 13:32
7439-96-5	Manganese (dissolved)	117	3.00	6.00	15.0	1		SW6010C	3J18001	10/23/13 13:32

ANALYSIS DATA SHEET

JM10-JAX47-FD01-1013

Laboratory	Empirical Laboratories, LLC	SDG:	1310104
Client:	CH2M Hill, Inc	Project	NAS Jacksonville JM-10
Matrix	Water	Laboratory ID:	1310104-04
Sampled:	10/10/13 00:00	Received	10/11/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	169	3.00	6.00	10.0	1		SW6010C	3316014	10/21/13 22:44

ANALYSIS DATA SHEET

JM10-JAX47-937-MW03S-1013

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/10/13 12:35

SDG: 1310104
Project: NAS Jacksonville JM-10
Laboratory ID: 1310104-05
Received: 10/11/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DF.	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	9150	3.00	6.00	10.0	1		SW6010C	3J16014	10/21/13 22:49

ANALYSIS DATA SHEET

JM10-JAX47-937-MW03S-1013A

Laboratory:	Empirical Laboratories, LLC	SDG:	1310104
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310104-06
Sampled:	10/10/13 12:35	Received:	10/11/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)	**18500**	30.0	60.0	100	1		SW6010C	3J18001	10/23/13 13:36
7439-96-5	Manganese (dissolved)	**117**	**3.00**	6.00	15.0	1		SW6010C	3J18001	10/23/13 13:36

ANALYSIS DATA SHEET

JM10-JAX47-FD02-1013

Laboratory	Empirical Laboratories, LLC	SDG	1310104
Client	CH2M Hill, Inc.	Project	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID	1310104-07
Sampled:	10/10/13 00:00	Received:	10/11/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	**9380**	3.00	6.00	10.0	1		SW6010C	3316014	10/21/13 22:53

ANALYSIS DATA SHEET

JM10-JAX47-937-MW02S-1013

Laboratory	Empirical Laboratories, LLC	SDG:	1310104
Client	CH2M Hill, Inc	Project:	NAS Jacksonville JM-10
Matrix	Water	Laboratory ID	1310104-09
Sampled	10/10/13 15:05	Received:	10/11/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	**6510**	3.00	6.00	10.0	1		SW6010C	3116014	10/21/13 22:58

ANALYSIS DATA SHEET

JM10-JAX47-937-MW02S-1013A

Laboratory	Empirical Laboratories, LLC	SDG:	1310104
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310104-10
Sampled:	10/10/13 15:05	Received:	10/11/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)	18500	30.0	60.0	100	1		SW6010C	3J18001	10/23/13 13:41
7439-96-5	Manganese (dissolved)	109	3.00	6.00	15.0	1		SW6010C	3J18001	10/23/13 13:41

ANALYSIS DATA SHEET

JM10-JAX47-937-MW015-1013

Laboratory	Empirical Laboratories, LLC	SDG	1310104
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310104-02
Sampled	10/10/13 10:15	Received:	10/11/13 08:30

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous Iron (outside certification)	4.54	0.0200	0.0400	0.0600	1	NS	SM 3500-FE D-W	3J11018	10/11/13 15:56 J-H1
18496-25-8	Sulfide	1.99	0.678	1.69	3.39	0.678	1	SM4500S2CF	3J16002	10/16/13 12:07
7440-44-0	Total Organic Carbon	17.3	1.25	2.50	3.00	1		SM5310C	3J22013	10/22/13 21:57
14797-55-8	Nitrate as N		0.0330	0.100	0.250	1	U	E300.0	3J11008	10/11/13 18:00
471-34-1	Alkalinity, Total (as CACO3)	153	1.00	1.00	1.00	1		SM2320B	3J22004	10/22/13 14:05
14808-79-8	Sulfate as SO4	292	0.660	2.00	5.00	2	NS	E300.0	3J22007	10/23/13 00:31

ANALYSIS DATA SHEET

JM10-JAX47-937-MW03S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310104
Client	CH2M Hill, Inc	Project	NAS Jacksonville JM-10
Matrix	Water	Laboratory ID	1310104-05
Sampled:	10/10/13 12:35	Received:	10/11/13 08:30

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous Iron (outside certification)	51.5	0.0200	0.0400	0.0600	1	DS	SM3500-FE D-W	3J11018	10/11/13 15:58
18496-25-8	Sulfide	0.997	0.678	1.69	3.39	0.678	J	SM4500S2C+	3J16002	10/16/13 12:08
7440-44-0	Total Organic Carbon	48.2	1.25	2.50	3.00	1		SM5310C	3J22013	10/22/13 22:20
14797-55-8	Nitrate as N		0.0330	0.100	0.259	1	U	E300.0	3J11008	10/11/13 18:18
471-34-1	Alkalinity, Total (as CACO3)	61.2	1.00	1.00	1.00	1		SM2320B	3J22004	10/22/13 14:19
14808-79-8	Sulfate as SO4	30.2	0.330	1.00	2.50	1		E300.0	3J11008	10/11/13 18:18

ANALYSIS DATA SHEET

JM10-JAX47-937-MW02S-I013

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/10/13 15:05

SDG: 1310104
Project: NAS Jacksonville JM-10
Laboratory ID: 1310104-09
Received: 10/11/13 08:30

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous Iron (outside certification)	18.7	0.0200	0.0400	0.0600	1	~~N~~	SM 3500-FE D-W	3J11018	10/11/13 16:00
18496-25-8	Sulfide	0.997	0.678	1.69	3.39	0.678	J	SM4500S2CF	3J16002	10/16/13 12:09
7440-44-0	Total Organic Carbon	15.7	1.25	2.50	3.00	1		SM5310C	3J22013	10/22/13 22:38
14797-55-8	Nitrate as N		0.0330	0.100	0.250	1	U	E300.0	3J11008	10/11/13 18:35
471-34-1	Alkalinity, Total (as CACO3)	14.4	1.00	1.00	1.00	1		SM2320B	3J22014	10/22/13 14:23
14808-79-8	Sulfate as SO4	113	0.330	1.00	2.50	1		E300.0	3J11008	10/11/13 18:35

J-1T

ANALYSIS DATA SHEET

JM10-JAX47-TB01-101113

Laboratory:	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-01	File ID:	1012101.D
Sampled:	10/11/13 12:00	Prepared:	10/22/13 14:09	Analyzed:	10/22/13 14:09
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J22009 Sequence: 3J29607 Calibration: 3268003 Instrument: MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**7.05**	2.50	5.00	10.0	J
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	**7.30**	0.500	1.00	2.00	
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-TB01-101113

Laboratory:	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-01	File ID:	1012101.D
Sampled:	10/11/13 12:00	Prepared:	10/22/13 14:09	Analyzed:	10/22/13 14:09
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J22009 Sequence: 3J29607 Calibration 3268003 Instrument: MS-VOA5

CAS NO.	COMPOUND	CONC (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported. 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.36	94.5	75 - 120	
Dibromofluoromethane	30.00	29.86	99.5	85 - 115	
1,2-Dichloroethane-d4	30.00	29.66	98.9	70 - 120	
Toluene-d8	30.00	29.31	97.7	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW10S-1013

Laboratory	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-02	File ID:	1012102.D
Sampled:	10/11/13 09:45	Prepared:	10/22/13 16:55	Analyzed:	10/22/13 16:55
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J22009 Sequence: 3J29607 Calibration: 3268003 Instrument: MS-VOA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-MW10S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-02	File ID:	1012102.D
Sampled:	10/11/13 09:45	Prepared:	10/22/13 16:55	Analyzed:	10/22/13 16:55
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J22009 Sequence: 3J29607 Calibration: 3268003 Instrument: MS-VOA5

CAS NO	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.61	95.4	75 - 120	
Dibromofluoromethane	30.00	30.62	102	85 - 115	
1,2-Dichloroethane-d4	30.00	29.25	97.5	70 - 120	
Toluene-d8	30.00	29.21	97.4	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW10S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-02	File ID:	1012102.D
Sampled:	10/11/13 09:45	Prepared:	10/16/13 07:08	Analyzed:	10/21/13 22:25
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J16007 Sequence: 3J29512 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.16	2.31	4.63	U
1912-24-9	Atrazine		1.16	2.31	4.63	U
100-52-7	Benzaldehyde		1.16	2.31	4.63	U
92-52-4	1,1-Biphenyl		1.16	2.31	4.63	U
101-55-3	4-Bromophenyl-phenylether		1.16	2.31	4.63	U
85-68-7	Butylbenzylphthalate		1.16	2.31	4.63	U
105-60-2	Caprolactam		1.16	2.31	4.63	UX
86-74-8	Carbazole		1.16	2.31	4.63	U
59-50-7	4-Chloro-3-methylphenol		1.16	2.31	4.63	U
106-47-8	4-Chloroaniline		1.16	2.31	4.63	U
111-91-1	Bis(2-chloroethoxy)methane		1.16	2.31	4.63	U
111-44-4	Bis(2-chloroethyl)ether		1.16	2.31	4.63	U
108-60-1	2,2'-Oxybis-1-chloropropane		1.16	2.31	4.63	U
91-58-7	2-Chloronaphthalene		1.16	2.31	4.63	U
95-57-8	2-Chlorophenol		1.16	2.31	4.63	U
7005-72-3	4-Chlorophenyl phenyl ether		1.16	2.31	4.63	U
132-64-9	Dibenzofuran		1.16	2.31	4.63	U
84-74-2	Di-n-butylphthalate		1.16	2.31	4.63	U
91-94-1	3,3'-Dichlorobenzidine		1.16	2.31	4.63	U
120-83-2	2,4-Dichlorophenol		1.16	2.31	4.63	U
84-66-2	Diethylphthalate		1.16	2.31	4.63	U
105-67-9	2,4-Dimethylphenol		4.63	9.26	18.5	U
131-11-3	Dimethyl phthalate		1.16	2.31	4.63	U
534-52-1	4,6-Dinitro-2-methylphenol		4.63	9.26	18.5	U
51-28-5	2,4-Dinitrophenol		7.71	23.1	46.3	UX
121-14-2	2,4-Dinitrotoluene		1.16	2.31	4.63	U
606-20-2	2,6-Dinitrotoluene		1.16	2.31	4.63	U
117-84-0	Di-n-octylphthalate		1.16	2.31	4.63	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.16	2.31	4.63	U
118-74-1	Hexachlorobenzene		1.16	2.31	4.63	U
87-68-3	Hexachlorobutadiene		1.16	2.31	4.63	U
77-47-4	Hexachlorocyclopentadiene		1.16	4.63	9.26	UX
67-72-1	Hexachloroethane		1.16	2.31	4.63	U
78-59-1	Isophorone		1.16	2.31	4.63	U
95-48-7	2-Methylphenol		1.16	2.31	4.63	U
106-44-5	4-Methylphenol		1.16	2.31	4.63	U
100-01-6	4-Nitroaniline		4.63	9.26	18.5	U
99-09-2	3-Nitroaniline		4.63	9.26	18.5	U
88-74-4	2-Nitroaniline		4.63	9.26	18.5	U
98-95-3	Nitrobenzene		1.16	2.31	4.63	U

ANALYSIS DATA SHEET

JM10-JAX47-MW10S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-02	File ID:	1012102.D
Sampled:	10/11/13 09:45	Prepared:	10/16/13 07:08	Analyzed:	10/21/13 22:25
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J16007 Sequence: 3J29512 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.63	9.26	18.5	U
88-75-5	2-Nitrophenol		1.16	2.31	4.63	U
86-30-6	N-Nitrosodiphenylamine		1.16	2.31	4.63	U
621-64-7	N-Nitroso-di-n-propylamine		1.16	2.31	4.63	U
108-95-2	Phenol		1.16	2.31	4.63	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.16	2.31	4.63	U
120-82-1	1,2,4-Trichlorobenzene		1.16	2.31	4.63	U
88-06-2	2,4,6-Trichlorophenol		1.16	2.31	4.63	U
95-95-4	2,4,5-Trichlorophenol		1.16	2.31	4.63	U

Total Target Analytes Reported: 49

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	33.12	71.5	50 - 110	
2-Fluorophenol	92.59	22.88	24.7	20 - 110	
Nitrobenzene-d5	46.30	33.89	73.2	40 - 110	
Phenol-d6	92.59	14.34	15.5	0 - 110	
Terphenyl-d14	46.30	39.12	84.5	50 - 135	
2,4,6-Tribromophenol	92.59	71.44	77.2	40 - 125	

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ANALYSIS DATA SHEET

JM10-JAX47-MW10S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-02	File ID:	1012102.D
Sampled:	10/11/13 09:45	Prepared:	10/16/13 07:08	Analyzed:	10/26/13 01:10
Solids:		Preparation:	EXT_3510	Dilution:	1
Batch:	3J16007	Sequence: 3J30114	Calibration:	3217001	Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0463	0.0926	0.185	U
208-96-8	Acenaphthylene		0.0463	0.0926	0.185	U
120-12-7	Anthracene		0.0463	0.0926	0.185	U
56-55-3	Benzo(a)anthracene		0.0463	0.0926	0.185	U
50-32-8	Benzo(a)pyrene		0.0463	0.0926	0.185	U
205-99-2	Benzo(b)fluoranthene		0.0463	0.0926	0.185	U
191-24-2	Benzo(g,h,i)perylene		0.0463	0.0926	0.185	U
207-08-9	Benzo(k)fluoranthene		0.0463	0.0926	0.185	U
218-01-9	Chrysene		0.0463	0.0926	0.185	U
53-70-3	Dibenz(a,h)anthracene		0.0463	0.0926	0.185	U
206-44-0	Fluoranthene		0.0463	0.0926	0.185	U
86-73-7	Fluorene		0.0463	0.0926	0.185	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0463	0.0926	0.185	U
90-12-0	1-Methylnaphthalene		0.0463	0.0926	0.185	U
91-57-6	2-Methylnaphthalene		0.0463	0.0926	0.185	U
91-20-3	Naphthalene		0.0463	0.0926	0.185	U
87-86-5	Pentachlorophenol		0.231	0.463	0.926	U
85-01-8	Phenanthrene		0.0463	0.185	0.370	U
129-00-0	Pyrene		0.0463	0.0926	0.185	U

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	38.76	83.7	50 - 110	
Terphenyl-d14	46.30	38.10	82.3	50 - 135	
2,4,6-Tribromophenol	92.59	76.24	82.3	40 - 125	

CL

ANALYSIS DATA SHEET

JM10-JAX47-MW10S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-02	File ID:	016F1601.D
Sampled:	10/11/13 09:45	Prepared:	10/18/13 15:39	Analyzed:	10/29/13 22:42
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17025 Sequence: 3K30804 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00472	0.00943	0.0189	U
72-54-8	4,4'-DDD		0.00472	0.00943	0.0189	U
50-29-3	4,4'-DDT		0.00472	0.00943	0.0189	U
309-00-2	Aldrin		0.00311	0.00943	0.0189	U
319-84-6	alpha-BHC		0.00311	0.00943	0.0189	U
5103-71-9	alpha-Chlordane		0.00311	0.00943	0.0189	U
319-85-7	beta-BHC		0.00311	0.00943	0.0189	U
319-86-8	delta-BHC		0.00311	0.00943	0.0189	U
60-57-1	Dieldrin		0.00472	0.00943	0.0189	U
959-98-8	Endosulfan I		0.00311	0.00943	0.0189	U
33213-65-9	Endosulfan II		0.00472	0.00943	0.0189	U
1031-07-8	Endosulfan sulfate		0.00472	0.00943	0.0189	U
72-20-8	Endrin		0.00472	0.00943	0.0189	U
7421-93-4	Endrin aldehyde		0.00472	0.00943	0.0189	U
53494-70-5	Endrin ketone		0.00472	0.00943	0.0189	U
58-89-9	gamma-BHC (Lindane)		0.00311	0.00943	0.0189	U
5103-74-2	gamma-Chlordane		0.00311	0.00943	0.0189	U
76-44-8	Heptachlor		0.00311	0.00943	0.0189	UN
1024-57-3	Heptachlor epoxide		0.00311	0.00943	0.0189	U
72-43-5	Methoxychlor		0.00311	0.00943	0.0189	U
57-74-9	Chlordane (n.o.s.)		0.0160	0.0472	0.0943	U
8001-35-2	Toxaphene		0.311	0.629	0.943	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4717	0.3662	77.6	25 - 140	
Tetrachloro-m-xylene [2C]	0.4717	0.3786	80.3	25 - 140	
Decachlorobiphenyl	0.4717	0.3458	73.3	30 - 135	
Decachlorobiphenyl [2C]	0.4717	0.3150	66.8	30 - 135	Y

ANALYSIS DATA SHEET

JM10-JAX47-MW36S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-03	File ID:	019F1901.D
Sampled:	10/11/13 11:50	Prepared:	10/18/13 15:39	Analyzed:	10/29/13 23:50
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17025 Sequence: 3K30804 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.135	0.00463	0.00926	0.0185	
72-54-8	4,4'-DDD	11.8	0.00463	0.00926	0.0185	~~R~~ R-DL
50-29-3	4,4' DDT	6.72	0.00463	0.00926	0.0185	~~R~~ ↓
309-00-2	Aldrin		0.00306	0.00926	0.0185	U
319-84-6	alpha-BHC	5.83	0.00306	0.00926	0.0185	~~R~~ R-DL
5103-71-9	alpha-Chlordane	0.0254	0.00306	0.00926	0.0185	R J-PC
319-85-7	beta-BHC	7.40	0.00306	0.00926	0.0185	R R-DL
319-86-8	delta-BHC	2.82	0.00306	0.00926	0.0185	R ↓
60-57-1	Dieldrin [2C]	0.0352	0.00463	0.00926	0.0185	P J-PC
959-98-8	Endosulfan I	0.0272	0.00306	0.00926	0.0185	P J-PC,TD
33213-65-9	Endosulfan II [2C]		0.00463	0.00926	0.0185	U
1031-07-8	Endosulfan sulfate		0.00463	0.00926	0.0185	U
72-20-8	Endrin		0.00463	0.00926	0.0185	U
7421-93-4	Endrin aldehyde [2C]		0.00463	0.00926	0.0185	U
53494-70-5	Endrin ketone [2C]	0.0265	0.00463	0.00926	0.0185	R J-PC,FD
58-89-9	gamma-BHC (Lindane)	12.2	0.00306	0.00926	0.0185	~~R~~ R-DL
5103-74-2	gamma-Chlordane [2C]	0.0185	0.00306	0.00926	0.0185	PM J-PC,MI,FD
76-44-8	Heptachlor	0.00849	0.00306	0.00926	0.0185	J
1024-57-3	Heptachlor epoxide		0.00306	0.00926	0.0185	U
72-43-5	Methoxychlor		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.2620	56.6	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.2695	58.2	25 - 140	
Decachlorobiphenyl	0.4630	0.1979	42.7	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.1979	42.7	30 - 135	Y

ANALYSIS DATA SHEET

JM10-JAX47-MW36S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-03RE1	File ID:	020F2001.D
Sampled:	10/11/13 11:50	Prepared:	10/18/13 15:39	Analyzed:	10/30/13 00:13
Solids:		Preparation:	EXT_3510	Dilution:	20

Batch: 3117025 Sequence: 3K30804 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.141	0.0926	0.185	0.370	~~NQ~~ R-DL
72-54-8	4,4'-DDD	10.2	0.0926	0.185	0.370	D =
50-29-3	4,4'-DDT	5.83	0.0926	0.185	0.370	D =
309-00-2	Aldrin		0.0611	0.185	0.370	~~NQ~~ R-DL
319-84-6	alpha-BHC	5.94	0.0611	0.185	0.370	~~NQ~~ =
5103-71-9	alpha-Chlordane		0.0611	0.185	0.370	~~NQ~~ R-DL
319-85-7	beta-BHC	8.81	0.0611	0.185	0.370	D =
319-86-8	delta-BHC	3.05	0.0611	0.185	0.370	D =
60-57-1	Dieldrin		0.0926	0.185	0.370	U R-DL
959-98-8	Endosulfan I		0.0611	0.185	0.370	U
33213-65-9	Endosulfan II		0.0926	0.185	0.370	U
1031-07-8	Endosulfan sulfate		0.0926	0.185	0.370	U
72-20-8	Endrin		0.0926	0.185	0.370	U
7421-93-4	Endrin aldehyde		0.0926	0.185	0.370	U
53494-70-5	Endrin ketone		0.0926	0.185	0.370	U
58-89-9	gamma-BHC (Lindane)	27.8	0.0611	0.185	0.370	~~NQ~~ =
5103-74-2	gamma-Chlordane [2C]		0.0611	0.185	0.370	U R-DL
76-44-8	Heptachlor		0.0611	0.185	0.370	U
1024-57-3	Heptachlor epoxide		0.0611	0.185	0.370	U
72-43-5	Methoxychlor		0.0611	0.185	0.370	U
57-74-9	Chlordane (n.o.s.)		0.315	0.926	1.85	U
8001-35-2	Toxaphene		6.11	12.4	18.5	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3061	66.1	25 - 140	~~NQ~~
Tetrachloro-m-xylene [2C]	0.4630	0.3479	75.2	25 - 140	Q
Decachlorobiphenyl	0.4630	0.2125	45.9	30 - 135	~~NQ~~
Decachlorobiphenyl [2C]	0.4630	0.2161	46.7	30 - 135	~~NQ~~

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ANALYSIS DATA SHEET

JM10-JAX47-MW36S-1013A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-04	File ID:	021R2101.D
Sampled:	10/11/13 11:50	Prepared:	10/18/13 15:39	Analyzed:	10/30/13 00:35
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17025 Sequence: 3K30804 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]	0.00882	0.00472	0.00943	0.0189	~~JPM~~ J-PC, MI
72-54-8	4,4'-DDD	0.239	0.00472	0.00943	0.0189	
50-29-3	4,4'-DDT	0.472	0.00472	0.00943	0.0189	
309-00-2	Aldrin		0.00311	0.00943	0.0189	U
319-84-6	alpha-BHC	5.78	0.00311	0.00943	0.0189	~~E~~ R-DL
5103-71-9	alpha-Chlordane [2C]		0.00311	0.00943	0.0189	U
319-85-7	beta-BHC	7.09	0.00311	0.00943	0.0189	~~E~~ R-DL
319-86-8	delta-BHC	2.58	0.00311	0.00943	0.0189	~~E~~
60-57-1	Dieldrin		0.00472	0.00943	0.0189	U
959-98-8	Endosulfan I	0.0292	0.00311	0.00943	0.0189	~~A~~ J-PC, TD
33213-65-9	Endosulfan II [2C]		0.00472	0.00943	0.0189	U
1031-07-8	Endosulfan sulfate		0.00472	0.00943	0.0189	U
72-20-8	Endrin		0.00472	0.00943	0.0189	U
7421-93-4	Endrin aldehyde [2C]		0.00472	0.00943	0.0189	U
53494-70-5	Endrin ketone	0.0119	0.00472	0.00943	0.0189	~~JPM~~ J-PC, MI
58-89-9	gamma-BHC (Lindane)	12.4	0.00311	0.00943	0.0189	~~E~~ R-DL
5103-74-2	gamma-Chlordane	0.00704	0.00311	0.00943	0.0189	~~JPM~~ J-PC, MI
76-44-8	Heptachlor [2C]		0.00311	0.00943	0.0189	U
1024-57-3	Heptachlor epoxide		0.00311	0.00943	0.0189	U
72-43-5	Methoxychlor		0.00311	0.00943	0.0189	U
57-74-9	Chlordane (n.o.s.) [2C]		0.0160	0.0472	0.0943	U
8001-35-2	Toxaphene		0.311	0.629	0.943	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4717	0.3008	63.8	25 - 140	
Tetrachloro-m-xylene [2C]	0.4717	0.2845	60.3	25 - 140	
Decachlorobiphenyl	0.4717	0.2542	53.9	30 - 135	
Decachlorobiphenyl [2C]	0.4717	0.2524	53.5	30 - 135	X

ANALYSIS DATA SHEET

JM10-JAX47-MW36S-1013A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-04RE1	File ID:	022F2201.D
Sampled:	10/11/13 11:50	Prepared:	10/18/13 15:39	Analyzed:	10/30/13 00:58
Solids:		Preparation:	EXT_3510	Dilution:	20

Batch: 3J17025 Sequence: 3K30804 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.0943	0.189	0.377	U R-DL
72-54-8	4,4'-DDD [2C]	0.265	0.0943	0.189	0.377	JD
50-29-3	4,4'-DDT	0.445	0.0943	0.189	0.377	D
309-00-2	Aldrin		0.0623	0.189	0.377	U
319-84-6	alpha-BHC	5.80	0.0623	0.189	0.377	D =
5103-71-9	alpha-Chlordane		0.0623	0.189	0.377	N R-DL
319-85-7	beta-BHC	8.02	0.0623	0.189	0.377	D =
319-86-8	delta-BHC	2.82	0.0623	0.189	0.377	D =
60-57-1	Dieldrin		0.0943	0.189	0.377	U R-DL
959-98-8	Endosulfan I		0.0623	0.189	0.377	U
33213-65-9	Endosulfan II		0.0943	0.189	0.377	U
1031-07-8	Endosulfan sulfate		0.0943	0.189	0.377	U
72-20-8	Endrin		0.0943	0.189	0.377	U
7421-93-4	Endrin aldehyde		0.0943	0.189	0.377	U
53494-70-5	Endrin ketone		0.0943	0.189	0.377	U
58-89-9	gamma-BHC (Lindane)	27.5	0.0623	0.189	0.377	D =
5103-74-2	gamma-Chlordane		0.0623	0.189	0.377	U R-DL
76-44-8	Heptachlor		0.0623	0.189	0.377	U
1024-57-3	Heptachlor epoxide		0.0623	0.189	0.377	U
72-43-5	Methoxychlor		0.0623	0.189	0.377	U
57-74-9	Chlordane (n.o.s.)		0.321	0.943	1.89	U
8001-35-2	Toxaphene		6.23	12.6	18.9	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4717	0.3376	71.6	25 - 140	D
Tetrachloro-m-xylene [2C]	0.4717	0.3623	76.8	25 - 140	D
Decachlorobiphenyl	0.4717	0.2843	60.3	30 - 135	D
Decachlorobiphenyl [2C]	0.4717	0.2827	59.9	30 - 135	DY

ANALYSIS DATA SHEET

JM10-JAX47-FD03-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-05	File ID:	023F2301.D
Sampled:	10/11/13 00:00	Prepared:	10/17/13 17:55	Analyzed:	10/30/13 01:21
Solids:		Preparation:	EXT_3510	Dilution:	1
Batch:	3J17025	Sequence: 3K30804	Calibration:	3259002	Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.146	0.00463	0.00926	0.0185	
72-54-8	4,4'-DDD	13.4	0.00463	0.00926	0.0185	R-DL
50-29-3	4,4'-DDT	7.76	0.00463	0.00926	0.0185	R-DL
309-00-2	Aldrin		0.00306	0.00926	0.0185	U
319-84-6	alpha-BHC	5.83	0.00306	0.00926	0.0185	R-DL
5103-71-9	alpha-Chlordane	0.0256	0.00306	0.00926	0.0185	
319-85-7	beta-BHC	7.54	0.00306	0.00926	0.0185	R-DL
319-86-8	delta-BHC	2.90	0.00306	0.00926	0.0185	R-DL
60-57-1	Dieldrin [2C]	0.0309	0.00463	0.00926	0.0185	
959-98-8	Endosulfan I	0.0354	0.00306	0.00926	0.0185	J-PC
33213-65-9	Endosulfan II [2C]		0.00463	0.00926	0.0185	U
1031-07-8	Endosulfan sulfate		0.00463	0.00926	0.0185	U
72-20-8	Endrin		0.00463	0.00926	0.0185	U
7421-93-4	Endrin aldehyde [2C]		0.00463	0.00926	0.0185	U
53494-70-5	Endrin ketone [2C]	0.0510	0.00463	0.00926	0.0185	J-PC,FD
58-89-9	gamma-BHC (Lindane)	12.2	0.00306	0.00926	0.0185	R-DL
5103-74-2	gamma-Chlordane	0.0699	0.00306	0.00926	0.0185	J-PC,FD
76-44-8	Heptachlor [2C]		0.00306	0.00926	0.0185	U
1024-57-3	Heptachlor epoxide		0.00306	0.00926	0.0185	U
72-43-5	Methoxychlor		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.2874	62.1	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3117	67.3	25 - 140	
Decachlorobiphenyl	0.4630	0.2736	59.1	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.2773	59.9	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-FD03-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310121	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310121-05RE1	File ID:	024R2401.D
Sampled:	10/11/13 00:00	Prepared:	10/17/13 17:55	Analyzed:	10/30/13 01:44
Solids:		Preparation:	EXT_3510	Dilution:	20

Batch: 3J17025 Sequence: 3K30804 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]	0.166	0.0926	0.185	0.370	~~NQ~~ R-DL
72-54-8	4,4'-DDD	11.4	0.0926	0.185	0.370	~~N~~ =
50-29-3	4,4'-DDT	6.70	0.0926	0.185	0.370	~~Q~~ =
309-00-2	Aldrin		0.0611	0.185	0.370	~~N~~ R-DL
319-84-6	alpha-BHC	5.87	0.0611	0.185	0.370	~~Q~~ =
5103-71-9	alpha-Chlordane		0.0611	0.185	0.370	~~U~~ R-DL
319-85-7	beta-BHC	8.44	0.0611	0.185	0.370	~~Q~~ =
319-86-8	delta-BHC	3.10	0.0611	0.185	0.370	~~Q~~ =
60-57-1	Dieldrin		0.0926	0.185	0.370	~~U~~ R-DL
959-98-8	Endosulfan I		0.0611	0.185	0.370	~~U~~
33213-65-9	Endosulfan II		0.0926	0.185	0.370	~~U~~
1031-07-8	Endosulfan sulfate		0.0926	0.185	0.370	~~U~~
72-20-8	Endrin		0.0926	0.185	0.370	~~U~~
7421-93-4	Endrin aldehyde		0.0926	0.185	0.370	~~U~~
53494-70-5	Endrin ketone		0.0926	0.185	0.370	~~U~~
58-89-9	gamma-BHC (Lindane)	27.6	0.0611	0.185	0.370	~~Q~~ =
5103-74-2	gamma-Chlordane [2C]		0.0611	0.185	0.370	~~U~~ R-DL
76-44-8	Heptachlor		0.0611	0.185	0.370	~~U~~
1024-57-3	Heptachlor epoxide		0.0611	0.185	0.370	~~U~~
72-43-5	Methoxychlor		0.0611	0.185	0.370	~~U~~
57-74-9	Chlordane (n.o.s.)		0.315	0.926	1.85	~~U~~
8001-35-2	Toxaphene		6.11	12.4	18.5	~~U~~

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3208	69.3	25 - 140	~~Q~~
Tetrachloro-m-xylene [2C]	0.4630	0.3958	85.5	25 - 140	~~Q~~
Decachlorobiphenyl	0.4630	0.2933	63.4	30 - 135	~~Q~~
Decachlorobiphenyl [2C]	0.4630	0.2880	62.2	30 - 135	~~DX~~

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ANALYSIS DATA SHEET

JM10-JAX47-MW14S-1013

Laboratory:	Empirical Laboratories, LLC			SDG:	1310121
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310121-06	File ID:	025R2501.D
Sampled:	10/11/13 14:05	Prepared:	10/18/13 15:39	Analyzed:	10/30/13 02:06
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17025 Sequence: 3K30804 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]	0.0121	0.00472	0.00943	0.0189	~~JR~~ J-PC
72-54-8	4,4'-DDD	0.0171	0.00472	0.00943	0.0189	~~JR~~ ↓
50-29-3	4,4'-DDT		0.00472	0.00943	0.0189	U
309-00-2	Aldrin [2C]	0.00613	0.00311	0.00943	0.0189	~~JPM~~ J-PC, MI
319-84-6	alpha-BHC		0.00311	0.00943	0.0189	U
5103-71-9	alpha-Chlordane	0.0325	0.00311	0.00943	0.0189	~~P~~ J-PC
319-85-7	beta-BHC	0.0438	0.00311	0.00943	0.0189	~~P~~ ↓
319-86-8	delta-BHC [2C]	0.00852	0.00311	0.00943	0.0189	~~JPM~~ J-PC, MI
60-57-1	Dieldrin [2C]	0.0209	0.00472	0.00943	0.0189	~~P~~ J-PC
959-98-8	Endosulfan I	0.0453	0.00311	0.00943	0.0189	~~P~~ ↓
33213-65-9	Endosulfan II [2C]		0.00472	0.00943	0.0189	U
1031-07-8	Endosulfan sulfate [2C]		0.00472	0.00943	0.0189	U
72-20-8	Endrin		0.00472	0.00943	0.0189	U
7421-93-4	Endrin aldehyde	0.0229	0.00472	0.00943	0.0189	
53494-70-5	Endrin ketone		0.00472	0.00943	0.0189	U
58-89-9	gamma-BHC (Lindane) [2C]	0.0142	0.00311	0.00943	0.0189	~~JR~~ J-PC
5103-74-2	gamma-Chlordane [2C]		0.00311	0.00943	0.0189	U
76-44-8	Heptachlor		0.00311	0.00943	0.0189	U
1024-57-3	Heptachlor epoxide [2C]	0.495	0.00311	0.00943	0.0189	
72-43-5	Methoxychlor		0.00311	0.00943	0.0189	U
57-74-9	Chlordane (n.o.s.)		0.0160	0.0472	0.0943	U
8001-35-2	Toxaphene		0.311	0.629	0.943	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4717	0.5301	112	25 - 140	
Tetrachloro-m-xylene [2C]	0.4717	0.3886	82.4	25 - 140	
Decachlorobiphenyl	0.4717	0.3402	72.1	30 - 135	
Decachlorobiphenyl [2C]	0.4717	0.3133	66.4	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW10S-1013

Laboratory:	Empirical Laboratories, LLC	SDG	1310121
Client	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310121-02
Sampled:	10/11/13 09:45	Received	10/12/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	3318001	10/23/13 14:24

ANALYSIS DATA SHEET

JM10-JAX47-MW36S-1013

Laboratory	Empirical Laboratories, LLC	SDG:	1310121
Client	CH2M Hill, Inc	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310121-03
Sampled:	10/11/13 11:50	Received:	10/12/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	506	3.00	6.00	10.0	1		SW6010C	3118001	10/23/13 13:54

ANALYSIS DATA SHEET

JM10-JAX47-FD03-1013

Laboratory	Empirical Laboratories, LLC	SDG	1310121
Client	CH2M Hill, Inc	Project	NAS Jacksonville JM-10
Matrix	Water	Laboratory ID	1310121-05
Sampled	10/11/13 00:00	Received	10/12/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	534	3.00	6.00	10.0	1		SW6010C	2318001	10/23/13 13:59

ANALYSIS DATA SHEET

JM10-JAX47-MW14S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310121
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310121-06
Sampled:	10/11/13 14:05	Received:	10/12/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	3318001	10/23/13 14:03

ANALYSIS DATA SHEET

JM10-JAX47-TB01-101513

Laboratory:	Empirical Laboratories, LLC			SDG:	1310139
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-01	File ID:	1013901.D
Sampled:	10/15/13 12:00	Prepared:	10/23/13 16:28	Analyzed:	10/23/13 16:28
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3I23020 Sequence: 3I29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**11.3**	2.50	5.00	10.0	
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	**10.5**	0.500	1.00	2.00	
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-TB01-101513

Laboratory:	Empirical Laboratories, LLC			SDG:	1310139
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-01	File ID:	1013901.D
Sampled:	10/15/13 12:00	Prepared:	10/23/13 16:28	Analyzed:	10/23/13 16:28
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.26	94.2	75 - 120	
Dibromofluoromethane	30.00	31.56	105	85 - 115	
1,2-Dichloroethane-d4	30.00	31.79	106	70 - 120	
Toluene-d8	30.00	29.24	97.5	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-04	File ID:	1013904.D
Sampled:	10/15/13 13:50	Prepared:	10/23/13 18:47	Analyzed:	10/23/13 18:47
Solids:		Preparation:	5030B	Dilution:	1
Batch:	3J23020	Sequence: 3J29714	Calibration:	3241002	Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene	**1.44**	0.250	0.500	1.00	
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene	**12.2**	0.250	0.500	1.00	
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane	**10.4**	0.250	0.500	1.00	
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene	**1.04**	0.250	0.500	1.00	
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene	**2.92**	0.250	0.500	1.00	
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene	**0.270**	0.250	0.500	1.00	J
156-59-2	cis-1,2-Dichloroethene	**2.16**	0.250	0.500	1.00	
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene	**2.80**	0.250	0.500	1.00	
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane	**2.64**	0.250	0.500	1.00	
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-04	File ID:	1013904.D
Sampled:	10/15/13 13:50	Prepared:	10/23/13 18:47	Analyzed:	10/23/13 18:47
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene	**0.570**	0.250	0.500	1.00	J
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene	**2.73**	0.250	0.500	1.00	
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)	**3.27**	0.750	1.50	3.00	

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.82	96.1	75 - 120	
Dibromofluoromethane	30.00	30.41	101	85 - 115	
1,2-Dichloroethane-d4	30.00	29.90	99.7	70 - 120	
Toluene-d8	30.00	29.06	96.9	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-937-MW04S-10
13

Laboratory:	Empirical Laboratories, LLC			SDG:	1310139
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-06	File ID:	1013906D.D
Sampled:	10/15/13 15:35	Prepared:	10/23/13 23:24	Analyzed:	10/23/13 23:24
Solids:		Preparation:	5030B	Dilution:	10

Batch: 3J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		25.0	50.0	100	U
71-43-2	Benzene		2.50	5.00	10.0	U
74-97-5	Bromochloromethane		2.50	5.00	10.0	U
75-27-4	Bromodichloromethane		2.50	5.00	10.0	U
75-25-2	Bromoform		2.50	5.00	10.0	U
74-83-9	Bromomethane		5.00	10.0	20.0	U
78-93-3	2-Butanone		25.0	50.0	100	U
75-15-0	Carbon disulfide		2.50	5.00	10.0	U
56-23-5	Carbon tetrachloride		2.50	5.00	10.0	U
108-90-7	Chlorobenzene		2.50	5.00	10.0	U
75-00-3	Chloroethane		5.00	10.0	20.0	U
67-66-3	Chloroform		2.50	5.00	10.0	U
74-87-3	Chloromethane		2.50	5.00	10.0	U
110-82-7	Cyclohexane		2.50	5.00	10.0	U
124-48-1	Dibromochloromethane		2.50	5.00	10.0	U
96-12-8	1,2-Dibromo-3-chloropropane		5.00	10.0	20.0	U
106-93-4	1,2-Dibromoethane (EDB)		2.50	5.00	10.0	U
95-50-1	1,2-Dichlorobenzene		2.50	5.00	10.0	U
541-73-1	1,3-Dichlorobenzene		2.50	5.00	10.0	U
106-46-7	1,4-Dichlorobenzene		2.50	5.00	10.0	U
75-71-8	Dichlorodifluoromethane		5.00	10.0	20.0	U
75-34-3	1,1-Dichloroethane		2.50	5.00	10.0	U
107-06-2	1,2-Dichloroethane		2.50	5.00	10.0	U
75-35-4	1,1-Dichloroethene		2.50	5.00	10.0	U
156-59-2	cis-1,2-Dichloroethene	**50.3**	2.50	5.00	10.0	D
156-60-5	trans-1,2-Dichloroethene		2.50	5.00	10.0	U
78-87-5	1,2-Dichloropropane		2.50	5.00	10.0	U
10061-01-5	cis-1,3-Dichloropropene		2.50	5.00	10.0	U
10061-02-6	trans-1,3-Dichloropropene		2.50	5.00	10.0	U
100-41-4	Ethylbenzene	**62.8**	2.50	5.00	10.0	D
591-78-6	2-Hexanone		12.5	25.0	50.0	U
98-82-8	Isopropylbenzene		2.50	5.00	10.0	U
75-09-2	Methylene chloride	**7.50**	5.00	10.0	20.0	JD
79-20-9	Methyl Acetate		5.00	10.0	20.0	U
108-87-2	Methylcyclohexane		2.50	5.00	10.0	U
108-10-1	4-Methyl-2-pentanone		12.5	25.0	50.0	U
1634-04-4	Methyl t-Butyl Ether		2.50	5.00	10.0	U
100-42-5	Styrene		2.50	5.00	10.0	U
79-34-5	1,1,2,2-Tetrachloroethane		2.50	5.00	10.0	U
127-18-4	Tetrachloroethene	**18.6**	2.50	5.00	10.0	D

ANALYSIS DATA SHEET

JM10-JAX47-937-MW04S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-06	File ID:	1013906D.D
Sampled:	10/15/13 15:35	Prepared:	10/23/13 23:24	Analyzed:	10/23/13 23:24
Solids:		Preparation:	5030B	Dilution:	10

Batch: 3J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene	**15.9**	2.50	5.00	10.0	B
87-61-6	1,2,3-Trichlorobenzene		2.50	5.00	10.0	U
120-82-1	1,2,4-Trichlorobenzene		2.50	5.00	10.0	U
79-00-5	1,1,2-Trichloroethane		2.50	5.00	10.0	U
71-55-6	1,1,1-Trichloroethane		2.50	5.00	10.0	U
79-01-6	Trichloroethene		2.50	5.00	10.0	U
75-69-4	Trichlorofluoromethane		5.00	10.0	20.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		5.00	10.0	20.0	U
75-01-4	Vinyl chloride		2.50	5.00	10.0	U
1330-20-7	Xylenes (total)	**1280**	7.50	15.0	30.0	B

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	30.64	102	75 - 120	
Dibromofluoromethane	30.00	31.03	103	85 - 115	
1,2-Dichloroethane-d4	30.00	29.98	99.9	70 - 120	
Toluene-d8	30.00	28.97	96.6	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-EB01-101513

Laboratory:	Empirical Laboratories, LLC			SDG:	1310139
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-08	File ID:	1013908.D
Sampled:	10/15/13 16:10	Prepared:	10/23/13 17:51	Analyzed:	10/23/13 17:51
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**4.15**	2.50	5.00	10.0	J
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	**1.88**	0.500	1.00	2.00	J
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-EB01-101513

Laboratory:	Empirical Laboratories, LLC			SDG:	1310139
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-08	File ID:	1013908.D
Sampled:	10/15/13 16:10	Prepared:	10/23/13 17:51	Analyzed:	10/23/13 17:51
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.15	97.2	75 - 120	
Dibromofluoromethane	30.00	30.51	102	85 - 115	
1,2-Dichloroethane-d4	30.00	30.14	100	70 - 120	
Toluene-d8	30.00	29.30	97.7	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-04	File ID:	1013904.D
Sampled:	10/15/13 13:50	Prepared:	10/18/13 11:13	Analyzed:	10/25/13 19:50
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30122 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		1.16	2.31	4.63	U	
1912-24-9	Atrazine		1.16	2.31	4.63	U	
100-52-7	Benzaldehyde		1.16	2.31	4.63	U	
92-52-4	1,1-Biphenyl	**4.30**	1.16	2.31	4.63	J	
101-55-3	4-Bromophenyl-phenylether		1.16	2.31	4.63	U	
85-68-7	Butylbenzylphthalate		1.16	2.31	4.63	U	
105-60-2	Caprolactam		1.16	2.31	4.63	~~UX~~	L1
86-74-8	Carbazole		1.16	2.31	4.63	U	
59-50-7	4-Chloro-3-methylphenol		1.16	2.31	4.63	U	
106-47-8	4-Chloroaniline		1.16	2.31	4.63	U	
111-91-1	Bis(2-chloroethoxy)methane		1.16	2.31	4.63	U	
111-44-4	Bis(2-chloroethyl)ether		1.16	2.31	4.63	U	
108-60-1	2,2'-Oxybis-1-chloropropane		1.16	2.31	4.63	U	
91-58-7	2-Chloronaphthalene		1.16	2.31	4.63	U	
95-57-8	2-Chlorophenol		1.16	2.31	4.63	U	
7005-72-3	4-Chlorophenyl phenyl ether		1.16	2.31	4.63	U	
132-64-9	Dibenzofuran	**1.50**	1.16	2.31	4.63	J	
84-74-2	Di-n-butylphthalate		1.16	2.31	4.63	U	
91-94-1	3,3'-Dichlorobenzidine		1.16	2.31	4.63	U	
120-83-2	2,4-Dichlorophenol		1.16	2.31	4.63	U	
84-66-2	Diethylphthalate		1.16	2.31	4.63	U	
105-67-9	2,4-Dimethylphenol		4.63	9.26	18.5	U	
131-11-3	Dimethyl phthalate		1.16	2.31	4.63	U	
534-52-1	4,6-Dinitro-2-methylphenol		4.63	9.26	18.5	U	
51-28-5	2,4-Dinitrophenol		7.71	23.1	46.3	~~UX~~	L1
121-14-2	2,4-Dinitrotoluene		1.16	2.31	4.63	U	
606-20-2	2,6-Dinitrotoluene		1.16	2.31	4.63	U	
117-84-0	Di-n-octylphthalate		1.16	2.31	4.63	U	
117-81-7	Bis(2-ethylhexyl)phthalate		1.16	2.31	4.63	U	
118-74-1	Hexachlorobenzene		1.16	2.31	4.63	U	
87-68-3	Hexachlorobutadiene		1.16	2.31	4.63	U	
77-47-4	Hexachlorocyclopentadiene		1.16	4.63	9.26	~~UX~~	L1
67-72-1	Hexachloroethane		1.16	2.31	4.63	U	
78-59-1	Isophorone		1.16	2.31	4.63	U	
95-48-7	2-Methylphenol		1.16	2.31	4.63	U	
106-44-5	4-Methylphenol		1.16	2.31	4.63	U	
100-01-6	4-Nitroaniline		4.63	9.26	18.5	U	
99-09-2	3-Nitroaniline		4.63	9.26	18.5	U	
88-74-4	2-Nitroaniline		4.63	9.26	18.5	U	
98-95-3	Nitrobenzene		1.16	2.31	4.63	U	

ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-04	File ID:	1013904.D
Sampled:	10/15/13 13:50	Prepared:	10/18/13 11:13	Analyzed:	10/25/13 19:50
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3317024 Sequence: 3J30122 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.63	9.26	18.5	U
88-75-5	2-Nitrophenol		1.16	2.31	4.63	U
86-30-6	N-Nitrosodiphenylamine		1.16	2.31	4.63	U
621-64-7	N-Nitroso-di-n-propylamine		1.16	2.31	4.63	U
108-95-2	Phenol		1.16	2.31	4.63	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.16	2.31	4.63	U
120-82-1	1,2,4-Trichlorobenzene		1.16	2.31	4.63	U
88-06-2	2,4,6-Trichlorophenol		1.16	2.31	4.63	U
95-95-4	2,4,5-Trichlorophenol		1.16	2.31	4.63	U

Total Target Analytes Reported: 49

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	36.52	78.9	50 - 110	
2-Fluorophenol	92.59	25.84	27.9	20 - 110	
Nitrobenzene-d5	46.30	36.39	78.6	40 - 110	
Phenol-d6	92.59	16.23	17.5	0 - 110	
Terphenyl-d14	46.30	41.26	89.1	50 - 135	
2,4,6-Tribromophenol	92.59	84.81	91.6	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-937-MW04S-10
13

Laboratory:	Empirical Laboratories, LLC			SDG:	1310139
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-06	File ID:	1013906.D
Sampled:	10/15/13 15:35	Prepared:	10/18/13 11:13	Analyzed:	10/25/13 20:19
Solids:		Preparation:	EXT_3510	Dilution:	1
Batch:	3J17024	Sequence:	3J30122	Calibration:	3263001
Instrument:	MS-BNA5				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
98-86-2	Acetophenone		1.16	2.31	4.63	U	UJ-SSL
1912-24-9	Atrazine		1.16	2.31	4.63	U	
100-52-7	Benzaldehyde		1.16	2.31	4.63	U	
92-52-4	1,1-Biphenyl		1.16	2.31	4.63	U	
101-55-3	4-Bromophenyl-phenylether		1.16	2.31	4.63	U	
85-68-7	Butylbenzylphthalate		1.16	2.31	4.63	U	
105-60-2	Caprolactam		1.16	2.31	4.63	~~UX~~	UJ-SSL
86-74-8	Carbazole		1.16	2.31	4.63	U	UJ-SSL
59-50-7	4-Chloro-3-methylphenol		1.16	2.31	4.63	U	
106-47-8	4-Chloroaniline		1.16	2.31	4.63	U	
111-91-1	Bis(2-chloroethoxy)methane		1.16	2.31	4.63	U	
111-44-4	Bis(2-chloroethyl)ether		1.16	2.31	4.63	U	
108-60-1	2,2'-Oxybis-1-chloropropane		1.16	2.31	4.63	U	
91-58-7	2-Chloronaphthalene		1.16	2.31	4.63	U	
95-57-8	2-Chlorophenol		1.16	2.31	4.63	U	
7005-72-3	4-Chlorophenyl phenyl ether		1.16	2.31	4.63	U	
132-64-9	Dibenzofuran		1.16	2.31	4.63	U	
84-74-2	Di-n-butylphthalate		1.16	2.31	4.63	U	
91-94-1	3,3'-Dichlorobenzidine		1.16	2.31	4.63	U	
120-83-2	2,4-Dichlorophenol		1.16	2.31	4.63	U	
84-66-2	Diethylphthalate	**13.5**	1.16	2.31	4.63		J-SSL
105-67-9	2,4-Dimethylphenol	**5.63**	4.63	9.26	18.5	J	
131-11-3	Dimethyl phthalate		1.16	2.31	4.63	U	UJ-SSL
534-52-1	4,6-Dinitro-2-methylphenol		4.63	9.26	18.5	U	
51-28-5	2,4-Dinitrophenol		7.71	23.1	46.3	~~UX~~	UJ-SSL
121-14-2	2,4-Dinitrotoluene		1.16	2.31	4.63	U	UJ-SSL
606-20-2	2,6-Dinitrotoluene		1.16	2.31	4.63	U	
117-84-0	Di-n-octylphthalate		1.16	2.31	4.63	U	
117-81-7	Bis(2-ethylhexyl)phthalate		1.16	2.31	4.63	U	
118-74-1	Hexachlorobenzene		1.16	2.31	4.63	U	
87-68-3	Hexachlorobutadiene		1.16	2.31	4.63	U	
77-47-4	Hexachlorocyclopentadiene		1.16	4.63	9.26	~~UX~~	UJ-SSL
67-72-1	Hexachloroethane		1.16	2.31	4.63	U	UJ-SSL
78-59-1	Isophorone		1.16	2.31	4.63	U	
95-48-7	2-Methylphenol	**4.03**	1.16	2.31	4.63	J	J-SSL
106-44-5	4-Methylphenol		1.16	2.31	4.63	U	UJ-SSL
100-01-6	4-Nitroaniline		4.63	9.26	18.5	U	
99-09-2	3-Nitroaniline		4.63	9.26	18.5	U	
88-74-4	2-Nitroaniline		4.63	9.26	18.5	U	
98-95-3	Nitrobenzene		1.16	2.31	4.63	U	

ANALYSIS DATA SHEET

JM10-JAX47-937-MW04S-10
13

Laboratory:	Empirical Laboratories, LLC			SDG:	1310139
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-06	File ID:	1013906.D
Sampled:	10/15/13 15:35	Prepared:	10/18/13 11:13	Analyzed:	10/25/13 20:19
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30122 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.63	9.26	18.5	U
88-75-5	2-Nitrophenol		1.16	2.31	4.63	U
86-30-6	N-Nitrosodiphenylamine		1.16	2.31	4.63	U
621-64-7	N-Nitroso-di-n-propylamine		1.16	2.31	4.63	U
108-95-2	Phenol		1.16	2.31	4.63	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.16	2.31	4.63	U
120-82-1	1,2,4-Trichlorobenzene		1.16	2.31	4.63	U
88-06-2	2,4,6-Trichlorophenol		1.16	2.31	4.63	U
95-95-4	2,4,5-Trichlorophenol		1.16	2.31	4.63	U

UJ SSL

Total Target Analytes Reported: 49

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	32.91	71.1	50 - 110	
2-Fluorophenol	92.59	16.52	17.8	20 - 110	*
Nitrobenzene-d5	46.30	32.98	71.2	40 - 110	
Phenol-d6	92.59	13.43	14.5	0 - 110	
Terphenyl-d14	46.30	36.19	78.2	50 - 135	
2,4,6-Tribromophenol	92.59	60.05	64.9	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-EB01-101513

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-08	File ID:	1013908.D
Sampled:	10/15/13 16:10	Prepared:	10/18/13 11:13	Analyzed:	10/25/13 20:48
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30122 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone	1.29	1.16	2.31	4.63	J
1912-24-9	Atrazine		1.16	2.31	4.63	U
100-52-7	Benzaldehyde		1.16	2.31	4.63	U
92-52-4	1,1-Biphenyl		1.16	2.31	4.63	U
101-55-3	4-Bromophenyl-phenylether		1.16	2.31	4.63	U
85-68-7	Butylbenzylphthalate		1.16	2.31	4.63	U
105-60-2	Caprolactam		1.16	2.31	4.63	~~UX~~
86-74-8	Carbazole		1.16	2.31	4.63	U
59-50-7	4-Chloro-3-methylphenol		1.16	2.31	4.63	U
106-47-8	4-Chloroaniline		1.16	2.31	4.63	U
111-91-1	Bis(2-chloroethoxy)methane		1.16	2.31	4.63	U
111-44-4	Bis(2-chloroethyl)ether		1.16	2.31	4.63	U
108-60-1	2,2'-Oxybis-1-chloropropane		1.16	2.31	4.63	U
91-58-7	2-Chloronaphthalene		1.16	2.31	4.63	U
95-57-8	2-Chlorophenol		1.16	2.31	4.63	U
7005-72-3	4-Chlorophenyl phenyl ether		1.16	2.31	4.63	U
132-64-9	Dibenzofuran		1.16	2.31	4.63	U
84-74-2	Di-n-butylphthalate		1.16	2.31	4.63	U
91-94-1	3,3'-Dichlorobenzidine		1.16	2.31	4.63	U
120-83-2	2,4-Dichlorophenol		1.16	2.31	4.63	U
84-66-2	Diethylphthalate		1.16	2.31	4.63	U
105-67-9	2,4-Dimethylphenol		4.63	9.26	18.5	U
131-11-3	Dimethyl phthalate		1.16	2.31	4.63	U
534-52-1	4,6-Dinitro-2-methylphenol		4.63	9.26	18.5	U
51-28-5	2,4-Dinitrophenol		7.71	23.1	46.3	~~UX~~
121-14-2	2,4-Dinitrotoluene		1.16	2.31	4.63	U
606-20-2	2,6-Dinitrotoluene		1.16	2.31	4.63	U
117-84-0	Di-n-octylphthalate		1.16	2.31	4.63	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.16	2.31	4.63	U
118-74-1	Hexachlorobenzene		1.16	2.31	4.63	U
87-68-3	Hexachlorobutadiene		1.16	2.31	4.63	U
77-47-4	Hexachlorocyclopentadiene		1.16	4.63	9.26	~~UX~~
67-72-1	Hexachloroethane		1.16	2.31	4.63	U
78-59-1	Isophorone		1.16	2.31	4.63	U
95-48-7	2-Methylphenol		1.16	2.31	4.63	U
106-44-5	4-Methylphenol		1.16	2.31	4.63	U
100-01-6	4-Nitroaniline		4.63	9.26	18.5	U
99-09-2	3-Nitroaniline		4.63	9.26	18.5	U
88-74-4	2-Nitroaniline		4.63	9.26	18.5	U
98-95-3	Nitrobenzene		1.16	2.31	4.63	U

ANALYSIS DATA SHEET

JM10-JAX47-EB01-101513

Laboratory:	Empirical Laboratories, LLC			SDG:	1310139
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-08	File ID:	1013908.D
Sampled:	10/15/13 16:10	Prepared:	10/18/13 11:13	Analyzed:	10/25/13 20:48
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30122 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.63	9.26	18.5	U
88-75-5	2-Nitrophenol		1.16	2.31	4.63	U
86-30-6	N-Nitrosodiphenylamine		1.16	2.31	4.63	U
621-64-7	N-Nitroso-di-n-propylamine		1.16	2.31	4.63	U
108-95-2	Phenol		1.16	2.31	4.63	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.16	2.31	4.63	U
120-82-1	1,2,4-Trichlorobenzene		1.16	2.31	4.63	U
88-06-2	2,4,6-Trichlorophenol		1.16	2.31	4.63	U
95-95-4	2,4,5-Trichlorophenol		1.16	2.31	4.63	U

Total Target Analytes Reported: 49

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	37.90	81.9	50 - 110	
2-Fluorophenol	92.59	26.08	28.2	20 - 110	
Nitrobenzene-d5	46.30	39.26	84.8	40 - 110	
Phenol-d6	92.59	16.55	17.9	0 - 110	
Terphenyl-d14	46.30	40.19	86.8	50 - 135	
2,4,6-Tribromophenol	92.59	71.40	77.1	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-04	File ID:	1013904.D
Sampled:	10/15/13 13:50	Prepared:	10/18/13 11:13	Analyzed:	10/26/13 06:37
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30319 Calibration: 3217001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene	**1.28**	0.0463	0.0926	0.185	
208-96-8	Acenaphthylene		0.0463	0.0926	0.185	U
120-12-7	Anthracene	**0.112**	0.0463	0.0926	0.185	J
56-55-3	Benzo(a)anthracene	**0.0752**	0.0463	0.0926	0.185	J
50-32-8	Benzo(a)pyrene		0.0463	0.0926	0.185	U
205-99-2	Benzo(b)fluoranthene	**0.0591**	0.0463	0.0926	0.185	J
191-24-2	Benzo(g,h,i)perylene		0.0463	0.0926	0.185	U
207-08-9	Benzo(k)fluoranthene		0.0463	0.0926	0.185	U
218-01-9	Chrysene	**0.0665**	0.0463	0.0926	0.185	J
53-70-3	Dibenz(a,h)anthracene		0.0463	0.0926	0.185	U
206-44-0	Fluoranthene	**0.127**	0.0463	0.0926	0.185	J
86-73-7	Fluorene	**1.29**	0.0463	0.0926	0.185	
193-39-5	Indeno(1,2,3-cd)pyrene		0.0463	0.0926	0.185	U
90-12-0	1-Methylnaphthalene	**28.3**	0.0463	0.0926	0.185	
91-57-6	2-Methylnaphthalene	**27.3**	0.0463	0.0926	0.185	[illegible]
91-20-3	Naphthalene	**59.1**	0.0463	0.0926	0.185	E
87-86-5	Pentachlorophenol		0.231	0.463	0.926	UYQ
85-01-8	Phenanthrene	**1.16**	0.0463	0.185	0.370	
129-00-0	Pyrene	**0.102**	0.0463	0.0926	0.185	J

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	39.56	85.4	50 - 110	
Terphenyl-d14	46.30	35.86	77.5	50 - 135	
2,4,6-Tribromophenol	92.59	77.75	84.0	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-04RE1	File ID:	1013904D.D
Sampled:	10/15/13 13:50	Prepared:	10/18/13 11:13	Analyzed:	10/30/13 21:21
Solids:		Preparation:	EXT_3510	Dilution:	10

Batch: 3J17024 Sequence: 3J30409 Calibration: 3217001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene	**0.959**	0.463	0.926	1.85	JD
208-96-8	Acenaphthylene		0.463	0.926	1.85	U
120-12-7	Anthracene		0.463	0.926	1.85	U
56-55-3	Benzo(a)anthracene		0.463	0.926	1.85	U
50-32-8	Benzo(a)pyrene		0.463	0.926	1.85	U
205-99-2	Benzo(b)fluoranthene		0.463	0.926	1.85	U
191-24-2	Benzo(g,h,i)perylene		0.463	0.926	1.85	U
207-08-9	Benzo(k)fluoranthene		0.463	0.926	1.85	U
218-01-9	Chrysene		0.463	0.926	1.85	U
53-70-3	Dibenz(a,h)anthracene		0.463	0.926	1.85	U
206-44-0	Fluoranthene		0.463	0.926	1.85	U
86-73-7	Fluorene	**1.01**	0.463	0.926	1.85	JD
193-39-5	Indeno(1,2,3-cd)pyrene		0.463	0.926	1.85	U
90-12-0	1-Methylnaphthalene	**24.5**	0.463	0.926	1.85	D
91-57-6	2-Methylnaphthalene	**22.4**	0.463	0.926	1.85	OD
91-20-3	Naphthalene	**54.0**	0.463	0.926	1.85	B
87-86-5	Pentachlorophenol		2.31	4.63	9.26	UO
85-01-8	Phenanthrene	**1.01**	0.463	1.85	3.70	JD
129-00-0	Pyrene		0.463	0.926	1.85	U

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	33.48	72.3	50 - 110	
Terphenyl-d14	46.30	34.14	73.8	50 - 135	
2,4,6-Tribromophenol	92.59	74.30	80.2	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-937-MW04S-10
13

Laboratory:	Empirical Laboratories, LLC			SDG:	1310139
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-06	File ID:	1013906.D
Sampled:	10/15/13 15:35	Prepared:	10/18/13 11:13	Analyzed:	10/26/13 07:05
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30319 Calibration: 3217001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0463	0.0926	0.185	U
208-96-8	Acenaphthylene		0.0463	0.0926	0.185	U
120-12-7	Anthracene	**0.0573**	0.0463	0.0926	0.185	J
56-55-3	Benzo(a)anthracene		0.0463	0.0926	0.185	U
50-32-8	Benzo(a)pyrene		0.0463	0.0926	0.185	U
205-99-2	Benzo(b)fluoranthene		0.0463	0.0926	0.185	U
191-24-2	Benzo(g,h,i)perylene		0.0463	0.0926	0.185	U
207-08-9	Benzo(k)fluoranthene		0.0463	0.0926	0.185	U
218-01-9	Chrysene		0.0463	0.0926	0.185	U
53-70-3	Dibenz(a,h)anthracene		0.0463	0.0926	0.185	U
206-44-0	Fluoranthene		0.0463	0.0926	0.185	U
86-73-7	Fluorene	**0.0977**	0.0463	0.0926	0.185	J
193-39-5	Indeno(1,2,3-cd)pyrene		0.0463	0.0926	0.185	U
90-12-0	1-Methylnaphthalene	**5.55**	0.0463	0.0926	0.185	
91-57-6	2-Methylnaphthalene	**9.54**	0.0463	0.0926	0.185	Q
91-20-3	Naphthalene	**18.3**	0.0463	0.0926	0.185	
87-86-5	Pentachlorophenol		0.231	0.463	0.926	UQ
85-01-8	Phenanthrene	**0.0514**	0.0463	0.185	0.370	J
129-00-0	Pyrene		0.0463	0.0926	0.185	U

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	36.48	78.8	50 - 110	
Terphenyl-d14	46.30	36.76	79.4	50 - 135	
2,4,6-Tribromophenol	92.59	61.28	66.2	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-EB01-101513

Laboratory:	Empirical Laboratories, LLC			SDG:	1310139
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-08	File ID:	1013908.D
Sampled:	10/15/13 16:10	Prepared:	10/18/13 11:13	Analyzed:	10/26/13 07:33
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30319 Calibration: 3217001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0463	0.0926	0.185	U
208-96-8	Acenaphthylene		0.0463	0.0926	0.185	U
120-12-7	Anthracene		0.0463	0.0926	0.185	U
56-55-3	Benzo(a)anthracene		0.0463	0.0926	0.185	U
50-32-8	Benzo(a)pyrene		0.0463	0.0926	0.185	U
205-99-2	Benzo(b)fluoranthene		0.0463	0.0926	0.185	U
191-24-2	Benzo(g,h,i)perylene		0.0463	0.0926	0.185	U
207-08-9	Benzo(k)fluoranthene		0.0463	0.0926	0.185	U
218-01-9	Chrysene		0.0463	0.0926	0.185	U
53-70-3	Dibenz(a,h)anthracene		0.0463	0.0926	0.185	U
206-44-0	Fluoranthene		0.0463	0.0926	0.185	U
86-73-7	Fluorene		0.0463	0.0926	0.185	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0463	0.0926	0.185	U
90-12-0	1-Methylnaphthalene		0.0463	0.0926	0.185	U
91-57-6	2-Methylnaphthalene		0.0463	0.0926	0.185	~~UQ~~
91-20-3	Naphthalene		0.0463	0.0926	0.185	U
87-86-5	Pentachlorophenol		0.231	0.463	0.926	~~UYQ~~
85-01-8	Phenanthrene		0.0463	0.185	0.370	U
129-00-0	Pyrene		0.0463	0.0926	0.185	U

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	45.23	97.7	50 - 110	
Terphenyl-d14	46.30	39.17	84.6	50 - 135	
2,4,6-Tribromophenol	92.59	75.72	81.8	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW34S-1013

Laboratory:	Empirical Laboratories, LLC			SDG:	1310139
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-02	File ID:	013F1301.D\Report.TXT
Sampled:	10/15/13 10:25	Prepared:	10/17/13 10:01	Analyzed:	10/17/13 18:04
Solids:		Preparation:	RSK175	Dilution:	1

Batch: 3J17013 Sequence: 3J29606 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 3

ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013

Laboratory:	Empirical Laboratories, LLC			SDG:	1310139
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-04	File ID:	016F1601.D\Report.TXT
Sampled:	10/15/13 13:50	Prepared:	10/17/13 10:01	Analyzed:	10/17/13 18:44
Solids:		Preparation:	RSK175	Dilution:	1

Batch: 3J17013 Sequence: 3J29606 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	**285**	1.00	2.00	4.00	
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 3

ANALYSIS DATA SHEET

JM10-JAX47-937-MW04S-10
13

Laboratory:	Empirical Laboratories, LLC			SDG:	1310139
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-06	File ID:	017F1701.D\Report.TXT
Sampled:	10/15/13 15:35	Prepared:	10/17/13 10:01	Analyzed:	10/17/13 18:58
Solids:		Preparation:	RSK175	Dilution:	1

Batch: 3J17013 Sequence: 3J29606 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 2

ANALYSIS DATA SHEET

JM10-JAX47-937-MW04S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-06RE1	File ID:	006F0601.D\Report.TXT
Sampled:	10/15/13 15:35	Prepared:	10/21/13 08:29	Analyzed:	10/21/13 15:18
Solids:		Preparation:	RSK175	Dilution:	5
Batch:	3J21005	Sequence: 3J29609	Calibration:	3273002	Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	537	5.00	10.0	20.0	B

Total Target Analytes Reported: 1

ANALYSIS DATA SHEET

JM10-JAX47-MW34S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-02	File ID:	006F0601.D
Sampled:	10/15/13 10:25	Prepared:	10/18/13 15:39	Analyzed:	10/30/13 16:33
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17025 Sequence: 3K30914 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.313	0.00463	0.00926	0.0185	~~X~~ J-CCH
72-54-8	4,4'-DDD [2C]	0.0346	0.00463	0.00926	0.0185	J-TP
50-29-3	4,4'-DDT [2C]	0.0193	0.00463	0.00926	0.0185	~~PM~~ J-PC, MI
309-00-2	Aldrin		0.00306	0.00926	0.0185	U
319-84-6	alpha-BHC [2C]	0.00359	0.00306	0.00926	0.0185	~~JPM~~ J-PC, MI
5103-71-9	alpha-Chlordane [2C]	0.0899	0.00306	0.00926	0.0185	~~PM~~ J-PC, MI
319-85-7	beta-BHC	10.8	0.00306	0.00926	0.0185	~~R~~ R-DL
319-86-8	delta-BHC [2C]	0.0164	0.00306	0.00926	0.0185	J - TP
60-57-1	Dieldrin [2C]	0.311	0.00463	0.00926	0.0185	
959-98-8	Endosulfan I	0.403	0.00306	0.00926	0.0185	~~R~~ J-PC
33213-65-9	Endosulfan II		0.00463	0.00926	0.0185	~~UN~~ U
1031-07-8	Endosulfan sulfate		0.00463	0.00926	0.0185	U
72-20-8	Endrin		0.00463	0.00926	0.0185	U
7421-93-4	Endrin aldehyde		0.00463	0.00926	0.0185	U
53494-70-5	Endrin ketone [2C]		0.00463	0.00926	0.0185	U
58-89-9	gamma-BHC (Lindane)	0.0158	0.00306	0.00926	0.0185	~~JX~~ U-EB
5103-74-2	gamma-Chlordane [2C]	0.112	0.00306	0.00926	0.0185	~~R~~ JB-EB, PC, T
76-44-8	Heptachlor		0.00306	0.00926	0.0185	U
1024-57-3	Heptachlor epoxide [2C]	0.171	0.00306	0.00926	0.0185	~~R~~ J-PC
72-43-5	Methoxychlor		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3885	83.9	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3677	79.4	25 - 140	
Decachlorobiphenyl	0.4630	0.3174	68.6	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.3160	68.3	30 - 135	

CA

ANALYSIS DATA SHEET

JM10-JAX47-MW34S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-02RE1	File ID:	007F0701.D
Sampled:	10/15/13 10:25	Prepared:	10/18/13 15:39	Analyzed:	10/30/13 16:55
Solids:		Preparation:	EXT_3510	Dilution:	10

Batch: 3I17025 Sequence: 3K30914 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.313	0.0463	0.0926	0.185	DXP
72-54-8	4,4'-DDD		0.0463	0.0926	0.185	UX
50-29-3	4,4'-DDT [2C]		0.0463	0.0926	0.185	U
309-00-2	Aldrin		0.0306	0.0926	0.185	U
319-84-6	alpha-BHC		0.0306	0.0926	0.185	UX
5103-71-9	alpha-Chlordane [2C]	0.108	0.0306	0.0926	0.185	JDPM
319-85-7	beta-BHC	10.2	0.0306	0.0926	0.185	D
319-86-8	delta-BHC		0.0306	0.0926	0.185	UX
60-57-1	Dieldrin [2C]	0.358	0.0463	0.0926	0.185	DP
959-98-8	Endosulfan I	0.356	0.0306	0.0926	0.185	D
33213-65-9	Endosulfan II		0.0463	0.0926	0.185	UN
1031-07-8	Endosulfan sulfate		0.0463	0.0926	0.185	U
72-20-8	Endrin		0.0463	0.0926	0.185	U
7421-93-4	Endrin aldehyde		0.0463	0.0926	0.185	U
53494-70-5	Endrin ketone		0.0463	0.0926	0.185	U
58-89-9	gamma-BHC (Lindane)		0.0306	0.0926	0.185	UX
5103-74-2	gamma-Chlordane [2C]	0.120	0.0306	0.0926	0.185	JD
76-44-8	Heptachlor		0.0306	0.0926	0.185	U
1024-57-3	Heptachlor epoxide [2C]	0.193	0.0306	0.0926	0.185	DP
72-43-5	Methoxychlor		0.0306	0.0926	0.185	U
57-74-9	Chlordane (n.o.s.)		0.157	0.463	0.926	U
8001-35-2	Toxaphene		3.06	6.18	9.26	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3774	81.5	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.4035	87.2	25 - 140	
Decachlorobiphenyl	0.4630	0.3647	78.8	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.3762	81.3	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW34S-1013A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID: 1310139-03		File ID:	010F1001.D
Sampled:	10/15/13 10:25	Prepared:	10/18/13 15:39	Analyzed:	10/30/13 18:03
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17025 Sequence: 3K30914 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.265	0.00463	0.00926	0.0185	~~XR~~ J-PC,CCH
72-54-8	4,4'-DDD [2C]	0.0390	0.00463	0.00926	0.0185	~~R~~ J-PC,TD
50-29-3	4,4'-DDT [2C]	0.00787	0.00463	0.00926	0.0185	~~JPM~~ J-PC,mI
309-00-2	Aldrin		0.00306	0.00926	0.0185	U
319-84-6	alpha-BHC [2C]		0.00306	0.00926	0.0185	U
5103-71-9	alpha-Chlordane [2C]	0.0578	0.00306	0.00926	0.0185	~~PM~~ J-PC,mI
319-85-7	beta-BHC	8.39	0.00306	0.00926	0.0185	~~NE~~ R-DL
319-86-8	delta-BHC	0.0506	0.00306	0.00926	0.0185	~~XR~~ J-PC,CCH,TD
60-57-1	Dieldrin		0.00463	0.00926	0.0185	U
959-98-8	Endosulfan I	0.308	0.00306	0.00926	0.0185	~~R~~ J-PC
33213-65-9	Endosulfan II		0.00463	0.00926	0.0185	~~UN~~ U
1031-07-8	Endosulfan sulfate	0.0213	0.00463	0.00926	0.0185	~~R~~ J-PC,TD
72-20-8	Endrin		0.00463	0.00926	0.0185	U
7421-93-4	Endrin aldehyde		0.00463	0.00926	0.0185	U
53494-70-5	Endrin ketone [2C]		0.00463	0.00926	0.0185	U
58-89-9	gamma-BHC (Lindane)	0.0146	0.00306	0.00926	0.0185	~~JX~~ J-CCH,TD
5103-74-2	gamma-Chlordane [2C]	0.132	0.00306	0.00926	0.0185	~~R~~ JB-PC,EB,TD
76-44-8	Heptachlor		0.00306	0.00926	0.0185	U
1024-57-3	Heptachlor epoxide	0.0136	0.00306	0.00926	0.0185	~~JPM~~ J-PC,mI
72-43-5	Methoxychlor [2C]		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3559	76.9	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3521	76.1	25 - 140	
Decachlorobiphenyl	0.4630	0.3479	75.2	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.3517	76.0	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW34S-1013A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-03RE1	File ID:	011F110L.D
Sampled:	10/15/13 10:25	Prepared:	10/18/13 15:39	Analyzed:	10/30/13 18:26
Solids:		Preparation:	EXT_3510	Dilution:	10

Batch: 3J17025 Sequence: 3K30914 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.182	0.0463	0.0926	0.185	JDK
72-54-8	4,4'-DDD		0.0463	0.0926	0.185	UX
50-29-3	4,4'-DDT [2C]		0.0463	0.0926	0.185	U
309-00-2	Aldrin		0.0306	0.0926	0.185	U
319-84-6	alpha-BHC		0.0306	0.0926	0.185	UX
5103-71-9	alpha-Chlordane [2C]		0.0306	0.0926	0.185	U
319-85-7	beta-BHC	7.50	0.0306	0.0926	0.185	DN
319-86-8	delta-BHC [2C]		0.0306	0.0926	0.185	U
60-57-1	Dieldrin		0.0463	0.0926	0.185	U
959-98-8	Endosulfan I	0.217	0.0306	0.0926	0.185	DP
33213-65-9	Endosulfan II		0.0463	0.0926	0.185	UN
1031-07-8	Endosulfan sulfate		0.0463	0.0926	0.185	U
72-20-8	Endrin		0.0463	0.0926	0.185	U
7421-93-4	Endrin aldehyde		0.0463	0.0926	0.185	U
53494-70-5	Endrin ketone		0.0463	0.0926	0.185	U
58-89-9	gamma-BHC (Lindane)		0.0306	0.0926	0.185	UX
5103-74-2	gamma-Chlordane [2C]	0.102	0.0306	0.0926	0.185	JDP
76-44-8	Heptachlor		0.0306	0.0926	0.185	U
1024-57-3	Heptachlor epoxide		0.0306	0.0926	0.185	U
72-43-5	Methoxychlor [2C]		0.0306	0.0926	0.185	U
57-74-9	Chlordane (n.o.s.)		0.157	0.463	0.926	U
8001-35-2	Toxaphene		3.06	6.18	9.26	U

R-DL

R-DL

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3376	72.9	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3609	78.0	25 - 140	
Decachlorobiphenyl	0.4630	0.3604	77.8	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.3687	79.6	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-04	File ID:	014F1401.D
Sampled:	10/15/13 13:50	Prepared:	10/18/13 15:39	Analyzed:	10/30/13 19:34
Solids:		Preparation:	EXT_3510	Dilution:	1
Batch:	3J17025	Sequence: 3K30914	Calibration:	3259002	Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.00475	0.00463	0.00926	0.0185	~~JXPM~~ J-PC, MI, CH, T
72-54-8	4,4'-DDD [2C]	0.0662	0.00463	0.00926	0.0185	~~P~~ J-PC, TD
50-29-3	4,4'-DDT		0.00463	0.00926	0.0185	U
309-00-2	Aldrin [2C]	0.0322	0.00306	0.00926	0.0185	J-TD
319-84-6	alpha-BHC	4.71	0.00306	0.00926	0.0185	~~EX~~ R-DL
5103-71-9	alpha-Chlordane [2C]	0.0254	0.00306	0.00926	0.0185	~~PM~~ J-PC, MI
319-85-7	beta-BHC	1.05	0.00306	0.00926	0.0185	
319-86-8	delta-BHC	3.66	0.00306	0.00926	0.0185	~~EX~~ R-DL
60-57-1	Dieldrin [2C]	0.0430	0.00463	0.00926	0.0185	~~R~~ J-PC
959-98-8	Endosulfan I	0.306	0.00306	0.00926	0.0185	~~R~~ J-PC
33213-65-9	Endosulfan II [2C]	0.0188	0.00463	0.00926	0.0185	~~PM~~ J-PC, MI, TD
1031-07-8	Endosulfan sulfate		0.00463	0.00926	0.0185	U
72-20-8	Endrin [2C]	0.0344	0.00463	0.00926	0.0185	~~R~~ J-PC, TD
7421-93-4	Endrin aldehyde		0.00463	0.00926	0.0185	U
53494-70-5	Endrin ketone	0.0443	0.00463	0.00926	0.0185	~~PM~~ J-PC, MI
58-89-9	gamma-BHC (Lindane)	6.74	0.00306	0.00926	0.0185	~~EX~~ R-DL
5103-74-2	gamma-Chlordane		0.00306	0.00926	0.0185	~~UX~~ U
76-44-8	Heptachlor	0.0238	0.00306	0.00926	0.0185	~~R~~ J-PC
1024-57-3	Heptachlor epoxide	0.0116	0.00306	0.00926	0.0185	~~JPM~~ J-PC, MI
72-43-5	Methoxychlor		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3033	65.5	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3007	64.9	25 - 140	
Decachlorobiphenyl	0.4630	0.3530	76.3	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.3222	69.6	30 - 135	

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ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-04RE1	File ID:	015R1501.D
Sampled:	10/15/13 13:50	Prepared:	10/18/13 15:39	Analyzed:	10/30/13 19:57
Solids:		Preparation:	EXT_3510	Dilution:	10

Batch: 3J17025 Sequence: 3K30914 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
72-55-9	4,4'-DDE		0.0463	0.0926	0.185	UX	R-DL
72-54-8	4,4'-DDD		0.0463	0.0926	0.185	UX	
50-29-3	4,4'-DDT		0.0463	0.0926	0.185	U	
309-00-2	Aldrin		0.0306	0.0926	0.185	U	
319-84-6	alpha-BHC	4.50	0.0306	0.0926	0.185	DX	J-CCH
5103-71-9	alpha-Chlordane [2C]		0.0306	0.0926	0.185	U	R-DL
319-85-7	beta-BHC	1.24	0.0306	0.0926	0.185	D	
319-86-8	delta-BHC	3.72	0.0306	0.0926	0.185	DX	J-CCH
60-57-1	Dieldrin		0.0463	0.0926	0.185	U	R-DL
959-98-8	Endosulfan I	0.291	0.0306	0.0926	0.185	DP	
33213-65-9	Endosulfan II [2C]		0.0463	0.0926	0.185	U	
1031-07-8	Endosulfan sulfate		0.0463	0.0926	0.185	U	
72-20-8	Endrin		0.0463	0.0926	0.185	U	
7421-93-4	Endrin aldehyde		0.0463	0.0926	0.185	U	
53494-70-5	Endrin ketone		0.0463	0.0926	0.185	U	
58-89-9	gamma-BHC (Lindane)	6.44	0.0306	0.0926	0.185	DX	J-CCH
5103-74-2	gamma-Chlordane		0.0306	0.0926	0.185	UX	R-DL
76-44-8	Heptachlor		0.0306	0.0926	0.185	U	
1024-57-3	Heptachlor epoxide		0.0306	0.0926	0.185	U	
72-43-5	Methoxychlor		0.0306	0.0926	0.185	U	
57-74-9	Chlordane (n.o.s.)		0.157	0.463	0.926	U	
8001-35-2	Toxaphene		3.06	6.18	9.26	U	

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3342	72.2	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3622	78.2	25 - 140	
Decachlorobiphenyl	0.4630	0.3443	74.4	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.3493	75.5	30 - 135	

ok

ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-05	File ID:	016R1601.D
Sampled:	10/15/13 13:50	Prepared:	10/18/13 15:39	Analyzed:	10/30/13 20:19
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17025 Sequence: 3K30914 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]	0.0116	0.00463	0.00926	0.0185	~~R~~ J-PC, TD
72-54-8	4,4'-DDD [2C]	0.0897	0.00463	0.00926	0.0185	~~R~~ J-PC, TD
50-29-3	4,4'-DDT		0.00463	0.00926	0.0185	U
309-00-2	Aldrin	0.0435	0.00306	0.00926	0.0185	~~R~~ J-PC, TD
319-84-6	alpha-BHC	4.48	0.00306	0.00926	0.0185	~~EX~~ R-DL
5103-71-9	alpha-Chlordane [2C]		0.00306	0.00926	0.0185	U
319-85-7	beta-BHC	1.01	0.00306	0.00926	0.0185	
319-86-8	delta-BHC	3.34	0.00306	0.00926	0.0185	~~EX~~ R-DL
60-57-1	Dieldrin	0.0103	0.00463	0.00926	0.0185	JPM J-PC, MI
959-98-8	Endosulfan I	0.274	0.00306	0.00926	0.0185	~~R~~ J-PC
33213-65-9	Endosulfan II	0.0589	0.00463	0.00926	0.0185	~~R~~ J-PC, TD
1031-07-8	Endosulfan sulfate		0.00463	0.00926	0.0185	U
72-20-8	Endrin [2C]	0.0393	0.00463	0.00926	0.0185	~~R~~ J-PC, TD
7421-93-4	Endrin aldehyde		0.00463	0.00926	0.0185	U
53494-70-5	Endrin ketone		0.00463	0.00926	0.0185	U
58-89-9	gamma-BHC (Lindane)	6.59	0.00306	0.00926	0.0185	~~EX~~ R-DL
5103-74-2	gamma-Chlordane	0.0129	0.00306	0.00926	0.0185	~~JXR~~ UJ-EB
76-44-8	Heptachlor	0.0151	0.00306	0.00926	0.0185	J
1024-57-3	Heptachlor epoxide	0.00748	0.00306	0.00926	0.0185	JPM J-PC, MI
72-43-5	Methoxychlor [2C]		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene [2C]		0.306	0.618	0.926	~~UX~~ UJ-25L

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3530	76.2	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3130	67.6	25 - 140	
Decachlorobiphenyl	0.4630	0.3875	83.7	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.3789	81.8	30 - 135	

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ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-05RE1	File ID:	017F1701.D
Sampled:	10/15/13 13:50	Prepared:	10/18/13 15:39	Analyzed:	10/30/13 20:42
Solids:		Preparation:	EXT_3510	Dilution:	10

Batch: 3J17025 Sequence: 3K30914 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.0463	0.0926	0.185	UX
72-54-8	4,4'-DDD		0.0463	0.0926	0.185	UX
50-29-3	4,4'-DDT		0.0463	0.0926	0.185	U
309-00-2	Aldrin		0.0306	0.0926	0.185	U
319-84-6	alpha-BHC	4.05	0.0306	0.0926	0.185	DX
5103-71-9	alpha-Chlordane [2C]		0.0306	0.0926	0.185	U
319-85-7	beta-BHC	1.09	0.0306	0.0926	0.185	D
319-86-8	delta-BHC	3.15	0.0306	0.0926	0.185	DX
60-57-1	Dieldrin		0.0463	0.0926	0.185	U
959-98-8	Endosulfan I	0.238	0.0306	0.0926	0.185	DP
33213-65-9	Endosulfan II [2C]		0.0463	0.0926	0.185	U
1031-07-8	Endosulfan sulfate		0.0463	0.0926	0.185	U
72-20-8	Endrin		0.0463	0.0926	0.185	U
7421-93-4	Endrin aldehyde		0.0463	0.0926	0.185	U
53494-70-5	Endrin ketone		0.0463	0.0926	0.185	U
58-89-9	gamma-BHC (Lindane)	5.84	0.0306	0.0926	0.185	DX
5103-74-2	gamma-Chlordane		0.0306	0.0926	0.185	UX
76-44-8	Heptachlor		0.0306	0.0926	0.185	U
1024-57-3	Heptachlor epoxide		0.0306	0.0926	0.185	U
72-43-5	Methoxychlor		0.0306	0.0926	0.185	U
57-74-9	Chlordane (n.o.s.)		0.157	0.463	0.926	U
8001-35-2	Toxaphene		3.06	6.18	9.26	U

R-DL
J-CCH
R-DL
J-CCH
R-DL
J-CCH
R-DL

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3367	72.7	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3471	75.0	25 - 140	
Decachlorobiphenyl	0.4630	0.3726	80.5	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.3760	81.2	30 - 135	

c.f

ANALYSIS DATA SHEET

JM10-JAX47-937-MW04S-10
13

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-06	File ID:	018R1801.D
Sampled:	10/15/13 15:35	Prepared:	10/18/13 15:39	Analyzed:	10/30/13 21:05
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17025 Sequence: 3K30914 Calibration: 3259002 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]	0.238	0.00463	0.00926	0.0185	
72-54-8	4,4'-DDD [2C]	0.0217	0.00463	0.00926	0.0185	PM J-PC,MI
50-29-3	4,4'-DDT		0.00463	0.00926	0.0185	U
309-00-2	Aldrin [2C]	0.0698	0.00306	0.00926	0.0185	PM J-PC,MI
319-84-6	alpha-BHC [2C]	0.0924	0.00306	0.00926	0.0185	R J-PC
5103-71-9	alpha-Chlordane	0.127	0.00306	0.00926	0.0185	J-SSH
319-85-7	beta-BHC [2C]	0.245	0.00306	0.00926	0.0185	PM J-PC,MI
319-86-8	delta-BHC [2C]	0.764	0.00306	0.00926	0.0185	R J-PC
60-57-1	Dieldrin		0.00463	0.00926	0.0185	U
959-98-8	Endosulfan I [2C]	0.409	0.00306	0.00926	0.0185	PM J-PC,MI
33213-65-9	Endosulfan II [2C]		0.00463	0.00926	0.0185	U
1031-07-8	Endosulfan sulfate [2C]	0.231	0.00463	0.00926	0.0185	PM J-PC,MI
72-20-8	Endrin		0.00463	0.00926	0.0185	U
7421-93-4	Endrin aldehyde [2C]	0.302	0.00463	0.00926	0.0185	R J-PC
53494-70-5	Endrin ketone		0.00463	0.00926	0.0185	U
58-89-9	gamma-BHC (Lindane)	0.0604	0.00306	0.00926	0.0185	XPM J-SSH,CH,PC,MI
5103-74-2	gamma-Chlordane		0.00306	0.00926	0.0185	UX LI
76-44-8	Heptachlor	0.368	0.00306	0.00926	0.0185	PM J-SSH,PC,MI
1024-57-3	Heptachlor epoxide	0.0949	0.00306	0.00926	0.0185	PM J-SSH,PC,MI
72-43-5	Methoxychlor [2C]	0.562	0.00306	0.00926	0.0185	R J-PC
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	1.323	286	25 - 140	*
Tetrachloro-m-xylene [2C]	0.4630	0.3322	71.8	25 - 140	
Decachlorobiphenyl	0.4630	0.2708	58.5	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.5515	119	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-EB01-101513

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-08	File ID:	010F1001.D
Sampled:	10/15/13 16:10	Prepared:	10/18/13 15:39	Analyzed:	11/05/13 17:35
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17025 Sequence: 3K31205 Calibration: 3310002 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
72-55-9	4,4'-DDE		0.00463	0.00926	0.0185	U	
72-54-8	4,4'-DDD		0.00463	0.00926	0.0185	~~UX~~	U
50-29-3	4,4'-DDT		0.00463	0.00926	0.0185	U	
309-00-2	Aldrin		0.00306	0.00926	0.0185	U	
319-84-6	alpha-BHC		0.00306	0.00926	0.0185	~~UX~~	U
5103-71-9	alpha-Chlordane		0.00306	0.00926	0.0185	U	
319-85-7	beta-BHC		0.00306	0.00926	0.0185	U	
319-86-8	delta-BHC		0.00306	0.00926	0.0185	~~UX~~	U
60-57-1	Dieldrin		0.00463	0.00926	0.0185	U	
959-98-8	Endosulfan I		0.00306	0.00926	0.0185	U	
33213-65-9	Endosulfan II		0.00463	0.00926	0.0185	U	
1031-07-8	Endosulfan sulfate		0.00463	0.00926	0.0185	~~UX~~	U
72-20-8	Endrin		0.00463	0.00926	0.0185	U	
7421-93-4	Endrin aldehyde		0.00463	0.00926	0.0185	~~UX~~	U
53494-70-5	Endrin ketone		0.00463	0.00926	0.0185	U	
58-89-9	gamma-BHC (Lindane)	0.00330	0.00306	0.00926	0.0185	~~JXPM~~	J
5103-74-2	gamma-Chlordane	0.0589	0.00306	0.00926	0.0185	~~R~~	
76-44-8	Heptachlor		0.00306	0.00926	0.0185	~~UX~~	U
1024-57-3	Heptachlor epoxide		0.00306	0.00926	0.0185	U	
72-43-5	Methoxychlor		0.00306	0.00926	0.0185	U	
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U	
8001-35-2	Toxaphene		0.306	0.618	0.926	U	

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3494	75.5	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3493	75.5	25 - 140	
Decachlorobiphenyl	0.4630	0.2345	50.6	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.2130	46.0	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-EB01-101513A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310139	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310139-09	File ID:	011F1101.D
Sampled:	10/15/13 16:10	Prepared:	10/18/13 15:39	Analyzed:	11/05/13 17:54
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17025 Sequence: 3K31205 Calibration: 3310002 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00463	0.00926	0.0185	U
72-54-8	4,4'-DDD		0.00463	0.00926	0.0185	~~UX~~ U
50-29-3	4,4'-DDT		0.00463	0.00926	0.0185	U
309-00-2	Aldrin		0.00306	0.00926	0.0185	U
319-84-6	alpha-BHC [2C]		0.00306	0.00926	0.0185	U
5103-71-9	alpha-Chlordane		0.00306	0.00926	0.0185	U
319-85-7	beta-BHC		0.00306	0.00926	0.0185	U
319-86-8	delta-BHC [2C]		0.00306	0.00926	0.0185	~~UX~~ U
60-57-1	Dieldrin		0.00463	0.00926	0.0185	U
959-98-8	Endosulfan I		0.00306	0.00926	0.0185	U
33213-65-9	Endosulfan II		0.00463	0.00926	0.0185	U
1031-07-8	Endosulfan sulfate		0.00463	0.00926	0.0185	~~UX~~ U
72-20-8	Endrin		0.00463	0.00926	0.0185	U
7421-93-4	Endrin aldehyde		0.00463	0.00926	0.0185	~~UX~~ U
53494-70-5	Endrin ketone		0.00463	0.00926	0.0185	U
58-89-9	gamma-BHC (Lindane)		0.00306	0.00926	0.0185	~~UX~~ U
5103-74-2	gamma-Chlordane	0.0419	0.00306	0.00926	0.0185	~~R~~ =
76-44-8	Heptachlor		0.00306	0.00926	0.0185	~~UX~~ U
1024-57-3	Heptachlor epoxide		0.00306	0.00926	0.0185	U
72-43-5	Methoxychlor		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.4072	88.0	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3999	86.4	25 - 140	
Decachlorobiphenyl	0.4630	0.3047	65.8	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.2733	59.0	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW34S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310139
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-02
Sampled:	10/15/13 10:25	Received:	10/16/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	4.59	3.00	6.00	10.0	1	J	SW6010C	3J21007	10/23/13 15:50

ANALYSIS DATA SHEET

JM10-JAX47-MW34S-1013A

Laboratory: Empirical Laboratories, LLC

Client: CH2M Hill, Inc.

Matrix: Water

Sampled: 10/15/13 10:25

SDG: 1310139

Project: NAS Jacksonville JM-10

Laboratory ID: 1310139-03

Received: 10/16/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)	56.1	30.0	60.0	100	1	J	SW6010C	3123010	10/23/13 20:07
7439-96-5	Manganese (dissolved)		3.00	6.00	15.0	1	U	SW6010C	3123010	10/23/13 20:07

ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013

Laboratory: Empirical Laboratories, LLC

Client: CH2M Hill, Inc.

Matrix: Water

Sampled: 10/15/13 13:50

SDG: 1310139

Project: NAS Jacksonville JM-10

Laboratory ID: 1310139-04

Received: 10/16/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		5.00	6.00	40.0	1	U	SW6010C	3318001	10/24/13 14:42

ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013A

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/15/13 13:50

SDG: 1310139
Project: NAS Jacksonville JM-10
Laboratory ID: 1310139-05
Received: 10/16/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)	148	30.0	60.0	100	1		SW6010C	3J23010	10/23/13 20:25
7439-96-5	Manganese (dissolved)	6.00	3.00	6.00	15.0	1	J	SW6010C	3J23010	10/23/13 20:25

ANALYSIS DATA SHEET

JM10-JAX47-937-MW04S-1013

Laboratory: Empirical Laboratories, LLC
Client: CH2M HILL, Inc.
Matrix: Water
Sampled: 10/15/13 15:35

SDG: 1310139
Project: NAS Jacksonville JM-10
Laboratory ID: 1310139-06
Received: 10/16/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	3118001	10/23/13 14:47

ANALYSIS DATA SHEET

JM10-JAX47-937-MW04S-1013A

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/15/13 15:35

SDG: 1310139
Project: NAS Jacksonville JM-10
Laboratory ID: 1310139-07
Received: 10/16/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	OL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)	48500	30.0	60.0	100	1		SW6010C	3J23010	10/23/13 20:29
7439-96-5	Manganese (dissolved)	233	3.00	6.00	15.0	1		SW6010C	3J23010	10/23/13 20:29

ANALYSIS DATA SHEET

JM10-JAX47-EB01-101513

Laboratory: Empirical Laboratories, LLC

Client: CH2M Hill, Inc.

Matrix: Water

Sampled: 10/15/13 16:10

SDG: 1310139

Project: NAS Jacksonville JM-10

Laboratory ID: 1310139-08

Received: 10/16/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		2.00	6.00	10.0	1	U	SW6010C	3318001	10/23/13 14:51

ANALYSIS DATA SHEET

JM10-JAX47-MW34S-1013

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/15/13 10:25

SDG: 1310139
Project: NAS Jacksonville JM-10
Laboratory ID: 1310139-02
Received: 10/16/13 08:20

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous Iron (outside certification)	**0.0762**	**0.0200**	0.0400	0.0600	1	~~B3~~	SM 3500-FE D-W	3J16025	10/16/13 16:26
18496-25-8	Sulfide	**0.997**	**0.678**	1.69	3.39	0.678	J	SM4500S2CF	3J21003	10/21/13 15:38
7440-44-0	Total Organic Carbon	**9.32**	**1.25**	2.50	3.00	1		SM5310C	3J22013	10/22/13 23:02
14797-55-8	Nitrate as N	**19.5**	**0.0330**	0.100	0.250	1		E300.0	3J16024	10/16/13 16:57
471-34-1	Alkalinity, Total (as CACO3)	**51.4**	**1.00**	1.00	1.00	1		SM2320B	3J28925	10/28/13 15:50
14808-79-8	Sulfate as SO4	**26.0**	**0.330**	1.00	2.50	1		E300.0	3J16024	10/16/13 16:57

ANALYSIS DATA SHEET

JM10-JAX47-MW11S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310139
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310139-04
Sampled:	10/15/13 13:50	Received:	10/16/13 08:20

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous iron (outside certification)	**0.178**	**0.0200**	0.0400	0.0600	1	N3	SM 3500-FE D-W	3J16025	10/16/13 16:27
18496-25-8	Sulfide		0.678	1.69	3.39	0.678	U	SM4500S2CF	3J21003	10/21/13 15:39
7440-44-0	Total Organic Carbon	**9.84**	1.25	2.50	3.00	1		SM5310C	3J22013	10/23/13 00:01
14797-55-8	Nitrate as N	**2.12**	**0.0330**	0.100	0.250	1		E300.0	3J16024	10/16/13 18:07
471-34-1	Alkalinity, Total (as CACO3)	**19.3**	**1.00**	1.00	1.00	1		SM2320B	3J28925	10/28/13 16:14
14808-79-8	Sulfate as SO4	**19.5**	**0.330**	1.00	2.50	1		E300.0	3J16024	10/16/13 18:07

ANALYSIS DATA SHEET

JM10-JAX47-937-MW04S-1013

Laboratory: Empirical Laboratories, LLC

Client: CH2M Hill, Inc.

Matrix: Water

Sampled: 10/15/13 15:35

SDG: 1310139

Project: NAS Jacksonville JM-10

Laboratory ID: 1310139-06

Received: 10/16/13 08:20

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous Iron (outside certification)	**54.5**	**0.500**	1.00	1.50	1	**HQ**	SM 3500-FE D-W	3J16025	10/16 13 16:30
18496-25-8	Sulfide		0.678	1.69	3.39	0.678	U	SM4500S2CF	3J21003	10/21 13 15:40
7440-44-0	Total Organic Carbon	**14.6**	**1.25**	2.50	3.00	1		SM5310C	3J22013	10/23 13 00:18
14797-55-8	Nitrate as N	**4.62**	**0.0330**	0.100	0.250	1		E300.0	3J16024	10/16 13 18:59
471-34-1	Alkalinity, Total (as CACO3)		1.00	1.00	1.00	1	U	SM2320B	3J28925	10/28 13 16:21
14808-79-8	Sulfate as SO4	**228**	**0.330**	1.00	2.50	1		E300.0	3J16024	10/16 13 18:59

ANALYSIS DATA SHEET

JM10-JAX47-TB01-101613

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-01	File ID:	1016501.D
Sampled:	10/16/13 12:00	Prepared:	10/23/13 16:55	Analyzed:	10/23/13 16:55
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	11.1	2.50	5.00	10.0	
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	12.5	0.500	1.00	2.00	
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-TB01-101613

Laboratory:	Empirical Laboratories, LLC			SDG:	1310165
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310165-01	File ID:	1016501.D
Sampled:	10/16/13 12:00	Prepared:	10/23/13 16:55	Analyzed:	10/23/13 16:55
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.09	93.6	75 - 120	
Dibromofluoromethane	30.00	31.23	104	85 - 115	
1,2-Dichloroethane-d4	30.00	31.40	105	70 - 120	
Toluene-d8	30.00	28.79	96.0	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW13S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-02	File ID:	1016502.D
Sampled:	10/16/13 09:45	Prepared:	10/23/13 19:14	Analyzed:	10/23/13 19:14
Solids:		Preparation:	5030B	Dilution:	1

Batch: 5J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene	**0.590**	0.250	0.500	1.00	J
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene	**0.700**	0.250	0.500	1.00	J
541-73-1	1,3-Dichlorobenzene	**1.07**	0.250	0.500	1.00	
106-46-7	1,4-Dichlorobenzene	**1.15**	0.250	0.500	1.00	
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-MW13S-1013

Laboratory:	Empirical Laboratories, LLC			SDG:	1310165
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310165-02	File ID:	1016502.D
Sampled:	10/16/13 09:45	Prepared:	10/23/13 19:14	Analyzed.	10/23/13 19:14
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene	**1.29**	0.250	0.500	1.00	
120-82-1	1,2,4-Trichlorobenzene	**4.17**	0.250	0.500	1.00	
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.58	98.6	75 - 120	
Dibromofluoromethane	30.00	30.20	101	85 - 115	
1,2-Dichloroethane-d4	30.00	29.27	97.6	70 - 120	
Toluene-d8	30.00	28.90	96.3	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW42S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-04	File ID:	1016504.D
Sampled:	10/16/13 11:35	Prepared	10/23/13 19:42	Analyzed:	10/23/13 19:42
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform	0.270	0.250	0.500	1.00	J
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-MW42S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-04	File ID:	1016504.D
Sampled:	10/16/13 11:35	Prepared:	10/23/13 19:42	Analyzed:	10/23/13 19:42
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.66	95.5	75 - 120	
Dibromofluoromethane	30.00	30.32	101	85 - 115	
1,2-Dichloroethane-d4	30.00	30.27	101	70 - 120	
Toluene-d8	30.00	28.66	95.5	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW25S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-06	File ID:	1016506.D
Sampled:	10/16/13 14:25	Prepared:	10/23/13 20:10	Analyzed:	10/23/13 20:10
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**2.51**	2.50	5.00	10.0	J
71-43-2	Benzene	**0.420**	0.250	0.500	1.00	J
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene	**0.850**	0.250	0.500	1.00	J
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform	**1.23**	0.250	0.500	1.00	
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene	**0.290**	0.250	0.500	1.00	J
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene	**0.820**	0.250	0.500	1.00	J
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene	**0.390**	0.250	0.500	1.00	J
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-MW25S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-06	File ID:	1016506.D
Sampled:	10/16/13 14:25	Prepared:	10/23/13 20:10	Analyzed:	10/23/13 20:10
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J23020 Sequence: 3J29714 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene	**5.92**	0.250	0.500	1.00	
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene	**0.410**	0.250	0.500	1.00	J
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene	**0.420**	0.250	0.500	1.00	J
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.70	95.7	75 - 120	
Dibromofluoromethane	30.00	30.66	102	85 - 115	
1,2-Dichloroethane-d4	30.00	31.00	103	70 - 120	
Toluene-d8	30.00	28.24	94.1	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW13S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-02	File ID:	1016502.D
Sampled:	10/16/13 09:45	Prepared:	10/18/13 11:13	Analyzed:	10/26/13 01:23
Solids:		Preparation:	EXT_3510	Dilution:	1
Batch:	3J17024	Sequence: 3J30116	Calibration:	3263001	Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.16	2.31	4.63	U
1912-24-9	Atrazine		1.16	2.31	4.63	U
100-52-7	Benzaldehyde		1.16	2.31	4.63	U
92-52-4	1,1-Biphenyl		1.16	2.31	4.63	U
101-55-3	4-Bromophenyl-phenylether		1.16	2.31	4.63	U
85-68-7	Butylbenzylphthalate		1.16	2.31	4.63	U
105-60-2	Caprolactam		1.16	2.31	4.63	UX
86-74-8	Carbazole		1.16	2.31	4.63	U
59-50-7	4-Chloro-3-methylphenol		1.16	2.31	4.63	U
106-47-8	4-Chloroaniline		1.16	2.31	4.63	U
111-91-1	Bis(2-chloroethoxy)methane		1.16	2.31	4.63	U
111-44-4	Bis(2-chloroethyl)ether		1.16	2.31	4.63	U
108-60-1	2,2'-Oxybis-1-chloropropane		1.16	2.31	4.63	U
91-58-7	2-Chloronaphthalene		1.16	2.31	4.63	U
95-57-8	2-Chlorophenol		1.16	2.31	4.63	U
7005-72-3	4-Chlorophenyl phenyl ether		1.16	2.31	4.63	U
132-64-9	Dibenzofuran		1.16	2.31	4.63	U
84-74-2	Di-n-butylphthalate		1.16	2.31	4.63	U
91-94-1	3,3'-Dichlorobenzidine		1.16	2.31	4.63	U
120-83-2	2,4-Dichlorophenol		1.16	2.31	4.63	U
84-66-2	Diethylphthalate		1.16	2.31	4.63	U
105-67-9	2,4-Dimethylphenol		4.63	9.26	18.5	U
131-11-3	Dimethyl phthalate		1.16	2.31	4.63	U
534-52-1	4,6-Dinitro-2-methylphenol		4.63	9.26	18.5	U
51-28-5	2,4-Dinitrophenol		7.71	23.1	46.3	UX
121-14-2	2,4-Dinitrotoluene		1.16	2.31	4.63	U
606-20-2	2,6-Dinitrotoluene		1.16	2.31	4.63	U
117-84-0	Di-n-octylphthalate		1.16	2.31	4.63	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.16	2.31	4.63	U
118-74-1	Hexachlorobenzene		1.16	2.31	4.63	U
87-68-3	Hexachlorobutadiene		1.16	2.31	4.63	U
77-47-4	Hexachlorocyclopentadiene		1.16	4.63	9.26	U
67-72-1	Hexachloroethane		1.16	2.31	4.63	U
78-59-1	Isophorone		1.16	2.31	4.63	U
95-48-7	2-Methylphenol		1.16	2.31	4.63	U
106-44-5	4-Methylphenol		1.16	2.31	4.63	U
100-01-6	4-Nitroaniline		4.63	9.26	18.5	U
99-09-2	3-Nitroaniline		4.63	9.26	18.5	U
88-74-4	2-Nitroaniline		4.63	9.26	18.5	U
98-95-3	Nitrobenzene		1.16	2.31	4.63	U

UJ-SL

ANALYSIS DATA SHEET

JM10-JAX47-MW13S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-02	File ID:	1016502.D
Sampled:	10/16/13 09:45	Prepared:	10/18/13 11:13	Analyzed:	10/26/13 01:23
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30116 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q	
100-02-7	4-Nitrophenol		4.63	9.26	18.5	U	UJ-SSL
88-75-5	2-Nitrophenol		1.16	2.31	4.63	U	
86-30-6	N-Nitrosodiphenylamine		1.16	2.31	4.63	U	
621-64-7	N-Nitroso-di-n-propylamine		1.16	2.31	4.63	U	
108-95-2	Phenol		1.16	2.31	4.63	U	
95-94-3	1,2,4,5-Tetrachlorobenzene		1.16	2.31	4.63	U	
120-82-1	1,2,4-Trichlorobenzene	**1.83**	1.16	2.31	4.63	J	J-SSL
88-06-2	2,4,6-Trichlorophenol		1.16	2.31	4.63	U	UJ-SSL
95-95-4	2,4,5-Trichlorophenol		1.16	2.31	4.63	U	

Total Target Analytes Reported: 49

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	33.00	71.3	50 - 110	
2-Fluorophenol	92.59	15.86	17.1	20 - 110	*
Nitrobenzene-d5	46.30	33.39	72.1	40 - 110	
Phenol-d6	92.59	11.38	12.3	0 - 110	
Terphenyl-d14	46.30	36.79	79.5	50 - 135	
2,4,6-Tribromophenol	92.59	51.03	55.1	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW42S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-04	File ID:	1016504.D
Sampled:	10/16/13 11:35	Prepared:	10/18/13 11:13	Analyzed:	10/26/13 01:52
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30116 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.16	2.31	4.63	U
1912-24-9	Atrazine		1.16	2.31	4.63	U
100-52-7	Benzaldehyde		1.16	2.31	4.63	U
92-52-4	1,1-Biphenyl		1.16	2.31	4.63	U
101-55-3	4-Bromophenyl-phenylether		1.16	2.31	4.63	U
85-68-7	Butylbenzylphthalate		1.16	2.31	4.63	U
105-60-2	Caprolactam		1.16	2.31	4.63	UX
86-74-8	Carbazole		1.16	2.31	4.63	U
59-50-7	4-Chloro-3-methylphenol		1.16	2.31	4.63	U
106-47-8	4-Chloroaniline		1.16	2.31	4.63	U
111-91-1	Bis(2-chloroethoxy)methane		1.16	2.31	4.63	U
111-44-4	Bis(2-chloroethyl)ether		1.16	2.31	4.63	U
108-60-1	2,2'-Oxybis-1-chloropropane		1.16	2.31	4.63	U
91-58-7	2-Chloronaphthalene		1.16	2.31	4.63	U
95-57-8	2-Chlorophenol		1.16	2.31	4.63	U
7005-72-3	4-Chlorophenyl phenyl ether		1.16	2.31	4.63	U
132-64-9	Dibenzofuran		1.16	2.31	4.63	U
84-74-2	Di-n-butylphthalate		1.16	2.31	4.63	U
91-94-1	3,3'-Dichlorobenzidine		1.16	2.31	4.63	U
120-83-2	2,4-Dichlorophenol		1.16	2.31	4.63	U
84-66-2	Diethylphthalate		1.16	2.31	4.63	U
105-67-9	2,4-Dimethylphenol		4.63	9.26	18.5	U
131-11-3	Dimethyl phthalate		1.16	2.31	4.63	U
534-52-1	4,6-Dinitro-2-methylphenol		4.63	9.26	18.5	U
51-28-5	2,4-Dinitrophenol		7.71	23.1	46.3	UX
121-14-2	2,4-Dinitrotoluene		1.16	2.31	4.63	U
606-20-2	2,6-Dinitrotoluene		1.16	2.31	4.63	U
117-84-0	Di-n-octylphthalate		1.16	2.31	4.63	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.16	2.31	4.63	U
118-74-1	Hexachlorobenzene		1.16	2.31	4.63	U
87-68-3	Hexachlorobutadiene		1.16	2.31	4.63	U
77-47-4	Hexachlorocyclopentadiene		1.16	4.63	9.26	U
67-72-1	Hexachloroethane		1.16	2.31	4.63	U
78-59-1	Isophorone		1.16	2.31	4.63	U
95-48-7	2-Methylphenol		1.16	2.31	4.63	U
106-44-5	4-Methylphenol		1.16	2.31	4.63	U
100-01-6	4-Nitroaniline		4.63	9.26	18.5	U
99-09-2	3-Nitroaniline		4.63	9.26	18.5	U
88-74-4	2-Nitroaniline		4.63	9.26	18.5	U
98-95-3	Nitrobenzene		1.16	2.31	4.63	U

ANALYSIS DATA SHEET

JM10-JAX47-MW42S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-04	File ID:	1016504.D
Sampled:	10/16/13 11:35	Prepared:	10/18/13 11:13	Analyzed:	10/26/13 01:52
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30116 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.63	9.26	18.5	U
88-75-5	2-Nitrophenol		1.16	2.31	4.63	U
86-30-6	N-Nitrosodiphenylamine		1.16	2.31	4.63	U
621-64-7	N-Nitroso-di-n-propylamine		1.16	2.31	4.63	U
108-95-2	Phenol		1.16	2.31	4.63	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.16	2.31	4.63	U
120-82-1	1,2,4-Trichlorobenzene		1.16	2.31	4.63	U
88-06-2	2,4,6-Trichlorophenol		1.16	2.31	4.63	U
95-95-4	2,4,5-Trichlorophenol		1.16	2.31	4.63	U

Total Target Analytes Reported: 49

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	31.91	68.9	50 - 110	
2-Fluorophenol	92.59	20.94	22.6	20 - 110	
Nitrobenzene-d5	46.30	32.31	69.8	40 - 110	
Phenol-d6	92.59	13.77	14.9	0 - 110	
Terphenyl-d14	46.30	35.83	77.4	50 - 135	
2,4,6-Tribromophenol	92.59	59.72	64.5	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW25S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-06	File ID:	1016506.D
Sampled:	10/16/13 14:25	Prepared:	10/18/13 11:13	Analyzed:	10/26/13 02:21
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30116 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.16	2.31	4.63	U
1912-24-9	Atrazine		1.16	2.31	4.63	U
100-52-7	Benzaldehyde		1.16	2.31	4.63	U
92-52-4	1,1-Biphenyl		1.16	2.31	4.63	U
101-55-3	4-Bromophenyl-phenylether		1.16	2.31	4.63	U
85-68-7	Butylbenzylphthalate		1.16	2.31	4.63	U
105-60-2	Caprolactam		1.16	2.31	4.63	UX
86-74-8	Carbazole		1.16	2.31	4.63	U
59-50-7	4-Chloro-3-methylphenol		1.16	2.31	4.63	U
106-47-8	4-Chloroaniline		1.16	2.31	4.63	U
111-91-1	Bis(2-chloroethoxy)methane		1.16	2.31	4.63	U
111-44-4	Bis(2-chloroethyl)ether		1.16	2.31	4.63	U
108-60-1	2,2'-Oxybis-1-chloropropane		1.16	2.31	4.63	U
91-58-7	2-Chloronaphthalene		1.16	2.31	4.63	U
95-57-8	2-Chlorophenol		1.16	2.31	4.63	U
7005-72-3	4-Chlorophenyl phenyl ether		1.16	2.31	4.63	U
132-64-9	Dibenzofuran		1.16	2.31	4.63	U
84-74-2	Di-n-butylphthalate		1.16	2.31	4.63	U
91-94-1	3,3'-Dichlorobenzidine		1.16	2.31	4.63	U
120-83-2	2,4-Dichlorophenol		1.16	2.31	4.63	U
84-66-2	Diethylphthalate		1.16	2.31	4.63	U
105-67-9	2,4-Dimethylphenol		4.63	9.26	18.5	U
131-11-3	Dimethyl phthalate		1.16	2.31	4.63	U
534-52-1	4,6-Dinitro-2-methylphenol		4.63	9.26	18.5	U
51-28-5	2,4-Dinitrophenol		7.71	23.1	46.3	UX
121-14-2	2,4-Dinitrotoluene		1.16	2.31	4.63	U
606-20-2	2,6-Dinitrotoluene		1.16	2.31	4.63	U
117-84-0	Di-n-octylphthalate		1.16	2.31	4.63	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.16	2.31	4.63	U
118-74-1	Hexachlorobenzene		1.16	2.31	4.63	U
87-68-3	Hexachlorobutadiene		1.16	2.31	4.63	U
77-47-4	Hexachlorocyclopentadiene		1.16	4.63	9.26	U
67-72-1	Hexachloroethane		1.16	2.31	4.63	U
78-59-1	Isophorone		1.16	2.31	4.63	U
95-48-7	2-Methylphenol		1.16	2.31	4.63	U
106-44-5	4-Methylphenol	**4.46**	1.16	2.31	4.63	J
100-01-6	4-Nitroaniline		4.63	9.26	18.5	U
99-09-2	3-Nitroaniline		4.63	9.26	18.5	U
88-74-4	2-Nitroaniline		4.63	9.26	18.5	U
98-95-3	Nitrobenzene		1.16	2.31	4.63	U

ANALYSIS DATA SHEET

JM10-JAX47-MW25S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-06	File ID:	1016506.D
Sampled:	10/16/13 14:25	Prepared:	10/18/13 11:13	Analyzed:	10/26/13 02:21
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30116 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.63	9.26	18.5	U
88-75-5	2-Nitrophenol		1.16	2.31	4.63	U
86-30-6	N-Nitrosodiphenylamine		1.16	2.31	4.63	U
621-64-7	N-Nitroso-di-n-propylamine		1.16	2.31	4.63	U
108-95-2	Phenol		1.16	2.31	4.63	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.16	2.31	4.63	U
120-82-1	1,2,4-Trichlorobenzene		1.16	2.31	4.63	U
88-06-2	2,4,6-Trichlorophenol		1.16	2.31	4.63	U
95-95-4	2,4,5-Trichlorophenol		1.16	2.31	4.63	U

Total Target Analytes Reported: 49

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	34.25	74.0	50 - 110	
2-Fluorophenol	92.59	20.36	22.0	20 - 110	
Nitrobenzene-d5	46.30	33.41	72.2	40 - 110	
Phenol-d6	92.59	14.53	15.7	0 - 110	
Terphenyl-d14	46.30	38.95	84.1	50 - 135	
2,4,6-Tribromophenol	92.59	68.51	74.0	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW13S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-02	File ID:	1016502.D
Sampled:	10/16/13 09:45	Prepared:	10/18/13 11:13	Analyzed:	10/26/13 09:25
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30319 Calibration: 3217001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene	**0.0892**	0.0463	0.0926	0.185	J
208-96-8	Acenaphthylene		0.0463	0.0926	0.185	U
120-12-7	Anthracene		0.0463	0.0926	0.185	U
56-55-3	Benzo(a)anthracene		0.0463	0.0926	0.185	U
50-32-8	Benzo(a)pyrene		0.0463	0.0926	0.185	U
205-99-2	Benzo(b)fluoranthene		0.0463	0.0926	0.185	U
191-24-2	Benzo(g,h,i)perylene		0.0463	0.0926	0.185	U
207-08-9	Benzo(k)fluoranthene		0.0463	0.0926	0.185	U
218-01-9	Chrysene		0.0463	0.0926	0.185	U
53-70-3	Dibenz(a,h)anthracene		0.0463	0.0926	0.185	U
206-44-0	Fluoranthene		0.0463	0.0926	0.185	U
86-73-7	Fluorene	**0.0761**	0.0463	0.0926	0.185	J
193-39-5	Indeno(1,2,3-cd)pyrene		0.0463	0.0926	0.185	U
90-12-0	1-Methylnaphthalene	**0.636**	0.0463	0.0926	0.185	
91-57-6	2-Methylnaphthalene	**0.112**	0.0463	0.0926	0.185	NQ
91-20-3	Naphthalene	**0.107**	0.0463	0.0926	0.185	J
87-86-5	Pentachlorophenol		0.231	0.463	0.926	[illegible]
85-01-8	Phenanthrene	**0.0549**	0.0463	0.185	0.370	J
129-00-0	Pyrene		0.0463	0.0926	0.185	U

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	41.21	89.0	50 - 110	
Terphenyl-d14	46.30	36.77	79.4	50 - 135	
2,4,6-Tribromophenol	92.59	56.41	60.9	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW42S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-04	File ID:	1016504.D
Sampled:	10/16/13 11:35	Prepared:	10/18/13 11:13	Analyzed:	10/26/13 09:54
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30319 Calibration: 3217001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0463	0.0926	0.185	U
208-96-8	Acenaphthylene		0.0463	0.0926	0.185	U
120-12-7	Anthracene		0.0463	0.0926	0.185	U
56-55-3	Benzo(a)anthracene		0.0463	0.0926	0.185	U
50-32-8	Benzo(a)pyrene		0.0463	0.0926	0.185	U
205-99-2	Benzo(b)fluoranthene		0.0463	0.0926	0.185	U
191-24-2	Benzo(g,h,i)perylene		0.0463	0.0926	0.185	U
207-08-9	Benzo(k)fluoranthene		0.0463	0.0926	0.185	U
218-01-9	Chrysene		0.0463	0.0926	0.185	U
53-70-3	Dibenz(a,h)anthracene		0.0463	0.0926	0.185	U
206-44-0	Fluoranthene		0.0463	0.0926	0.185	U
86-73-7	Fluorene		0.0463	0.0926	0.185	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0463	0.0926	0.185	U
90-12-0	1-Methylnaphthalene		0.0463	0.0926	0.185	U
91-57-6	2-Methylnaphthalene		0.0463	0.0926	0.185	U
91-20-3	Naphthalene		0.0463	0.0926	0.185	U
87-86-5	Pentachlorophenol		0.231	0.463	0.926	U
85-01-8	Phenanthrene		0.0463	0.185	0.370	U
129-00-0	Pyrene		0.0463	0.0926	0.185	U

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	35.74	77.2	50 - 110	
Terphenyl-d14	46.30	32.89	71.0	50 - 135	
2,4,6-Tribromophenol	92.59	61.25	66.2	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW25S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-06	File ID:	1016506.D
Sampled:	10/16/13 14:25	Prepared:	10/18/13 11:13	Analyzed:	10/26/13 10:22
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J17024 Sequence: 3J30319 Calibration: 3217001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene	**0.0808**	0.0463	0.0926	0.185	J
208-96-8	Acenaphthylene	**0.0482**	0.0463	0.0926	0.185	J
120-12-7	Anthracene		0.0463	0.0926	0.185	U
56-55-3	Benzo(a)anthracene		0.0463	0.0926	0.185	U
50-32-8	Benzo(a)pyrene		0.0463	0.0926	0.185	U
205-99-2	Benzo(b)fluoranthene		0.0463	0.0926	0.185	U
191-24-2	Benzo(g,h,i)perylene		0.0463	0.0926	0.185	U
207-08-9	Benzo(k)fluoranthene		0.0463	0.0926	0.185	U
218-01-9	Chrysene		0.0463	0.0926	0.185	U
53-70-3	Dibenz(a,h)anthracene		0.0463	0.0926	0.185	U
206-44-0	Fluoranthene		0.0463	0.0926	0.185	U
86-73-7	Fluorene	**0.170**	0.0463	0.0926	0.185	J
193-39-5	Indeno(1,2,3-cd)pyrene		0.0463	0.0926	0.185	U
90-12-0	1-Methylnaphthalene	**2.23**	0.0463	0.0926	0.185	
91-57-6	2-Methylnaphthalene	**2.65**	0.0463	0.0926	0.185	Q .5-Bilt
91-20-3	Naphthalene	**7.46**	0.0463	0.0926	0.185	
87-86-5	Pentachlorophenol		0.231	0.463	0.926	UXO UT CCL
85-01-8	Phenanthrene	**0.123**	0.0463	0.185	0.370	J
129-00-0	Pyrene		0.0463	0.0926	0.185	U

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	41.21	89.0	50 - 110	
Terphenyl-d14	46.30	38.14	82.4	50 - 135	
2,4,6-Tribromophenol	92.59	72.20	78.0	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW13S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix.	Water	Laboratory ID:	1310165-02	File ID:	007F0701.D\Report.TXT
Sampled:	10/16/13 09:45	Prepared:	10/21/13 08:29	Analyzed:	10/21/13 15:32
Solids.		Preparation:	RSK175	Dilution:	1

Batch: 3J21005 Sequence: 3J29609 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	**2.66**	1.00	2.00	4.00	J
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 3

ANALYSIS DATA SHEET

JM10-JAX47-MW42S-1013

Laboratory:	Empirical Laboratories, LLC			SDG:	1310165
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310165-04	File ID:	008F0801.D\Report.TXT
Sampled:	10/16/13 11:35	Prepared:	10/21/13 08:29	Analyzed:	10/21/13 15:46
Solids:		Preparation:	RSK175	Dilution:	1

Batch: 3J21005 Sequence: 3J29609 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 3

ANALYSIS DATA SHEET

JM10-JAX47-MW25S-1013

Laboratory:	Empirical Laboratories, LLC			SDG:	1310165
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310165-06	File ID:	009F0901.D\Report.TXT
Sampled:	10/16/13 14:25	Prepared:	10/21/13 08:29	Analyzed:	10/21/13 15:59
Solids:		Preparation:	RSK175	Dilution:	1

Batch: 3J21005 Sequence: 3J29609 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 2

ANALYSIS DATA SHEET

JM10-JAX47-MW25S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-06RE1	File ID:	006F0601.D\Report.TXT
Sampled:	10/16/13 14:25	Prepared:	10/25/13 14:46	Analyzed:	10/25/13 19:36
Solids:		Preparation:	RSK175	Dilution:	5

Batch: 3J25004 Sequence: 3J30123 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	**824**	5.00	10.0	20.0	

Total Target Analytes Reported: 1

ANALYSIS DATA SHEET

JM10-JAX47-MW13S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-02	File ID:	019R1901.D
Sampled:	10/16/13 09:45	Prepared:	10/23/13 11:21	Analyzed:	10/25/13 20:56
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22003 Sequence: 3K30512 Calibration: 3303002 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]	0.00959	0.00463	0.00926	0.0185	~~JPM~~ J-PC,MI
72-54-8	4,4'-DDD [2C]	0.0172	0.00463	0.00926	0.0185	~~JPM~~ J-PC,MI
50-29-3	4,4'-DDT	0.0268	0.00463	0.00926	0.0185	~~XP~~ J-PC,CCH
309-00-2	Aldrin	0.0268	0.00306	0.00926	0.0185	~~PM~~ J-PC,MI
319-84-6	alpha-BHC	0.523	0.00306	0.00926	0.0185	~~X~~ J-CCH
5103-71-9	alpha-Chlordane	1.13	0.00306	0.00926	0.0185	~~BP~~ R-DL
319-85-7	beta-BHC	0.302	0.00306	0.00926	0.0185	
319-86-8	delta-BHC	0.217	0.00306	0.00926	0.0185	~~X~~ J-CCH
60-57-1	Dieldrin [2C]	0.0777	0.00463	0.00926	0.0185	
959-98-8	Endosulfan I	0.0805	0.00306	0.00926	0.0185	~~R~~ J-PC
33213-65-9	Endosulfan II	0.0145	0.00463	0.00926	0.0185	~~JPM~~ J-PC,MI
1031-07-8	Endosulfan sulfate	0.0213	0.00463	0.00926	0.0185	
72-20-8	Endrin	0.196	0.00463	0.00926	0.0185	~~R~~ J-PC
7421-93-4	Endrin aldehyde [2C]		0.00463	0.00926	0.0185	U
53494-70-5	Endrin ketone		0.00463	0.00926	0.0185	U
58-89-9	gamma-BHC (Lindane) [2C]	0.292	0.00306	0.00926	0.0185	
5103-74-2	gamma-Chlordane	0.956	0.00306	0.00926	0.0185	~~BE~~ R-DL
76-44-8	Heptachlor	0.0542	0.00306	0.00926	0.0185	~~XP~~ J-PC,CCH
1024-57-3	Heptachlor epoxide	0.655	0.00306	0.00926	0.0185	
72-43-5	Methoxychlor		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3498	75.6	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3097	66.9	25 - 140	
Decachlorobiphenyl	0.4630	0.2772	59.9	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.2598	56.1	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW13S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-02RE1	File ID:	006F0601.D
Sampled:	10/16/13 09:45	Prepared:	10/23/13 11:21	Analyzed:	11/05/13 16:17
Solids:		Preparation:	EXT_3510	Dilution:	2

Batch: 3J22003 Sequence: 3K31205 Calibration: 3310002 Instrument: GC-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.0387	0.00926	0.0185	0.0370	D
72-54-8	4,4'-DDD [2C]	0.0236	0.00926	0.0185	0.0370	JDXPM
50-29-3	4,4'-DDT	0.0197	0.00926	0.0185	0.0370	JD
309-00-2	Aldrin	0.0279	0.00611	0.0185	0.0370	JDPM
319-84-6	alpha-BHC	0.487	0.00611	0.0185	0.0370	DX
5103-71-9	alpha-Chlordane	1.05	0.00611	0.0185	0.0370	DP
319-85-7	beta-BHC	0.279	0.00611	0.0185	0.0370	D
319-86-8	delta-BHC [2C]	0.245	0.00611	0.0185	0.0370	DX
60-57-1	Dieldrin [2C]	0.0789	0.00926	0.0185	0.0370	D
959-98-8	Endosulfan I	0.0695	0.00611	0.0185	0.0370	D
33213-65-9	Endosulfan II	0.0127	0.00926	0.0185	0.0370	JDPM
1031-07-8	Endosulfan sulfate	0.0246	0.00926	0.0185	0.0370	JDX
72-20-8	Endrin	0.183	0.00926	0.0185	0.0370	DP
7421-93-4	Endrin aldehyde		0.00926	0.0185	0.0370	UX
53494-70-5	Endrin ketone		0.00926	0.0185	0.0370	U
58-89-9	gamma-BHC (Lindane) [2C]	0.283	0.00611	0.0185	0.0370	D
5103-74-2	gamma-Chlordane	0.885	0.00611	0.0185	0.0370	BD
76-44-8	Heptachlor [2C]	0.0171	0.00611	0.0185	0.0370	JDPM
1024-57-3	Heptachlor epoxide	0.809	0.00611	0.0185	0.0370	DP
72-43-5	Methoxychlor [2C]		0.00611	0.0185	0.0370	U
57-74-9	Chlordane (n.o.s.)		0.0315	0.0926	0.185	U
8001-35-2	Toxaphene		0.611	1.24	1.85	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3297	71.2	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3346	72.3	25 - 140	
Decachlorobiphenyl	0.4630	0.2572	55.6	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.2657	57.4	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW13S-1013A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-03	File ID:	020F2001.D
Sampled:	10/16/13 09:45	Prepared:	10/23/13 11:21	Analyzed:	10/25/13 21:15
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22003 Sequence: 3K30512 Calibration: 3303002 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00463	0.00926	0.0185	~~UX~~
72-54-8	4,4'-DDD [2C]		0.00463	0.00926	0.0185	U
50-29-3	4,4'-DDT		0.00463	0.00926	0.0185	~~UX~~
309-00-2	Aldrin		0.00306	0.00926	0.0185	U
319-84-6	alpha-BHC	0.252	0.00306	0.00926	0.0185	X
5103-71-9	alpha-Chlordane [2C]	0.0146	0.00306	0.00926	0.0185	J
319-85-7	beta-BHC	0.0935	0.00306	0.00926	0.0185	
319-86-8	delta-BHC	0.0629	0.00306	0.00926	0.0185	X
60-57-1	Dieldrin		0.00463	0.00926	0.0185	~~UX~~
959-98-8	Endosulfan I [2C]		0.00306	0.00926	0.0185	U
33213-65-9	Endosulfan II [2C]		0.00463	0.00926	0.0185	U
1031-07-8	Endosulfan sulfate		0.00463	0.00926	0.0185	U
72-20-8	Endrin [2C]		0.00463	0.00926	0.0185	U
7421-93-4	Endrin aldehyde		0.00463	0.00926	0.0185	~~UX~~
53494-70-5	Endrin ketone		0.00463	0.00926	0.0185	U
58-89-9	gamma-BHC (Lindane)	0.123	0.00306	0.00926	0.0185	X
5103-74-2	gamma-Chlordane	0.0416	0.00306	0.00926	0.0185	BP
76-44-8	Heptachlor		0.00306	0.00926	0.0185	~~UX~~
1024-57-3	Heptachlor epoxide	0.00966	0.00306	0.00926	0.0185	~~JPM~~
72-43-5	Methoxychlor		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (t.c.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.2505	54.1	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.2270	49.0	25 - 140	
Decachlorobiphenyl	0.4630	0.3032	65.5	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.2697	58.3	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW42S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-04	File ID:	021F2101.D
Sampled:	10/16/13 11:35	Prepared:	10/23/13 11:21	Analyzed:	10/25/13 21:34
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22003 Sequence: 3K30512 Calibration: 3303002 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.0204	0.00481	0.00962	0.0192	~~XR~~ J-PC, CCH
72-54-8	4,4'-DDD	0.0109	0.00481	0.00962	0.0192	~~JX~~ J- CCH
50-29-3	4,4'-DDT [2C]		0.00481	0.00962	0.0192	U
309-00-2	Aldrin		0.00317	0.00962	0.0192	U
319-84-6	alpha-BHC	0.0607	0.00317	0.00962	0.0192	~~X~~ J-CCH
5103-71-9	alpha-Chlordane [2C]	0.0503	0.00317	0.00962	0.0192	~~R~~ J-PC
319-85-7	beta-BHC	0.217	0.00317	0.00962	0.0192	
319-86-8	delta-BHC	0.0584	0.00317	0.00962	0.0192	~~X~~ J-CCH
60-57-1	Dieldrin [2C]	0.00708	0.00481	0.00962	0.0192	J
959-98-8	Endosulfan I		0.00317	0.00962	0.0192	U
33213-65-9	Endosulfan II		0.00481	0.00962	0.0192	U
1031-07-8	Endosulfan sulfate [2C]	0.0143	0.00481	0.00962	0.0192	~~PM~~ J-PC, MI
72-20-8	Endrin [2C]		0.00481	0.00962	0.0192	U
7421-93-4	Endrin aldehyde		0.00481	0.00962	0.0192	~~UX~~ LI
53494-70-5	Endrin ketone [2C]		0.00481	0.00962	0.0192	U
58-89-9	gamma-BHC (Lindane)	0.0468	0.00317	0.00962	0.0192	~~X~~ J- CCH, TD
5103-74-2	gamma-Chlordane [2C]	0.0469	0.00317	0.00962	0.0192	~~BP~~ JB-PC, BL
76-44-8	Heptachlor [2C]	0.0170	0.00317	0.00962	0.0192	~~JR~~ J-PC
1024-57-3	Heptachlor epoxide [2C]	0.0615	0.00317	0.00962	0.0192	
72-43-5	Methoxychlor [2C]		0.00317	0.00962	0.0192	U
57-74-9	Chlordane (n.o.s.)		0.0163	0.0481	0.0962	U
8001-35-2	Toxaphene		0.317	0.641	0.962	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4808	0.3519	73.2	25 - 140	
Tetrachloro-m-xylene [2C]	0.4808	0.3462	72.0	25 - 140	
Decachlorobiphenyl	0.4808	0.3112	64.7	30 - 135	
Decachlorobiphenyl [2C]	0.4808	0.3135	65.2	30 - 135	

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ANALYSIS DATA SHEET

JM10-JAX47-MW42S-1013A

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-05	File ID:	022F2201.D
Sampled:	10/16/13 11:35	Prepared:	10/23/13 11:21	Analyzed:	10/25/13 21:53
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22003 Sequence: 3K30512 Calibration: 3303002 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00476	0.00952	0.0190	~~UX~~
72-54-8	4,4'-DDD	0.00872	0.00476	0.00952	0.0190	~~JXP~~ J
50-29-3	4,4'-DDT [2C]		0.00476	0.00952	0.0190	U
309-00-2	Aldrin		0.00314	0.00952	0.0190	U
319-84-6	alpha-BHC	0.0418	0.00314	0.00952	0.0190	X
5103-71-9	alpha-Chlordane [2C]	0.0129	0.00314	0.00952	0.0190	J
319-85-7	beta-BHC	0.155	0.00314	0.00952	0.0190	
319-86-8	delta-BHC	0.0363	0.00314	0.00952	0.0190	X
60-57-1	Dieldrin		0.00476	0.00952	0.0190	~~UX~~
959-98-8	Endosulfan I		0.00314	0.00952	0.0190	U
33213-65-9	Endosulfan II		0.00476	0.00952	0.0190	U
1031-07-8	Endosulfan sulfate [2C]	0.00774	0.00476	0.00952	0.0190	~~JPM~~ J
72-20-8	Endrin [2C]		0.00476	0.00952	0.0190	U
7421-93-4	Endrin aldehyde		0.00476	0.00952	0.0190	~~UX~~
53494-70-5	Endrin ketone [2C]		0.00476	0.00952	0.0190	U
58-89-9	gamma-BHC (Lindane) [2C]	0.0471	0.00314	0.00952	0.0190	J
5103-74-2	gamma-Chlordane [2C]	0.0305	0.00314	0.00952	0.0190	B
76-44-8	Heptachlor		0.00314	0.00952	0.0190	~~UX~~
1024-57-3	Heptachlor epoxide [2C]	0.0285	0.00314	0.00952	0.0190	
72-43-5	Methoxychlor [2C]		0.00314	0.00952	0.0190	U
57-74-9	Chlordane (n.o.s.)		0.0162	0.0476	0.0952	U
8001-35-2	Toxaphene		0.314	0.635	0.952	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4762	0.3445	72.3	25 - 140	
Tetrachloro-m-xylene [2C]	0.4762	0.3415	71.7	25 - 140	
Decachlorobiphenyl	0.4762	0.4091	85.9	30 - 135	
Decachlorobiphenyl [2C]	0.4762	0.3876	81.4	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW25S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310165	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310165-06	File ID:	023F2301.D
Sampled:	10/16/13 14:25	Prepared:	10/23/13 11:21	Analyzed:	10/25/13 22:13
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22003 Sequence: 3K30512 Calibration: 3303002 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00463	0.00926	0.0185	~~UX~~ U
72-54-8	4,4'-DDD		0.00463	0.00926	0.0185	~~UX~~ U
50-29-3	4,4'-DDT		0.00463	0.00926	0.0185	~~UX~~ U
309-00-2	Aldrin	0.00821	0.00306	0.00926	0.0185	~~PM~~ J-PC,MI
319-84-6	alpha-BHC	0.390	0.00306	0.00926	0.0185	~~X~~ J-CCH
5103-71-9	alpha-Chlordane	0.0168	0.00306	0.00926	0.0185	J
319-85-7	beta-BHC	0.844	0.00306	0.00926	0.0185	
319-86-8	delta-BHC	0.532	0.00306	0.00926	0.0185	~~X~~ J-CCH
60-57-1	Dieldrin		0.00463	0.00926	0.0185	~~UX~~ U
959-98-8	Endosulfan I		0.00306	0.00926	0.0185	U
33213-65-9	Endosulfan II		0.00463	0.00926	0.0185	U
1031-07-8	Endosulfan sulfate		0.00463	0.00926	0.0185	U
72-20-8	Endrin [2C]		0.00463	0.00926	0.0185	~~U~~ UJ-SSL
7421-93-4	Endrin aldehyde		0.00463	0.00926	0.0185	~~UX~~ U
53494-70-5	Endrin ketone		0.00463	0.00926	0.0185	U
58-89-9	gamma-BHC (Lindane)	0.748	0.00306	0.00926	0.0185	~~X~~ J-CCH
5103-74-2	gamma-Chlordane [2C]	0.0104	0.00306	0.00926	0.0185	~~BJE~~ UJ-SSL,BL
76-44-8	Heptachlor	0.0177	0.00306	0.00926	0.0185	~~JX~~ J-CCH
1024-57-3	Heptachlor epoxide	0.0214	0.00306	0.00926	0.0185	~~P~~ J-PC
72-43-5	Methoxychlor		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.2785	60.2	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.2257	48.7	25 - 140	
Decachlorobiphenyl	0.4630	0.1454	31.4	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.1330	28.7	30 - 135	*

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ANALYSIS DATA SHEET

JM10-JAX47-MW13S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310165
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310165-02
Sampled:	10/16/13 09:45	Received:	10/17/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	48.9	3.00	6.00	10.0	1		SW6010C	3J18001	10/23/13 14:56

ANALYSIS DATA SHEET

JM10-JAX47-MW13S-1013A

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/16/13 09:45

SDG: 1310165
Project: NAS Jacksonville JM-10
Laboratory ID: 1310165-03
Received: 10/17/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)		30.0	60.0	100	1	U	SW6010C	3J23010	10/23/13 20:34
7439-96-5	Manganese (dissolved)		3.00	6.00	15.0	1	U	SW6010C	3J23010	10/23/13 20:34

ANALYSIS DATA SHEET

JM10-JAX47-MW42S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310165
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310165-04
Sampled:	10/16/13 11:35	Received:	10/17/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	3318001	10/23/13 15:00

ANALYSIS DATA SHEET

JM10-JAX47-MW42S-1013A

Laboratory:	Empirical Laboratories, LLC	SDG:	1310165
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310165-05
Sampled:	10/16/13 11:35	Received:	10/17/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)		30.0	60.0	100	1	U	SW6010C	3123010	10/23/13 20:38
7439-96-5	Manganese (dissolved)		3.00	6.00	15.0	1	U	SW6010C	3123010	10/23/13 20:38

ANALYSIS DATA SHEET

JM10-JAX47-MW25S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310165
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310165-06
Sampled:	10/16/13 14:25	Received:	10/17/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	3118001	10/23/13 15:05

ANALYSIS DATA SHEET

JM10-JAX47-MW25S-1013A

Laboratory:	Empirical Laboratories, LLC	SDG:	1310165
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310165-07
Sampled:	10/16/13 14:25	Received:	10/17/13 08:20

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)	**1690**	30.0	60.0	100	1		SW6010C	3J23010	10/23/13 20:43
7439-96-5	Manganese (dissolved)	**7.97**	3.00	6.00	15.0	1	J	SW6010C	3J23010	10/23/13 20:43

ANALYSIS DATA SHEET

JM10-JAX47-MW13S-1013

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/16/13 09:45

SDG: 1310165
Project: NAS Jacksonville JM-10
Laboratory ID: 1310165-02
Received: 10/17/13 08:20

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous Iron (outside certification)	**0.0221**	**0.0200**	0.0400	0.0600	1	FBJ	SM 3500-FE D-W	3J17023	10/17/13 16:39 UJ-BL, H
18496-25-8	Sulfide		0.678	1.69	3.39	0.678	U	SM4500S2CF	3J21003	10/21/13 15:52
7440-44-0	Total Organic Carbon	**7.21**	**1.25**	2.50	3.00	1		SM5310C	3J28939	10/28/13 18:17
14797-55-8	Nitrate as N	**4.10**	**0.0330**	0.100	0.250	1		E300.0	3J17022	10/17/13 18:48
471-34-1	Alkalinity, Total (as CACO3)	**110**	**1.00**	1.00	1.00	1		SM2320B	3J28925	10/28/13 17:02
14808-79-8	Sulfate as SO4	**33.9**	**0.330**	1.00	2.50	1		E300.0	3J17022	10/17/13 18:48

ANALYSIS DATA SHEET

JM10-JAX47-MW42S-1013

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/16/13 11:35

SDG: 1310165
Project: NAS Jacksonville JM-10
Laboratory ID: 1310165-04
Received: 10/17/13 08:20

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous Iron (outside certification)	**0.0462**	**0.0200**	0.0400	0.0600	1	B31	SM 3500-FE D-W	3J17023	10/17/13 16:40 US-BL, HT
18496-25-8	Sulfide		0.678	1.69	3.39	0.678	U	SM4500S2CF	3J21003	10/21/13 15:53
7440-44-0	Total Organic Carbon	**8.06**	**1.25**	2.50	3.00	1		SM5310C	3J28939	10/28/13 18:37
14797-55-8	Nitrate as N	**9.30**	**0.0330**	0.100	0.250	1		E300.0	3J17022	10/17/13 19:05
471-34-1	Alkalinity, Total (as CACO3)	**67.0**	**1.00**	1.00	1.00	1		SM2320B	3J28925	10/28/13 17:10
14808-79-8	Sulfate as SO4	**29.9**	**0.330**	1.00	2.50	1		E300.0	3J17022	10/17/13 19:05

ANALYSIS DATA SHEET

JM10-JAX47-MW25S-1013

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/16/13 14:25

SDG: 1310165
Project: NAS Jacksonville JM-10
Laboratory ID: 1310165-06
Received: 10/17/13 08:20

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous Iron (outside certification)	**1.81**	**0.0200**	0.0400	0.0600	1	H3	SM 3500-FE D-W	3J17023	10/17 13 16:40
18496-25-8	Sulfide		0.678	1.69	3.39	0.678	U	SM4500S2CF	3J21003	10/21 13 15:54
7440-44-0	Total Organic Carbon	**5.12**	**1.25**	2.50	3.00	1		SM5310C	3J28939	10/28/13 18:57
14797-55-8	Nitrate as N	**5.04**	**0.0330**	0.100	0.250	1		E300.0	3J17022	10/17 13 19:23
471-34-1	Alkalinity, Total (as CACO3)	**11.9**	**1.00**	1.00	1.00	1		SM2320B	3J28925	10/28 13 17:16
14808-79-8	Sulfate as SO4	**19.9**	**0.330**	1.00	2.50	1		E300.0	3J17022	10/17 13 19:23

ANALYSIS DATA SHEET

JM10-JAX47-TB01-101713

Laboratory:	Empirical Laboratories, LLC			SDG:	1310180
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310180 01	File ID:	1018001.D
Sampled:	10/17/13 12:00	Prepared:	10/25/13 01:02	Analyzed:	10/25/13 01:02
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J24033 Sequence: 3J29813 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**14.8**	2.50	5.00	10.0	
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	**6.66**	0.500	1.00	2.00	
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-TB01-101713

Laboratory:	Empirical Laboratories, LLC			SDG:	1310180
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310180-01	File ID:	1018001.D
Sampled:	10/17/13 12:00	Prepared:	10/25/13 01:02	Analyzed:	10/25/13 01:02
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J24033 Sequence: 3J29813 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.87	96.2	75 - 120	
Dibromofluoromethane	30.00	31.33	104	85 - 115	
1,2-Dichloroethane-d4	30.00	30.51	102	70 - 120	
Toluene-d8	30.00	29.74	99.1	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW30S-1013

Laboratory: Empirical Laboratories, LLC SDG: 1310180

Client: CH2M Hill, Inc. Project: NAS Jacksonville JM-10

Matrix: Water Laboratory ID: 1310180-02 File ID: 1018002.D

Sampled: 10/17/13 10:10 Prepared: 10/25/13 03:48 Analyzed: 10/25/13 03:48

Solids: Preparation: 5030B Dilution: 1

Batch: 3J24033 Sequence: 3J29813 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-MW30S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310180	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310180-02	File ID:	1018002.D
Sampled:	10/17/13 10:10	Prepared:	10/25/13 03:48	Analyzed:	10/25/13 03:48
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J24033 Sequence: 3J29813 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.94	96.5	75 - 120	
Dibromofluoromethane	30.00	31.47	105	85 - 115	
1,2-Dichloroethane-d4	30.00	31.27	104	70 - 120	
Toluene-d8	30.00	28.96	96.5	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW15S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310180	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310180-03	File ID:	1018003.D
Sampled:	10/17/13 13:40	Prepared:	10/25/13 04:16	Analyzed:	10/25/13 04:16
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J24033 Sequence: 3J29813 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	2.81	2.50	5.00	10.0	~~U~~
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-MW15S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310180	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310180-03	File ID:	1018003.D
Sampled:	10/17/13 13:40	Prepared:	10/25/13 04:16	Analyzed:	10/25/13 04:16
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J24033 Sequence: 3J29813 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene	2.33	0.250	0.500	1.00	
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.07	96.9	75 - 120	
Dibromofluoromethane	30.00	30.08	100	85 - 115	
1,2-Dichloroethane-d4	30.00	29.45	98.2	70 - 120	
Toluene-d8	30.00	30.02	100	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW30S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310180	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310180-02	File ID:	1018002.D
Sampled:	10/17/13 10:10	Prepared:	10/23/13 17:48	Analyzed:	10/26/13 20:55
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22012 Sequence: 3J30213 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.19	2.38	4.76	U
1912-24-9	Atrazine		1.19	2.38	4.76	U
100-52-7	Benzaldehyde		1.19	2.38	4.76	U
92-52-4	1,1-Biphenyl		1.19	2.38	4.76	U
101-55-3	4-Bromophenyl-phenylether		1.19	2.38	4.76	U
85-68-7	Butylbenzylphthalate		1.19	2.38	4.76	U
105-60-2	Caprolactam		1.19	2.38	4.76	UX
86-74-8	Carbazole		1.19	2.38	4.76	U
59-50-7	4-Chloro-3-methylphenol		1.19	2.38	4.76	U
106-47-8	4-Chloroaniline		1.19	2.38	4.76	U
111-91-1	Bis(2-chloroethoxy)methane		1.19	2.38	4.76	U
111-44-4	Bis(2-chloroethyl)ether		1.19	2.38	4.76	U
108-60-1	2,2' Oxybis 1 chloropropane		1.19	2.38	4.76	U
91-58-7	2-Chloronaphthalene		1.19	2.38	4.76	U
95-57-8	2-Chlorophenol		1.19	2.38	4.76	U
7005-72-3	4-Chlorophenyl phenyl ether		1.19	2.38	4.76	U
132-64-9	Dibenzofuran		1.19	2.38	4.76	U
84-74-2	Di-n-butylphthalate		1.19	2.38	4.76	U
91-94-1	3,3'-Dichlorobenzidine		1.19	2.38	4.76	U
120-83-2	2,4-Dichlorophenol		1.19	2.38	4.76	U
84-66-2	Diethylphthalate		1.19	2.38	4.76	U
105-67-9	2,4-Dimethylphenol		4.76	9.52	19.0	U
131-11-3	Dimethyl phthalate		1.19	2.38	4.76	U
534-52-1	4,6-Dinitro-2-methylphenol		4.76	9.52	19.0	UX
51-28-5	2,4-Dinitrophenol		7.93	23.8	47.6	UX
121-14-2	2,4-Dinitrotoluene		1.19	2.38	4.76	U
606-20-2	2,6-Dinitrotoluene		1.19	2.38	4.76	U
117-84-0	Di-n-octylphthalate		1.19	2.38	4.76	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.19	2.38	4.76	U
118-74-1	Hexachlorobenzene		1.19	2.38	4.76	U
87-68-3	Hexachlorobutadiene		1.19	2.38	4.76	U
77-47-4	Hexachlorocyclopentadiene		1.19	4.76	9.52	UX
67-72-1	Hexachloroethane		1.19	2.38	4.76	U
78-59-1	Isophorone		1.19	2.38	4.76	U
95-48-7	2-Methylphenol		1.19	2.38	4.76	U
106-44-5	4-Methylphenol		1.19	2.38	4.76	U
100-01-6	4-Nitroaniline		4.76	9.52	19.0	U
99-09-2	3-Nitroaniline		4.76	9.52	19.0	U
88-74-4	2-Nitroaniline		4.76	9.52	19.0	U
98-95-3	Nitrobenzene		1.19	2.38	4.76	U

ANALYSIS DATA SHEET

JM10-JAX47-MW30S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310180	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310180-02	File ID:	1018002.D
Sampled:	10/17/13 10:10	Prepared:	10/23/13 17:48	Analyzed:	10/26/13 20:55
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22012 Sequence: 3J30213 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.76	9.52	19.0	U
88-75-5	2-Nitrophenol		1.19	2.38	4.76	U
86-30-6	N-Nitrosodiphenylamine		1.19	2.38	4.76	U
621-64-7	N-Nitroso-di-n-propylamine		1.19	2.38	4.76	U
108-95-2	Phenol		1.19	2.38	4.76	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.19	2.38	4.76	U
120-82-1	1,2,4-Trichlorobenzene		1.19	2.38	4.76	U
88-06-2	2,4,6-Trichlorophenol		1.19	2.38	4.76	U
95-95-4	2,4,5-Trichlorophenol		1.19	2.38	4.76	U

Total Target Analytes Reported: 49

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	47.62	35.09	73.7	50 - 110	
2-Fluorophenol	95.24	22.81	23.9	20 - 110	
Nitrobenzene-d5	47.62	35.37	74.3	40 - 110	
Phenol-d6	95.24	14.60	15.3	0 - 110	
Terphenyl-d14	47.62	37.95	79.7	50 - 135	
2,4,6-Tribromophenol	95.24	67.36	70.7	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW15S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310180	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310180-03	File ID:	1018003.D
Sampled:	10/17/13 13:40	Prepared:	10/23/13 17:48	Analyzed:	10/26/13 21:24
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22012 Sequence: 3J30213 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.19	2.38	4.76	U
1912-24-9	Atrazine		1.19	2.38	4.76	U
100-52-7	Benzaldehyde		1.19	2.38	4.76	U
92-52-4	1,1-Biphenyl		1.19	2.38	4.76	U
101-55-3	4-Bromophenyl-phenylether		1.19	2.38	4.76	U
85-68-7	Butylbenzylphthalate		1.19	2.38	4.76	U
105-60-2	Caprolactam		1.19	2.38	4.76	UX
86-74-8	Carbazole		1.19	2.38	4.76	U
59-50-7	4-Chloro-3-methylphenol		1.19	2.38	4.76	U
106-47-8	4-Chloroaniline		1.19	2.38	4.76	U
111-91-1	Bis(2-chloroethoxy)methane		1.19	2.38	4.76	U
111-44-4	Bis(2-chloroethyl)ether		1.19	2.38	4.76	U
108-60-1	2,2 Oxybis 1 chloropropane		1.19	2.38	4.76	U
91-58-7	2-Chloronaphthalene		1.19	2.38	4.76	U
95-57-8	2-Chlorophenol		1.19	2.38	4.76	U
7005-72-3	4-Chlorophenyl phenyl ether		1.19	2.38	4.76	U
132-64-9	Dibenzofuran		1.19	2.38	4.76	U
84-74-2	Di-n-butylphthalate		1.19	2.38	4.76	U
91-94-1	3,3'-Dichlorobenzidine		1.19	2.38	4.76	U
120-83-2	2,4-Dichlorophenol		1.19	2.38	4.76	U
84-66-2	Diethylphthalate		1.19	2.38	4.76	U
105-67-9	2,4-Dimethylphenol		4.76	9.52	19.0	U
131-11-3	Dimethyl phthalate		1.19	2.38	4.76	U
534-52-1	4,6-Dinitro-2-methylphenol		4.76	9.52	19.0	UX
51-28-5	2,4-Dinitrophenol		7.93	23.8	47.6	UX
121-14-2	2,4-Dinitrotoluene		1.19	2.38	4.76	U
606-20-2	2,6-Dinitrotoluene		1.19	2.38	4.76	U
117-84-0	Di-n-octylphthalate		1.19	2.38	4.76	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.19	2.38	4.76	U
118-74-1	Hexachlorobenzene		1.19	2.38	4.76	U
87-68-3	Hexachlorobutadiene		1.19	2.38	4.76	U
77-47-4	Hexachlorocyclopentadiene		1.19	4.76	9.52	UX
67-72-1	Hexachloroethane		1.19	2.38	4.76	U
78-59-1	Isophorone		1.19	2.38	4.76	U
95-48-7	2-Methylphenol		1.19	2.38	4.76	U
106-44-5	4-Methylphenol		1.19	2.38	4.76	U
100-01-6	4-Nitroaniline		4.76	9.52	19.0	U
99-09-2	3-Nitroaniline		4.76	9.52	19.0	U
88-74-4	2-Nitroaniline		4.76	9.52	19.0	U
98-95-3	Nitrobenzene		1.19	2.38	4.76	U

ANALYSIS DATA SHEET

JM10-JAX47-MW15S-1013

Laboratory:	Empirical Laboratories, LLC			SDG:	1310180
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID.	1310180-03	File ID:	1018003.D
Sampled:	10/17/13 13:40	Prepared:	10/23/13 17:48	Analyzed:	10/26/13 21:24
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22012 Sequence: 3J30213 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.76	9.52	19.0	U
88-75-5	2-Nitrophenol		1.19	2.38	4.76	U
86-30-6	N-Nitrosodiphenylamine		1.19	2.38	4.76	U
621-64-7	N-Nitroso-di-n-propylamine		1.19	2.38	4.76	U
108-95-2	Phenol		1.19	2.38	4.76	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.19	2.38	4.76	U
120-82-1	1,2,4-Trichlorobenzene		1.19	2.38	4.76	U
88-06-2	2,4,6-Trichlorophenol		1.19	2.38	4.76	U
95-95-4	2,4,5-Trichlorophenol		1.19	2.38	4.76	U

Total Target Analytes Reported: 49

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	47.62	37.09	77.9	50 - 110	
2-Fluorophenol	95.24	27.78	29.2	20 - 110	
Nitrobenzene-d5	47.62	38.52	80.9	40 - 110	
Phenol-d6	95.24	16.52	17.3	0 - 110	
Terphenyl-d14	47.62	33.08	69.5	50 - 135	
2,4,6-Tribromophenol	95.24	74.62	78.4	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW30S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310180	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310180-02	File ID:	1018002.D
Sampled:	10/17/13 10:10	Prepared:	10/23/13 17:48	Analyzed:	10/28/13 15:43
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22012 Sequence: 3J30413 Calibration: 3217001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0476	0.0952	0.190	U
208-96-8	Acenaphthylene		0.0476	0.0952	0.190	U
120-12-7	Anthracene		0.0476	0.0952	0.190	U
56-55-3	Benzo(a)anthracene		0.0476	0.0952	0.190	U
50-32-8	Benzo(a)pyrene		0.0476	0.0952	0.190	U
205-99-2	Benzo(b)fluoranthene		0.0476	0.0952	0.190	U
191-24-2	Benzo(g,h,i)perylene		0.0476	0.0952	0.190	U
207-08-9	Benzo(k)fluoranthene		0.0476	0.0952	0.190	U
218-01-9	Chrysene		0.0476	0.0952	0.190	U
53-70-3	Dibenz(a,h)anthracene		0.0476	0.0952	0.190	U
206-44-0	Fluoranthene		0.0476	0.0952	0.190	U
86-73-7	Fluorene		0.0476	0.0952	0.190	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0476	0.0952	0.190	U
90-12-0	1-Methylnaphthalene		0.0476	0.0952	0.190	U
91-57-6	2-Methylnaphthalene		0.0476	0.0952	0.190	U
91-20-3	Naphthalene		0.0476	0.0952	0.190	U
87-86-5	Pentachlorophenol		0.238	0.476	0.952	U
85-01-8	Phenanthrene		0.0476	0.190	0.381	U
129-00-0	Pyrene		0.0476	0.0952	0.190	U

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	47.62	37.68	79.1	50 - 110	
Terphenyl-d14	47.62	33.71	70.8	50 - 135	
2,4,6-Tribromophenol	95.24	65.33	68.6	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW15S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310180	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310180-03	File ID:	1018003.D
Sampled:	10/17/13 13:40	Prepared:	10/23/13 17:48	Analyzed:	10/28/13 16:11
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22012 Sequence: 3J30413 Calibration: 3217001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0476	0.0952	0.190	U
208-96-8	Acenaphthylene		0.0476	0.0952	0.190	U
120-12-7	Anthracene		0.0476	0.0952	0.190	U
56-55-3	Benzo(a)anthracene		0.0476	0.0952	0.190	U
50-32-8	Benzo(a)pyrene		0.0476	0.0952	0.190	U
205-99-2	Benzo(b)fluoranthene		0.0476	0.0952	0.190	U
191-24-2	Benzo(g,h,i)perylene		0.0476	0.0952	0.190	U
207-08-9	Benzo(k)fluoranthene		0.0476	0.0952	0.190	U
218-01-9	Chrysene		0.0476	0.0952	0.190	U
53-70-3	Dibenz(a,h)anthracene		0.0476	0.0952	0.190	U
206-44-0	Fluoranthene		0.0476	0.0952	0.190	U
86-73-7	Fluorene		0.0476	0.0952	0.190	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0476	0.0952	0.190	U
90-12-0	1-Methylnaphthalene		0.0476	0.0952	0.190	U
91-57-6	2-Methylnaphthalene		0.0476	0.0952	0.190	U
91-20-3	Naphthalene		0.0476	0.0952	0.190	U
87-86-5	Pentachlorophenol		0.238	0.476	0.952	U
85-01-8	Phenanthrene	**0.0479**	0.0476	0.190	0.381	J
129-00-0	Pyrene		0.0476	0.0952	0.190	U

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	47.62	40.44	84.9	50 - 110	
Terphenyl-d14	47.62	29.61	62.2	50 - 135	
2,4,6-Tribromophenol	95.24	75.87	79.7	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW37S-1013

Laboratory:	Empirical Laboratories, LLC			SDG:	1310180
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310180-04	File ID:	010F1001.D\Report.TXT
Sampled:	10/17/13 15:10	Prepared:	10/21/13 08:29	Analyzed:	10/21/13 16:13
Solids:		Preparation:	RSK175	Dilution:	1

Batch: 3J21005 Sequence: 3J29609 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC (ug/L)	DL	LOD	LOQ	Q
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 2

ANALYSIS DATA SHEET

JM10-JAX47-MW37S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310180	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310180-04RE1	File ID:	007F0701.D\Report.TXT
Sampled:	10/17/13 15:10	Prepared:	10/25/13 14:46	Analyzed:	10/25/13 19:49
Solids:		Preparation:	RSK175	Dilution:	5

Batch: 3J25004 Sequence: 3J30123 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	485	5.00	10.0	20.0	N

Total Target Analytes Reported: 1

ANALYSIS DATA SHEET

JM10-JAX47-MW30S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310180	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310180-02	File ID:	031F3101.D
Sampled:	10/17/13 10:10	Prepared:	10/23/13 11:21	Analyzed:	10/26/13 00:47
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22003 Sequence: 3K30512 Calibration: 3303002 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00467	0.00935	0.0187	U
72-54-8	4,4'-DDD		0.00467	0.00935	0.0187	U
50-29-3	4,4'-DDT		0.00467	0.00935	0.0187	U
309-00-2	Aldrin		0.00308	0.00935	0.0187	U
319-84-6	alpha-BHC		0.00308	0.00935	0.0187	U
5103-71-9	alpha-Chlordane		0.00308	0.00935	0.0187	U
319-85-7	beta-BHC		0.00308	0.00935	0.0187	U
319-86-8	delta-BHC		0.00308	0.00935	0.0187	U
60-57-1	Dieldrin		0.00467	0.00935	0.0187	U
959-98-8	Endosulfan I [2C]		0.00308	0.00935	0.0187	U
33213-65-9	Endosulfan II		0.00467	0.00935	0.0187	U
1031-07-8	Endosulfan sulfate		0.00467	0.00935	0.0187	U
72-20-8	Endrin		0.00467	0.00935	0.0187	U
7421-93-4	Endrin aldehyde		0.00467	0.00935	0.0187	U
53494-70-5	Endrin ketone		0.00467	0.00935	0.0187	U
58-89-9	gamma-BHC (Lindane)		0.00308	0.00935	0.0187	U
5103-74-2	gamma-Chlordane	0.0163	0.00308	0.00935	0.0187	BJR
76-44-8	Heptachlor		0.00308	0.00935	0.0187	U
1024-57-3	Heptachlor epoxide [2C]		0.00308	0.00935	0.0187	U
72-43-5	Methoxychlor		0.00308	0.00935	0.0187	U
57-74-9	Chlordane (n.o.s.)		0.0159	0.0467	0.0935	U
8001-35-2	Toxaphene		0.308	0.623	0.935	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4673	0.4311	92.3	25 - 140	
Tetrachloro-m-xylene [2C]	0.4673	0.4069	87.1	25 - 140	
Decachlorobiphenyl	0.4673	0.3665	78.4	30 - 135	
Decachlorobiphenyl [2C]	0.4673	0.3394	72.6	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW15S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310180	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310180-03	File ID:	020F2001.D
Sampled:	10/17/13 13:40	Prepared:	10/23/13 11:21	Analyzed:	11/01/13 01:01
Solids:		Preparation:	EXT 3510	Dilution:	1

Batch: 3J22003 Sequence: 3K31006 Calibration: 3310001 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00476	0.00952	0.0190	U
72-54-8	4,4'-DDD		0.00476	0.00952	0.0190	U
50-29-3	4,4'-DDT		0.00476	0.00952	0.0190	U
309-00-2	Aldrin		0.00314	0.00952	0.0190	U
319-84-6	alpha-BHC		0.00314	0.00952	0.0190	U
5103-71-9	alpha-Chlordane		0.00314	0.00952	0.0190	U
319-85-7	beta-BHC		0.00314	0.00952	0.0190	U
319-86-8	delta-BHC		0.00314	0.00952	0.0190	U
60-57-1	Dieldrin		0.00476	0.00952	0.0190	U
959-98-8	Endosulfan I		0.00314	0.00952	0.0190	U
33213-65-9	Endosulfan II		0.00476	0.00952	0.0190	U
1031-07-8	Endosulfan sulfate		0.00476	0.00952	0.0190	U
72-20-8	Endrin		0.00476	0.00952	0.0190	U
7421-93-4	Endrin aldehyde		0.00476	0.00952	0.0190	U
53494-70-5	Endrin ketone		0.00476	0.00952	0.0190	U
58-89-9	gamma-BHC (Lindane)		0.00314	0.00952	0.0190	U
5103-74-2	gamma-Chlordane		0.00314	0.00952	0.0190	U
76-44-8	Heptachlor		0.00314	0.00952	0.0190	U
1024-57-3	Heptachlor epoxide		0.00314	0.00952	0.0190	U
72-43-5	Methoxychlor		0.00314	0.00952	0.0190	U
57-74-9	Chlordane (n.o.s.)		0.0162	0.0476	0.0952	U
8001-35-2	Toxaphene		0.314	0.635	0.952	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4762	0.4154	87.2	25 - 140	
Tetrachloro-m-xylene [2C]	0.4762	0.4040	84.8	25 - 140	
Decachlorobiphenyl	0.4762	0.08573	18.0	30 - 135	*
Decachlorobiphenyl [2C]	0.4762	0.08890	18.7	30 - 135	*

ANALYSIS DATA SHEET

JM10-JAX47-MW37S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310180	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310180-04	File ID:	021F2101.D
Sampled:	10/17/13 15:10	Prepared:	10/23/13 11:21	Analyzed:	11/01/13 01:24
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22003 Sequence: 3K31006 Calibration: 3310001 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00472	0.00943	0.0189	U
72-54-8	4,4'-DDD [2C]		0.00472	0.00943	0.0189	U
50-29-3	4,4'-DDT		0.00472	0.00943	0.0189	U
309-00-2	Aldrin		0.00311	0.00943	0.0189	U
319-84-6	alpha-BHC		0.00311	0.00943	0.0189	U
5103-71-9	alpha-Chlordane	0.00443	0.00311	0.00943	0.0189	J
319-85-7	beta-BHC [2C]		0.00311	0.00943	0.0189	U
319-86-8	delta-BHC		0.00311	0.00943	0.0189	U
60-57-1	Dieldrin		0.00472	0.00943	0.0189	U
959-98-8	Endosulfan I		0.00311	0.00943	0.0189	U
33213-65-9	Endosulfan II		0.00472	0.00943	0.0189	U
1031-07-8	Endosulfan sulfate [2C]		0.00472	0.00943	0.0189	U
72-20-8	Endrin		0.00472	0.00943	0.0189	U
7421-93-4	Endrin aldehyde [2C]		0.00472	0.00943	0.0189	U
53494-70-5	Endrin ketone		0.00472	0.00943	0.0189	U
58-89-9	gamma-BHC (Lindane)		0.00311	0.00943	0.0189	U
5103-74-2	gamma-Chlordane		0.00311	0.00943	0.0189	U
76-44-8	Heptachlor		0.00311	0.00943	0.0189	U
1024-57-3	Heptachlor epoxide		0.00311	0.00943	0.0189	U
72-43-5	Methoxychlor		0.00311	0.00943	0.0189	U
57-74-9	Chlordane (n.o.s.)		0.0160	0.0472	0.0943	U
8001-35-2	Toxaphene		0.311	0.629	0.943	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4717	0.3689	78.2	25 - 140	
Tetrachloro-m-xylene [2C]	0.4717	0.3678	78.0	25 - 140	
Decachlorobiphenyl	0.4717	0.1235	26.2	30 - 135	*
Decachlorobiphenyl [2C]	0.4717	0.1245	26.4	30 - 135	*

ANALYSIS DATA SHEET

JM10-JAX47-MW30S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310180
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310180-02
Sampled:	10/17/13 10:10	Received:	10/18/13 09:05

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	3121007	10/23/13 16:55

ANALYSIS DATA SHEET

JM10-JAX47-MW15S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310180
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310180-03
Sampled:	10/17/13 13:40	Received:	10/18/13 09:05

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	3J21007	10/23/13 17:00

ANALYSIS DATA SHEET

JM10-JAX47-MW37S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310180
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID.	1310180-04
Sampled:	10/17/13 15:10	Received:	10/18/13 09:05

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	894	3.00	6.00	10.0	1		SW6010C	3J21007	10/23/13 17:04

ANALYSIS DATA SHEET

JM10-JAX47-MW37S-1013A

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/17/13 15:10

SDG: 1310180
Project: NAS Jacksonville JM-10
Laboratory ID: 1310180-05
Received: 10/18/13 09:05

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)	2320	30.0	60.0	100	1		SW6010C	3J23010	10-23/13 20:47
7439-96-5	Manganese (dissolved)	20.0	3.00	6.00	15.0	1		SW6010C	3J23010	10-23/13 20:47

ANALYSIS DATA SHEET

JM10-JAX47-MW37S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310180
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310180-04
Sampled:	10/17/13 15:10	Received:	10/18/13 09:05

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous Iron (outside certification)	**1.92**	**0.0400**	0.0800	0.120	1	H3	SM 3500-FE D-W	3J18013	10/18/13 15:39
18496-25-8	Sulfide		0.711	1.85	3.70	0.741	U	SM4500S2CF	3J23007	10/23/13 12:35
7440-44-0	Total Organic Carbon	**16.9**	**1.25**	2.50	3.00	1		SM5310C	3J28939	10/28/13 19:13
14797-55-8	Nitrate as N		0.0330	0.100	0.250	1	U	E300.0	3J18008	10/18/13 18:43
471-34-1	Alkalinity, Total (as CACO3)	**64.5**	**1.00**	1.00	1.00	1		SM2320B	3J28925	10/28/13 17:25
14808-79-8	Sulfate as SO4	**5.22**	**0.330**	1.00	2.50	1		E300.0	3J18008	10/18/13 18:43

ANALYSIS DATA SHEET

JM10-JAX47-TB01-101813

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-01	File ID:	1018801.D
Sampled:	10/18/13 12:00	Prepared:	10/25/13 01:57	Analyzed:	10/25/13 01:57
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J24033 Sequence: 3J29813 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	14.2	2.50	5.00	10.0	
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	6.37	0.500	1.00	2.00	
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-TB01-101813

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-03	File ID:	1018801.D
Sampled:	10/18/13 12:00	Prepared:	10/25/13 01:57	Analyzed:	10/25/13 01:57
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J24033 Sequence: 3J29813 Calibration: 3J41002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.16	97.2	75 - 120	
Dibromofluoromethane	30.00	29.60	98.7	85 - 115	
1,2-Dichloroethane-d4	30.00	29.19	97.3	70 - 120	
Toluene-d8	30.00	28.59	95.3	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW27S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-04	File ID:	1018804.D
Sampled:	10/18/13 10:35	Prepared:	10/25/13 04:44	Analyzed:	10/25/13 04:44
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J24033 Sequence: 3J29813 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-MW27S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-04	File ID:	1018804.D
Sampled:	10/18/13 10:35	Prepared:	10/25/13 04:44	Analyzed:	10/25/13 04:44
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J24033 Sequence: 3J29813 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	27.91	93.0	75 - 120	
Dibromofluoromethane	30.00	30.89	103	85 - 115	
1,2-Dichloroethane-d4	30.00	30.79	103	70 - 120	
Toluene-d8	30.00	30.06	100	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW19S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-05	File ID:	1018805.D
Sampled:	10/18/13 12:45	Prepared:	10/25/13 05:11	Analyzed:	10/25/13 05:11
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3J24033 Sequence: 3J29813 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
74-97-5	Bromochloromethane		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
110-82-7	Cyclohexane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane		0.500	1.00	2.00	U
106-93-4	1,2-Dibromoethane (EDB)		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
79-20-9	Methyl Acetate		0.500	1.00	2.00	U
108-87-2	Methylcyclohexane		0.250	0.500	1.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U

ANALYSIS DATA SHEET

JM10-JAX47-MW19S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-05	File ID:	1018805.D
Sampled:	10/18/13 12:45	Prepared:	10/25/13 05:11	Analyzed:	10/25/13 05:11
Solids:		Preparation:	5030B	Dilution:	1

Batch: 3124033 Sequence: 3129813 Calibration: 3241002 Instrument: MS-VOA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
108-88-3	Toluene		0.250	0.500	1.00	U
87-61-6	1,2,3-Trichlorobenzene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

Total Target Analytes Reported: 50

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.37	97.9	75 - 120	
Dibromofluoromethane	30.00	30.85	103	85 - 115	
1,2-Dichloroethane-d4	30.00	31.18	104	70 - 120	
Toluene-d8	30.00	29.10	97.0	85 - 120	

ANALYSIS DATA SHEET

JM10-JAX47-MW27S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-04	File ID:	1018804.D
Sampled:	10/18/13 10:35	Prepared:	10/24/13 14:31	Analyzed:	10/26/13 06:10
Solids:		Preparation:	EXT_3510	Dilution:	1
Batch:	3J24014	Sequence:	3J30116	Calibration:	3263001	Instrument:	MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.20	2.40	4.81	U
1912-24-9	Atrazine		1.20	2.40	4.81	U
100-52-7	Benzaldehyde		1.20	2.40	4.81	U
92-52-4	1,1-Biphenyl		1.20	2.40	4.81	U
101-55-3	4-Bromophenyl-phenylether		1.20	2.40	4.81	U
85-68-7	Butylbenzylphthalate		1.20	2.40	4.81	U
105-60-2	Caprolactam		1.20	2.40	4.81	UX
86-74-8	Carbazole		1.20	2.40	4.81	U
59-50-7	4-Chloro-3-methylphenol		1.20	2.40	4.81	U
106-47-8	4-Chloroaniline		1.20	2.40	4.81	U
111-91-1	Bis(2-chloroethoxy)methane		1.20	2.40	4.81	U
111-44-4	Bis(2-chloroethyl)ether		1.20	2.40	4.81	U
108-60-1	2,2'-Oxybis-1-chloropropane		1.20	2.40	4.81	U
91-58-7	2-Chloronaphthalene		1.20	2.40	4.81	U
95-57-8	2-Chlorophenol		1.20	2.40	4.81	U
7005-72-3	4-Chlorophenyl phenyl ether		1.20	2.40	4.81	U
132-64-9	Dibenzofuran		1.20	2.40	4.81	U
84-74-2	Di-n-butylphthalate		1.20	2.40	4.81	U
91-94-1	3,3'-Dichlorobenzidine		1.20	2.40	4.81	U
120-83-2	2,4-Dichlorophenol		1.20	2.40	4.81	U
84-66-2	Diethylphthalate		1.20	2.40	4.81	U
105-67-9	2,4-Dimethylphenol		4.81	9.62	19.2	U
131-11-3	Dimethyl phthalate		1.20	2.40	4.81	U
534-52-1	4,6-Dinitro-2-methylphenol		4.81	9.62	19.2	UQ
51-28-5	2,4-Dinitrophenol		8.01	24.0	48.1	UXQ
121-14-2	2,4-Dinitrotoluene		1.20	2.40	4.81	U
606-20-2	2,6-Dinitrotoluene		1.20	2.40	4.81	U
117-84-0	Di-n-octylphthalate		1.20	2.40	4.81	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.20	2.40	4.81	U
118-74-1	Hexachlorobenzene		1.20	2.40	4.81	U
87-68-3	Hexachlorobutadiene		1.20	2.40	4.81	U
77-47-4	Hexachlorocyclopentadiene		1.20	4.81	9.62	U
67-72-1	Hexachloroethane		1.20	2.40	4.81	U
78-59-1	Isophorone		1.20	2.40	4.81	U
95-48-7	2-Methylphenol		1.20	2.40	4.81	U
106-44-5	4-Methylphenol		1.20	2.40	4.81	U
100-01-6	4-Nitroaniline		4.81	9.62	19.2	U
99-09-2	3-Nitroaniline		4.81	9.62	19.2	U
88-74-4	2-Nitroaniline		4.81	9.62	19.2	U
98-95-3	Nitrobenzene		1.20	2.40	4.81	U

UJ-SSL

ANALYSIS DATA SHEET

JM10-JAX47-MW27S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-04	File ID:	1018804.D
Sampled:	10/18/13 10:35	Prepared:	10/24/13 14:31	Analyzed:	10/26/13 06:10
Solids:		Preparation:	EXT 3510	Dilution:	1

Batch: 3J24014 Sequence: 3J30116 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.81	9.62	19.2	UQ
88-75-5	2-Nitrophenol		1.20	2.40	4.81	U
86-30-6	N-Nitrosodiphenylamine		1.20	2.40	4.81	U
621-64-7	N-Nitroso-di-n-propylamine		1.20	2.40	4.81	U
108-95-2	Phenol		1.20	2.40	4.81	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.20	2.40	4.81	U
120-82-1	1,2,4-Trichlorobenzene		1.20	2.40	4.81	U
88-06-2	2,4,6-Trichlorophenol		1.20	2.40	4.81	UQ
95-95-4	2,4,5-Trichlorophenol		1.20	2.40	4.81	UQ

UJ-SSL

Total Target Analytes Reported: 49

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	48.08	37.77	78.6	50 - 110	
2-Fluorophenol	96.15	17.34	18.0	20 - 110	*
Nitrobenzene-d5	48.08	39.46	82.1	40 - 110	
Phenol-d6	96.15	13.18	13.7	0 - 110	
Terphenyl-d14	48.08	45.72	95.1	50 - 135	
2,4,6-Tribromophenol	96.15	61.04	63.5	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW19S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-05	File ID:	1018805.D
Sampled:	10/18/13 12:45	Prepared:	10/24/13 14:31	Analyzed:	10/26/13 06:39
Solids:		Preparation:	EXT 3510	Dilution:	1

Batch: 3J24014 Sequence: 3J30116 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
98-86-2	Acetophenone		1.23	2.45	4.90	U
1912-24-9	Atrazine		1.23	2.45	4.90	U
100-52-7	Benzaldehyde		1.23	2.45	4.90	U
92-52-4	1,1-Biphenyl		1.23	2.45	4.90	U
101-55-3	4-Bromophenyl-phenylether		1.23	2.45	4.90	U
85-68-7	Butylbenzylphthalate		1.23	2.45	4.90	U
105-60-2	Caprolactam		1.23	2.45	4.90	~~UX~~ U
86-74-8	Carbazole		1.23	2.45	4.90	U
59-50-7	4-Chloro-3-methylphenol		1.23	2.45	4.90	U
106-47-8	4-Chloroaniline		1.23	2.45	4.90	U
111-91-1	Bis(2-chloroethoxy)methane		1.23	2.45	4.90	U
111-44-4	Bis(2-chloroethyl)ether		1.23	2.45	4.90	U
108-60-1	2,2' Oxybis-1-chloropropane		1.23	2.45	4.90	U
91-58-7	2-Chloronaphthalene		1.23	2.45	4.90	U
95-57-8	2-Chlorophenol		1.23	2.45	4.90	U
7005-72-3	4-Chlorophenyl phenyl ether		1.23	2.45	4.90	U
132-64-9	Dibenzofuran		1.23	2.45	4.90	U
84-74-2	Di-n-butylphthalate		1.23	2.45	4.90	U
91-94-1	3,3'-Dichlorobenzidine		1.23	2.45	4.90	U
120-83-2	2,4-Dichlorophenol		1.23	2.45	4.90	U
84-66-2	Diethylphthalate		1.23	2.45	4.90	U
105-67-9	2,4-Dimethylphenol		4.90	9.80	19.6	U
131-11-3	Dimethyl phthalate		1.23	2.45	4.90	U
534-52-1	4,6-Dinitro-2-methylphenol		4.90	9.80	19.6	~~UO~~ U
51-28-5	2,4-Dinitrophenol		8.17	24.5	49.0	~~UXO~~ U
121-14-2	2,4-Dinitrotoluene		1.23	2.45	4.90	U
606-20-2	2,6-Dinitrotoluene		1.23	2.45	4.90	U
117-84-0	Di-n-octylphthalate		1.23	2.45	4.90	U
117-81-7	Bis(2-ethylhexyl)phthalate		1.23	2.45	4.90	U
118-74-1	Hexachlorobenzene		1.23	2.45	4.90	U
87-68-3	Hexachlorobutadiene		1.23	2.45	4.90	U
77-47-4	Hexachlorocyclopentadiene		1.23	4.90	9.80	U
67-72-1	Hexachloroethane		1.23	2.45	4.90	U
78-59-1	Isophorone		1.23	2.45	4.90	U
95-48-7	2-Methylphenol		1.23	2.45	4.90	U
106-44-5	4-Methylphenol		1.23	2.45	4.90	U
100-01-6	4-Nitroaniline		4.90	9.80	19.6	U
99-09-2	3-Nitroaniline		4.90	9.80	19.6	U
88-74-4	2-Nitroaniline		4.90	9.80	19.6	U
98-95-3	Nitrobenzene		1.23	2.45	4.90	U

ANALYSIS DATA SHEET

JM10-JAX47-MW19S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-05	File ID:	1018805.D
Sampled:	10/18/13 12:45	Prepared:	10/24/13 14:31	Analyzed:	10/26/13 06:39
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J24014 Sequence: 3J30116 Calibration: 3263001 Instrument: MS-BNA5

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
100-02-7	4-Nitrophenol		4.90	9.80	19.6	~~UQ~~ U
88-75-5	2-Nitrophenol		1.23	2.45	4.90	U
86-30-6	N-Nitrosodiphenylamine		1.23	2.45	4.90	U
621-64-7	N-Nitroso-di-n-propylamine		1.23	2.45	4.90	U
108-95-2	Phenol		1.23	2.45	4.90	U
95-94-3	1,2,4,5-Tetrachlorobenzene		1.23	2.45	4.90	U
120-82-1	1,2,4-Trichlorobenzene		1.23	2.45	4.90	U
88-06-2	2,4,6-Trichlorophenol		1.23	2.45	4.90	~~UQ~~ U
95-95-4	2,4,5-Trichlorophenol		1.23	2.45	4.90	~~UQ~~ U

Total Target Analytes Reported: 49

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	49.02	35.48	72.4	50 - 110	
2-Fluorophenol	98.04	20.47	20.9	20 - 110	
Nitrobenzene-d5	49.02	35.96	73.4	40 - 110	
Phenol-d6	98.04	13.11	13.4	0 - 110	
Terphenyl-d14	49.02	43.36	88.5	50 - 135	
2,4,6-Tribromophenol	98.04	69.92	71.3	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW27S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-04	File ID:	1018804.D
Sampled:	10/18/13 10:35	Prepared:	10/24/13 14:31	Analyzed:	10/28/13 20:26
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J24014 Sequence: 3J30413 Calibration: 3217001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0481	0.0962	0.192	U
208-96-8	Acenaphthylene		0.0481	0.0962	0.192	U
120-12-7	Anthracene		0.0481	0.0962	0.192	U
56-55-3	Benzo(a)anthracene		0.0481	0.0962	0.192	U
50-32-8	Benzo(a)pyrene		0.0481	0.0962	0.192	U
205-99-2	Benzo(b)fluoranthene		0.0481	0.0962	0.192	U
191-24-2	Benzo(g,h,i)perylene		0.0481	0.0962	0.192	U
207-08-9	Benzo(k)fluoranthene		0.0481	0.0962	0.192	U
218-01-9	Chrysene		0.0481	0.0962	0.192	U
53-70-3	Dibenz(a,h)anthracene		0.0481	0.0962	0.192	U
206-44-0	Fluoranthene		0.0481	0.0962	0.192	U
86-73-7	Fluorene		0.0481	0.0962	0.192	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0481	0.0962	0.192	U
90-12-0	1-Methylnaphthalene		0.0481	0.0962	0.192	U
91-57-6	2-Methylnaphthalene		0.0481	0.0962	0.192	~~UQ~~ U
91-20-3	Naphthalene		0.0481	0.0962	0.192	U
87-86-5	Pentachlorophenol		0.240	0.481	0.962	~~UQ~~ U
85-01-8	Phenanthrene		0.0481	0.192	0.385	U
129-00-0	Pyrene		0.0481	0.0962	0.192	U

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	48.08	41.56	86.4	50 - 110	
Terphenyl-d14	48.08	41.71	86.8	50 - 135	
2,4,6-Tribromophenol	96.15	64.20	66.8	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW19S-1013

Laboratory:	Empirical Laboratories, LLC			SDG:	1310188
Client:	CH2M Hill, Inc.			Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310188-05	File ID:	1018805.D
Sampled:	10/18/13 12:45	Prepared:	10/24/13 14:31	Analyzed:	10/28/13 20:54
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J24014 Sequence: 3J30413 Calibration: 3217001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0490	0.0980	0.196	U
208-96-8	Acenaphthylene		0.0490	0.0980	0.196	U
120-12-7	Anthracene		0.0490	0.0980	0.196	U
56-55-3	Benzo(a)anthracene		0.0490	0.0980	0.196	U
50-32-8	Benzo(a)pyrene		0.0490	0.0980	0.196	U
205-99-2	Benzo(b)fluoranthene		0.0490	0.0980	0.196	U
191-24-2	Benzo(g,h,i)perylene		0.0490	0.0980	0.196	U
207-08-9	Benzo(k)fluoranthene		0.0490	0.0980	0.196	U
218-01-9	Chrysene		0.0490	0.0980	0.196	U
53-70-3	Dibenz(a,h)anthracene		0.0490	0.0980	0.196	U
206-44-0	Fluoranthene		0.0490	0.0980	0.196	U
86-73-7	Fluorene		0.0490	0.0980	0.196	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0490	0.0980	0.196	U
90-12-0	1-Methylnaphthalene		0.0490	0.0980	0.196	U
91-57-6	2-Methylnaphthalene		0.0490	0.0980	0.196	~~UQ~~ U
91-20-3	Naphthalene		0.0490	0.0980	0.196	U
87-86-5	Pentachlorophenol		0.245	0.490	0.980	~~UQ~~ U
85-01-8	Phenanthrene		0.0490	0.196	0.392	U
129-00-0	Pyrene		0.0490	0.0980	0.196	U

Total Target Analytes Reported: 19

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	49.02	39.85	81.3	50 - 110	
Terphenyl-d14	49.02	41.21	84.1	50 - 135	
2,4,6-Tribromophenol	98.04	75.41	76.9	40 - 125	

ANALYSIS DATA SHEET

JM10-JAX47-MW32S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-02	File ID:	021F2101.D\Report.TXT
Sampled:	10/18/13 09:20	Prepared:	10/21/13 08:29	Analyzed:	10/21/13 18:42
Solids:		Preparation:	RSK175	Dilution:	1

Batch: 3J21005 Sequence: 3J29609 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 2

ANALYSIS DATA SHEET

JM10-JAX47-MW32S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-02RE1	File ID:	009F0901.D\Report.TX1
Sampled:	10/18/13 09:20	Prepared:	10/25/13 14:46	Analyzed:	10/25/13 20:16
Solids:		Preparation:	RSK175	Dilution:	5

Batch: 3J25004 Sequence: 3J30123 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	651	5.00	10.0	20.0	D

Total Target Analytes Reported: 1

ANALYSIS DATA SHEET

JM10-JAX47-MW32S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-02	File ID:	050F5001.D
Sampled:	10/18/13 09:20	Prepared:	10/25/13 15:56	Analyzed:	11/01/13 12:23
Solids:		Preparation:	EXT 3510	Dilution:	1

Batch: 3J24015 Sequence: 3K31006 Calibration: 3310001 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00500	0.0100	0.0200	U
72-54-8	4,4'-DDD [2C]		0.00500	0.0100	0.0200	U
50-29-3	4,4'-DDT		0.00500	0.0100	0.0200	U
309-00-2	Aldrin		0.00330	0.0100	0.0200	U
319-84-6	alpha-BHC [2C]	0.0893	0.00330	0.0100	0.0200	
5103-71-9	alpha-Chlordane	0.0275	0.00330	0.0100	0.0200	~~R~~ J-PC
319-85-7	beta-BHC	3.24	0.00330	0.0100	0.0200	~~E~~ R-DL
319-86-8	delta-BHC	7.23	0.00330	0.0100	0.0200	~~E~~ ↓
60-57-1	Dieldrin [2C]	0.134	0.00500	0.0100	0.0200	
959-98-8	Endosulfan I [2C]	0.0182	0.00330	0.0100	0.0200	~~JR~~ J-PC
33213-65-9	Endosulfan II		0.00500	0.0100	0.0200	U
1031-07-8	Endosulfan sulfate [2C]		0.00500	0.0100	0.0200	U
72-20-8	Endrin		0.00500	0.0100	0.0200	U
7421-93-4	Endrin aldehyde		0.00500	0.0100	0.0200	U
53494-70-5	Endrin ketone		0.00500	0.0100	0.0200	U
58-89-9	gamma-BHC (Lindane)		0.00330	0.0100	0.0200	U
5103-74-2	gamma-Chlordane [2C]	0.0301	0.00330	0.0100	0.0200	~~R~~ J-PC
76-44-8	Heptachlor [2C]		0.00330	0.0100	0.0200	U
1024-57-3	Heptachlor epoxide [2C]	0.0207	0.00330	0.0100	0.0200	~~R~~ J-PC
72-43-5	Methoxychlor [2C]		0.00330	0.0100	0.0200	U
57-74-9	Chlordane (n.o.s.)		0.0170	0.0500	0.100	U
8001-35-2	Toxaphene		0.330	0.667	1.00	~~UX~~ U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.5000	0.5061	101	25 - 140	
Tetrachloro-m-xylene [2C]	0.5000	0.4834	96.7	25 - 140	
Decachlorobiphenyl	0.5000	0.3999	80.0	30 - 135	
Decachlorobiphenyl [2C]	0.5000	0.3900	78.0	30 - 135	

CL

ANALYSIS DATA SHEET

JM10-JAX47-MW32S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-02RE1	File ID:	009F0901.D
Sampled:	10/18/13 09:20	Prepared:	10/25/13 15:56	Analyzed:	11/07/13 20:26
Solids:		Preparation:	EXT_3510	Dilution:	10

Batch: 3J24015 Sequence: 3K31508 Calibration: 3310001 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.0500	0.100	0.200	U
72-54-8	4,4'-DDD		0.0500	0.100	0.200	U
50-29-3	4,4'-DDT		0.0500	0.100	0.200	U
309-00-2	Aldrin		0.0330	0.100	0.200	U
319-84-6	alpha-BHC [2C]	0.0703	0.0330	0.100	0.200	JD
5103-71-9	alpha-Chlordane [2C]		0.0330	0.100	0.200	U
319-85-7	beta-BHC	2.82	0.0330	0.100	0.200	D
319-86-8	delta-BHC	5.29	0.0330	0.100	0.200	D
60-57-1	Dieldrin [2C]	0.101	0.0500	0.100	0.200	JD
959-98-8	Endosulfan I		0.0330	0.100	0.200	UX
33213-65-9	Endosulfan II		0.0500	0.100	0.200	U
1031-07-8	Endosulfan sulfate		0.0500	0.100	0.200	U
72-20-8	Endrin		0.0500	0.100	0.200	U
7421-93-4	Endrin aldehyde		0.0500	0.100	0.200	UX
53494-70-5	Endrin ketone		0.0500	0.100	0.200	U
58-89-9	gamma-BHC (Lindane)		0.0330	0.100	0.200	U
5103-74-2	gamma-Chlordane		0.0330	0.100	0.200	U
76-44-8	Heptachlor		0.0330	0.100	0.200	U
1024-57-3	Heptachlor epoxide		0.0330	0.100	0.200	U
72-43-5	Methoxychlor		0.0330	0.100	0.200	U
57-74-9	Chlordane (n.o.s.)		0.170	0.500	1.00	U
8001-35-2	Toxaphene		3.30	6.67	10.0	UX

R-DL

R-DL

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.5000	0.4349	87.0	25 - 140	
Tetrachloro-m-xylene [2C]	0.5000	0.4235	84.7	25 - 140	
Decachlorobiphenyl	0.5000	0.4383	87.7	30 - 135	
Decachlorobiphenyl [2C]	0.5000	0.3686	73.7	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW27S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-04	File ID:	051F5101.D
Sampled:	10/18/13 10:35	Prepared:	10/25/13 15:56	Analyzed:	11/01/13 12:46
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J24015 Sequence: 3K31006 Calibration: 3310001 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00500	0.0100	0.0200	U
72-54-8	4,4'-DDD		0.00500	0.0100	0.0200	~~UX~~ U
50-29-3	4,4'-DDT		0.00500	0.0100	0.0200	U
309-00-2	Aldrin		0.00330	0.0100	0.0200	U
319-84-6	alpha-BHC		0.00330	0.0100	0.0200	U
5103-71-9	alpha-Chlordane		0.00330	0.0100	0.0200	U
319-85-7	beta-BHC [2C]		0.00330	0.0100	0.0200	U
319-86-8	delta-BHC		0.00330	0.0100	0.0200	U
60-57-1	Dieldrin		0.00500	0.0100	0.0200	U
959-98-8	Endosulfan I		0.00330	0.0100	0.0200	U
33213-65-9	Endosulfan II		0.00500	0.0100	0.0200	U
1031-07-8	Endosulfan sulfate		0.00500	0.0100	0.0200	U
72-20-8	Endrin		0.00500	0.0100	0.0200	U
7421-93-4	Endrin aldehyde		0.00500	0.0100	0.0200	U
53494-70-5	Endrin ketone		0.00500	0.0100	0.0200	U
58-89-9	gamma-BHC (Lindane)		0.00330	0.0100	0.0200	U
5103-74-2	gamma-Chlordane		0.00330	0.0100	0.0200	U
76-44-8	Heptachlor		0.00330	0.0100	0.0200	U
1024-57-3	Heptachlor epoxide		0.00330	0.0100	0.0200	U
72-43-5	Methoxychlor		0.00330	0.0100	0.0200	U
57-74-9	Chlordane (n.o.s.)		0.0170	0.0500	0.100	U
8001-35-2	Toxaphene		0.330	0.667	1.00	~~UX~~ U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.5000	0.4172	83.4	25 - 140	
Tetrachloro-m-xylene [2C]	0.5000	0.4476	89.5	25 - 140	
Decachlorobiphenyl	0.5000	0.3334	66.7	30 - 135	
Decachlorobiphenyl [2C]	0.5000	0.3189	63.8	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW19S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310188	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310188-05	File ID:	057F5701.D
Sampled:	10/18/13 12:45	Prepared:	10/25/13 15:56	Analyzed:	11/01/13 15:02
Solids:		Preparation:	EXT_3510	Dilution:	1
Batch:	3J24015	Sequence: 3K31006	Calibration:	3310001	Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00500	0.0100	0.0200	U
72-54-8	4,4'-DDD		0.00500	0.0100	0.0200	~~UX~~ U
50-29-3	4,4'-DDT		0.00500	0.0100	0.0200	U
309-00-2	Aldrin		0.00330	0.0100	0.0200	U
319-84-6	alpha-BHC		0.00330	0.0100	0.0200	U
5103-71-9	alpha-Chlordane		0.00330	0.0100	0.0200	U
319-85-7	beta-BHC		0.00330	0.0100	0.0200	U
319-86-8	delta-BHC		0.00330	0.0100	0.0200	~~UX~~ U
60-57-1	Dieldrin		0.00500	0.0100	0.0200	U
959-98-8	Endosulfan I		0.00330	0.0100	0.0200	U
33213-65-9	Endosulfan II		0.00500	0.0100	0.0200	U
1031-07-8	Endosulfan sulfate		0.00500	0.0100	0.0200	U
72-20-8	Endrin		0.00500	0.0100	0.0200	U
7421-93-4	Endrin aldehyde		0.00500	0.0100	0.0200	U
53494-70-5	Endrin ketone		0.00500	0.0100	0.0200	U
58-89-9	gamma-BHC (Lindane)		0.00330	0.0100	0.0200	U
5103-74-2	gamma-Chlordane		0.00330	0.0100	0.0200	U
76-44-8	Heptachlor		0.00330	0.0100	0.0200	U
1024-57-3	Heptachlor epoxide		0.00330	0.0100	0.0200	U
72-43-5	Methoxychlor		0.00330	0.0100	0.0200	U
57-74-9	Chlordane (n.o.s.)		0.0170	0.0500	0.100	U
8001-35-2	Toxaphene		0.330	0.667	1.00	~~UX~~ U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.5000	0.5200	104	25 - 140	
Tetrachloro-m-xylene [2C]	0.5000	0.5205	104	25 - 140	
Decachlorobiphenyl	0.5000	0.4707	94.1	30 - 135	
Decachlorobiphenyl [2C]	0.5000	0.4449	89.0	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW32S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310188
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310188-02
Sampled:	10/18/13 09:20	Received:	10/19/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	4.49	3.00	6.00	10.0	1	J	SW6010C	3121007	10/23/13 17:09

ANALYSIS DATA SHEET

JM10-JAX47-MW32S-1013A

Laboratory: Empirical Laboratories, LLC

Client: CH2M Hill, Inc.

Matrix: Water

Sampled: 10/18/13 09:20

SDG: 1310188

Project: NAS Jacksonville JM-10

Laboratory ID: 1310188-03

Received: 10/19/13 08:30

CAS NO.	Analyte	Conc (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)	7610	30.0	60.0	100	1		SW6010C	3321007	10/23/13 17:13
7439-96-5	Manganese (dissolved)	9.37	3.00	6.00	15.0	1	J	SW6010C	3321007	10/23/13 17:13

ANALYSIS DATA SHEET

JM10-JAX47-MW19S-1013

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/18/13 12:45

SDG: 1310188
Project: NAS Jacksonville JM-10
Laboratory ID: 1310188-05
Received: 10/19/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		2.00	6.60	10.0	1	U	SW6010C	3123007	10/23/13 17:18

ANALYSIS DATA SHEET

JM10-JAX47-MW32S-1013

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/18/13 09:20

SDG: 1310188
Project: NAS Jacksonville JM-10
Laboratory ID: 1310188-02
Received: 10/19/13 08:30

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous Iron (outside certification)	**7.34**	**0.0400**	0.0800	0.120	1	~~B~~	SM 3500-FE D-W	3J19005	10/19/13 12:13
18496-25-8	Sulfide		0.678	1.69	3.39	0.678	U	SM4500S2C1	3J23007	10/23/13 12:41
7440-44-0	Total Organic Carbon	**6.41**	**1.25**	2.50	3.00	1		SM5310C	3J28939	10/28/13 19:35
14797-55-8	Nitrate as N		0.0330	0.100	0.250	1	U	E300.0	3J19003	10/19/13 11:46
471-34-1	Alkalinity, Total (as CACO3)	**26.7**	**1.00**	1.00	1.00	1		SM2320B	3J28925	10/28/13 17:36
14808-79-8	Sulfate as SO4	**14.0**	**0.330**	1.00	2.50	1		E300.0	3J19003	10/19/13 11:46

ANALYSIS DATA SHEET

JM10-JAX47-MW39S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310207	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310207-01	File ID:	010F1001.D\Report.TXT
Sampled:	10/21/13 11:25	Prepared:	10/25/13 14:46	Analyzed:	10/25/13 20:30
Solids:		Preparation:	RSK175	Dilution:	1

Batch: 3J25004 Sequence: 3J30123 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 3

ANALYSIS DATA SHEET

JM10-JAX47-MW39S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310207	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310207-01	File ID:	022F2201.D
Sampled:	10/21/13 11:25	Prepared:	10/23/13 11:21	Analyzed:	11/01/13 01:47
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22003 Sequence: 3K31006 Calibration: 3310001 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00467	0.00935	0.0187	U
72-54-8	4,4'-DDD		0.00467	0.00935	0.0187	UX
50-29-3	4,4'-DDT		0.00467	0.00935	0.0187	U
309-00-2	Aldrin		0.00308	0.00935	0.0187	U
319-84-6	alpha-BHC [2C]		0.00308	0.00935	0.0187	U
5103-71-9	alpha-Chlordane		0.00308	0.00935	0.0187	U
319-85-7	beta-BHC		0.00308	0.00935	0.0187	U
319-86-8	delta-BHC		0.00308	0.00935	0.0187	U
60-57-1	Dieldrin		0.00467	0.00935	0.0187	U
959-98-8	Endosulfan I		0.00308	0.00935	0.0187	U
33213-65-9	Endosulfan II		0.00467	0.00935	0.0187	U
1031-07-8	Endosulfan sulfate		0.00467	0.00935	0.0187	U
72-20-8	Endrin		0.00467	0.00935	0.0187	U
7421-93-4	Endrin aldehyde		0.00467	0.00935	0.0187	U
53494-70-5	Endrin ketone		0.00467	0.00935	0.0187	U
58-89-9	gamma-BHC (Lindane)		0.00308	0.00935	0.0187	U
5103-74-2	gamma-Chlordane		0.00308	0.00935	0.0187	U
76-44-8	Heptachlor		0.00308	0.00935	0.0187	U
1024-57-3	Heptachlor epoxide		0.00308	0.00935	0.0187	U
72-43-5	Methoxychlor		0.00308	0.00935	0.0187	U
57-74-9	Chlordane (n.o.s.)		0.0159	0.0467	0.0935	U
8001-35-2	Toxaphene		0.308	0.623	0.935	UX

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4673	0.3451	73.8	25 - 140	
Tetrachloro-m-xylene [2C]	0.4673	0.3463	74.1	25 - 140	
Decachlorobiphenyl	0.4673	0.2057	44.0	30 - 135	
Decachlorobiphenyl [2C]	0.4673	0.1986	42.5	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW38S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310207	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310207-03	File ID:	023R2301.D
Sampled:	10/21/13 13:30	Prepared:	10/23/13 11:21	Analyzed:	11/01/13 02:09
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22003 Sequence: 3K31006 Calibration: 3310001 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]	0.00740	0.00467	0.00935	0.0187	J
72-54-8	4,4'-DDD [2C]	0.149	0.00467	0.00935	0.0187	
50-29-3	4,4'-DDT	0.0176	0.00467	0.00935	0.0187	JPM 5-[illegible] mL
309-00-2	Aldrin		0.00308	0.00935	0.0187	U
319-84-6	alpha-BHC	0.305	0.00308	0.00935	0.0187	
5103-71-9	alpha-Chlordane [2C]	0.00379	0.00308	0.00935	0.0187	JPM [illegible]
319-85-7	beta-BHC	0.162	0.00308	0.00935	0.0187	
319-86-8	delta-BHC	1.46	0.00308	0.00935	0.0187	
60-57-1	Dieldrin		0.00467	0.00935	0.0187	U
959-98-8	Endosulfan I [2C]		0.00308	0.00935	0.0187	U
33213-65-9	Endosulfan II		0.00467	0.00935	0.0187	U
1031-07-8	Endosulfan sulfate		0.00467	0.00935	0.0187	U
72-20-8	Endrin		0.00467	0.00935	0.0187	U
7421-93-4	Endrin aldehyde [2C]		0.00467	0.00935	0.0187	U
53494-70-5	Endrin ketone		0.00467	0.00935	0.0187	U
58-89-9	gamma-BHC (Lindane) [2C]	0.0111	0.00308	0.00935	0.0187	J
5103-74-2	gamma-Chlordane	0.00646	0.00308	0.00935	0.0187	BJP [illegible]
76-44-8	Heptachlor		0.00308	0.00935	0.0187	U
1024-57-3	Heptachlor epoxide [2C]		0.00308	0.00935	0.0187	U
72-43-5	Methoxychlor		0.00308	0.00935	0.0187	U
57-74-9	Chlordane (n o.s.)		0.0159	0.0467	0.0935	U
8001-35-2	Toxaphene		0.308	0.623	0.935	UX

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4673	0.3136	67.1	25 - 140	
Tetrachloro-m-xylene [2C]	0.4673	0.2915	62.4	25 - 140	
Decachlorobiphenyl	0.4673	0.1966	42.1	30 - 135	
Decachlorobiphenyl [2C]	0.4673	0.1834	39.2	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW26S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310207	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310207-04	File ID:	025F2501.D
Sampled:	10/21/13 14:45	Prepared:	10/23/13 11:21	Analyzed:	11/01/13 02:55
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J22003 Sequence: 3K31006 Calibration: 3310001 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00476	0.00952	0.0190	U
72-54-8	4,4'-DDD		0.00476	0.00952	0.0190	UX
50-29-3	4,4'-DDT		0.00476	0.00952	0.0190	U
309-00-2	Aldrin		0.00314	0.00952	0.0190	U
319-84-6	alpha-BHC		0.00314	0.00952	0.0190	U
5103-71-9	alpha-Chlordane	0.00594	0.00314	0.00952	0.0190	J
319-85-7	beta-BHC	0.187	0.00314	0.00952	0.0190	
319-86-8	delta-BHC [2C]	0.0167	0.00314	0.00952	0.0190	JPM
60-57-1	Dieldrin		0.00476	0.00952	0.0190	U
959-98-8	Endosulfan I [2C]		0.00314	0.00952	0.0190	U
33213-65-9	Endosulfan II		0.00476	0.00952	0.0190	U
1031-07-8	Endosulfan sulfate [2C]		0.00476	0.00952	0.0190	U
72-20-8	Endrin		0.00476	0.00952	0.0190	U
7421-93-4	Endrin aldehyde		0.00476	0.00952	0.0190	U
53494-70-5	Endrin ketone		0.00476	0.00952	0.0190	U
58-89-9	gamma-BHC (Lindane)		0.00314	0.00952	0.0190	U
5103-74-2	gamma-Chlordane		0.00314	0.00952	0.0190	U
76-44-8	Heptachlor		0.00314	0.00952	0.0190	U
1024-57-3	Heptachlor epoxide [2C]	0.00902	0.00314	0.00952	0.0190	JP
72-43-5	Methoxychlor		0.00314	0.00952	0.0190	U
57-74-9	Chlordane (n.o.s.)		0.0162	0.0476	0.0952	U
8001-35-2	Toxaphene		0.314	0.635	0.952	UX

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4762	0.4205	88.3	25 - 140	
Tetrachloro-m-xylene [2C]	0.4762	0.4046	85.0	25 - 140	
Decachlorobiphenyl	0.4762	0.1983	41.6	30 - 135	
Decachlorobiphenyl [2C]	0.4762	0.2018	42.4	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW39S-1013

Laboratory: Empirical Laboratories, LLC

Client: CH2M Hill, Inc.

Matrix: Water

Sampled: 10/21/13 11:25

SDG: 1310207

Project: NAS Jacksonville JM-10

Laboratory ID: 1310207-01

Received: 10/22/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	3123004	10/29/13 12:29

ANALYSIS DATA SHEET

JM10-JAX47-MW39S-1013A

Laboratory:	Empirical Laboratories, LLC	SDG:	1310207
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310207-02
Sampled:	10/21/13 11:25	Received:	10/22/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)		30.0	60.0	100	1	U	SW6010C	3123010	10/23/13 20:51
7439-96-5	Manganese (dissolved)		3.00	6.00	15.0	1	U	SW6010C	3123010	10/23/13 20:51

ANALYSIS DATA SHEET

JM10-JAX47-MW38S-1013

Laboratory: Empirical Laboratories, LLC

Client: CH2M Hill, Inc.

Matrix: Water

Sampled: 10/21/13 13:30

SDG: 1310207

Project: NAS Jacksonville JM-10

Laboratory ID: 1310207-03

Received: 10/22/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		5.00	6.00	10.0	1	U	SW6010B	3223004	10/29/13 12:34

ANALYSIS DATA SHEET

JM10-JAX47-MW26S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310207
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310207-04
Sampled:	10/21/13 14:45	Received:	10/22/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		3.00	6.00	HDL	1	U	SW6010C	3223004	10/29/13 12:38

ANALYSIS DATA SHEET

JM10-JAX47-MW39S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310207
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310207-01
Sampled:	10/21/13 11:25	Received:	10/22/13 08:30

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous Iron (outside certification)	**0.0341**	**0.0200**	0.0400	0.0600	1	HJ	SM3500-FE D-W	3J22019	10/22/13 16:27
18496-25-8	Sulfide		0.741	1.85	3.70	0.7-1	U	SM4500S2-F	3J23007	10/25/13 12:52
7440-44-0	Total Organic Carbon	**5.00**	**1.25**	2.50	3.00	1		SM5310C	3J28939	10/28/13 19:55
14797-55-8	Nitrate as N	**3.45**	**0.0330**	0.100	0.250	1		E300.0	3J22007	10/23/13 00:14
471-34-1	Alkalinity, Total (as CACO3)	**111**	**1.00**	1.00	1.00	1		SM2320B	3J30316	10/30/13 17:00
14808-79-8	Sulfate as SO4	**2.51**	**0.330**	1.00	2.50	1		E300.0	3J22007	10/23/13 00:14

ANALYSIS DATA SHEET

JM10-JAX47-MW40S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310218	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310218-01	File ID:	013F1301.D\Report.TXT
Sampled:	10/22/13 10:20	Prepared:	10/25/13 14:46	Analyzed:	10/25/13 21:11
Solids:		Preparation:	RSK175	Dilution:	1

Batch: 3I25004 Sequence: 3I30123 Calibration: 3273002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	11.3	1.00	2.00	4.00	
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 3

ANALYSIS DATA SHEET

JM10-JAX47-MW40S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310218	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310218-01	File ID:	063F6301.D
Sampled:	10/22/13 10:20	Prepared:	10/29/13 11:14	Analyzed:	11/01/13 17:19
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J29818 Sequence: 3K31006 Calibration: 3310001 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00463	0.00926	0.0185	U
72-54-8	4,4'-DDD [2C]	0.125	0.00463	0.00926	0.0185	B
50-29-3	4,4'-DDT		0.00463	0.00926	0.0185	U
309-00-2	Aldrin [2C]		0.00306	0.00926	0.0185	U
319-84-6	alpha-BHC		0.00306	0.00926	0.0185	U
5103-71-9	alpha-Chlordane	0.00733	0.00306	0.00926	0.0185	BJ
319-85-7	beta-BHC	0.00572	0.00306	0.00926	0.0185	BJP
319-86-8	delta-BHC		0.00306	0.00926	0.0185	UX
60-57-1	Dieldrin		0.00463	0.00926	0.0185	U
959-98-8	Endosulfan I [2C]	0.00532	0.00306	0.00926	0.0185	BJ
33213-65-9	Endosulfan II [2C]		0.00463	0.00926	0.0185	U
1031-07-8	Endosulfan sulfate [2C]		0.00463	0.00926	0.0185	U
72-20-8	Endrin		0.00463	0.00926	0.0185	U
7421-93-4	Endrin aldehyde		0.00463	0.00926	0.0185	U
53494-70-5	Endrin ketone		0.00463	0.00926	0.0185	U
58-89-9	gamma-BHC (Lindane)		0.00306	0.00926	0.0185	U
5103-74-2	gamma-Chlordane [2C]	0.00445	0.00306	0.00926	0.0185	BJPM
76-44-8	Heptachlor		0.00306	0.00926	0.0185	U
1024-57-3	Heptachlor epoxide	0.0143	0.00306	0.00926	0.0185	BJ
72-43-5	Methoxychlor		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	UX

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3434	74.2	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3055	66.0	25 - 140	
Decachlorobiphenyl	0.4630	0.2773	59.9	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.2598	56.1	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW40S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310218	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310218-01RE1	File ID:	009F0901.D
Sampled:	10/22/13 10:20	Prepared:	11/05/13 19:50	Analyzed:	11/11/13 16:24
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3K05009 Sequence: 3K31707 Calibration: 3310002 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00500	0.0100	0.0200	UH2
72-54-8	4,4'-DDD [2C]	0.194	0.00500	0.0100	0.0200	XH2
50-29-3	4,4'-DDT		0.00500	0.0100	0.0200	UH2
309-00-2	Aldrin		0.00330	0.0100	0.0200	UH2
319-84-6	alpha-BHC		0.00330	0.0100	0.0200	UXH2
5103-71-9	alpha-Chlordane	0.0184	0.00330	0.0100	0.0200	JPH2
319-85-7	beta-BHC [2C]		0.00330	0.0100	0.0200	UH2
319-86-8	delta-BHC		0.00330	0.0100	0.0200	UXH2
60-57-1	Dieldrin		0.00500	0.0100	0.0200	UH2
959-98-8	Endosulfan I		0.00330	0.0100	0.0200	UH2Q
33213-65-9	Endosulfan II		0.00500	0.0100	0.0200	UH2
1031-07-8	Endosulfan sulfate		0.00500	0.0100	0.0200	UXH2
72-20-8	Endrin		0.00500	0.0100	0.0200	UH2
7421-93-4	Endrin aldehyde		0.00500	0.0100	0.0200	UXH2
53494-70-5	Endrin ketone		0.00500	0.0100	0.0200	UH2
58-89-9	gamma-BHC (Lindane)		0.00330	0.0100	0.0200	UXH2
5103-74-2	gamma-Chlordane	0.0206	0.00330	0.0100	0.0200	BPH2
76-44-8	Heptachlor		0.00330	0.0100	0.0200	UXH2
1024-57-3	Heptachlor epoxide	0.00937	0.00330	0.0100	0.0200	JH2
72-43-5	Methoxychlor		0.00330	0.0100	0.0200	UH2
57-74-9	Chlordane (n.o.s.)		0.0170	0.0500	0.100	UH2
8001-35-2	Toxaphene		0.330	0.667	1.00	UH2

2 RE

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.5000	0.4049	81.0	25 - 140	H2
Tetrachloro-m-xylene [2C]	0.5000	0.3775	75.5	25 - 140	H2
Decachlorobiphenyl	0.5000	0.3929	78.6	30 - 135	H2
Decachlorobiphenyl [2C]	0.5000	0.3657	73.1	30 - 135	H2

ANALYSIS DATA SHEET

JM10-JAX47-MW41S-I013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310218	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310218-03	File ID:	064F6401.D
Sampled:	10/22/13 11:55	Prepared:	10/29/13 11:14	Analyzed:	11/01/13 17:41
Solids:		Preparation:	EXT 3510	Dilution:	1
Batch:	3J29818	Sequence:	3K31006	Calibration:	3310001
Instrument:	GL-ECD4				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00463	0.00926	0.0185	U
72-54-8	4,4'-DDD		0.00463	0.00926	0.0185	~~UX~~ U
50-29-3	4,4'-DDT		0.00463	0.00926	0.0185	U
309-00-2	Aldrin		0.00306	0.00926	0.0185	U
319-84-6	alpha-BHC	0.668	0.00306	0.00926	0.0185	~~B~~ =
5103-71-9	alpha-Chlordane [2C]	0.0194	0.00306	0.00926	0.0185	~~BPM~~ JB-BL, PC, m
319-85-7	beta-BHC	0.0931	0.00306	0.00926	0.0185	~~B~~ =
319-86-8	delta-BHC	0.401	0.00306	0.00926	0.0185	~~BX~~ =
60-57-1	Dieldrin [2C]	0.0352	0.00463	0.00926	0.0185	~~BP~~ J-PC
959-98-8	Endosulfan I [2C]	0.0492	0.00306	0.00926	0.0185	~~B~~ =
33213-65-9	Endosulfan II		0.00463	0.00926	0.0185	U
1031-07-8	Endosulfan sulfate [2C]		0.00463	0.00926	0.0185	U
72-20-8	Endrin		0.00463	0.00926	0.0185	U
7421-93-4	Endrin aldehyde		0.00463	0.00926	0.0185	U
53494-70-5	Endrin ketone		0.00463	0.00926	0.0185	U
58-89-9	gamma-BHC (Lindane)	0.225	0.00306	0.00926	0.0185	~~B~~ =
5103-74-2	gamma-Chlordane	0.0114	0.00306	0.00926	0.0185	~~BJP~~ J-BL
76-44-8	Heptachlor		0.00306	0.00926	0.0185	U
1024-57-3	Heptachlor epoxide [2C]	0.0682	0.00306	0.00926	0.0185	B
72-43-5	Methoxychlor [2C]		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	UX

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3980	86.0	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3646	78.8	25 - 140	
Decachlorobiphenyl	0.4630	0.3134	67.7	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.3043	65.7	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW41S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310218	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310218-03RE1	File ID:	010F1001.D
Sampled:	10/22/13 11:55	Prepared:	11/05/13 19:50	Analyzed:	11/11/13 16:44
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3K05009 Sequence: 3K31707 Calibration: 3310002 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE		0.00500	0.0100	0.0200	UH2
72-54-8	4,4'-DDD [2C]		0.00500	0.0100	0.0200	UXH2
50-29-3	4,4'-DDT		0.00500	0.0100	0.0200	UH2
309-00-2	Aldrin		0.00330	0.0100	0.0200	UH2
319-84-6	alpha-BHC	0.700	0.00330	0.0100	0.0200	XH2
5103-71-9	alpha-Chlordane [2C]	0.0161	0.00330	0.0100	0.0200	JH2
319-85-7	beta-BHC [2C]	0.0778	0.00330	0.0100	0.0200	H2
319-86-8	delta-BHC [2C]	0.452	0.00330	0.0100	0.0200	XH2
60-57-1	Dieldrin [2C]	0.0225	0.00500	0.0100	0.0200	PH2
959-98-8	Endosulfan I [2C]		0.00330	0.0100	0.0200	UH2
33213-65-9	Endosulfan II		0.00500	0.0100	0.0200	UH2
1031-07-8	Endosulfan sulfate	0.00905	0.00500	0.0100	0.0200	JXH2
72-20-8	Endrin	0.0329	0.00500	0.0100	0.0200	PH2
7421-93-4	Endrin aldehyde		0.00500	0.0100	0.0200	UXH2
53494-70-5	Endrin ketone [2C]		0.00500	0.0100	0.0200	UH2
58-89-9	gamma-BHC (Lindane) [2C]	0.233	0.00330	0.0100	0.0200	H2
5103-74-2	gamma-Chlordane [2C]	0.0328	0.00330	0.0100	0.0200	BPH2
76-44-8	Heptachlor [2C]	0.00834	0.00330	0.0100	0.0200	JPH2
1024-57-3	Heptachlor epoxide	0.0788	0.00330	0.0100	0.0200	H2
72-43-5	Methoxychlor [2C]		0.00330	0.0100	0.0200	UH2
57-74-9	Chlordane (n.o.s.) [2C]		0.100	0.100	0.100	UC9H2
8001-35-2	Toxaphene [2C]		0.330	0.667	1.00	UXH2Y

R-RG

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.5000	0.4160	83.2	25 - 140	H2
Tetrachloro-m-xylene [2C]	0.5000	0.3958	79.2	25 - 140	H2
Decachlorobiphenyl	0.5000	0.4243	84.9	30 - 135	H2
Decachlorobiphenyl [2C]	0.5000	0.3926	78.5	30 - 135	H2

ANALYSIS DATA SHEET

JM10-JAX47-MW12S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310218	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310218-04	File ID:	065R6501.D
Sampled:	10/22/13 14:05	Prepared:	10/29/13 11:14	Analyzed:	11/01/13 18:04
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J29818 Sequence: 3K31006 Calibration: 3310001 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]		0.00472	0.00943	0.0189	U
72-54-8	4,4'-DDD [2C]		0.00472	0.00943	0.0189	U
50-29-3	4,4'-DDT [2C]		0.00472	0.00943	0.0189	U
309-00-2	Aldrin		0.00311	0.00943	0.0189	U
319-84-6	alpha-BHC	0.00350	0.00311	0.00943	0.0189	~~BJPM~~ U-BL
5103-71-9	alpha-Chlordane	0.212	0.00311	0.00943	0.0189	~~BP~~ J-PC
319-85-7	beta-BHC	0.698	0.00311	0.00943	0.0189	~~B~~ =
319-86-8	delta-BHC		0.00311	0.00943	0.0189	~~UX~~ U
60-57-1	Dieldrin [2C]	0.169	0.00472	0.00943	0.0189	~~B~~ =
959-98-8	Endosulfan I [2C]	0.232	0.00311	0.00943	0.0189	~~B~~ =
33213-65-9	Endosulfan II		0.00472	0.00943	0.0189	U
1031-07-8	Endosulfan sulfate [2C]		0.00472	0.00943	0.0189	U
72-20-8	Endrin		0.00472	0.00943	0.0189	U
7421-93-4	Endrin aldehyde		0.00472	0.00943	0.0189	U
53494-70-5	Endrin ketone	0.0294	0.00472	0.00943	0.0189	~~BP~~ JB-BL,PC
58-89-9	gamma-BHC (Lindane) [2C]	0.0137	0.00311	0.00943	0.0189	~~BL~~ U-BL
5103-74-2	gamma-Chlordane	0.0186	0.00311	0.00943	0.0189	~~BJPM~~ U-BL
76-44-8	Heptachlor		0.00311	0.00943	0.0189	U
1024-57-3	Heptachlor epoxide [2C]	0.142	0.00311	0.00943	0.0189	~~BP~~ J-PC
72-43-5	Methoxychlor [2C]		0.00311	0.00943	0.0189	U
57-74-9	Chlordane (n.o.s.)		0.0160	0.0472	0.0943	U
8001-35-2	Toxaphene		0.311	0.629	0.943	~~UX~~ U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4717	0.4381	92.9	25 - 140	
Tetrachloro-m-xylene [2C]	0.4717	0.4317	91.5	25 - 140	
Decachlorobiphenyl	0.4717	0.2802	59.4	30 - 135	
Decachlorobiphenyl [2C]	0.4717	0.2714	57.5	30 - 135	

ok

ANALYSIS DATA SHEET

JM10-JAX47-MW12S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310218	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310218-04RE1	File ID:	011F1101.D
Sampled:	10/22/13 14:05	Prepared:	11/05/13 19:50	Analyzed:	11/11/13 17:03
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3K05009 Sequence: 3K31707 Calibration: 3310002 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.0311	0.00500	0.0100	0.0200	PH2
72-54-8	4,4'-DDD		0.00500	0.0100	0.0200	UH2
50-29-3	4,4'-DDT	0.0110	0.00500	0.0100	0.0200	JPH2M
309-00-2	Aldrin	0.0165	0.00330	0.0100	0.0200	JPH2
319-84-6	alpha-BHC		0.00330	0.0100	0.0200	UXH2
5103-71-9	alpha-Chlordane		0.00330	0.0100	0.0200	UH2
319-85-7	beta-BHC	0.693	0.00330	0.0100	0.0200	H2
319-86-8	delta-BHC	0.00405	0.00330	0.0100	0.0200	JXPH2M
60-57-1	Dieldrin [2C]	0.170	0.00500	0.0100	0.0200	H2
959-98-8	Endosulfan I [2C]		0.00330	0.0100	0.0200	UH2
33213-65-9	Endosulfan II [2C]	0.00811	0.00500	0.0100	0.0200	JH2
1031-07-8	Endosulfan sulfate [2C]	0.0100	0.00500	0.0100	0.0200	JXPH2M
72-20-8	Endrin	0.0731	0.00500	0.0100	0.0200	PH2
7421-93-4	Endrin aldehyde	0.0347	0.00500	0.0100	0.0200	XPH2
53494-70-5	Endrin ketone	0.0429	0.00500	0.0100	0.0200	PH2
58-89-9	gamma-BHC (Lindane)	0.0178	0.00330	0.0100	0.0200	JXH2
5103-74-2	gamma-Chlordane	0.0239	0.00330	0.0100	0.0200	BPH2M
76-44-8	Heptachlor		0.00330	0.0100	0.0200	UXH2
1024-57-3	Heptachlor epoxide	0.140	0.00330	0.0100	0.0200	PH2
72-43-5	Methoxychlor		0.00330	0.0100	0.0200	UH2
57-74-9	Chlordane (n.o.s.)		0.0170	0.0500	0.100	UH2
8001-35-2	Toxaphene [2C]		0.330	0.667	1.00	UXH2Y

R-RE

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.5000	0.3848	77.0	25 - 140	H2
Tetrachloro-m-xylene [2C]	0.5000	0.3928	78.6	25 - 140	H2
Decachlorobiphenyl	0.5000	0.3030	60.6	30 - 135	H2
Decachlorobiphenyl [2C]	0.5000	0.2669	53.4	30 - 135	H2

ANALYSIS DATA SHEET

JM10-JAX47-MW40S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310218
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310218-01
Sampled:	10/22/13 10:20	Received:	10/23/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	39.9	3.00	6.00	10.0	1		SW6010C	3123005	10/30/13 16:33

ANALYSIS DATA SHEET

JM10-JAX47-MW40S-1013A

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/22/13 10:20

SDG: 1310218
Project: NAS Jacksonville JM-10
Laboratory ID: 1310218-02
Received: 10/23/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)		30.0	60.0	100	1	U	SW6010C	3124026	10/30/13 13:02
7439-96-5	Manganese (dissolved)		3.00	6.00	15.0	1	U	SW6010C	3124026	10/30/13 13:02

ANALYSIS DATA SHEET

JM10-4AX47-MW41S-1013

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/22/13 11:55

SDG: 1310218
Project: NAS Jacksonville JM-10
Laboratory ID: 1310218-03
Received: 10/23/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	30.2	3.00	6.00	10.0	1		SW6010C	3J23005	10/30/13 16:38

ANALYSIS DATA SHEET

JM10-JAX47-MW12S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310218
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310218-04
Sampled:	10/22/13 14:05	Received:	10/23/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		4.00	6.00	10.0	1	U	SW6010C	3123005	10/30/13 16:42

ANALYSIS DATA SHEET

JM10-JAX47-MW40S-1013

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 10/22/13 10:20

SDG: 1310218
Project: NAS Jacksonville JM-10
Laboratory ID: 1310218-01
Received: 10/23/13 08:30

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous Iron (outside certification)	0.0462	0.0200	0.0400	0.0600	1	[illegible]	SM3500-FE D-W	3123021	10/23/13 15:33
18496-25-8	Sulfide		0.678	1.69	3.39	0.678	1	SM4500S2CF	3128926	10/28/13 18:48
7440-44-0	Total Organic Carbon	5.21	1.25	2.50	3.00	1		SM5310C	3128939	10/28/13 20:15
14797-55-8	Nitrate as N	3.83	0.0330	0.100	0.250	1		E300.0	3123016	10/23/13 16:45
471-34-1	Alkalinity, Total (as CACO3)	84.2	1.00	1.00	1.00	1		SM2320B	3130316	10/30/13 17:45
14808-79-8	Sulfate as SO4	15.0	0.330	1.00	2.50	1		E300.0	3123016	10/23/13 16:45

ANALYSIS DATA SHEET

JM10-JAX47-MW33S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310231	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310231-01	File ID:	066F6601.D
Sampled:	10/23/13 10:10	Prepared:	10/29/13 11:14	Analyzed:	11/01/13 18:27
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J29818 Sequence: 3K31006 Calibration: 3310001 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.0260	0.00463	0.00926	0.0185	~~BP~~ JB-BL, PC
72-54-8	4,4'-DDD		0.00463	0.00926	0.0185	~~UX~~ U
50-29-3	4,4'-DDT		0.00463	0.00926	0.0185	U
309-00-2	Aldrin		0.00306	0.00926	0.0185	U
319-84-6	alpha-BHC	0.0101	0.00306	0.00926	0.0185	~~BJ~~ U-BL
5103-71-9	alpha-Chlordane [2C]	0.0126	0.00306	0.00926	0.0185	~~BJPM~~ U-BL
319-85-7	beta-BHC	0.414	0.00306	0.00926	0.0185	~~B~~ =
319-86-8	delta-BHC		0.00306	0.00926	0.0185	~~UX~~ U
60-57-1	Dieldrin	0.0878	0.00463	0.00926	0.0185	~~B~~ =
959-98-8	Endosulfan I [2C]	0.108	0.00306	0.00926	0.0185	~~BPM~~ J-PC, ML
33213-65-9	Endosulfan II		0.00463	0.00926	0.0185	U
1031-07-8	Endosulfan sulfate		0.00463	0.00926	0.0185	U
72-20-8	Endrin		0.00463	0.00926	0.0185	U
7421-93-4	Endrin aldehyde		0.00463	0.00926	0.0185	U
53494-70-5	Endrin ketone	0.0473	0.00463	0.00926	0.0185	~~B~~ =
58-89-9	gamma-BHC (Lindane) [2C]	0.00604	0.00306	0.00926	0.0185	~~BJ~~ U-BL
5103-74-2	gamma-Chlordane		0.00306	0.00926	0.0185	U
76-44-8	Heptachlor		0.00306	0.00926	0.0185	U
1024-57-3	Heptachlor epoxide [2C]	0.0779	0.00306	0.00926	0.0185	~~B~~ =
72-43-5	Methoxychlor [2C]		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	~~UX~~ U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3988	86.1	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3841	83.0	25 - 140	
Decachlorobiphenyl	0.4630	0.3543	76.5	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.3342	72.2	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW33S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310231	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310231-01RE1	File ID:	012R1201.D
Sampled:	10/23/13 10:10	Prepared:	11/06/13 18:00	Analyzed:	11/11/13 17:22
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3K05009 Sequence: 3K31707 Calibration: 3310002 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]		0.00500	0.0100	0.0200	UH2
72-54-8	4,4'-DDD		0.00500	0.0100	0.0200	UH2
50-29-3	4,4'-DDT		0.00500	0.0100	0.0200	UH2
309-00-2	Aldrin		0.00330	0.0100	0.0200	UH2
319-84-6	alpha-BHC	0.0137	0.00330	0.0100	0.0200	JXPH2M
5103-71-9	alpha-Chlordane [2C]	0.00539	0.00330	0.0100	0.0200	JPH2M
319-85-7	beta-BHC	0.451	0.00330	0.0100	0.0200	H2
319-86-8	delta-BHC [2C]		0.00330	0.0100	0.0200	UXH2
60-57-1	Dieldrin [2C]	0.0762	0.00500	0.0100	0.0200	H2
959-98-8	Endosulfan I		0.00330	0.0100	0.0200	UH2Q
33213-65-9	Endosulfan II [2C]		0.00500	0.0100	0.0200	UH2
1031-07-8	Endosulfan sulfate [2C]	0.0114	0.00500	0.0100	0.0200	JXPH2M
72-20-8	Endrin [2C]	0.0123	0.00500	0.0100	0.0200	JPH2M
7421-93-4	Endrin aldehyde [2C]	0.00626	0.00500	0.0100	0.0200	JPH2M
53494-70-5	Endrin ketone	0.0447	0.00500	0.0100	0.0200	H2
58-89-9	gamma-BHC (Lindane) [2C]	0.00564	0.00330	0.0100	0.0200	JH2
5103-74-2	gamma-Chlordane [2C]		0.00330	0.0100	0.0200	UH2
76-44-8	Heptachlor		0.00330	0.0100	0.0200	UXH2
1024-57-3	Heptachlor epoxide [2C]	0.0670	0.00330	0.0100	0.0200	H2
72-43-5	Methoxychlor [2C]		0.00330	0.0100	0.0200	UH2
57-74-9	Chlordane (n.o.s.) [2C]		0.0170	0.0500	0.100	UH2
8001-35-2	Toxaphene		0.330	0.667	1.00	UH2

R - RE

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	1.000	0.4062	40.6	25 - 140	H2
Tetrachloro-m-xylene [2C]	1.000	0.4137	41.4	25 - 140	H2
Decachlorobiphenyl	1.000	0.4232	42.3	30 - 135	H2
Decachlorobiphenyl [2C]	1.000	0.3838	38.4	30 - 135	H2

ANALYSIS DATA SHEET

JM10-JAX47-MW43S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310231	
Client:	CH2M Hill, Inc.		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310231-02	File ID:	067R6701.D
Sampled:	10/23/13 11:50	Prepared:	10/29/13 11:14	Analyzed:	11/01/13 18:50
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3J29818 Sequence: 3K31006 Calibration: 3310001 Instrument: GL-ECD4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE [2C]		0.00463	0.00926	0.0185	U
72-54-8	4,4'-DDD		0.00463	0.00926	0.0185	~~UX~~ U
50-29-3	4,4'-DDT		0.00463	0.00926	0.0185	U
309-00-2	Aldrin [2C]	0.00629	0.00306	0.00926	0.0185	~~BJ~~ U-BL
319-84-6	alpha-BHC		0.00306	0.00926	0.0185	U
5103-71-9	alpha-Chlordane [2C]	0.157	0.00306	0.00926	0.0185	~~BP~~ J-PC
319-85-7	beta-BHC	0.0767	0.00306	0.00926	0.0185	~~B~~ =
319-86-8	delta-BHC		0.00306	0.00926	0.0185	~~UX~~ U
60-57-1	Dieldrin	0.0720	0.00463	0.00926	0.0185	~~BP~~ J-PC
959-98-8	Endosulfan I [2C]	0.0999	0.00306	0.00926	0.0185	~~B~~ =
33213-65-9	Endosulfan II [2C]	0.0351	0.00463	0.00926	0.0185	~~BP~~ J~~B~~-BL,PC
1031-07-8	Endosulfan sulfate		0.00463	0.00926	0.0185	U
72-20-8	Endrin		0.00463	0.00926	0.0185	U
7421-93-4	Endrin aldehyde		0.00463	0.00926	0.0185	U
53494-70-5	Endrin ketone [2C]	0.0276	0.00463	0.00926	0.0185	~~B~~ ~~B~~-BL
58-89-9	gamma-BHC (Lindane)		0.00306	0.00926	0.0185	U
5103-74-2	gamma-Chlordane [2C]	0.0310	0.00306	0.00926	0.0185	~~B~~ ~~B~~-BL
76-44-8	Heptachlor		0.00306	0.00926	0.0185	U
1024-57-3	Heptachlor epoxide	0.515	0.00306	0.00926	0.0185	~~B~~ =
72-43-5	Methoxychlor [2C]		0.00306	0.00926	0.0185	U
57-74-9	Chlordane (n.o.s.)		0.0157	0.0463	0.0926	U
8001-35-2	Toxaphene		0.306	0.618	0.926	~~UX~~ U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.4630	0.3680	79.5	25 - 140	
Tetrachloro-m-xylene [2C]	0.4630	0.3699	79.9	25 - 140	
Decachlorobiphenyl	0.4630	0.3424	73.9	30 - 135	
Decachlorobiphenyl [2C]	0.4630	0.3148	68.0	30 - 135	

ANALYSIS DATA SHEET

JM10-JAX47-MW43S-1013

Laboratory:	Empirical Laboratories, LLC		SDG:	1310231	
Client:	CH2M Hill, Inc		Project:	NAS Jacksonville JM-10	
Matrix:	Water	Laboratory ID:	1310231-02RE1	File ID:	013F1301.D
Sampled:	10/23/13 11:50	Prepared:	11/06/13 18:00	Analyzed:	11/11/13 17:42
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 3K05009 Sequence: 3K31707 Calibration: 3310002 Instrument: GL-ECD3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
72-55-9	4,4'-DDE	0.00859	0.00500	0.0100	0.0200	JPH2M
72-54-8	4,4'-DDD [2C]		0.00500	0.0100	0.0200	UXH2
50-29-3	4,4'-DDT [2C]		0.00500	0.0100	0.0200	UH2
309-00-2	Aldrin	0.0263	0.00330	0.0100	0.0200	PH2
319-84-6	alpha-BHC [2C]		0.00330	0.0100	0.0200	UH2
5103-71-9	alpha-Chlordane	0.0418	0.00330	0.0100	0.0200	H2
319-85-7	beta-BHC [2C]	0.0621	0.00330	0.0100	0.0200	H2
319-86-8	delta-BHC [2C]	0.0217	0.00330	0.0100	0.0200	XPH2M
60-57-1	Dieldrin [2C]	0.0202	0.00500	0.0100	0.0200	H2
959-98-8	Endosulfan I [2C]	0.0255	0.00330	0.0100	0.0200	PH2
33213-65-9	Endosulfan II [2C]		0.00500	0.0100	0.0200	UH2
1031-07-8	Endosulfan sulfate	0.0132	0.00500	0.0100	0.0200	JXH2
72-20-8	Endrin	0.00908	0.00500	0.0100	0.0200	JPH2M
7421-93-4	Endrin aldehyde [2C]	0.00849	0.00500	0.0100	0.0200	JH2
53494-70-5	Endrin ketone	0.0233	0.00500	0.0100	0.0200	H2
58-89-9	gamma-BHC (Lindane)	0.00855	0.00330	0.0100	0.0200	JXPH2
5103-74-2	gamma-Chlordane [2C]	0.0473	0.00330	0.0100	0.0200	BPH2
76-44-8	Heptachlor		0.00330	0.0100	0.0200	UXH2
1024-57-3	Heptachlor epoxide	0.495	0.00330	0.0100	0.0200	H2
72-43-5	Methoxychlor [2C]	0.00790	0.00330	0.0100	0.0200	JPH2M
57-74-9	Chlordane (n.o.s.)		0.150	0.150	0.150	UC9H2
8001-35-2	Toxaphene		0.330	0.667	1.00	UH2

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	1.000	0.3984	39.8	25 - 140	H2
Tetrachloro-m-xylene [2C]	1.000	0.4145	41.5	25 - 140	H2
Decachlorobiphenyl	1.000	0.4124	41.2	30 - 135	H2
Decachlorobiphenyl [2C]	1.000	0.3980	39.8	30 - 135	H2

ANALYSIS DATA SHEET

JM10-JAX47-MW33S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310231
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310231-01
Sampled:	10/23/13 10:10	Received:	10/24/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	3128928	10/29/13 14:47

ANALYSIS DATA SHEET

JM10-JAX47-MW43S-1013

Laboratory:	Empirical Laboratories, LLC	SDG:	1310231
Client:	CH2M Hill, Inc	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1310231-02
Sampled:	10/23/13 11:50	Received:	10/24/13 08:30

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-38-2	Arsenic	**20.3**	**3.00**	6.00	10.0	1		SW6010C	3J28938	10/29/13 15:09

ANALYSIS DATA SHEET

JM10-JAX47-MW14S-1113

Laboratory:	Empirical Laboratories, LLC	SDG:	1311033
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Water	Laboratory ID:	1311033-01
Sampled:	11/04/13 11:25	Received:	11/05/13 08:40

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-89-6	Iron (dissolved)	38.9	30.0	60.0	100	1	J	SW6010C	3K06007	11/11/13 19:40
7439-96-5	Manganese (dissolved)	25.8	3.00	6.00	15.0	1		SW6010C	3K06007	11/11/13 19:40

ANALYSIS DATA SHEET

JM10-JAX47-MW14S-1113

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Water
Sampled: 11/04/13 11:25

SDG: 1311033
Project: NAS Jacksonville JM-10
Laboratory ID: 1311033-01
Received: 11/05/13 08:40

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Ferrous Iron (outside certification)	**0.0281**	**0.0200**	0.0400	0.0600	1	HSJ	SM 3500-FE D-W	3K06027	11/06/13 16:47
18496-25-8	Sulfide		0.741	1.85	3.70	1	U	SM4500S2CF	3K07021	11/07/13 16:32
7440-44-0	Total Organic Carbon	**9.28**	**1.25**	2.50	3.00	1		SM5310C	3K13022	11/13/13 19:01
471-34-1	Alkalinity Total (as CACO3)	**150**	**1.00**	1.00	1.00	1		SM2320B	3K12001	11/12/13 21:40
14808-79-8	Sulfate as SO4	**6.26**	**0.330**	1.00	2.50	1		E300.0	3K06025	11/07/13 04:25

1310104

CH2M HILL

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 470875-101013-001

PROJECT NAME	PROJECT NUMBER	LAB NAME AND CONTACT	FAX AND MAIL REPORTS TO	RECIPIENT 1 (Address, Tel No., and Fax No.)
FSC "4" / Pecked de Play NAS Jacksonville	470875	Empirical Laboratories, LLC Sonya Gordon	Juan Acevon / CH2M HILL juan.acevon@ch2m.com	3011 SW Williston Rd, Gainesville Fl 32608 352-374-1775 fax 352-384-7002 phone
PROJECT MANAGER NAME	CTO OR CONTRACT	LAB ACCOUNT NUMBER	FAX AND MAIL REPORTS TO	RECIPIENT 2 (Address, Tel No., and Fax No.)
GW Monitoring -October 2013	IMW		Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8067 fax 770-604-9182 phone
PROJECT CONTACT	PROJECT TEL NO. AND FAX NO.	LAB TEL NO. AND FAX NO.	FAX AND MAIL REPORTS TO	RECIPIENT 3 (Address, Tel No., and Fax No.)
Juan Acevon / Eric Davis	770-604-9182 phone 770-604-9282 fax	Phone: 615 345-1115 Fax: 866-417-0568	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8176 fax 678-530-4124 phone

REQUESTED ANALYSES (Include Method of Preservation)

Item	Sample Identifier	Sample Description/Location	Matrix (Soil, Sediment, Water, Air, Tissue, Other)	Date (MM/DD/YY)	Time (HH:MM)	Grab (G) or Composite (C)	# of Containers	TCL Pesticides by 8081B	Aroclor by 8081B		TCL VOCs by 8260B	TCL SVOCs (PAHs by 8270 SIM)	TCL Filtered Pesticides by 8081B	Dis Me & Fe - 6010C Lab Filtered	Nitrate & Sulfate by EPA 300	Sulfide by SM 4500-S2-F	Alkalinity by SM 2320B	TOC by Sw-846 9060	Ferrous Iron by 3500-Fe D	RSK - RSK 175	Sample Type (Grab or Comp)	Comments (Preservation, Container)	Lab ID (Lab Use Only)
1	JM10-JAX47-TB02-101013	Trip Blank #1	WQ	10/10/13	1200	C	14				X										TB	01	
2	JM10-JAX47-937-MW01S-1013	JAX47-937-MW01S	GW	10/10/13	1012	C	14	X	X		X	X		X	X	X	X	X	X	X	N	02/03	
3	JM10-JAX47-FD01-1013	Field Duplicate #1	GW	10/10/13		C	14	X	X		X	X									FD	04	
4	JM10-JAX47-937-MW03S-1013	JAX47-937-MW03S	GW	10/10/13	1338	C	14	X	X				X	X	X	X	X	X	X	X	N	05/06	
5	JM10-JAX47-FD02-1013	Field Duplicate #2	GW	10/10/13		C	14	X	X				X								FD	07/08	
6	JM10-JAX47-937-MW02S-1013	JAX47-937-MW02S	GW	10/10/13	1508	C	14	X	X				X	X	X	X	X	X	X	X	N	~~08/09~~	
7																						09/10	
8																							
9																							
10																							

Relinquished by / Company / Signature / Date / Time	Received by / Company / Signature / Date / Time	Relinquished by / Company / Signature / Date / Time	Received by / Company / Signature / Date / Time
Juan Acevon / CH2M HILL Monica Rupowe / CH2M HILL Juan Acevon 10-Oct-2013 1730	FedEx Master - 796855123203		10/11/13 0830

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AGVIQ CH2M HILL

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 470875-101113-001

PROJECT NAME: PSC 47 / Pesticide Shop NAS Jacksonville	PROJECT NUMBER: 470875	LAB NAME AND CONTACT: Empirical Laboratories, LLC Sonya Gordon	FAX AND MAIL REPORT TO: RECIPIENT 1 (Name and Company): Juan Acevedo / CH2M HILL juan.acevedo@ch2m.com	RECIPIENT 1 (Address, Tel No and Fax No): 3011 SW Williston Rd, Gainesville Fl 32608 352-374-1725 fax 352-384-7082 phone
PROJECT MANAGER/STATE: GW Monitoring - October 2013	CTO OR NO NUMBER: JM10	LAB PO NUMBER:	FAX AND MAIL REPORT TO: RECIPIENT 2 (Name and Company): Eric Davis / CH2M HILL eric.davis@ch2m.com	RECIPIENT 2 (Address, Tel No and Fax No): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8067 fax 770-604-9182 phone
PROJECT CONTACT: Juan Acevedo / Eric Davis	PROJECT TEL NO AND FAX NO: 770-604-9182 phone 770-604-9282 fax	LAB TEL NO AND FAX NO: Phone: 615-345 1115 Fax: 866-417-0548	FAX AND MAIL REPORT TO: RECIPIENT 3 (Name and Company): Bethany Garvey / CH2M HILL bgarvey@ch2m.com	RECIPIENT 3 (Address, Tel No and Fax No): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8176 fax 678-530-4124 phone

ANALYSES REQUIRED (Include Method Number)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on BOP)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on BOP)	# OF CONTAINERS	TCL Pesticides by 8081B	Arsenic by 6010B	[illegible]	TCL VOCs by 8260B	TCL SVOC SVOA by 8270B/8270SIM	TCL Filtered Pesticides by 8081B	Diss Mn & Fe 6010C Lab Filtered	Nitrate & Nitrite by EPA 300	Sulfide by SM 4500-S2C	Alkalinity by SM 2320B	TOC by Sw 846 9060	Furanes from by 3550-F&D	MEE - RSK 175	SAMPLE TYPE (see codes on BOP)	COMMENTS/ SCREENING REASON	LAB ID (for lab use)
1	JM10-JAX47-TB01-101113	Trip Blank #1	WQ	10/11/13	1200	C	14				X										TB		Ø1
2	JM10-JAX47-MW18S-1013	JAX47-MW18S	GW	10/11/13	945	C	14	X	X		X	X									N		Ø2
3	JM10-JAX47-MW18S-1013-MS	JAX47-MW18S	GW	10/11/13	945	C	14	X	X		X	X									MS		↓
4	JM10-JAX47-MW18S-1013-SD	JAX47-MW18S	GW	10/11/13	945	C	14	X	X		X	X									MSD		↓
5	JM10-JAX47-MW36S-1013	JAX47-MW36S	GW	10/11/13	1150	C	14	X	X				X								N		Ø3/Ø4
6	JM10-JAX47-FD03-1013	Field Duplicate #3	GW	10/11/13		C	14	X	X												FD		~~Ø4~~ Ø5
7	JM10-JAX47-MW14S-1013	JAX47-MW14S	GW	10/11/13	1405	C	14	X	X												N		~~Ø5~~ Ø6
8																							JG 10/12/
9																							
10																							

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
Printed Name and Signature: Monica Rogers	11-Oct-2013	1700	Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature: Josh Gross	10/12/13	0820

Form COC01, Rev 08/10

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AGVIO
CH2M HILL

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 470875-101113-001

PROJECT NAME: PSC 47 / Pesticide Shop NAS Jacksonville	PROJECT NUMBER: 470875	LAB NAME AND CONTACT: Empirical Laboratories, LLC Sonya Gordon	FAX AND MAIL REPORTS TO RECIPIENT 1 (Name and Company): Juan Acaron / CH2M HILL juan.acaron@ch2m.com	RECIPIENT 1 (Address, Tel No., and Fax No.): 3017 SW Williston Rd, Gainesville Fl 32608 352-374-1725 fax 352-384-7003 phone
PROJECT FRAME/STATE/AREA: GW Monitoring - October 2013	CTO NUMBER: LM10	LAB PO NUMBER:	FAX AND MAIL REPORTS TO RECIPIENT 2 (Name and Company): Eric Davis / CH2M HILL eric.davis@ch2m.com	RECIPIENT 2 (Address, Tel No., and Fax No.): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8067 fax 770-604-9182 phone
PROJECT CONTACT: Juan Acaron / Eric Davis	PROJECT TEL NO AND FAX NO: 770-604-9182 phone 770-604-9183 fax	LAB TEL NO AND FAX NO: Phone: 615.348.1115 Fax: 866-417-0548	FAX AND MAIL REPORTS SENT TO RECIPIENT 3 (Name and Company): Bethany Garvey / CH2M HILL bgarvey@ch2m.com	RECIPIENT 3 (Address, Tel No., and Fax No.): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8176 fax 678-530-4124 phone

ANALYSES REQUESTED (include Method Number)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA REPORTING LEVEL (see codes on back)	# JARS (number of jars)	TCL Pesticides by 8081B	Arsenic by 6010B	[illegible]	TCL VOCs by 8260B	TCL SPECIATED VOCs by 8260B/8015M	TCL Filtered Pesticides by 8081B	Dissolved Fe - 6010B/7 Lab Filtered	Nitrate & Sulfate by EPA 300	Sulfide by EM 4500-S2F	Alkalinity by SM 2320B	TOC by Hach 8000	Ferrous Iron by 3500-Fe D	MEE - RSK 175	SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID (for lab use)
1	JM10-JAX47-TB01-101113	Trip Blank #1	WQ	10/11/13	1200	C	14				X										TB		01
2	JM10-JAX47-MW105-1013	JAX47-MW105	GW	10/11/13	945	C	14	X	X		X	X									N		02
3	JM10-JAX47-MW105-1013-MS	JAX47-MW105	GW	10/11/13	945	C	14	X	X		X	X									MS		
4	JM10-JAX47-MW105-1013-SD	JAX47-MW105	GW	10/11/13	945	C	14	X	X		X	X									MSD		
5	JM10-JAX47-MW303-1013	JAX47-MW303	GW	10/11/13	1150	C	14	X	X				X								N		03/04
6	JM10-JAX47-FD03-1013	Field Duplicate #3	GW	10/11/13	-	C	14	X	X												FD		~~04~~ 05
7	JM10-JAX47-MW145-1013	JAX47-MW145	GW	10/11/13	1405	C	14	X	X												N		~~05~~ 06
8																							JG 10/12/13
9																							
10																							

RELINQUISHED BY: Printed Name and Signature	DATE	TIME	RECEIVED BY: Printed Name and Signature	DATE	TIME
Monica Rogers	11-Oct-2013	1700			
			Josh Gross	10/12/13	0820

SHIPPING COMPANY: Fedex
SHIPPING NUMBER: FedEx Master - 796893973300
SAMPLE TEMPERATURE AND CONDITION UPON RECEIPT (for lab use): [illegible]

Form CH2M, Rev 04/02

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AGVIO CH2M HILL

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 470875-101113-001

PROJECT NAME	PROJECT NUMBER	LAB NAME AND CONTACT	FAX AND MAIL REPORT/BILL TO RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.)
JSC 47 / Pesticide Shop NAS Jacksonville	470875	Empirical Laboratories, LLC Sonya Gordon	Juan Acaron / CH2M HILL	juan.acaron@ch2m.com 3011 SW Williston Rd, Gainesville Fl 32608 352 374-1725 fax 352-384-7002 phone
PROJECT PHASE/DESTAGE	CTO OR DO NUMBER	LAB PO NUMBER	FAX AND MAIL REPORT/BILL TO RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.)
GW Monitoring - October 2013	JM10		Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8067 fax 770-604-9182 phone
PROJECT CONTACT	PROJECT TEL NO AND FAX NO	LAB TEL NO AND FAX NO	FAX AND MAIL REPORT/BILL TO RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.)
Juan Acaron / Eric Davis	770-604-9182 phone 770-604-9282 fax	Phone: 615-345-1115 Fax: 866-417-0548	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8176 fax 678-530-4124 phone

ANALYSES REQUIRED (Indicate Method Number)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on BOF)	DATE COLLECTED	TIME COLLECTED	DATA DEL LEVEL (see codes on BOF)	TAT (calendar days)	TCL Pesticides by 8081B	Arsenic by 6010B	[illegible]	TCL VOCs by 8260B	TCL SVOCs/PAHs by 8270D SIM	TCL Filtered Pesticides by 8081B	Dis Mn & Fe - 6010C, Lab Filtered	Nitrate & Sulfide by EPA 300	Sulfide by SM 4500-S2C/F	Alkalinity by SM 2320B	TOC by Sw-846 9060	Ferrous Iron by 3500-Fe D	MEE - RSK 175	SAMPLE TYPE (see codes on BOF)	COMMENTS/ SCREENING REACTION	LAB ID (for lab use)
1	JM10-JAX47-TB01-101113	Trip Blank #1	WQ	10/11/13	1200	C	14				X										TB		01
2	JM10-JAX47-MW108-1013	JAX47-MW108	GW	10/11/13	945	C	14	X	X	X	X	X									N		02
3	JM10-JAX47-MW108-1013-MS	JAX47-MW108	GW	10/11/13	945	C	14	X	X		X	X									MS		↓
4	JM10-JAX47-MW108-1013-SD	JAX47-MW108	GW	10/11/13	945	C	14	X	X		X	X									MSD		
5	JM10-JAX47-MW365-1013	JAX47-MW365	GW	10/11/13	1150	C	14	X	X	X			X								N		03/04
6	JM10-JAX47-FD03-1013	Field Duplicate #3	GW	10/11/13	-	C	14	X	X												FD		~~04~~ 05
7	JM10-JAX47-MW148-1013	JAX47-MW148	GW	10/11/13	1405	C	14	X	X	X											N		~~05~~ 06
8																							JG 10/12/13
9																							
10																							

SAMPLER(S) AND COMPANY (Signature)	COURIER AND SHIPPING NUMBER	SAMPLER TEMPERATURE AND CONDITION UPON RECEIPT (by lab/cooler)
Juan Acaron / CH2M HILL Monica Rogers / CH2M HILL	FedEx Master - 796893973200	*Please hold the Arsenic 3 or 5 for 1631 analysis

RELINQUISHED BY (Printed Name and Signature)	DATE	TIME	RECEIVED BY (Printed Name and Signature)	DATE	TIME
Monica Rogers Monica R	11-Oct-2013	1700			
			J Jones	10/12/13	0820

1310121

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AECOM CH2M HILL

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 470875-101513-001

PROJECT NAME: PBC 47 / Pesticide Shop RAB Jacksonville	PROJECT NUMBER: 470875	LAB NAME AND CONTACT: Empirical Laboratories, LLC Sonya Gordon	FAX AND MAIL REPORT/BILL TO: RECIPIENT 1 (Name and Company) Juan Acuron / CH2M HILL juan.acuron@ch2m.com	RECIPIENT 1 (Address, Tel No., and Fax No.): 3011 SW Williston Rd, Gainesville Fl 32608 352-374-1725 fax 352-384-7005 phone
PROJECT DESCRIPTION: GW Monitoring - October 2013	CTO OR DO NUMBER: JM10	LAB PO NUMBER:	FAX AND MAIL REPORT/BILL TO: RECIPIENT 2 (Name and Company) Eric Davis / CH2M HILL eric.davis@ch2m.com	RECIPIENT 2 (Address, Tel No., and Fax No.): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8067 fax 770-604-9182 phone
PROJECT CONTACT: Juan Acuron / Eric Davis	PROJECT TEL NO AND FAX NO: 770-604-9182 phone 770-604-9182 fax	LAB TEL NO AND FAX NO: Phone: 615-345-1115 Fax: 866-417-0548	FAX AND MAIL REPORT/BILL TO: RECIPIENT 3 (Name and Company) Bethany Garvey / CH2M HILL bgarvey@ch2m.com	RECIPIENT 3 (Address, Tel No., and Fax No.): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8176 fax 678-530-4124 phone

ANALYSES REQUESTED (Include Method Number)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on EOP)	DATE COLLECTED	TIME COLLECTED	DATA REQ LEVEL (see codes on EOP)	TAT (calendar days)	TCL Pesticides by 8081B	Arsenic by 6010B	Arsenic 3+ & 5+ by 1632A/M	TCL VOCs by 8260B	TCL SVOCs/PAHs by 8270D/8270SIM	TCL Filtered Pesticides by 8081B	Dissolved Metals, Lab Filtered	Nitrate & Nitrite by EPA 300	Sulfide by SM 4500-S2-D	Alkalinity by SM 2320B	TOC by Sw-846 9060	Percent Iron by 3500-Fe-D	MEE - RSK 175	SAMPLE TYPE (see codes on EOP)	COMMENTS/ SCREENING READINGS	LAB ID (for lab use only)
1	JM10-JAX47-TB01-101113	Trip Blank #1	WQ	10/15/13	1200	C	14				X										TB	01	
2	JM10-JAX47-MW34S-1013	JAX47-MW34S	GW	10/15/13	1025	C	14	X	X	X			X	X	X	X	X	X	X	X	N	02/03	
3	JM10-JAX47-MW34S-1013-MS	JAX47-MW34S	GW	10/15/13	1025	C	14	X	X				X								MS		
4	JM10-JAX47-MW34S-1013-SD	JAX47-MW34S	GW	10/15/13	1025	C	14	X	X				X								MSD		
5	JM10-JAX47-MW11S-1013	JAX47-MW11S	GW	10/15/13	1350	C	14	X	X	X	X	X	X	X	X	X	X	X	X	X	N	04/05	
6	JM10-JAX47-937-MW04S-1013	JAX47-937-MW04S	GW	10/15/13	1530	C	14	X	X	X	X	X		X	X	X	X	X	X	X	N	06/07	
7	JM10-JAX47-EB01-101113	Equipment Blank #1	WQ	10/15/13	1610	C	14	X	X		X	X	X								EB	08/09	
8																							
9																							
10																							

SAMPLERS AND COMPANY (Signature): Juan Acuron / CH2M HILL; Monica Rogers / CH2M HILL

COURIER AND SHIPPING NUMBER: FedEx Master - 796916428816

SAMPLE TEMPERATURE AND CONDITION UPON RECEIPT (by laboratory): *Please hold the Arsenic 3+ & 5+ by 1632 analysis

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Monica Rogers	15-Oct-2013	1745	Printed Name and Signature		
Printed Name and Signature			Printed Name and Signature		
Printed Name and Signature			Printed Name and Signature	10/16/13	0820

Form CH2M, Rev 04/09

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1310139

1310165

A G V I O
CH2M HILL

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 470875-101613-001

PROJECT NAME: SSC #7 / Pesticide Shop NAS Jacksonville	PROJECT NUMBER: 470875	LABORATORY NAME AND CONTACT: Empirical Laboratories, LLC Sonya Gordon	FAX AND MAIL REPORTS TO: Juan Acarron / CH2M HILL juan.acarron@ch2m.com	RECIPIENT (address, phone, fax): 2011 SW Williston Rd, Gainesville Fl. 32608 352 374-1725 fax 352 384 7802 phone
PROJECT MANAGER: GW Monitoring October 2013	COST CENTER: JM10	LAB ID NUMBER:	FAX AND MAIL REPORTS TO: Eric Davis / CH2M HILL eric.davis@ch2m.com	RECIPIENT (address, phone, fax): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8067 fax 770-604-9182 phone
SAMPLER: Juan Acarron / Eric Davis	PROJECT TEL NO AND FAX NO: 770-604-9182 phone 770-604-9282 fax	LAB TEL NO AND FAX NO: Phone: 615-345-1115 Fax: 866-417-0548	FAX AND MAIL REPORTS TO: Bethany Garvey / CH2M HILL bgarvey@ch2m.com	RECIPIENT (address, phone, fax): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678 579-8196 fax 678-536-4124 phone

ANALYSES REQUESTED (Include Method Numbers)

Item No.	Sample Identification	Sample Description/Location	Matrix (water or soil)	Date Collected	Time Collected	Grab or Composite	# of Containers	TCL Pesticides by 8081B	Arsenic by 6010B		TCL VOCs by 8260B	TCL SVOCs/PAHs by 8270D/8270 SIM	TCL Filtered Pesticides by 8081B	Dissolved Metals - 6010B Lab Filtered	Nitrate & Sulfate by EPA 300	Sulfide by SM 4500 S2-F	Alkalinity by SM 2320B	TOC by Sw 846 9060	Ferrous Iron by 3500 Fe D	MRE RSK 175	Sample Type (see codes below)	Comments (Preservation, Filtration)	Lab ID (for lab use only)
	JM10-JAX47-TB01-101613	Trip Blank #1	WQ	10/16/13	1100	C	14				X										TB	01	
	JM10-JAX47-MW13S-1013	JAX47-MW13S	GW	10/16/13	935	C	14	X	X		X	X	X	X	X	X	X	X	X	X	N	02/03	
	JM10-JAX47-MW42S-1013	JAX47-MW42S	GW	10/16/13	1135	C	14	X	X		X	X	X	X	X	X	X	X	X	X	N	04/05	
	JM10-JAX47-MW25S-1013	JAX47-MW25S	GW	10/16/13	1425	C	14	X	X		X	X		X	X	X	X	X	X	X	N	06/07	

SAMPLED BY AND COMPANY (ORGANIZATION): Juan Acarron / CH2M HILL; Monica Rogers / CH2M HILL

COURIER AND AIRBILL NUMBER: FedEx Master - 796926464414

SAMPLE TRANSFERRED FROM/TO (LOCATION) AND SEALED (Y or N):

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: Juan Acarron	16-Oct-2013	1:45	Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:	10/17/13	0820

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AECOM CH2M HILL

CHAIN-OF-CUSTODY RECORD

470875-101713-001

PROJECT NAME	PROJECT NO./CODE	LAB INFORMATION/CONTACT	FAX AND MAIL REPORT SENT TO: RECIPIENT (Name and Company)	RECIPIENT (Address, Tel No., and Fax No.)
ISC 47 / Pesticide Shop NAS Jacksonville	470875	Empirical Laboratories, LLC Sonya Gordon	Juan Acaron / CH2M HILL juan.acaron@ch2m.com	3011 SW Williston Rd, Gainesville Fl 32608 352-374-1725 fax 352-384-0902 phone
PROJECT MANAGER/CONTACT	CTO OR DO NUMBER	LAB NO./NUMBER	FAX AND MAIL REPORT SENT TO: RECIPIENT (Office and Company)	RECIPIENT (Address, Tel No., and Fax No.)
GW Monitoring - October 2013	JM18		Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8067 fax 770-604-9182 phone
PROJECT CONTACT	PROJECT TEL. NO. AND FAX NO.	LAB TEL. NO. AND FAX NO.	FAX AND MAIL REPORT SENT TO: RECIPIENT (Office and Company)	RECIPIENT (Address, Tel No., and Fax No.)
June Acaron / Eric Davis	770-604-9182 phone 770-604-9282 fax	Phone: 615-345-1115 Fax: 865-457-0548	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8176 fax 678-539-4124 phone

ANALYSES REQUIRED (Include Method Number)

Item No.	Sample Identification	Sampling Location	Matrix (WS, WW, SO, SL, OL, TS, WI, AIR)	Date Collected	Time Collected	Grab (G) or Composite (C)	No. of Containers	TCL Pesticides by 8081B	Arsenic by 6010B	[illegible]	TCL VOCs by 8260B	TCL SVOCs/PAHs by 8270D/625/SIM	TCL Filtered Pesticides by 8081B	Gen Chem & PP - 600/600C Lab Filtered	Nitrate & Sulfate by EPA 300	Sulfide by SM 4500 S2F	Alkalinity by SM 2320B	TOC by Sw-846 9060	Extreme Iron by 3500 Fe D	MRP 365.1/5	Sample Type (Grab or Composite)	Comments/Preservatives	Lab ID (To Be Filled In)
	JM18-JAX47-TB01-101713	Trip Blank #1	WQ	10/17/13	1200	C	14				X										TB		Ø1
1	JM18-JAX47-MW135-1013	JAX47-MW135	GW	10/17/13	1030	C	14	X	X		X	X									N		Ø2
2	JM18-JAX47-MW158-1013	JAX47-MW158	GW	10/17/13	1340	C	14	X	X		X	X									N		Ø3
3	JM18-JAX47-MW375-1013	JAX47-MW375	GW	10/17/13	1810	C	14	X	X					X	X	X	X	X	X	X	N		Ø4/Ø5
4																							
5																							
6																							
7																							
8																							
9																							

Relinquished by (Signature)	Shipping Carrier and Shipping Number					
Juan Acaron / CH2M HILL Monica Rogers / CH2M HILL	FedEx Master - 796937865733					
Relinquished by	Date	Time	Received by	Date	Time
Printed Name and Signature Juan Acaron	17-Oct-2013	1745	Printed Name and Signature		
Printed Name and Signature			Printed Name and Signature		
Printed Name and Signature			Printed Name and Signature JOSH GROSS	10/18/13	0905

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AECOM
CH2M HILL

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 470875-101813-001

PROJECT NAME	PROJECT NUMBER	LAB NAME AND CONTACT	FAX AND MAIL REPORTS TO (RECIPIENT 1 (Name and Company))	RECIPIENT 1 (Address, Tel No., and Fax No.)
PSC 47 / Pesticide Shop NAS Jacksonville	470875	Empirical Laboratories, LLC Sonya Gordon	Juan Acaron / CH2M HILL juan.acaron@ch2m.com	3011 SW Williston Rd, Gainesville Fl 32608 352-374-1725 fax 352-384-7002 phone
PROJECT PHASE/SUBTASK	CTO OR PO NUMBER	LAB PO NUMBER	FAX AND MAIL REPORTS TO (RECIPIENT 2 (Name and Company))	RECIPIENT 2 (Address, Tel No., and Fax No.)
GW Monitoring - October 2013	JM10		Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8067 fax 770-604-9182 phone
PROJECT CONTACT	PROJECT TEL NO AND FAX NO	LAB TEL NO AND FAX NO	FAX AND MAIL REPORTS TO (RECIPIENT 3 (Name and Company))	RECIPIENT 3 (Address, Tel No., and Fax No.)
Juan Acaron / Eric Davis	770-604-9182 phone 770-604-9182 fax	Phone: 615-345-1115 Fax: 866-417-0548	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8176 fax 678-530-4124 phone

ANALYSES REQUIRED (Include Method Number)

LINE	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on BOP)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on BOP)	# OF CONTAINERS	TCL Pesticides by 8081B	Arsenic by 6010B		TCL VOCs by 8260B	TCL SVOCs/PAHs by 8270D/8270 SIM	TCL Filtered Pesticides by 8081B	Dis Mn & Fe - 6010C; Lab Filtered	Nitrate & Sulfate by EPA 300	Sulfide by SM 4500-S2-D	Alkalinity by SM 2320B	TOC by SW-846 9060	Ferrous Iron by 3500-Fe-D	MEE - RSK 175	SAMPLE TYPE (see codes on BOP)	COMMENTS/ SCREENING REASONS	LAB ID (for lab use)
1	JM10-JAX47-TB01-101813	Trip Blank #1	WQ	10/18/13	1200	C	14				X										TB		Ø1
2	JM10-JAX47-MW32S-1013	JAX47-MW32S	GW	10/18/13	930	C	14	X	X	X				X	X	X	X	X	X	X	N		Ø2/Ø3
3	JM10-JAX47-MW27S-1013	JAX47-MW27S	GW	10/18/13	1035	C	14	X			X	X									N		~~Ø3~~ Ø4
4	JM10-JAX47-MW19S-1013	JAX47-MW19S	GW	10/18/13	1145	C	14	X	X		X	X									N		Ø5
5																							
6																							
7																							
8																							
9																							
10																							

SAMPLERS (NAME/COMPANY (BOP/BOR)): Juan Acaron / CH2M HILL; Monica Rogers / CH2M HILL

COURIER AND BILL OF LADING NUMBER: FedEx Master - 796944054205

SAMPLE TEMPERATURE AND CONDITION UPON RECEIPT (for lab use):

RELINQUISHED BY (Printed Name and Signature)	DATE	TIME	RECEIVED BY (Printed Name and Signature)	DATE	TIME
Juan Acaron	18-Oct-2013	1700			
			JOSH GROSS	10/19/13	0830

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AGVIQ CH2M HILL

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 470875-101813-001

PROJECT NAME	PROJECT NUMBER	LAB NAME AND CONTACT	FAX AND MAIL REPORT SENT TO (RECIPIENT 1 (Name and Company))	RECIPIENT 1 (Address, Tel No., and Fax No.)
PSC 47 / Pesticide Shop NAS Jacksonville	470875	Empirical Laboratories, LLC Sonya Gordon	Juan Acaron / CH2M HILL juan.acaron@ch2m.com	3011 SW Williston Rd, Gainesville Fl 32608 352-373-1725 fax 352-384-7002 phone
PROJECT PHASE/SUBTASK	CTO OR DO NUMBER	LAB PO NUMBER	FAX AND MAIL REPORT SENT TO (RECIPIENT 2 (Name and Company))	RECIPIENT 2 (Address, Tel No., and Fax No.)
GW Monitoring - October 2013	JM00		Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8067 fax 770-604-9182 phone
PROJECT CONTACT	PROJECT TEL NO AND FAX NO	LAB TEL NO AND FAX NO	FAX AND MAIL REPORT SENT TO (RECIPIENT 3 (Name and Company))	RECIPIENT 3 (Address, Tel No., and Fax No.)
Juan Acaron / Eric Davis	770-604-9182 phone 770-604-9182 fax	Phone: 615-345-1115 Fax: 866-417-0548	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-9176 fax 678-530-4124 phone

ANALYSES REQUESTED (Method Number)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on BOP)	DATE COLLECTED	TIME COLLECTED	DATA REQ LEVEL (see codes on BOP)	TAT (calendar days)	TCL Pesticides by 8081B	Arsenic by 6010B		TCL VOCs by 8260B	TCL SVOCs/PAHs by 8270D/8270 SIM	TCL Filtered Pesticides by 8081B	Diss Mn & Fe - 6010C Lab Filtered	Nitrate & Sulfate by EPA 300	Sulfide by SM 4500-S2CP	Alkalinity by SM 2320B	TOC by Sw 846 9060	Protozoa (cyst by 3500-Fe D)	MBE - RSK 175	SAMPLE TYPE (see codes on BOP)	COMMENTS/ SCREENING READINGS	LAB ID (for lab use)
1	JM10-JAX47-TB01-101813	Trip Blank #1	WQ	10/18/13	1200	C	14				X										TB		Ø1
2	JM10-JAX47-MW32S-1013	JAX47-MW32S	GW	10/18/13	930	C	14	X	X	\				X	X	X	X	X	X	X	N		Ø2/Ø3
3	JM10-JAX47-MW27S-1013	JAX47-MW27S	GW	10/18/13	1035	C	14	X			X	X									N		~~Ø3~~ Ø4
4	JM10-JAX47-MW19S-1013	JAX47-MW19S	GW	10/18/13	1245	C	14	X	X		X	X									N		Ø5
5																							
6																							
7																							
8																							
9																							
10																							

SAMPLER/RELINQUISHED BY (Signature)	COURIER AND BILL NO	SAMPLE TRANSFER/LOCATION AND CONDITION UPON RECEIPT (for lab use)
Juan Acaron / CH2M HILL Monica Rogers / CH2M HILL	FedEx Master - 796944054205	

RELINQUISHED BY (Printed Name and Signature)	DATE	TIME	RECEIVED BY (Printed Name and Signature)	DATE	TIME
Juan Acaron	18-Oct-2013	1700			
			JOSH Gross	10/19/13	0830

Form 0200, Rev 0000

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"UPDATED COC"

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CH2M HILL

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 470875-102113-001

PROJECT NAME: PSC 47 / Pesticide Shop NAS Jacksonville	PROJECT NUMBER: 470875	LAB NAME AND CONTACT: Empirical Laboratories, LLC Sonya Gordon	FAX AND MAIL REPORTS ESD TO: RECIPIENT 1 (Name and Company): Juan Acaron / CH2M HILL juan.acaron@ch2m.com	RECIPIENT 1 (Address, Tel No., and Fax No.): 3011 SW Williston Rd, Gainesville Fl 32608 352-374-1725 fax 352-384-7002 phone
PROJECT DESCRIPTION: GW Monitoring - October 2013	PTO OR DO NUMBER: JM10	LAB PO NUMBER:	FAX AND MAIL REPORTS ESD TO: RECIPIENT 2 (Name and Company): Eric Davis / CH2M HILL eric.davis@ch2m.com	RECIPIENT 2 (Address, Tel No., and Fax No.): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8067 fax 770-604-9182 phone
PROJECT CONTACT: Juan Acaron / Eric Davis	PROJECT TEL NO AND FAX NO: 770-604-9182 phone 770-604-9282 fax	LAB TEL NO AND FAX NO: Phone: 615-345-1115 Fax: 866-417-0548	FAX AND MAIL REPORTS ESD TO: RECIPIENT 3 (Name and Company): Bethany Garvey / CH2M HILL bgarvey@ch2m.com	RECIPIENT 3 (Address, Tel No., and Fax No.): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8176 fax 678-530-4124 phone

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on SOP)	DATE COLLECTED	TIME COLLECTED	DATE REQUESTED (see codes on SOP)	TAT (calendar days)	TCL Pesticides by 8081B	Arsenic by 6010B	[illegible]	TCL VOCs by 8260B	TCL SVOCs/PAHs by 8270D/8270 SIM	TCL Filtered Pesticides by 8081B	Diss Mn & Fe - 6010C, Lab Filtered	Nitrate & Sulfate by EPA 300	Sulfide by SM 4500-S2-F	Alkalinity by SM 2320B	TOC by Sw-846 9060	Ferrous Iron by 3500-Fe D	MEE - RSK 175	SAMPLE TYPE (see codes on SOP)	SAMPLE CONTAINER SCREENING READINGS	LABID (lab use only)
1	JM10-JAX47-MW39S-1013	JAX47-MW39S	GW	10/21/13	1125	C	14	X	X	X				X	X	X	X	X	X	X	N		01/02
2	JM10-JAX47-MW38S-1013	JAX47-MW38S	GW	10/21/13	1330	C	14	X	X	X											N		03
3	JM10-JAX47-MW26S-1013	JAX47-MW26S	GW	10/21/13	1445	C	14	X	X	X											N		04
4																							
5																							
6																							
7																							
8																							
9																							
10																							

SAMPLERS AND COMPANY (please print)	COOLER AND SHIPPING NUMBER	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (by lab only)
Juan Acaron / CH2M HILL	FedEx Master - 796956661814	Please hold the Arsenic 1- & 5- day RSK analysis.

RELINQUISHED BY: Printed Name and Signature	DATE	TIME	RECEIVED BY: Printed Name and Signature	DATE	TIME
Juan Acaron	21-Oct-2013	1700			
Printed Name and Signature			Printed Name and Signature		
Printed Name and Signature			Printed Name and Signature		
			Josh Gross	10/22/13	0830

Form CCT041, Rev 06/08

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AGVIQ CH2M HILL

CHAIN-OF-CUSTODY RECORD

DOC NUMBER: 470875-102213-001

PROJECT NAME: PSC 47 / Pesticide Shop NAS Jacksonville	PROJECT NUMBER: 470875	LAB NAME AND CONTACT: Empirical Laboratories, LLC Bonya Gordon	FAX AND MAIL REPORTS SENT TO (RECIPIENT 1 (Name and Company)): Juan Acaron / CH2M HILL juan.acaron@ch2m.com	RECIPIENT 1 (Address, Tel No., and Fax No.): 3011 SW Williston Rd, Gainesville Fl 32608 352-374-1725 fax 352-384-7002 phone
PROJECT PLAN (QAPP) NAME: GW Monitoring - October 2013	CTO OR LO NUMBER: JM10	LAB PO NUMBER:	FAX AND MAIL REPORTS SENT TO (RECIPIENT 2 (Name and Company)): Eric Davis / CH2M HILL eric.davis@ch2m.com	RECIPIENT 2 (Address, Tel No., and Fax No.): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8067 fax 770-604-9182 phone
PROJECT CONTACT: Juan Acaron / Eric Davis	PROJECT TEL NO AND FAX NO: 770-604-9182 phone 770-604-9182 fax	LAB TEL NO AND FAX NO: Phone: 615-345-1115 Fax: 866-417-0848	FAX AND MAIL REPORTS SENT TO (RECIPIENT 3 (Name and Company)): Bethany Garvey / CH2M HILL bgarvey@ch2m.com	RECIPIENT 3 (Address, Tel No., and Fax No.): Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8176 fax 678-530-4124 phone

ANALYSES REQUESTED (Indicate Method Number)

TYPE	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (See codes on back)	DATE COLLECTED	TIME COLLECTED	DATA REQ LEVEL (see codes on back)	# JAR (Container type)	TCL Pesticides by 8081B	Arsenic by 6010B		TCL VOCs by 8260B	TCL SVOCs/PAHs by 8270D/8270 SIM	TCL Filtered Pesticides by 8081B	Dis Mn & Fe - 6056C; Lab Filtered	Nitrate & Sulfate by EPA 300	Sulfide by SM 4500 S2CF	Alkalinity by SM 2320B	TOC by Gen-Sub 9060	Refrigerant Iron by 2008 Fe D	MEE - RSK 175	SAMPLE TYPE (see codes on back)	COMMENTS (REFERENCE REAGENTS)	LAB ID (for lab use)
1	JM10-JAX47-MW40S-1013	JAX47-MW40S	GW	10/23/13	1030	C	14	X	X					X	X	X	X	X	X	X	N		01/02
2	JM10-JAX47-MW41S-1013	JAX47-MW41S	GW	10/23/13	1150	C	14	X	X												N		03
3	JM10-JAX47-MW125-1013	JAX47-MW125	GW	10/23/13	1400	C	14	X	X												N		04
4																							
5																							
6																							
7																							
8																							
9																							
10																							

SAMPLE RECEIVED AND COMPLETED (SIGNATURE): Juan Acaron / CH2M HILL

COURIER AND RECEIPTS NUMBER: FedEx Master - 796970246471

SAMPLE TEMPERATURE AND CONDITION UPON RECEIPT (for lab use):

RELINQUISHED BY (Printed Name and Signature)	DATE	TIME	RECEIVED BY (Printed Name and Signature)	DATE	TIME
Juan Acaron	22-Oct-2013	1700			
Josh Gross [signature]	10/23/13	0830 →	Josh Gross [signature]	10/25/13	0830

Form CT-2001, Rev 06/10

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AGVIQ CH2M HILL

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 470875-102313-001

PROJECT NAME	PROJECT NUMBER	LAB NAME AND CONTACT	FAX AND MAIL REPORTS SENT TO (RECIPIENT 1 Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.)
PSC 47 / Pesticide Shop NAS Jacksonville	470875	Empirical Laboratories, LLC Sonya Gordon	Juan Acaron / CH2M HILL juan.acaron@ch2m.com	3011 SW Williston Rd, Gainesville Fl 32608 352-374-1725 fax 352-384-7992 phone
PROJECT PHASE/TITLE/TASK	CTO OR DO NUMBER	LAB DO NUMBER	FAX AND MAIL REPORTS SENT TO (RECIPIENT 2 Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.)
GW Monitoring - October 2013	JM10		Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8087 fax 770-604-9182 phone
PROJECT CONTACT	PROJECT TEL NO AND FAX NO	LAB TEL NO AND FAX NO	FAX AND MAIL REPORTS SENT TO (RECIPIENT 3 Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.)
Juan Acaron / Eric Davis	770-604-9182 phone 770-604-9282 fax	Phone: 813-345-1115 Fax: 866-417-0548	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8176 fax 678-530-4124 phone

ANALYSES REQUIRED (Include Method Number)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on SOP)	DATE COLLECTED	TIME COLLECTED	DATA REQ LEVEL (see codes on SOP)	# OF CONTAINERS	TCL Pesticides by 8081B	Arsenic by 6020B		TCL VOCs by 8260B	TCL SVOCs/PAHs by 8270D/8270D SIM	TCL Mercury Pesticides by 8081B	Dissolved Fe - 6010C, Lab Filtered	Nitrate & Sulfate by EPA 300	Sulfide by SM 4500-S2-D	Alkalinity by SM 2320B	TOC by Sw-846 9060	Perform Lock by 3546 Prep ID	MEE - RSK 175	SAMPLE TYPE (see codes on SOP)	COMMENTS/ SCREENING READINGS	LAB ID (for lab use)
1	JM10-JAX47-MW338-1013	JAX47-MW338	GW	10/23/13	1010	C	14	X	X												N		01
2	JM10-JAX47-MW435-1013	JAX47-MW435	GW	10/23/13	1120	C	14	X	X												N		02
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

SAMPLED BY AND COMPANY (Signature)	COURIER AND TRACKING NUMBER	SAMPLE TEMPERATURE AND CONDITION UPON RECEIPT (for lab use)
Juan Acaron / CH2M HILL	FedEx Master - 796979477359	

RELINQUISHED BY (Printed Name and Signature)	DATE	TIME	RECEIVED BY (Printed Name and Signature)	DATE	TIME
Juan Acaron	23-Oct-2013	1600			
			Josh Gross	10/24/13	0830

Form COC01, Rev 05/06

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AGVIQ CH2M HILL

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 470875-110413-001

PROJECT NAME	PROJECT NUMBER	LAB NAME AND CONTACT	FAX AND MAIL REPORT TO (Name and Company)	RECIPIENT 1 (Address, Tel No. and Fax No.)
PSC 47 - Peddide Ramp NAS Jacksonville	470875	Empirical Laboratories, LLC Sonya Gordon	Juan Acaron / CH2M HILL juan.acaron@ch2m.com	3011 SW Williston Rd, Gainesville Fl 32608 352-374-1775 fax 352-384-7091 phone
PROJECT PHASE/TASK	CTO/RAC NUMBER	LAB PO NUMBER	FAX AND MAIL REPORT SECOND (Name and Company)	RECIPIENT 2 (Address, Tel No. and Fax No.)
GW Monitoring - October 2013	JM10	817501	Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8087 fax 770-604-9182 phone
PROJECT CONTACT	PROJECT TEL NO AND FAX NO	LAB TEL NO AND FAX NO	FAX AND MAIL REPORT THIRD (Name and Company)	RECIPIENT 3 (Address, Tel No. and Fax No.)
Juan Acaron, Eric Davis	770 604-9182 phone 770-604-9282 fax	Phone: 615-345-1115 Fax: 866 417 0548	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8176 fax 678-530-4124 phone

ANALYSES REQUESTED (Include Method Number)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on SOP)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on SOP)	TAT (number days)	PFAS, TCLP, PCBs, Ign. and Corr.					Dry Mass & Fr - 600.0C; Field Filtered	Sulfate by EPA 300	Sulfide by SM 4500-S2CF	Alkalinity by SM 2320B	TOC by Sw-dot 9060	Perform Iron by SSW Fe D		SAMPLE TYPE (see codes on SOP)	COMMENTS/ SCREENING READINGS	LAB ID (for lab use)
1	JM10-JAX47-MW14S-1113	JAX47-MW14S	GW	11/04/13	1115	C	14						X	X	X	X	X	X		N		01
2	JM10-JAX47-IS-1133	IDW - Soil	SO	11/04/13	1200	C	14	X												N		01
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

SAMPLER(S) NAME (COMPANY, if different)	COURIER AND SHIPPING NUMBER	SAMPLER(S) SIGNATURE AND CONDITION UPON RECEIPT (for lab use)
Juan Acaron / CH2M HILL	FedEx Master - 797070824810	

RELINQUISHED BY (Printed Name and Signature)	DATE	TIME	RECEIVED BY (Printed Name and Signature)	DATE	TIME
Juan Acaron	4-Nov-2013	1500			
			Josh Gross	11/5/13	0840

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Attachment C
Sequential Extraction Analytical Data Summary Table

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT1					
Sample ID		JM10-DPT1-040611929bulk (NV)	JM10-DPT1-040611929bulkD (NV)	JM10-DPT1-040611929EXT1 (NV)	JM10-DPT1-040611929EXT1D (NV)	JM10-DPT1-040611929EXT2 (NV)	JM10-DPT1-040611929EXT2D (NV)
Sample Depth (ft)		4 - 6	4 - 6	4 - 6	4 - 6	4 - 6	4 - 6
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**						
ICP-MS (MG/KG)							
ARSENIC	MG/KG	**0.8**	**0.7**	0.1 U	**0.2**	1 U	1 U
BARIUM	MG/KG	**66.9**	**68.1**	0.02 U	0.02 U	**0.26**	**0.25**
CHROMIUM	MG/KG	**6.9**	**6.8**	0.1 U	0.1 U	**0.84**	**0.7**
COBALT	MG/KG	**0.3**	**0.25**	**0.009**	**0.008**	0.04 U	0.04 U
COPPER	MG/KG	**0.9**	**0.9**	**0.12**	**0.1**	0.2 U	0.2 U
LEAD	MG/KG	**3.5**	**3.63**	**0.006**	0.005 U	**0.05**	**0.04**
NICKEL	MG/KG	**0.8**	**0.8**	0.05 U	0.05 U	0.4 U	0.4 U
VANADIUM	MG/KG	**5**	**5**	0.05 U	0.05 U	0.4 U	0.4 U
ZINC	MG/KG	**2.1**	**2.2**	**0.2**	**0.2**	1 U	1 U
ICP-OES (MG/KG)							
ALUMINUM	MG/KG	**3080**	**3070**	**30.5**	**33.1**	**97.3**	**93.5**
CALCIUM	MG/KG	**303**	**303**	**95.1**	**90.9**	**9.4**	**8.2**
IRON	MG/KG	**1190**	**1240**	**3.7**	**3.9**	**32.8**	**32.5**
MAGNESIUM	MG/KG	**78.8**	**80.3**	**2.5**	**2.4**	1.2 U	1.2 U
MANGANESE	MG/KG	**50.7**	**51**	**0.35**	**0.28**	**0.4**	**0.3**
POTASSIUM	MG/KG	**1890**	**1890**	NA	NA	**2070**	**1900**
SODIUM	MG/KG	**197**	**192**	10 U	10 U	50 U	48 U
TIN	MG/KG	1.9 U	1.9 U	1 U	1 U	4.8 U	4.8 U

Notes:

NA Not analyzed

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

mg/kg Milligrams per Kilogram

Bold indicates the analyte was detected

NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT1					
Sample ID		JM10-DPT1-040611929EXT3 (NV)	JM10-DPT1-040611929EXT3D (NV)	JM10-DPT1-040611929EXT4 (NV)	JM10-DPT1-040611929EXT4D (NV)	JM10-DPT1-040611929EXT5 (NV)	JM10-DPT1-040611929EXT5D (NV)
Sample Depth (ft)		4 - 6	4 - 6	4 - 6	4 - 6	4 - 6	4 - 6
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**						
ICP-MS (MG/KG)							
ARSENIC	MG/KG	0.5 U	0.5 U	0.1 U	0.1 U	4.8 U	4.8 U
BARIUM	MG/KG	**0.33**	**0.26**	**0.06**	**0.05**	**0.2**	0.2 U
CHROMIUM	MG/KG	**1.6**	**1.4**	**0.17**	**0.2**	1.9 U	1.9 U
COBALT	MG/KG	**0.02**	**0.02**	**0.005**	**0.005**	0.2 U	0.2 U
COPPER	MG/KG	**0.1**	**0.1**	**0.03**	**0.03**	0.97 U	1 U
LEAD	MG/KG	**0.15**	**0.12**	**0.117**	**0.105**	0.2 U	0.2 U
NICKEL	MG/KG	0.2 U	0.2 U	0.05 U	**0.05**	1.9 U	1.9 U
VANADIUM	MG/KG	**0.3**	**0.3**	0.05 U	0.05 U	1.9 U	1.9 U
ZINC	MG/KG	0.5 U	0.5 U	0.1 U	0.1 U	4.8 U	4.8 U
ICP-OES (MG/KG)							
ALUMINUM	MG/KG	**285**	**293**	**51.8**	**49.7**	**103**	**107**
CALCIUM	MG/KG	**1.5**	**1.2**	1 U	1 U	9.7 U	9.7 U
IRON	MG/KG	**119**	**113**	**7.54**	**9.92**	**20.2**	**24.8**
MAGNESIUM	MG/KG	**9.1**	**9.4**	**0.8**	**0.7**	4.8 U	4.8 U
MANGANESE	MG/KG	**0.41**	**0.39**	**0.05**	**0.09**	0.5 U	0.5 U
POTASSIUM	MG/KG	**113**	**105**	10 U	10 U	97 U	97 U
SODIUM	MG/KG	NA	NA	**11000**	**11000**	**145**	**158**
TIN	MG/KG	1 U	1 U	1 U	1 U	9.7 U	9.7 U

Notes:

NA Not analyzed

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

mg/kg Milligrams per Kilogram

Bold indicates the analyte was detected

NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT1					
Sample ID		JM10-DPT1-040611929RES5 (NV)	JM10-DPT1-040611929RES5D (NV)	JM10-DPT1-040611929RES6 (NV)	JM10-DPT1-040611929RES6D (NV)	JM10-DPT1-081011929bulk (NV)	JM10-DPT1-081011929EXT1 (NV)
Sample Depth (ft)		4 - 6	4 - 6	4 - 6	4 - 6	8 - 10	8 - 10
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**						
ICP-MS (MG/KG)							
ARSENIC	MG/KG	**0.7**	**0.8**	0.5 U	**0.5**	**1**	0.1 U
BARIUM	MG/KG	**64.3**	**66**	**45**	**48.3**	**88**	0.02 U
CHROMIUM	MG/KG	**6.3**	**7.1**	**4.9**	**3.7**	**16.6**	0.1 U
COBALT	MG/KG	**0.25**	**0.28**	**0.16**	**0.16**	**0.97**	0.005 U
COPPER	MG/KG	**0.5**	**0.5**	**0.4**	**0.4**	**1.3**	0.02 U
LEAD	MG/KG	**3.12**	**3.39**	**2.42**	**2.65**	**6.15**	0.005 U
NICKEL	MG/KG	**1.4**	**1.5**	**0.7**	**0.6**	**3.6**	0.05 U
VANADIUM	MG/KG	**4.7**	**5.5**	**3.7**	**3.5**	**21.6**	**0.31**
ZINC	MG/KG	**1.6**	**1.7**	**1.1**	**1.2**	**5.2**	0.1 U
ICP-OES (MG/KG)							
ALUMINUM	MG/KG	**2320**	**2430**	**1650**	**1750**	**20000**	**25.9**
CALCIUM	MG/KG	**216**	**241**	**159**	**150**	**364**	**273**
IRON	MG/KG	**1080**	**1300**	**824**	**868**	**3350**	**1.8**
MAGNESIUM	MG/KG	**46.3**	**47.1**	**30.2**	**31.7**	**559**	**37.7**
MANGANESE	MG/KG	**52.1**	**61**	**38.5**	**43.5**	**34.9**	**0.21**
POTASSIUM	MG/KG	**1780**	**1880**	**1310**	**1380**	**2460**	NA
SODIUM	MG/KG	**183**	**196**	**139**	**146**	**175**	10 U
TIN	MG/KG	2 U	1.9 U	1.9 U	1.9 U	2 U	1 U

Notes:

NA Not analyzed

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mg/kg Milligrams per Kilogram

Bold indicates the analyte was detected

NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT1					
Sample ID		JM10-DPT1-081011929EXT2 (NV)	JM10-DPT1-081011929EXT3 (NV)	JM10-DPT1-081011929EXT4 (NV)	JM10-DPT1-081011929EXT5 (NV)	JM10-DPT1-081011929RES5 (NV)	JM10-DPT1-081011929RES6 (NV)
Sample Depth (ft)		8 - 10	8 - 10	8 - 10	8 - 10	8 - 10	8 - 10
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**						
ICP-MS (MG/KG)							
ARSENIC	MG/KG	1 U	0.5 U	0.1 U	4.8 U	**0.6**	0.5 U
BARIUM	MG/KG	**3.47**	**1.78**	**0.33**	**0.5**	**78.8**	**68.5**
CHROMIUM	MG/KG	0.4 U	**1.2**	**0.26**	1.9 U	**9.5**	**8.6**
COBALT	MG/KG	0.04 U	**0.05**	0.005 U	0.2 U	**0.56**	**0.48**
COPPER	MG/KG	0.2 U	0.1 U	**0.03**	1 U	**0.7**	**0.6**
LEAD	MG/KG	0.04 U	**0.35**	**0.029**	0.2 U	**3.82**	**3.37**
NICKEL	MG/KG	0.4 U	**0.2**	0.05 U	1.9 U	**2.2**	**2.1**
VANADIUM	MG/KG	**1**	**1.6**	**0.5**	1.9 U	**9.4**	**8.5**
ZINC	MG/KG	1 U	**0.6**	0.1 U	**5.5**	**3.1**	**2.6**
ICP-OES (MG/KG)							
ALUMINUM	MG/KG	**227**	**1140**	**315**	**963**	**9470**	**9370**
CALCIUM	MG/KG	**26.3**	**5**	1 U	9.5 U	**57.5**	**50.4**
IRON	MG/KG	**14.2**	**163**	**9.9**	**72**	**1870**	**1610**
MAGNESIUM	MG/KG	**2.8**	**30.6**	**1.4**	**12.3**	**227**	**230**
MANGANESE	MG/KG	0.2 U	**0.2**	0.05 U	0.5 U	**37.1**	**22.8**
POTASSIUM	MG/KG	**3270**	**352**	10 U	95 U	**2350**	**2100**
SODIUM	MG/KG	50 U	NA	**11700**	**225**	**188**	**170**
TIN	MG/KG	4.8 U	1 U	1 U	9.5 U	1.9 U	2 U

Notes:

NA Not analyzed

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mg/kg Milligrams per Kilogram

Bold indicates the analyte was detected

NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT2					
Sample ID		JM10-DPT2-040611929bulk (NV)	JM10-DPT2-040611929EXT1 (NV)	JM10-DPT2-040611929EXT2 (NV)	JM10-DPT2-040611929EXT3 (NV)	JM10-DPT2-040611929EXT4 (NV)	JM10-DPT2-040611929EXT5 (NV)
Sample Depth (ft)		4 - 6	4 - 6	4 - 6	4 - 6	4 - 6	4 - 6
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**						
ICP-MS (MG/KG)							
ARSENIC	MG/KG	**434**	**6.4**	**7.1**	**20.1**	**22.6**	**99.8**
BARIUM	MG/KG	**72.8**	**0.28**	**0.787**	**0.48**	**0.881**	**1.3**
CHROMIUM	MG/KG	**9.6**	0.1 U	**0.6**	**0.8**	**0.36**	1.8 U
COBALT	MG/KG	**0.76**	**0.01**	**0.05**	**0.06**	**0.052**	**0.2**
COPPER	MG/KG	**4.2**	**0.15**	**0.2**	**0.3**	**0.31**	**2.1**
LEAD	MG/KG	**8.35**	**0.042**	**0.3**	**0.58**	**0.828**	**1.6**
NICKEL	MG/KG	**2.2**	0.04 U	0.4 U	**0.2**	**0.21**	1.8 U
VANADIUM	MG/KG	**5.2**	0.04 U	0.4 U	0.2 U	0.04 U	1.8 U
ZINC	MG/KG	**6.4**	**0.1**	0.9 U	0.4 U	**0.3**	4.5 U
ICP-OES (MG/KG)							
ALUMINUM	MG/KG	**3520**	**7.1**	**36.7**	**95.2**	**23.2**	**88.2**
CALCIUM	MG/KG	**952**	**698**	**348**	**20.6**	**21.1**	**20.5**
IRON	MG/KG	**16600**	**3.8**	**100**	**454**	**493**	**3720**
MAGNESIUM	MG/KG	**108**	**18.4**	**10.6**	**5.9**	**4.7**	**13.2**
MANGANESE	MG/KG	**127**	**2.94**	**4.1**	**4.65**	**6.99**	**31.5**
POTASSIUM	MG/KG	**2030**	NA	**2000**	**120**	9 U	90 U
SODIUM	MG/KG	**322**	**12.8**	40 U	NA	**7070**	**116**
TIN	MG/KG	2 U	0.9 U	4.5 U	0.9 U	0.9 U	9 U

Notes:

NA Not analyzed

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mg/kg Milligrams per Kilogram

Bold indicates the analyte was detected

NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT2					
Sample ID		JM10-DPT2-040611929RES5 (NV)	JM10-DPT2-040611929RES6 (NV)	JM10-DPT2-081011929bulk (NV)	JM10-DPT2-081011929EXT1 (NV)	JM10-DPT2-081011929EXT2 (NV)	JM10-DPT2-081011929EXT3 (NV)
Sample Depth (ft)		4 - 6	4 - 6	8 - 10	8 - 10	8 - 10	8 - 10
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**						
ICP-MS (MG/KG)							
ARSENIC	MG/KG	**117**	**5.9**	**342**	**221**	**83**	**51.3**
BARIUM	MG/KG	**69.1**	**63.9**	**98.7**	**0.27**	**4.2**	**1.18**
CHROMIUM	MG/KG	**9.9**	**4.3**	**13.6**	0.1 U	0.4 U	**0.6**
COBALT	MG/KG	**0.32**	**0.19**	**0.8**	**0.005**	0.04 U	0.02 U
COPPER	MG/KG	**0.9**	**0.4**	**1.38**	**0.04**	0.2 U	**0.1**
LEAD	MG/KG	**4.72**	**3.15**	**8.25**	0.005 U	**0.51**	**0.77**
NICKEL	MG/KG	**2.9**	**0.5**	**3**	0.05 U	0.4 U	0.2 U
VANADIUM	MG/KG	**4.6**	**4.2**	**16.6**	**0.16**	**0.6**	**0.8**
ZINC	MG/KG	**2**	**1.4**	**5.3**	**0.2**	0.97 U	0.5 U
ICP-OES (MG/KG)							
ALUMINUM	MG/KG	**2840**	**2570**	**15000**	**24.7**	**149**	**549**
CALCIUM	MG/KG	**178**	**175**	**124**	**80.8**	**12.1**	**2.2**
IRON	MG/KG	**4830**	**1340**	**3450**	**8.3**	**68.5**	**263**
MAGNESIUM	MG/KG	**35.9**	**34.7**	**391**	**44.3**	**2.1**	**12.6**
MANGANESE	MG/KG	**57.4**	**52.3**	**43.5**	**0.4**	0.2 U	**0.12**
POTASSIUM	MG/KG	**1890**	**1900**	**2730**	NA	**2810**	**302**
SODIUM	MG/KG	**271**	**249**	**353**	**137**	50 U	NA
TIN	MG/KG	2 U	2 U	1.8 U	1 U	4.9 U	1 U

Notes:

NA Not analyzed

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mg/kg Milligrams per Kilogram

Bold indicates the analyte was detected

NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT2			
Sample ID		JM10-DPT2-081011929EXT4 (NV)	JM10-DPT2-081011929EXT5 (NV)	JM10-DPT2-081011929RES5 (NV)	JM10-DPT2-081011929RES6 (NV)
Sample Depth (ft)		8 - 10	8 - 10	8 - 10	8 - 10
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**				
ICP-MS (MG/KG)					
ARSENIC	MG/KG	**35.7**	**29.9**	**20.4**	**13.3**
BARIUM	MG/KG	**0.4**	**0.8**	**96.7**	**97.8**
CHROMIUM	MG/KG	**0.38**	1.9 U	**8.6**	**8.6**
COBALT	MG/KG	0.005 U	0.2 U	**0.48**	**0.43**
COPPER	MG/KG	**0.09**	1 U	**0.8**	**0.6**
LEAD	MG/KG	**0.558**	**0.8**	**4.99**	**4.55**
NICKEL	MG/KG	0.05 U	1.9 U	**2.1**	**1.9**
VANADIUM	MG/KG	**0.9**	1.9 U	**9.2**	**8.6**
ZINC	MG/KG	0.1 U	4.9 U	**3.3**	**2.8**
ICP-OES (MG/KG)					
ALUMINUM	MG/KG	**276**	**742**	**9860**	**7370**
CALCIUM	MG/KG	1 U	9.7 U	**73.6**	**62.3**
IRON	MG/KG	**263**	**806**	**1660**	**1590**
MAGNESIUM	MG/KG	**0.7**	**12.4**	**223**	**159**
MANGANESE	MG/KG	**0.11**	0.5 U	**39.3**	**54.5**
POTASSIUM	MG/KG	10 U	97 U	**2750**	**2890**
SODIUM	MG/KG	**15000**	**257**	**236**	**249**
TIN	MG/KG	1 U	9.7 U	1.9 U	1.9 U

Notes:

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mg/kg Milligrams per Kilogram

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NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT3					
Sample ID		JM10-DPT3-040611929bulk (NV)	JM10-DPT3-040611929EXT1 (NV)	JM10-DPT3-040611929EXT2 (NV)	JM10-DPT3-040611929EXT3 (NV)	JM10-DPT3-040611929EXT4 (NV)	JM10-DPT3-040611929EXT5 (NV)
Sample Depth (ft)		4 - 6	4 - 6	4 - 6	4 - 6	4 - 6	4 - 6
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**						
ICP-MS (MG/KG)							
ARSENIC	MG/KG	**25**	**8.3**	**12.8**	**2.1**	**1.5**	4.6 U
BARIUM	MG/KG	**73.8**	0.02 U	**0.39**	**0.16**	**0.043**	**0.2**
CHROMIUM	MG/KG	**5.3**	0.1 U	0.4 U	**0.2**	**0.09**	1.8 U
COBALT	MG/KG	**0.27**	0.005 U	0.04 U	0.02 U	**0.007**	0.2 U
COPPER	MG/KG	**0.6**	0.02 U	0.2 U	0.09 U	0.02 U	0.9 U
LEAD	MG/KG	**3.76**	**0.02**	**0.04**	**0.08**	**0.125**	**0.2**
NICKEL	MG/KG	**0.8**	0.05 U	0.4 U	0.2 U	**0.05**	1.8 U
VANADIUM	MG/KG	**5.5**	0.05 U	0.4 U	0.2 U	**0.05**	1.8 U
ZINC	MG/KG	**1.9**	0.1 U	0.9 U	0.5 U	0.1 U	4.6 U
ICP-OES (MG/KG)							
ALUMINUM	MG/KG	**3350**	**13.2**	**228**	**168**	**39.1**	**94.1**
CALCIUM	MG/KG	**1700**	**592**	**172**	**5.5**	**1.7**	9.1 U
IRON	MG/KG	**1190**	**1.1**	**15.8**	**41.3**	**4.1**	**29.2**
MAGNESIUM	MG/KG	**92.9**	**8.7**	**5.2**	**5.2**	**1**	4.6 U
MANGANESE	MG/KG	**51**	**0.08**	0.2 U	**0.09**	0.05 U	0.5 U
POTASSIUM	MG/KG	**2140**	NA	**2200**	**123**	9.1 U	91 U
SODIUM	MG/KG	**259**	**26.7**	50 U	NA	**5000**	91 U
TIN	MG/KG	1.9 U	1 U	4.6 U	0.9 U	0.9 U	9.1 U

Notes:

NA Not analyzed

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mg/kg Milligrams per Kilogram

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NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT3					
Sample ID		JM10-DPT3-040611929RES5 (NV)	JM10-DPT3-040611929RES6 (NV)	JM10-DPT3-081011929bulk (NV)	JM10-DPT3-081011929EXT1 (NV)	JM10-DPT3-081011929EXT2 (NV)	JM10-DPT3-081011929EXT3 (NV)
Sample Depth (ft)		4 - 6	4 - 6	8 - 10	8 - 10	8 - 10	8 - 10
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**						
ICP-MS (MG/KG)							
ARSENIC	MG/KG	**1.8**	**1.1**	**65.4**	**29.5**	**11.4**	**17.9**
BARIUM	MG/KG	**78.9**	**54.6**	**96.5**	0.02 U	**3.12**	**1.44**
CHROMIUM	MG/KG	**4.3**	**4.8**	**19.3**	0.1 U	0.4 U	**0.9**
COBALT	MG/KG	**0.19**	**0.18**	**1.09**	**0.006**	0.04 U	**0.03**
COPPER	MG/KG	**0.5**	**0.4**	**1.4**	**0.02**	0.2 U	0.1 U
LEAD	MG/KG	**3.48**	**2.53**	**7**	0.005 U	**0.05**	**0.4**
NICKEL	MG/KG	**0.5**	**1**	**4.7**	0.05 U	0.4 U	0.2 U
VANADIUM	MG/KG	**4.3**	**3.6**	**27.6**	**0.28**	**0.8**	**2.1**
ZINC	MG/KG	**1.4**	**1.2**	**5.8**	0.1 U	1 U	0.5 U
ICP-OES (MG/KG)							
ALUMINUM	MG/KG	**2700**	**1910**	**21900**	**34.5**	**321**	**756**
CALCIUM	MG/KG	**213**	**110**	**163**	**108**	**10.5**	**2.2**
IRON	MG/KG	**1070**	**813**	**6900**	**19.3**	**55.7**	**569**
MAGNESIUM	MG/KG	**42.3**	**30.6**	**546**	**24.7**	**1.7**	**11**
MANGANESE	MG/KG	**52.6**	**38.8**	**37**	**0.72**	0.2 U	**0.14**
POTASSIUM	MG/KG	**2290**	**1630**	**2730**	NA	**3880**	**425**
SODIUM	MG/KG	**243**	**173**	**220**	**40.5**	50 U	NA
TIN	MG/KG	2 U	1.9 U	1.9 U	1 U	4.8 U	1 U

Notes:

NA Not analyzed

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mg/kg Milligrams per Kilogram

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NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT3			
Sample ID		JM10-DPT3-081011929EXT4 (NV)	JM10-DPT3-081011929EXT5 (NV)	JM10-DPT3-081011929RES5 (NV)	JM10-DPT3-081011929RES6 (NV)
Sample Depth (ft)		8 - 10	8 - 10	8 - 10	8 - 10
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**				
ICP-MS (MG/KG)					
ARSENIC	MG/KG	**10**	**9.9**	**3.9**	**2**
BARIUM	MG/KG	**1.35**	**1.1**	**97.7**	**79**
CHROMIUM	MG/KG	**0.44**	**2.4**	**11.9**	**8.7**
COBALT	MG/KG	0.005 U	0.2 U	**0.67**	**0.45**
COPPER	MG/KG	0.02 U	1 U	**0.9**	**0.7**
LEAD	MG/KG	**0.086**	**0.3**	**4.91**	**3.58**
NICKEL	MG/KG	0.05 U	1.9 U	**2.7**	**2.4**
VANADIUM	MG/KG	**1.11**	**6.7**	**11.7**	**8**
ZINC	MG/KG	**0.1**	4.8 U	**3.8**	**2.7**
ICP-OES (MG/KG)					
ALUMINUM	MG/KG	**329**	**1510**	**11400**	**9050**
CALCIUM	MG/KG	1 U	9.6 U	**82.2**	**44.9**
IRON	MG/KG	**242**	**3850**	**2370**	**1450**
MAGNESIUM	MG/KG	**0.68**	**16.5**	**268**	**208**
MANGANESE	MG/KG	0.05 U	0.5 U	**64.2**	**26.2**
POTASSIUM	MG/KG	10 U	96 U	**2710**	**2330**
SODIUM	MG/KG	**5360**	96 U	**219**	**158**
TIN	MG/KG	1 U	9.6 U	2 U	2 U

Notes:

NA Not analyzed

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mg/kg Milligrams per Kilogram

Bold indicates the analyte was detected

NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT4					
Sample ID		JM10-DPT4-40511929bulk (NV)	JM10-DPT4-40511929EXT1 (NV)	JM10-DPT4-40511929EXT2 (NV)	JM10-DPT4-40511929EXT3 (NV)	JM10-DPT4-40511929EXT4 (NV)	JM10-DPT4-40511929EXT5 (NV)
Sample Depth (ft)		4 - 5	4 - 5	4 - 5	4 - 5	4 - 5	4 - 5
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**						
ICP-MS (MG/KG)							
ARSENIC	MG/KG	**0.7**	0.1 U	1 U	0.5 U	0.1 U	4.8 U
BARIUM	MG/KG	**66.9**	0.02 U	**0.27**	**0.12**	**0.05**	0.2 U
CHROMIUM	MG/KG	**4.5**	0.1 U	0.4 U	0.2 U	0.05 U	1.9 U
COBALT	MG/KG	**0.2**	0.005 U	0.04 U	0.02 U	0.005 U	0.2 U
COPPER	MG/KG	**0.5**	0.02 U	0.2 U	0.1 U	0.02 U	1 U
LEAD	MG/KG	**3.69**	**0.03**	0.04 U	**0.06**	**0.118**	**0.2**
NICKEL	MG/KG	**0.6**	0.05 U	0.4 U	0.2 U	0.05 U	1.9 U
VANADIUM	MG/KG	**4.6**	0.05 U	0.4 U	0.2 U	0.05 U	1.9 U
ZINC	MG/KG	**1.7**	0.1 U	1 U	0.5 U	0.1 U	4.8 U
ICP-OES (MG/KG)							
ALUMINUM	MG/KG	**2870**	**45**	**197**	**129**	**35.6**	**92.8**
CALCIUM	MG/KG	**588**	**349**	**65.7**	**3.5**	1 U	9.5 U
IRON	MG/KG	**1010**	**3.5**	4.8 U	**28.9**	**1.9**	**28.8**
MAGNESIUM	MG/KG	**57.3**	**2.7**	**1.2**	**4.1**	**0.62**	4.8 U
MANGANESE	MG/KG	**46.2**	0.05 U	0.2 U	**0.06**	0.05 U	0.5 U
POTASSIUM	MG/KG	**1950**	NA	**1900**	**101**	10 U	95 U
SODIUM	MG/KG	**230**	10 U	50 U	NA	**3460**	95 U
TIN	MG/KG	1.9 U	1 U	4.8 U	1 U	1 U	9.5 U

Notes:

NA Not analyzed

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mg/kg Milligrams per Kilogram

Bold indicates the analyte was detected

NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT4					
Sample ID		JM10-DPT4-40511929RES5 (NV)	JM10-DPT4-40511929RES6 (NV)	JM10-DPT4-0911H11929bulk (NV)	JM10-DPT4-0911H11929EXT1 (NV)	JM10-DPT4-0911H11929EXT2 (NV)	JM10-DPT4-0911H11929EXT3 (NV)
Sample Depth (ft)		4 - 5	4 - 5	9 - 11.5	9 - 11.5	9 - 11.5	9 - 11.5
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**						
ICP-MS (MG/KG)							
ARSENIC	MG/KG	**0.6**	0.5 U	**2.5**	**0.2**	0.9 U	0.5 U
BARIUM	MG/KG	**77.4**	**77.3**	**129**	**0.18**	**6.87**	**2.36**
CHROMIUM	MG/KG	**4.8**	**3.7**	**26.6**	0.1 U	0.4 U	**0.9**
COBALT	MG/KG	**0.19**	**0.19**	**1.41**	**0.02**	0.04 U	**0.03**
COPPER	MG/KG	**0.5**	**0.5**	**1.67**	**0.04**	0.2 U	**0.11**
LEAD	MG/KG	**3.74**	**3.03**	**8.97**	0.005 U	0.04 U	**0.25**
NICKEL	MG/KG	**0.7**	**0.4**	**5.5**	0.05 U	0.4 U	0.2 U
VANADIUM	MG/KG	**4.5**	**4.1**	**38.5**	**0.17**	**0.5**	**1.2**
ZINC	MG/KG	**1.5**	**1.4**	**7.5**	0.1 U	0.9 U	0.5 U
ICP-OES (MG/KG)							
ALUMINUM	MG/KG	**2760**	**2500**	**31700**	**50.2**	**351**	**898**
CALCIUM	MG/KG	**242**	**188**	**138**	**116**	**12.1**	**2.7**
IRON	MG/KG	**1050**	**908**	**7770**	**3.6**	**34.5**	**300**
MAGNESIUM	MG/KG	**46.6**	**42.9**	**839**	**58**	**4.6**	**15.2**
MANGANESE	MG/KG	**50.7**	**42.7**	**40.6**	**0.54**	0.2 U	**0.11**
POTASSIUM	MG/KG	**2270**	**2150**	**3450**	NA	**4210**	**634**
SODIUM	MG/KG	**261**	**238**	**256**	**18.4**	50 U	NA
TIN	MG/KG	1.9 U	2 U	1.8 U	1 U	4.6 U	0.9 U

Notes:

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NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT5					
Sample ID		JM10-DPT4-0911H11929EXT4 (NV)	JM10-DPT4-0911H11929EXT5 (NV)	JM10-DPT4-0911H11929RES5 (NV)	JM10-DPT4-0911H11929RES6 (NV)	JM10-DPT5-030511929bulk (NV)	JM10-DPT5-030511929EXT1 (NV)
Sample Depth (ft)		9 - 11.5	9 - 11.5	9 - 11.5	9 - 11.5	3 - 5	3 - 5
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**						
ICP-MS (MG/KG)							
ARSENIC	MG/KG	**0.2**	4.6 U	**1.2**	**0.6**	**1.1**	0.1 U
BARIUM	MG/KG	**0.749**	**1.1**	**137**	**110**	**71.7**	0.02 U
CHROMIUM	MG/KG	**0.48**	**1.9**	**19**	**11.5**	**6.1**	0.1 U
COBALT	MG/KG	0.005 U	0.2 U	**1.09**	**0.63**	**0.25**	**0.005**
COPPER	MG/KG	0.02 U	0.9 U	**1.3**	**0.8**	**1.9**	**0.09**
LEAD	MG/KG	**0.083**	**0.3**	**7.77**	**4.99**	**7.1**	**0.094**
NICKEL	MG/KG	0.05 U	1.8 U	**4.7**	**2.6**	**0.8**	0.05 U
VANADIUM	MG/KG	**1.58**	**6**	**27.2**	**12.3**	**5.9**	0.05 U
ZINC	MG/KG	0.1 U	4.6 U	**5.7**	**3.7**	**9.3**	**0.8**
ICP-OES (MG/KG)							
ALUMINUM	MG/KG	**393**	**1400**	**21300**	**13300**	**3680**	**14.3**
CALCIUM	MG/KG	0.9 U	9.2 U	**67.7**	**50.3**	**11700**	**1490**
IRON	MG/KG	**398**	**2070**	**3620**	**2150**	**1100**	**2.7**
MAGNESIUM	MG/KG	**1.1**	**20.1**	**512**	**302**	**131**	**11.7**
MANGANESE	MG/KG	0.05 U	0.5 U	**54.3**	**32.9**	**45.8**	**0.28**
POTASSIUM	MG/KG	9.2 U	92 U	**3850**	**3300**	**2050**	NA
SODIUM	MG/KG	**10600**	**293**	**307**	**242**	**230**	9.1 U
TIN	MG/KG	0.9 U	9.2 U	2 U	2 U	1.9 U	1 U

Notes:

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mg/kg Milligrams per Kilogram

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NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT5					
Sample ID		JM10-DPT5-030511929EXT2 (NV)	JM10-DPT5-030511929EXT3 (NV)	JM10-DPT5-030511929EXT4 (NV)	JM10-DPT5-030511929EXT5 (NV)	JM10-DPT5-030511929RES5 (NV)	JM10-DPT5-030511929RES6 (NV)
Sample Depth (ft)		3 - 5	3 - 5	3 - 5	3 - 5	3 - 5	3 - 5
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**						
ICP-MS (MG/KG)							
ARSENIC	MG/KG	0.9 U	0.5 U	0.1 U	4.5 U	**0.7**	0.5 U
BARIUM	MG/KG	**1.34**	**0.41**	**0.161**	**0.4**	**64.5**	**52**
CHROMIUM	MG/KG	**0.4**	**0.7**	**0.08**	1.8 U	**4.6**	**5.1**
COBALT	MG/KG	0.04 U	0.02 U	0.005 U	0.2 U	**0.17**	**0.14**
COPPER	MG/KG	**0.3**	**0.61**	**0.1**	1 U	**0.5**	**0.4**
LEAD	MG/KG	**0.63**	**0.84**	**0.935**	**1.1**	**3.02**	**2.27**
NICKEL	MG/KG	0.4 U	0.2 U	**0.06**	1.8 U	**0.7**	**1.1**
VANADIUM	MG/KG	0.4 U	**0.3**	**0.07**	1.8 U	**4.2**	**3.4**
ZINC	MG/KG	**4.3**	**1.9**	**0.9**	4.5 U	**2.3**	**1.5**
ICP-OES (MG/KG)							
ALUMINUM	MG/KG	**352**	**350**	**36.4**	**78.8**	**2330**	**1830**
CALCIUM	MG/KG	**1200**	**41.5**	0.9 U	9.1 U	**128**	**92.5**
IRON	MG/KG	**10.1**	**125**	**9.2**	**59.4**	**969**	**650**
MAGNESIUM	MG/KG	**9.3**	**12.5**	**0.7**	4.5 U	**42.5**	**31.4**
MANGANESE	MG/KG	**1.7**	**0.33**	**0.07**	0.5 U	**48.2**	**31.4**
POTASSIUM	MG/KG	**2330**	**127**	9.1 U	91 U	**1830**	**1450**
SODIUM	MG/KG	50 U	NA	**5040**	91 U	**198**	**161**
TIN	MG/KG	4.5 U	0.9 U	0.9 U	9.1 U	2 U	2 U

Notes:

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NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT5					
Sample ID		JM10-DPT5-081011929bulk (NV)	JM10-DPT5-081011929EXT1 (NV)	JM10-DPT5-081011929EXT2 (NV)	JM10-DPT5-081011929EXT3 (NV)	JM10-DPT5-081011929EXT4 (NV)	JM10-DPT5-081011929EXT5 (NV)
Sample Depth (ft)		8 - 10	8 - 10	8 - 10	8 - 10	8 - 10	8 - 10
Sample Date		10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
Analyte	**Units**						
ICP-MS (MG/KG)							
ARSENIC	MG/KG	**1.8**	**0.1**	1 U	0.5 U	0.1 U	4.8 U
BARIUM	MG/KG	**129**	0.02 U	**1.5**	**0.88**	**0.34**	**0.6**
CHROMIUM	MG/KG	**23.6**	0.1 U	0.4 U	**0.7**	**0.23**	**2**
COBALT	MG/KG	**1.04**	0.005 U	0.04 U	0.02 U	0.005 U	0.2 U
COPPER	MG/KG	**1.22**	0.02 U	0.2 U	0.1 U	0.02 U	1 U
LEAD	MG/KG	**8.2**	0.005 U	0.04 U	**0.2**	**0.039**	**0.2**
NICKEL	MG/KG	**3.6**	0.05 U	0.4 U	0.2 U	0.05 U	1.9 U
VANADIUM	MG/KG	**31**	**0.11**	0.4 U	**0.9**	**0.6**	**5.2**
ZINC	MG/KG	**5.9**	0.1 U	1 U	**0.7**	0.1 U	4.8 U
ICP-OES (MG/KG)							
ALUMINUM	MG/KG	**24100**	**49.1**	**218**	**602**	**235**	**1000**
CALCIUM	MG/KG	**193**	**141**	**11.4**	**2.7**	1 U	9.6 U
IRON	MG/KG	**6810**	**1.1**	**9**	**168**	**141**	**1670**
MAGNESIUM	MG/KG	**626**	**25.3**	**1.7**	**11.9**	**0.92**	**12.2**
MANGANESE	MG/KG	**41**	**0.4**	0.2 U	**0.08**	0.05 U	0.5 U
POTASSIUM	MG/KG	**3840**	NA	**4240**	**558**	10 U	96 U
SODIUM	MG/KG	**250**	10 U	50 U	NA	**11800**	**227**
TIN	MG/KG	1.9 U	1 U	4.8 U	1 U	1 U	9.6 U

Notes:

NA Not analyzed

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mg/kg Milligrams per Kilogram

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NV- Not Validated

JM10
NAS Jacksonville
SEP Metals- Soil Sampling 2013
Data Summary Table

Location		DPT 5	
Sample ID		JM10-DPT5-081011929RES5 (NV)	JM10-DPT5-081011929RES6 (NV)
Sample Depth (ft)		8 - 10	8 - 10
Sample Date		10/30/2013	10/30/2013
Analyte	**Units**		
ICP-MS (MG/KG)			
ARSENIC	MG/KG	**0.8**	0.5 U
BARIUM	MG/KG	**123**	**106**
CHROMIUM	MG/KG	**13.7**	**15**
COBALT	MG/KG	**0.67**	**0.72**
COPPER	MG/KG	**0.8**	**1**
LEAD	MG/KG	**5.5**	**5.13**
NICKEL	MG/KG	**2.6**	**3.6**
VANADIUM	MG/KG	**13.7**	**13.4**
ZINC	MG/KG	**3.9**	**4.1**
ICP-OES (MG/KG)			
ALUMINUM	MG/KG	**14200**	**14700**
CALCIUM	MG/KG	**57**	**47.9**
IRON	MG/KG	**2830**	**2560**
MAGNESIUM	MG/KG	**335**	**356**
MANGANESE	MG/KG	**43.4**	**34**
POTASSIUM	MG/KG	**3680**	**3430**
SODIUM	MG/KG	**256**	**237**
TIN	MG/KG	2 U	1.9 U

Notes:

NA Not analyzed

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NV- Not Validated

Attachment D
Overall Mineral Composition of Soil by X-Ray Diffraction Report

TECHNOLOGY OF MATERIALS

4020 N. Palm Street, # 202
Fullerton, CA 92835

Sam Iyengar Ph.D.
Technical Director

November 12, 2013

CH2M Hill.
3011 SW Willingston Road
Gainsville, FL 32608

Enclosed please find a report on the XRD and clay analysis of several samples. Please call me if you have any questions or concerns.

Sincerely,

Sam Iyengar

Phone: (714) 446-9227 **www.xraydiffrac.com** **Fax: (714) 446-9229**

X-ray Diffraction and Clay Analysis of Several Soil Samples

Introduction:

Ten soil samples were received at the laboratory for analysis. It was requested that the samples be analyzed by X-ray powder diffraction (XRD). It was analyzed by XRD to determine the presence of crystalline components in bulk and clay fractions. This report summarizes the findings

Materials and Method:

The following samples were analyzed:

1) **JM10-DPT1-0406**
2) **JM10-DPT1-0810**
3) **JM10-DPT2-0406**
4) **JM10-DPT2-0810**
5) **JM10-DPT3-0406**
6) **JM10-DPT3-0810**
7) **JM10-DPT4-0405**
8) **JM10-DPT4-0911H**
9) **JM10-DPT5-0305**
10) **JM10-DPT5-0810**

Clay analysis:

Samples were analyzed by SOP 100. The samples were ground in an inert atmosphere, then suspended and shaken in distilled water to promote dispersion. The time required to separate **< 5 um fraction** was calculated from the Stocks law and the suspension was allowed to stand for appropriate time. The supernatant (with colloids) solution was decanted into a separate beaker. The process of adding water and settling was continued till the supernatant became clear.

A portion of the clay suspension in the beaker was used to make oriented clay mounts on a Millipore filter. The suspensions were filtered through a 45 um filter paper on a Millipore filter set-up using vacuum. They were then washed thoroughly with distilled water to remove excess salts. The clay cake on the filter paper was transferred, while still wet, onto a glass slide and kept in an ethylene glycol chamber for 24 hours. A drop of glycol was placed on the edge of each slide before placing them in the chamber.

To confirm the presence of smectite clay, oriented and glycolated mounts of the clay sample was prepared and analyzed. Upon glycolation, smectite,

if present, will expand to ~17 A. Presence of chlorite was confirmed by heat treatment of the oriented samples.

X-ray Diffraction (XRD):

Analysis of whole rock as well as clay (<5 microns) fraction was carried out on a Phillips Diffractometer at 30 Kv and 20 ma using Cu K-alpha radiation and a scintillation detector. Bulk soil sample was run after grinding it to pass through a 325 mesh (44 um) sieve and it was scanned from 2 to 50 degrees two-theta. The resulting patterns collected on a computer were matched with the reference standards for various inorganic minerals stored in the JCPDS database. Semi-quantitative estimation of mineral components was carried out from the peak intensities.

Results and Discussion:

XRD pattern is shown in the attached Figure 1. Stick patterns for reference mica, quartz and chlorite from the Powder Diffraction File (PDF) database are also shown.

Overall Mineralogy:

The mineralogy is shown in Table 1. A semi-quantitative estimation of various minerals (on whole soil basis) is shown. It is accurate to +/- 8 -10 wt. %.

Soil samples contain mostly **quartz** and very trace amounts of **Na-Ca feldspars**. Among clay minerals, **chlorites are** present in small amounts with very small amounts of **mica/illite and kaolinite .** *Smectite (expandable clay) group of minerals is **not present** in detectable amounts.*

Table 1: Mineralogical Composition (wt. %)

Sample ID	Chlorite	Mica/ Illite	Kaolinite	Quartz	Ca-Na Feldspars	Calcite
DPT1-0406	~5	~2	~ 1	~90	~2	<1
DPT1-0810	~14	~2	~ 3	~81	~1	<1
DPT2-0406	~8	~2	~ 3	~83	~2	~2
DPT2-0810	~8	~3	~ 3	~85	<1	<1
DPT3-0406	~4	~2	~ 2	~90	~1	<1
DPT3-0810	~4	~2	~ 2	~90	~1	<1
DPT4-0405	~4	~2	~ 2	~90	~1	<1
DPT4-0911H	~13	~2	~ 3	~81	~1	<1
DPT5-0305	~4	~2	~ 1	~90	~1	<1
DPT5-0810	~5	~1	~ 2	~90	~1	<1

The following comments describe some of the minerals that are present in these samples.

Quartz is usually the major constituent of most rocks and sediments, and is one of the common crystalline forms of silicon dioxide (SiO_2). This is a fairly *hard and non-reactive mineral.* **Cristobalite** is another form of SiO_2.

Feldspars are a group name for a large number of aluminum silicate minerals of variable composition. The general formula is **X** $Al(Al,Si)Si_2O_8$, where **X** may be Na, K, Ca or Ba. The most common mineral names mentioned from this group include K-feldspars (orthoclase, adularia, microcline) and plagioclase (Na-Ca) feldspars (albite, anorthite). These minerals *are softer than quartz and slightly reactive.*

Clays: The clays are fine-grained (< 0.002 or 0.005 mm) hydrous aluminum silicate phyllosilicate minerals with a layered structure. They consist of sheets of SiO_2 tetrahedra linked to sheets of Al or Mg octohedra forming a layer. When the ratio of silica tetrahedra to Al or Mg octohedra is 1 : 1, it forms **kaolin** group of minerals; when the ratio is 2 : 1, one octohedra sandwiched between two sheets of silica tetrahedra, it forms **mica**, **smectite**, **vermiculite** or **chlorite**, The space between layers is called interlayer space. **Montmorillonite or Bentonite (Smectite group of minerals)** is an expandable *clay mineral* with Ca, Mg, Na, etc. in the interlayer region. These ions are surrounded by water molecules. They expand upon intercalation with water or organic compounds such as ethylene glycol and glycerol. They have large surface area and are highly reactive. *Bentonite is widely used as a drilling mud*. Mica/Illite is a non-expandable mineral (with K ion in the interlayer space holding the layers together) and is slightly reactive. **Vermiculite** is a non-expandable mineral with Mg ions (with water) or islands of partially developed hydroxy-Al polymers in the inter-layer region. They also have a large surface area and are highly reactive. **Chlorite** is a non-expandable mineral with a fully developed brucite ($Mg(OH)_2$) in-between the layers preventing any separation. They are moderately reactive.

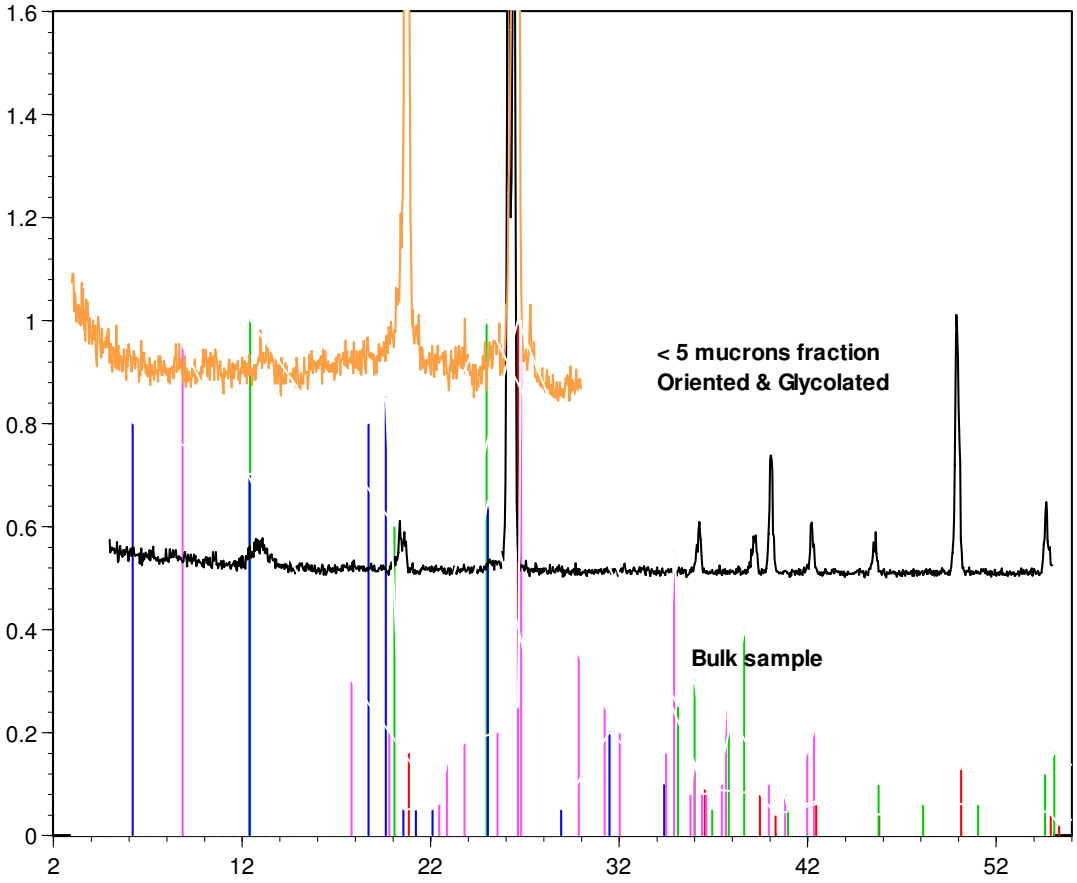

Figure 1 XRD patterns for DPT1-0406 w/ stick patterns for quartz (red), kaolinite (green), chlorite (blue) and mica (purple)

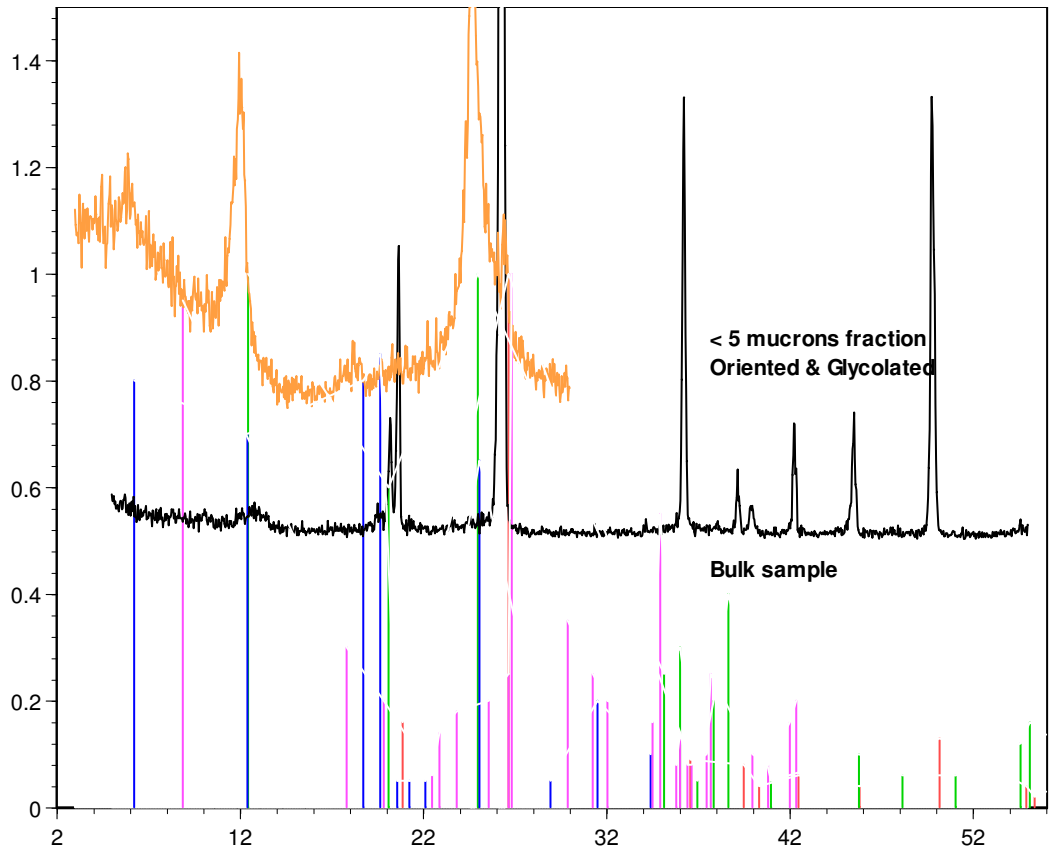

Figure 2 XRD patterns for DPT1-0810 w/ stick patterns for quartz (red), kaolinite (green), chlorite (blue) and mica (purple)

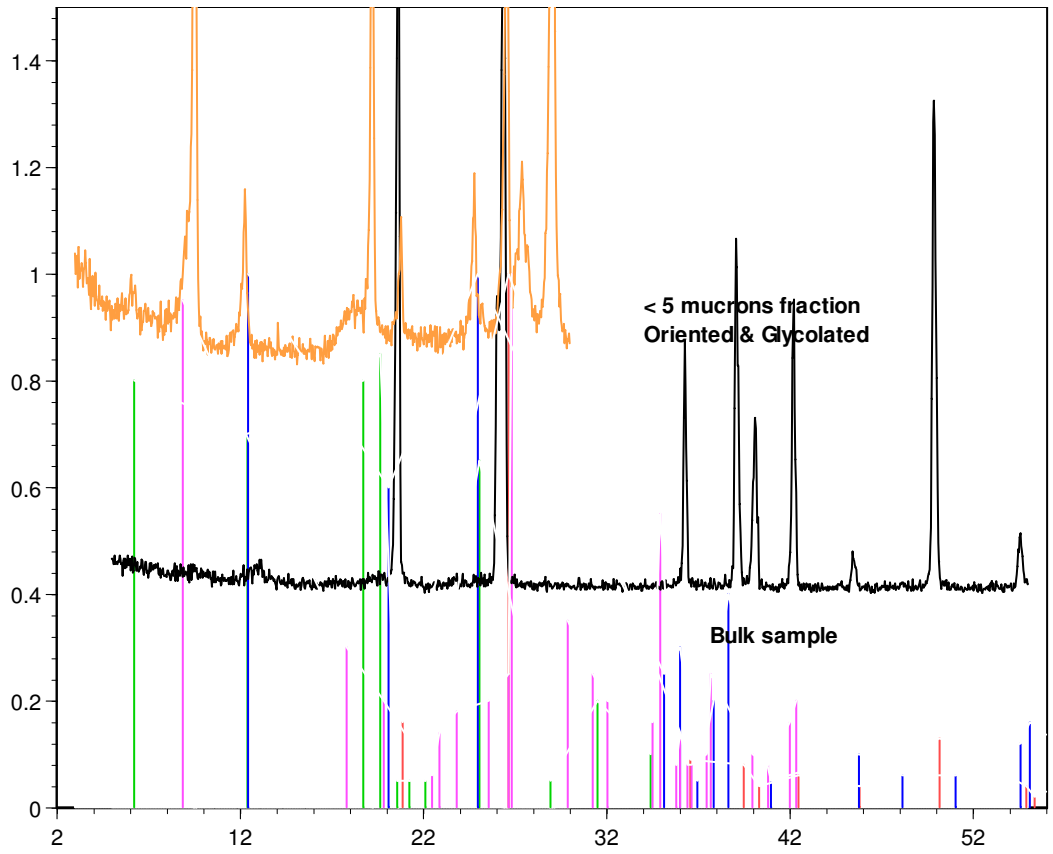

Figure 3 XRD patterns for DPT2-0406 w/ stick patterns for quartz (red), kaolinite (green), chlorite (blue) and mica (purple)

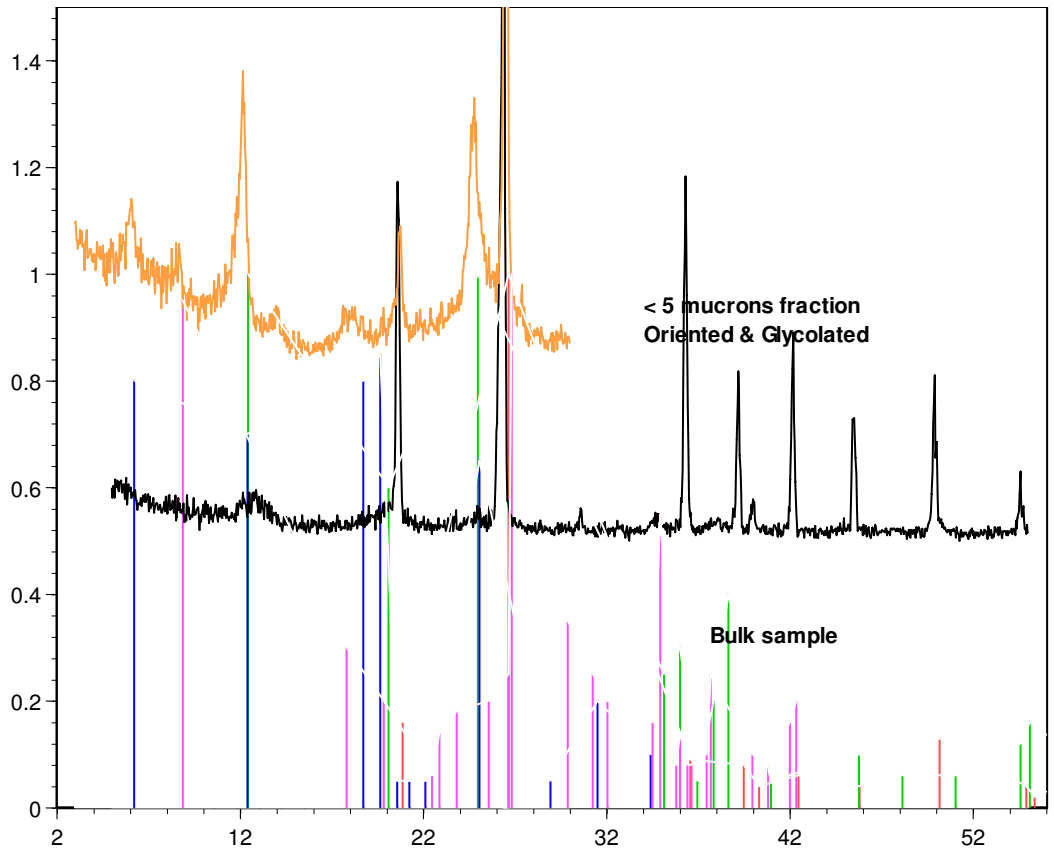

Figure 4 XRD patterns for DPT2-0810 w/ stick patterns for quartz (red), kaolinite (green), chlorite (blue) and mica (purple)

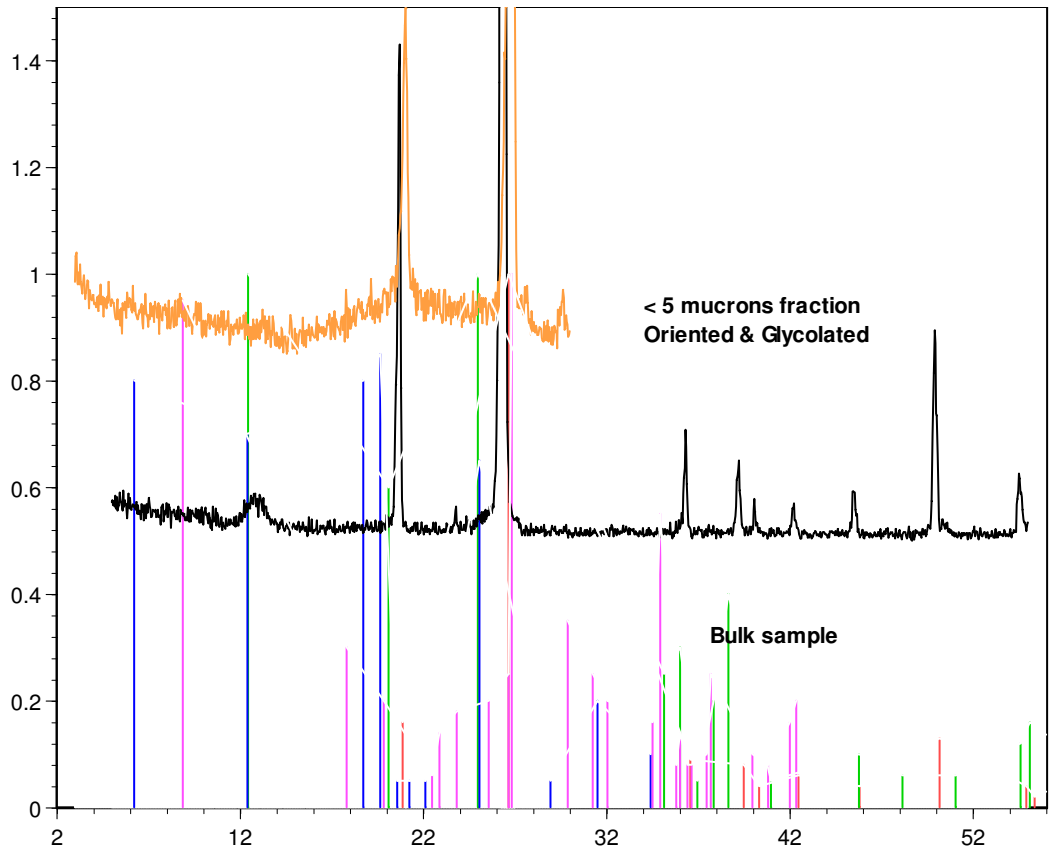

Figure 5 XRD patterns for DPT3-0406 w/ stick patterns for quartz (red), kaolinite (green), chlorite (blue) and mica (purple)

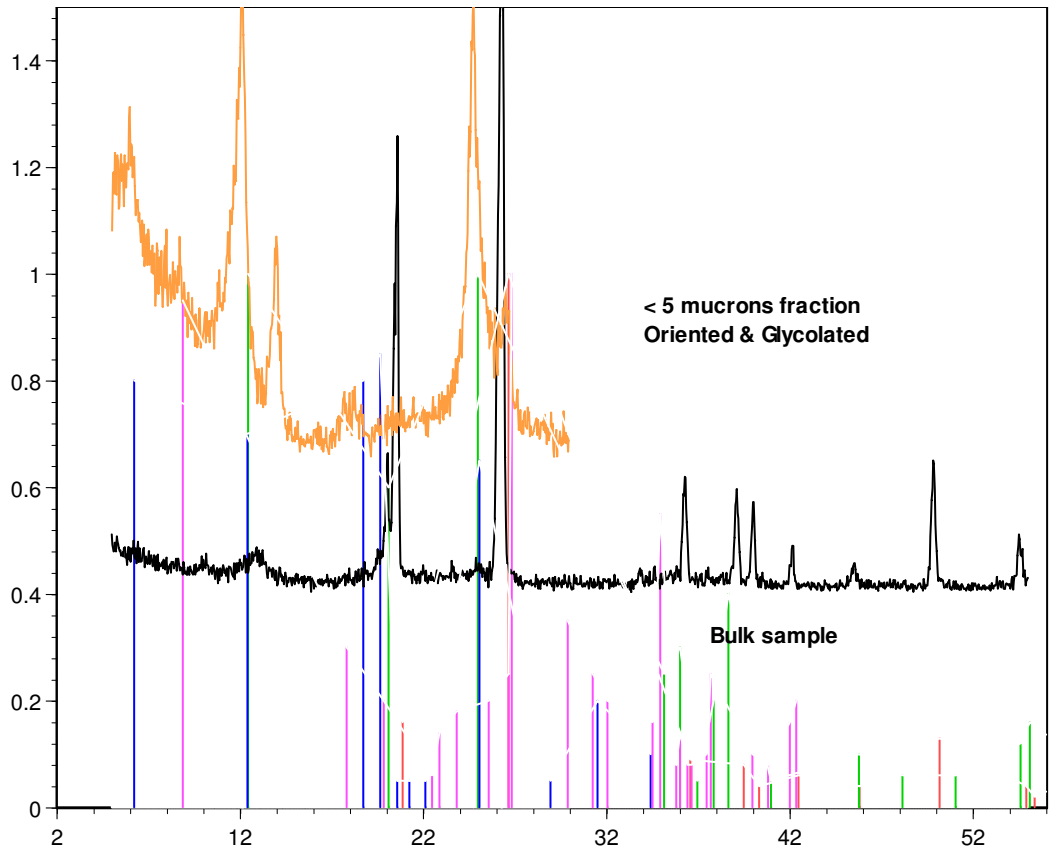

Figure 6 XRD patterns for DPT3-0810 w/ stick patterns for quartz (red), kaolinite (green), chlorite (blue) and mica (purple)

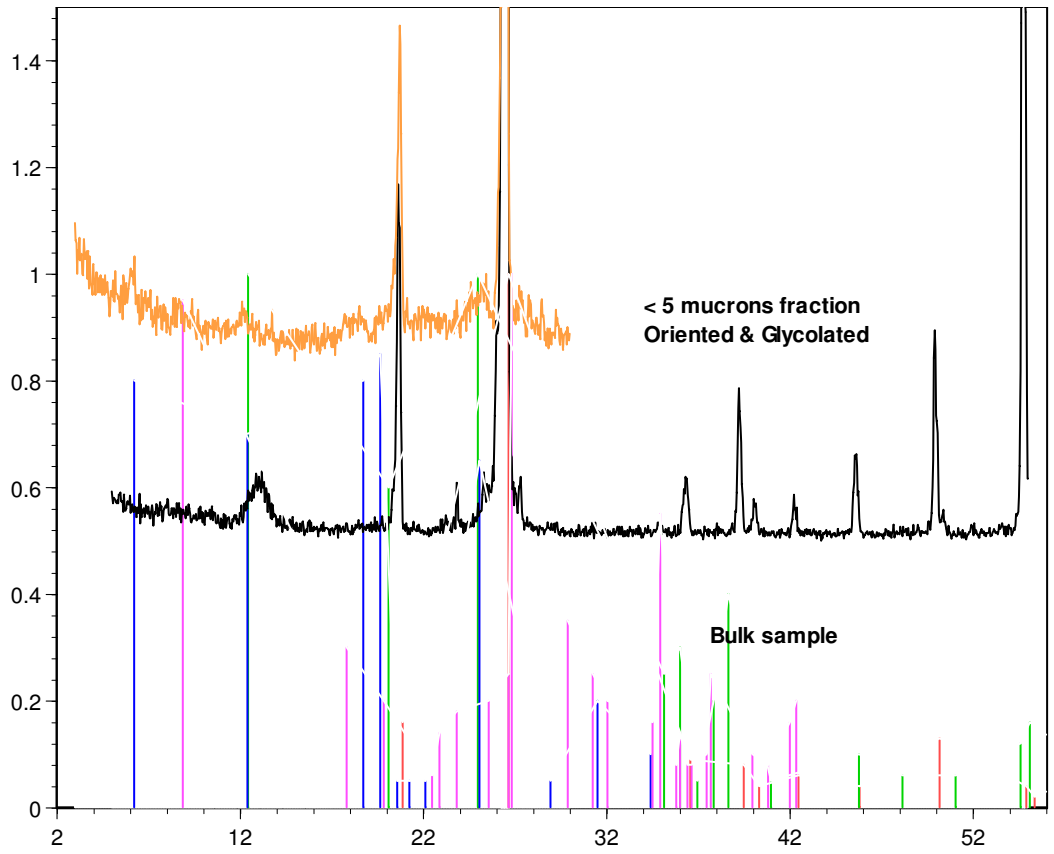

Figure 7 XRD patterns for DPT4-0405 w/ stick patterns for quartz (red), kaolinite (green), chlorite (blue) and mica (purple)

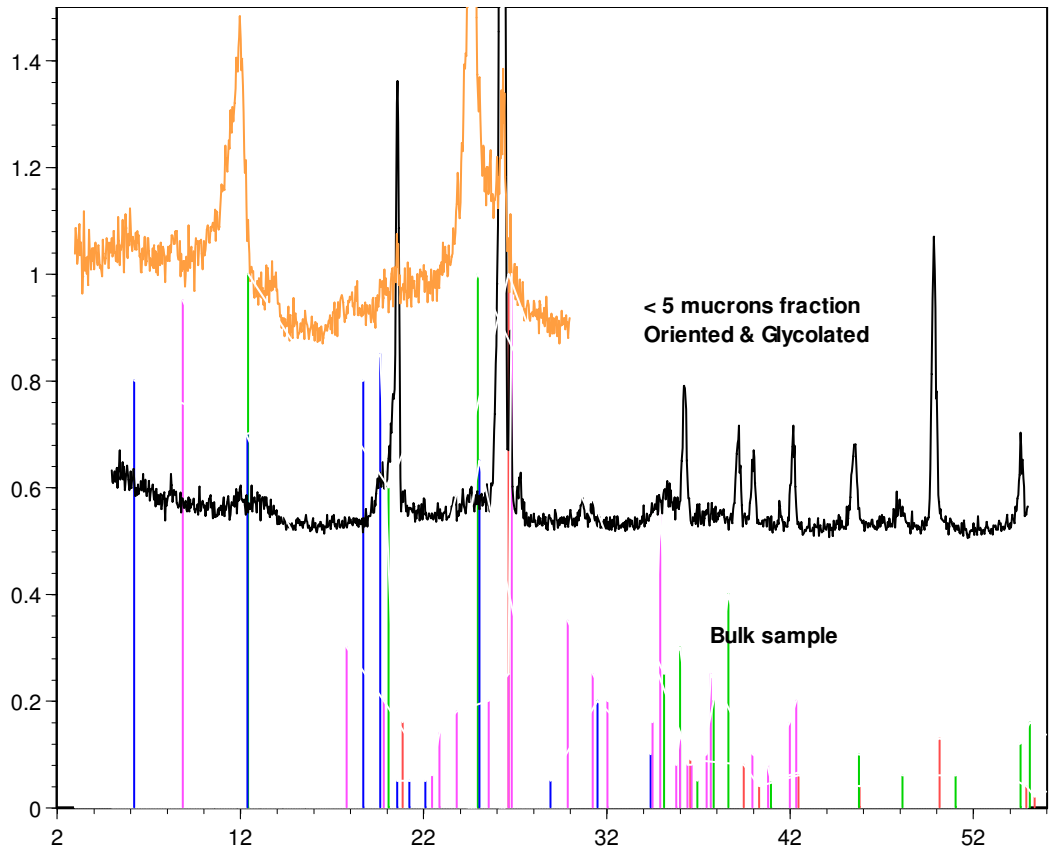

Figure 8 XRD patterns for DPT4-0911H w/ stick patterns for quartz (red), kaolinite (green), chlorite (blue) and mica (purple)

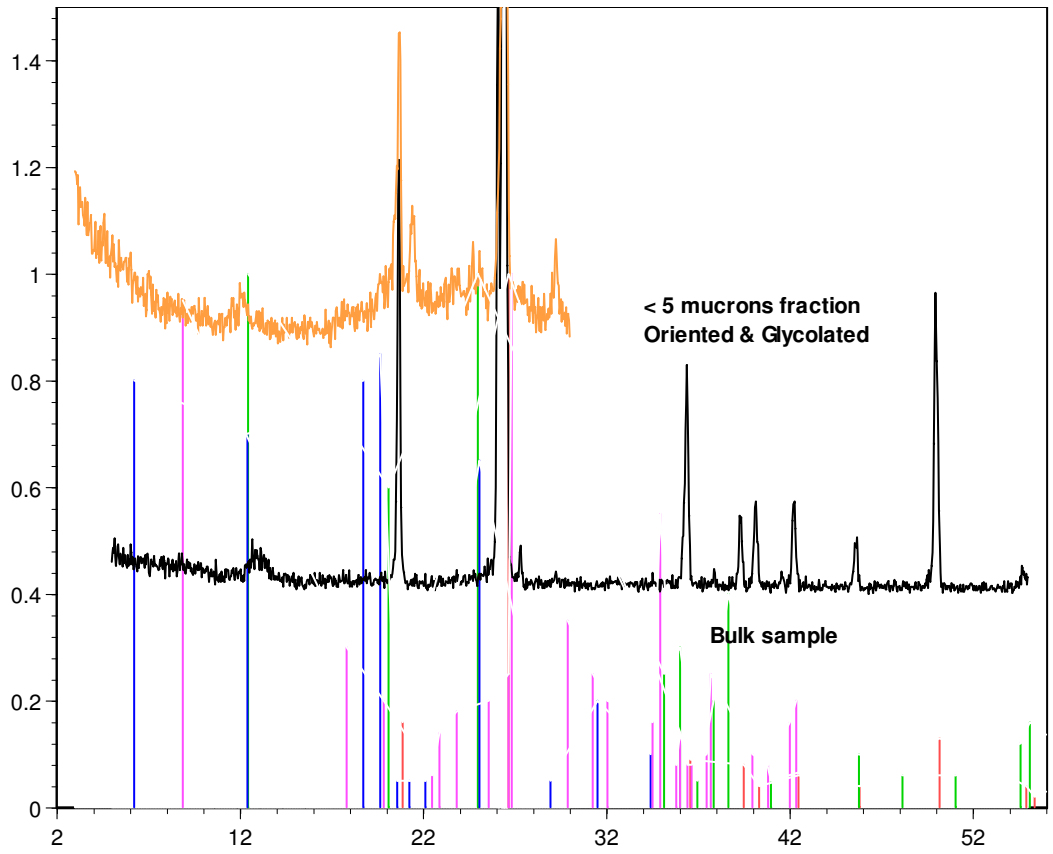

Figure 9 XRD patterns for DPT5-0305 w/ stick patterns for quartz (red), kaolinite (green), chlorite (blue) and mica (purple)

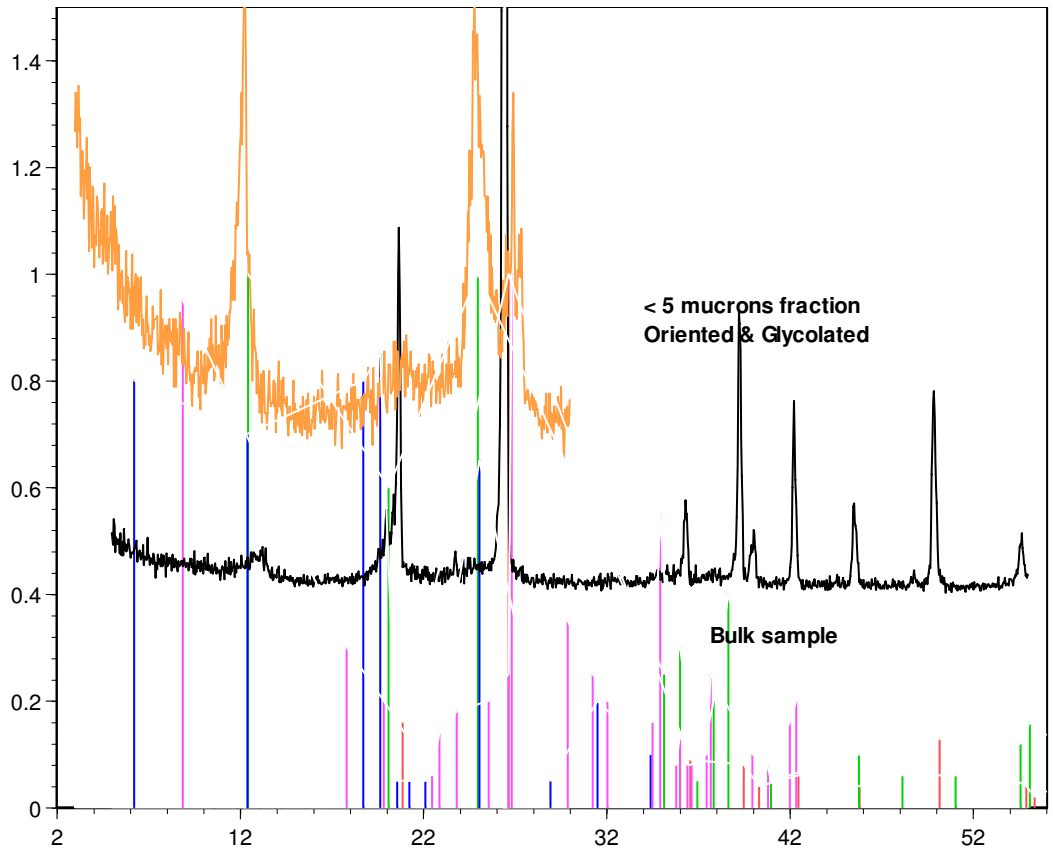

Figure 10 XRD patterns for DPT5-0810 w/ stick patterns for quartz (red), kaolinite (green), chlorite (blue) and mica (purple)

Attachment E
Total Metals in Soil Validated Laboratory Data Reports

NAS Jacksonville

PREPARED FOR:	NAS Jacksonville / PSC 47 Soil Sampling 2013
FINAL REVIEWER/ INITIAL REVIEWER	Camden Robinson/ Project Chemist/CH2M Hill
COPIES:	Eric Davis /Project Manager/AGVIQ-CH2M HILL
DATE:	December 4th, 2013
SUBJECT:	Quality Assessment for Samples collected October 30th, 2013

This quality assurance memorandum is based upon a review of analytical data generated for the soil samples collected on October 30th, 2013 at the Naval Activity Station Jacksonville in Jacksonville, Florida. The samples were collected as a part of the PSC 47 Soil Sampling event conducted at the site. The specific samples and analytical fractions reviewed are summarized below in Table 1.

The Quality Control areas that were reviewed and the resulting findings are documented within each subsection that follows. Data validation was conducted using the validation criteria outlined in the Environmental Protection Agency (EPA *National Functional Guidelines for Inorganic Data Review (EPA 2010)*, and/or the general guidance provided in the Department of Defense (DOD) Quality Systems Manual - Version 4.2 Final October 2010 (based on NELAC Voted Version - 5 June 2003). Analytical methods and laboratory standard operating procedures (SOPs) were used to evaluate compliance against quality assurance (QA)/QC criteria. If QA/QC criteria were not met, data was considered for qualification.

Samples were submitted to Empirical Laboratories LLC. in Nashville, Tennessee for the following analyses: SW-846 6010C/7471B Target Analyte List Metals (TAL Metals) and Lloyd Kahn method Total Organic Carbon (TOC).

Sample results that were not within the acceptance limits were appended with a qualifying flag, which consisted of a single- or double-letter code that indicated a possible problem with the data. The qualifying flags originated during the data review and validation processes. These also include the secondary, or the two/three-digit "sub-qualifier" flags. The secondary qualifiers provide the reasoning behind the assignment of a qualifier flag to the data. The secondary qualifiers are presented and defined below.

Attachment 1 lists the changes in data qualifiers, due to the validation process.

The following primary flags were used to qualify the data:

[=] Detected. The analyte was analyzed for and detected at the concentration shown.

[J] Estimated. The analyte was present but the reported value may not be accurate or precise.

[JB] Estimated. The data validator applied this qualifier to indicate that the analyte may be present but the reported value may not be accurate or precise due to the analyte was detected in the associated field, equipment, and/or trip blank.

[B] Estimated. The data validator applied this qualifier to indicate that the analyte may be present but the reported value may not be accurate or precise due to the analyte was detected in the associated method, initial calibration, and/or continuing calibration blank.

[U] Undetected. The analyte was analyzed for but not detected above the method detection limit. The data validator may also apply this qualifier to indicate that a concentration was not detected at significantly greater than that in an associated blank.

[UJ] Detection limit estimated. The analyte was analyzed for but qualified as not detected; the result is estimated.

[UR] Rejected. The data is not useable. The absence of the analyte cannot be verified.

[R] Rejected. The data is not useable.

Secondary Qualifier Codes

Code	Definition
2SH	Second Source Accuracy High
2SL	Second Source Accuracy Low
BD	Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision
BL	Blank
BSH	Blank Spike/LCS Recovery High
BSL	Blank Spike/LCS Recovery Low
CCH	Continuing Calibration Verification Accuracy High
CCL	Continuing Calibration Verification Accuracy Low
DL	Dilution
EB	Equipment Blank
FD	Field Duplicate
LD	Laboratory Duplicate
HT	Holding Time
ICH	Initial Calibration High
ICL	Initial Calibration Low
ISH	Internal Standard Area Response High
ISL	Internal Standard Area Response Low
LR	Linear Range (Exceeded calibration range)
MD	Matrix Spike/Matrix Spike Duplicate Precision
MI	Matrix Interferences
MSH	Matrix Spike and/or Matrix Spike Duplicate Recovery High
MSL	Matrix Spike and/or Matrix Spike Duplicate Recovery Low
OT	Other
PC	Primary/Confirmation Column Imprecision
PS	Post Digest Spike
RA	Re-analysis
RE	Re-extraction
RF	Response Factor
SSH	Spiked Surrogate Recovery High
SSL	Spiked Surrogate Recovery Low
TN	Tune
EMPC	Estimated Maximum Possible Concentration

Table 1 - Chemical Analytical Methods – Field and Quality Control Samples

SDG	Sample ID	Lab Sample ID	Matrix	Sample Type	Date Collected	Analyses Performed
1311013	JM10-DPT1-0406	1311013-01	S	N	10/30/2013	[1], [2]
1311013	JM10-DPT1-0810	1311013-02	S	N	10/30/2013	[1]
1311013	JM10-DPT2-0406	1311013-03	S	N	10/30/2013	[1]
1311013	JM10-DPT2-0810	1311013-04	S	N	10/30/2013	[1]
1311013	JM10-DPT3-0406	1311013-05	S	N	10/30/2013	[1]
1311013	JM10-DPT3-0810	1311013-06	S	N	10/30/2013	[1]
1311013	JM10-DPT4-0405	1311013-07	S	N	10/30/2013	[1]
1311013	JM10-DPT4-0911H	1311013-08	S	N	10/30/2013	[1]
1311013	JM10-DPT5-0305	1311013-09	S	N	10/30/2013	[1]
1311013	JM10-DPT5-0810	1311013-10	S	N	10/30/2013	[1]

MATRIX CODE

S – Soil

SAMPLE TYPE CODE

N – Native Sample

ANALYSIS CODE

[1] – TAL Metals – Target Analyte List Metals by SW-846 method 6010C/7471B
[2] – TOC – Total Organic Carbon by Lloyd Kahn method

Inorganic Parameters

Quality Control Review

The following list represents the QA/QC measures that were reviewed during the data quality evaluation procedure for organic data.

- **Holding Times** – The holding times are evaluated to verify that samples were extracted and analyzed within holding times.
- **Blank samples** – Method blanks, initial calibration blanks, and continuing calibration blanks were provided for this project. Blank samples enable the reviewer to determine if an analyte may be attributed to sampling or laboratory procedures, rather than environmental contamination from site activities.
- **Lab Control Sample (LCS)** – This sample is a "controlled matrix", either laboratory reagent water or Ottawa sand, in which target compounds have been added prior to extraction/analysis. The recoveries serve as a monitor of the overall performance of each step during the analysis, including sample preparation.
- **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples** – Spike recovery is used to evaluate potential matrix interferences, as well as accuracy. Precision information is also determined by calculating the reproducibility between the recoveries of each spiked parameter.
- **Initial Calibration** – The initial calibration ensures that the instrument is capable of producing acceptable qualitative and quantitative data for the compounds of interest.
- **Continuing Calibration** – The continuing calibration checks satisfactory performance of the instrument and its predicted response to the target compounds.

Target Analyte List Metals Analyses

Holding Time

All samples analyses were performed within hold time.

Instrument Calibration

All Initial and Continuing Calibration criteria were met.

Low Level Spike Calibration Verification

All low level spike calibration verification criteria were met.

Interference Check Sample

The interference check standard criteria were met.

Serial Dilution

Serial Dilution analyses were performed using batch samples with acceptable results.

Blanks

There were no detects in the associated initial calibration and continuing calibration blanks. The detects noted in the method blank sample are indicated in table 2 below:

TABLE 2
Blank Contamination: TAL Metals
JM10 PSC 47 Soil Sampling 2013

SDG	Sample ID	Sample Type	Parameter	Lab Result	Units	Samples Affected	Qualifiers Applied
1311013	Method Blank	MB	Barium	1.11	Mg/kg	JM10-DPT1-0406 JM10-DPT2-0406 JM10-DPT3-0406 JM10-DPT4-0405 JM10-DPT5-0305	Detects less than 5 times the blank detect were qualified as U-BL

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS samples.

Matrix Spike and Spike Duplicate Analyses

A matrix spike and spike duplicate sample was not collected and analyzed using field sample from the project site. An assessment of matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives could not be completed.

Matrix Interferences

The limit of detections and limit of quantitations were elevated for silver for sample JM10-DPT4-09111H due to interference noted during the analysis of these samples. This has been indicated by applying a "UJ" qualifier with a validation note of "MI" to the silver result for sample JM10-DPT4-09111H in the data summary tables.

Rejected Data

No data were rejected based upon the validation process for this sampling event.

Total Organic Carbon (TOC) Analyses

Holding Time

All samples analyses were performed within hold time.

Instrument Calibration

All Initial and Continuing Calibration criteria were met.

Low Level Spike Calibration Verification

All low level spike calibration verification criteria were met.

Blanks

There were no detects in the associated initial calibration, continuing calibration, and method blanks.

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS samples.

Matrix Spike and Spike Duplicate Analyses

A matrix spike and spike duplicate sample was not collected and analyzed using field sample from the project site. An assessment of matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives could not be completed.

Rejected Data

No data were rejected based upon the validation process for this sampling event.

INDUSTRIAL SOIL CLEANUP TARGET LEVELS

All samples collected and analyzed August 2013 for the target analyte list (TAL) metals and total organic carbon (TOC) analyses were less than the industrial soil cleanup target levels with the exceptions for the sample listed below:

Analyte (Metals)	Affected Sample	Sample Results (mg/kg)	Industrial Soil Cleanup Target Levels (mg/kg)
Arsenic	JM10-DPT2-0406	189	12
Arsenic	JM10-DPT2-0810	456	12
Arsenic	JM10-DPT3-0406	25.7	12
Arsenic	JM10-DPT3-0810	78.7	12

Data Usability

A review of the analytical data submitted regarding the investigation of NAS Jacksonville PSC 47 Soil Sampling 2013, by CH2M HILL has been completed. An overall evaluation of the data indicates that the sample handling, shipment, and analytical procedures have been adequately completed, and that the analytical results should be considered usable as qualified.

The data user can use the data recognizing the potential data biases indicated by the data qualifiers assigned to some results. Data was qualified for a subset of results due to matrix interferences.

ANALYSIS DATA SHEET

JM10-DPT1-0406

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Solid
Sampled: 10/30/13 15:00
% Solids: 70.02

SDG: 1311013
Project: NAS Jacksonville JM-10
Laboratory ID: 1311013-01
Received: 11/01/13 08:20

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0180	0.0373	0.0456	1	U	SW7471B	3K11001	11/11/13 16:57
7429-90-5	Aluminum	**1130**	**13.9**	27.7	55.5	1		SW6010C	3K04017	11/11/13 15:44
7440-36-0	Antimony		1.39	2.22	4.16	1	U	SW6010C	3K04017	11/11/13 15:44
7440-38-2	Arsenic		0.832	1.66	2.77	1	U	SW6010C	3K04017	11/11/13 15:44
7440-39-3	Barium	**2.34**	**1.39**	5.55	11.1	1	J	SW6010C	3K04017	11/11/13 15:44
7440-41-7	Beryllium		0.277	0.555	1.39	1	U	SW6010C	3K04017	11/11/13 15:44
7440-43-9	Cadmium		0.277	0.555	1.39	1	U	SW6010C	3K04017	11/11/13 15:44
7440-70-2	Calcium		277	555	1390	1	U	SW6010C	3K04017	11/11/13 15:44
7440-47-3	Chromium	**4.68**	**0.555**	1.11	2.77	1		SW6010C	3K04017	11/11/13 15:44
7440-48-4	Cobalt		1.39	2.77	3.47	1	U	SW6010C	3K04017	11/11/13 15:44
7440-50-8	Copper		1.11	2.22	2.77	1	U	SW6010C	3K04017	11/11/13 15:44
7439-89-6	Iron	**389**	**8.32**	16.6	27.7	1		SW6010C	3K04017	11/11/13 15:44
7439-92-1	Lead	**2.32**	**0.416**	0.832	0.832	1		SW6010C	3K04017	11/11/13 15:44
7439-95-4	Magnesium		277	832	1390	1	U	SW6010C	3K04017	11/11/13 15:44
7439-96-5	Manganese	**6.70**	**0.832**	1.66	4.16	1		SW6010C	3K04017	11/11/13 15:44
7440-02-0	Nickel		0.832	1.66	2.77	1	U	SW6010C	3K04017	11/11/13 15:44
7440-09-7	Potassium		277	832	1390	1	U	SW6010C	3K04017	11/11/13 15:44
7782-49-2	Selenium		0.832	1.39	1.66	1	U	SW6010C	3K04017	11/11/13 15:44
7440-22-4	Silver		0.277	0.555	2.77	1	U	SW6010C	3K04017	11/11/13 15:44
7440-23-5	Sodium		277	832	1390	1	U	SW6010C	3K04017	11/11/13 15:44
7440-28-0	Thallium		0.832	1.11	2.22	1	U	SW6010C	3K04017	11/11/13 15:44
7440-62-2	Vanadium		1.39	2.77	3.47	1	U	SW6010C	3K04017	11/11/13 15:44
7440-66-6	Zinc		1.39	2.77	5.55	1	U	SW6010C	3K04017	11/11/13 15:44

U-BL

ANALYSIS DATA SHEET

JM10-DPT1-0810

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Solid
Sampled: 10/30/13 15:15
% Solids: 65.08

SDG: 1311013
Project: NAS Jacksonville JM-10
Laboratory ID: 1311013-02
Received: 11/01/13 08:20

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0200	0.0415	0.0507	1	U	SW7471B	3K11001	11/11/13 16:58
7429-90-5	Aluminum	14900	14.9	29.8	59.7	1		SW6010C	3K04017	11/11/13 15:48
7440-36-0	Antimony		1.49	2.39	4.48	1	U	SW6010C	3K04017	11/11/13 15:48
7440-38-2	Arsenic	0.965	0.895	1.79	2.98	1	J	SW6010C	3K04017	11/11/13 15:48
7440-39-3	Barium	22.0	1.49	5.97	11.9	1		SW6010C	3K04017	11/11/13 15:48
7440-41-7	Beryllium		0.298	0.597	1.49	1	U	SW6010C	3K04017	11/11/13 15:48
7440-43-9	Cadmium		0.298	0.597	1.49	1	U	SW6010C	3K04017	11/11/13 15:48
7440-70-2	Calcium	489	298	597	1490	1	J	SW6010C	3K04017	11/11/13 15:48
7440-47-3	Chromium	13.6	0.597	1.19	2.98	1		SW6010C	3K04017	11/11/13 15:48
7440-48-4	Cobalt		1.49	2.98	3.73	1	U	SW6010C	3K04017	11/11/13 15:48
7440-50-8	Copper		1.19	2.39	2.98	1	U	SW6010C	3K04017	11/11/13 15:48
7439-89-6	Iron	2710	8.95	17.9	29.8	1		SW6010C	3K04017	11/11/13 15:48
7439-92-1	Lead	6.38	0.448	0.895	0.895	1		SW6010C	3K04017	11/11/13 15:48
7439-95-4	Magnesium	538	298	895	1490	1	J	SW6010C	3K04017	11/11/13 15:48
7439-96-5	Manganese	5.99	0.895	1.79	4.48	1		SW6010C	3K04017	11/11/13 15:48
7440-02-0	Nickel	2.65	0.895	1.79	2.98	1	J	SW6010C	3K04017	11/11/13 15:48
7440-09-7	Potassium	398	298	895	1490	1	J	SW6010C	3K04017	11/11/13 15:48
7782-49-2	Selenium		0.895	1.49	1.79	1	U	SW6010C	3K04017	11/11/13 15:48
7440-22-4	Silver		0.298	0.597	2.98	1	U	SW6010C	3K04017	11/11/13 15:48
7440-23-5	Sodium		298	895	1490	1	U	SW6010C	3K04017	11/11/13 15:48
7440-28-0	Thallium		0.895	1.19	2.39	1	U	SW6010C	3K04017	11/11/13 15:48
7440-62-2	Vanadium	14.9	1.49	2.98	3.73	1		SW6010C	3K04017	11/11/13 15:48
7440-66-6	Zinc	4.23	1.49	2.98	5.97	1	J	SW6010C	3K04017	11/11/13 15:48

ANALYSIS DATA SHEET

JM10-DPT2-0406

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Solid
Sampled: 10/30/13 09:00
% Solids: 69.93

SDG: 1311013
Project: NAS Jacksonville JM-10
Laboratory ID: 1311013-03
Received: 11/01/13 08:20

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury	**0.124**	**0.0186**	0.0386	0.0472	1		SW7471B	3K11001	11/11/13 16:59
7429-90-5	Aluminum	**563**	**14.2**	28.3	56.6	1		SW6010C	3K04017	11/11/13 15:52
7440-36-0	Antimony	**3.01**	**1.42**	2.27	4.25	1	J	SW6010C	3K04017	11/11/13 15:52
7440-38-2	Arsenic	**189**	**0.850**	1.70	2.83	1		SW6010C	3K04017	11/11/13 15:52
7440-39-3	Barium	**5.32**	**1.42**	5.66	11.3	1	J	SW6010C	3K04017	11/11/13 15:52 U-BL
7440-41-7	Beryllium		0.283	0.566	1.42	1	U	SW6010C	3K04017	11/11/13 15:52
7440-43-9	Cadmium		0.283	0.566	1.42	1	U	SW6010C	3K04017	11/11/13 15:52
7440-70-2	Calcium	**1380**	**283**	566	1420	1	J	SW6010C	3K04017	11/11/13 15:52
7440-47-3	Chromium	**3.50**	**0.566**	1.13	2.83	1		SW6010C	3K04017	11/11/13 15:52
7440-48-4	Cobalt		1.42	2.83	3.54	1	U	SW6010C	3K04017	11/11/13 15:52
7440-50-8	Copper	**1.82**	**1.13**	2.27	2.83	1	J	SW6010C	3K04017	11/11/13 15:52
7439-89-6	Iron	**6060**	**8.50**	17.0	28.3	1		SW6010C	3K04017	11/11/13 15:52
7439-92-1	Lead	**6.24**	**0.425**	0.850	0.850	1		SW6010C	3K04017	11/11/13 15:52
7439-95-4	Magnesium		283	850	1420	1	U	SW6010C	3K04017	11/11/13 15:52
7439-96-5	Manganese	**31.8**	**0.850**	1.70	4.25	1		SW6010C	3K04017	11/11/13 15:52
7440-02-0	Nickel	**0.743**	**0.850**	1.70	2.83	1	J	SW6010C	3K04017	11/11/13 15:52
7440-09-7	Potassium		283	850	1420	1	U	SW6010C	3K04017	11/11/13 15:52
7782-49-2	Selenium		0.850	1.42	1.70	1	U	SW6010C	3K04017	11/11/13 15:52
7440-22-4	Silver		0.283	0.566	2.83	1	U	SW6010C	3K04017	11/11/13 15:52
7440-23-5	Sodium		283	850	1420	1	U	SW6010C	3K04017	11/11/13 15:52
7440-28-0	Thallium		0.850	1.13	2.27	1	U	SW6010C	3K04017	11/11/13 15:52
7440-62-2	Vanadium		1.42	2.83	3.54	1	U	SW6010C	3K04017	11/11/13 15:52
7440-66-6	Zinc	**11.6**	**1.42**	2.83	5.66	1		SW6010C	3K04017	11/11/13 15:52

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ANALYSIS DATA SHEET

JM10-DPT2-0810

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Solid
Sampled: 10/30/13 09:15
% Solids: 70.19

SDG: 1311013
Project: NAS Jacksonville JM-10
Laboratory ID: 1311013-04
Received: 11/01/13 08:20

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0168	0.0350	0.0427	1	U	SW7471B	3K11001	11/11/13 17:00
7429-90-5	Aluminum	**9520**	**14.0**	27.9	55.9	1		SW6010C	3K04017	11/11/13 15:57
7440-36-0	Antimony	**10.3**	**1.40**	2.23	4.19	1		SW6010C	3K04017	11/11/13 15:57
7440-38-2	Arsenic	**456**	**0.838**	1.68	2.79	1		SW6010C	3K04017	11/11/13 15:57
7440-39-3	Barium	**21.1**	**1.40**	5.59	11.2	1		SW6010C	3K04017	11/11/13 15:57
7440-41-7	Beryllium		0.279	0.559	1.40	1	U	SW6010C	3K04017	11/11/13 15:57
7440-43-9	Cadmium		0.279	0.559	1.40	1	U	SW6010C	3K04017	11/11/13 15:57
7440-70-2	Calcium		279	559	1400	1	U	SW6010C	3K04017	11/11/13 15:57
7440-47-3	Chromium	**8.93**	**0.559**	1.12	2.79	1		SW6010C	3K04017	11/11/13 15:57
7440-48-4	Cobalt		1.40	2.79	3.49	1	U	SW6010C	3K04017	11/11/13 15:57
7440-50-8	Copper	**1.22**	**1.12**	2.23	2.79	1	J	SW6010C	3K04017	11/11/13 15:57
7439-89-6	Iron	**3100**	8.38	16.8	27.9	1		SW6010C	3K04017	11/11/13 15:57
7439-92-1	Lead	**8.73**	**0.419**	0.838	0.838	1		SW6010C	3K04017	11/11/13 15:57
7439-95-4	Magnesium	**343**	279	838	1400	1	J	SW6010C	3K04017	11/11/13 15:57
7439-96-5	Manganese	**4.61**	**0.838**	1.68	4.19	1		SW6010C	3K04017	11/11/13 15:57
7440-02-0	Nickel	**2.09**	**0.838**	1.68	2.79	1	J	SW6010C	3K04017	11/11/13 15:57
7440-09-7	Potassium		279	838	1400	1	U	SW6010C	3K04017	11/11/13 15:57
7782-49-2	Selenium		0.838	1.40	1.68	1	U	SW6010C	3K04017	11/11/13 15:57
7440-22-4	Silver		0.279	0.559	2.79	1	U	SW6010C	3K04017	11/11/13 15:57
7440-23-5	Sodium		279	838	1400	1	U	SW6010C	3K04017	11/11/13 15:57
7440-28-0	Thallium		0.838	1.12	2.23	1	U	SW6010C	3K04017	11/11/13 15:57
7440-62-2	Vanadium	**10.3**	**1.40**	2.79	3.49	1		SW6010C	3K04017	11/11/13 15:57
7440-66-6	Zinc	**4.57**	**1.40**	2.79	5.59	1	J	SW6010C	3K04017	11/11/13 15:57

ANALYSIS DATA SHEET

JM10-DPT3-0406

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Solid
Sampled: 10/30/13 08:00
% Solids: 68.40

SDG: 1311013
Project: NAS Jacksonville JM-10
Laboratory ID: 1311013-05
Received: 11/01/13 08:20

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0184	0.0382	0.0467	1	U	SW7471B	3K11001	11/11/13 17:01
7429-90-5	Aluminum	**1140**	**14.5**	28.9	57.9	1		SW6010C	3K04017	11/11/13 16:01
7440-36-0	Antimony		1.45	2.32	4.34	1	U	SW6010C	3K04017	11/11/13 16:01
7440-38-2	Arsenic	**25.7**	**0.868**	1.74	2.89	1		SW6010C	3K04017	11/11/13 16:01
7440-39-3	Barium	**2.14**	**1.45**	5.79	11.6	1	~~J~~	SW6010C	3K04017	11/11/13 16:01 U-BL
7440-41-7	Beryllium		0.289	0.579	1.45	1	U	SW6010C	3K04017	11/11/13 16:01
7440-43-9	Cadmium		0.289	0.579	1.45	1	U	SW6010C	3K04017	11/11/13 16:01
7440-70-2	Calcium	**2520**	**289**	579	1450	1		SW6010C	3K04017	11/11/13 16:01
7440-47-3	Chromium	**2.23**	**0.579**	1.16	2.89	1	J	SW6010C	3K04017	11/11/13 16:01
7440-48-4	Cobalt		1.45	2.89	3.62	1	U	SW6010C	3K04017	11/11/13 16:01
7440-50-8	Copper		1.16	2.32	2.89	1	U	SW6010C	3K04017	11/11/13 16:01
7439-89-6	Iron	**295**	**8.68**	17.4	28.9	1		SW6010C	3K04017	11/11/13 16:01
7439-92-1	Lead	**1.95**	**0.434**	0.868	0.868	1		SW6010C	3K04017	11/11/13 16:01
7439-95-4	Magnesium		289	868	1450	1	U	SW6010C	3K04017	11/11/13 16:01
7439-96-5	Manganese	**5.33**	**0.868**	1.74	4.34	1		SW6010C	3K04017	11/11/13 16:01
7440-02-0	Nickel		0.868	1.74	2.89	1	U	SW6010C	3K04017	11/11/13 16:01
7440-09-7	Potassium		289	868	1450	1	U	SW6010C	3K04017	11/11/13 16:01
7782-49-2	Selenium		0.868	1.45	1.74	1	U	SW6010C	3K04017	11/11/13 16:01
7440-22-4	Silver		0.289	0.579	2.89	1	U	SW6010C	3K04017	11/11/13 16:01
7440-23-5	Sodium		289	868	1450	1	U	SW6010C	3K04017	11/11/13 16:01
7440-28-0	Thallium		0.868	1.16	2.32	1	U	SW6010C	3K04017	11/11/13 16:01
7440-62-2	Vanadium	**1.58**	**1.45**	2.89	3.62	1	J	SW6010C	3K04017	11/11/13 16:01
7440-66-6	Zinc		1.45	2.89	5.79	1	U	SW6010C	3K04017	11/11/13 16:01

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ANALYSIS DATA SHEET

JM10-DPT3-0810

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Solid
Sampled: 10/30/13 08:15
% Solids: 63.92

SDG: 1311013
Project: NAS Jacksonville JM-10
Laboratory ID: 1311013-06
Received: 11/01/13 08:20

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0185	0.0384	0.0469	1	U	SW7471B	3K11001	11/11/13 17:03
7429-90-5	Aluminum	**18000**	**15.2**	30.4	60.8	1		SW6010C	3K04017	11/11/13 16:05
7440-36-0	Antimony		1.52	2.43	4.56	1	U	SW6010C	3K04017	11/11/13 16:05
7440-38-2	Arsenic	**78.7**	**0.911**	1.82	3.04	1		SW6010C	3K04017	11/11/13 16:05
7440-39-3	Barium	**24.8**	**1.52**	6.08	12.2	1		SW6010C	3K04017	11/11/13 16:05
7440-41-7	Beryllium		0.304	0.608	1.52	1	U	SW6010C	3K04017	11/11/13 16:05
7440-43-9	Cadmium		0.304	0.608	1.52	1	U	SW6010C	3K04017	11/11/13 16:05
7440-70-2	Calcium		304	608	1520	1	U	SW6010C	3K04017	11/11/13 16:05
7440-47-3	Chromium	**16.3**	**0.608**	1.22	3.04	1		SW6010C	3K04017	11/11/13 16:05
7440-48-4	Cobalt		1.52	3.04	3.80	1	U	SW6010C	3K04017	11/11/13 16:05
7440-50-8	Copper		1.22	2.43	3.04	1	U	SW6010C	3K04017	11/11/13 16:05
7439-89-6	Iron	**8720**	**9.11**	18.2	30.4	1		SW6010C	3K04017	11/11/13 16:05
7439-92-1	Lead	**7.62**	**0.456**	0.911	0.911	1		SW6010C	3K04017	11/11/13 16:05
7439-95-4	Magnesium	**527**	**304**	911	1520	1	J	SW6010C	3K04017	11/11/13 16:05
7439-96-5	Manganese	**6.51**	**0.911**	1.82	4.56	1		SW6010C	3K04017	11/11/13 16:05
7440-02-0	Nickel	**3.84**	**0.911**	1.82	3.04	1		SW6010C	3K04017	11/11/13 16:05
7440-09-7	Potassium	**395**	**304**	911	1520	1	J	SW6010C	3K04017	11/11/13 16:05
7782-49-2	Selenium		0.911	1.52	1.82	1	U	SW6010C	3K04017	11/11/13 16:05
7440-22-4	Silver		0.304	0.608	3.04	1	U	SW6010C	3K04017	11/11/13 16:05
7440-23-5	Sodium		304	911	1520	1	U	SW6010C	3K04017	11/11/13 16:05
7440-28-0	Thallium		0.911	1.22	2.43	1	U	SW6010C	3K04017	11/11/13 16:05
7440-62-2	Vanadium	**22.8**	**1.52**	3.04	3.80	1		SW6010C	3K04017	11/11/13 16:05
7440-66-6	Zinc	**4.83**	**1.52**	3.04	6.08	1	J	SW6010C	3K04017	11/11/13 16:05

ANALYSIS DATA SHEET

JM10-DPT4-0405

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Solid
Sampled: 10/29/13 12:00
% Solids: 64.47

SDG: 1311013
Project: NAS Jacksonville JM-10
Laboratory ID: 1311013-07
Received: 11/01/13 08:20

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0195	0.0405	0.0495	1	U	SW7471B	3K11001	11/11/13 17:04
7429-90-5	Aluminum	**1180**	**15.5**	31.0	62.0	1		SW6010C	3K04017	11/11/13 16:09
7440-36-0	Antimony		1.55	2.48	4.65	1	U	SW6010C	3K04017	11/11/13 16:09
7440-38-2	Arsenic		0.931	1.86	3.10	1	U	SW6010C	3K04017	11/11/13 16:09
7440-39-3	Barium	**1.99**	**1.55**	6.20	12.4	1	~~J~~	SW6010C	3K04017	11/11/13 16:09
7440-41-7	Beryllium		0.310	0.620	1.55	1	U	SW6010C	3K04017	11/11/13 16:09
7440-43-9	Cadmium		0.310	0.620	1.55	1	U	SW6010C	3K04017	11/11/13 16:09
7440-70-2	Calcium	**464**	**310**	620	1550	1	J	SW6010C	3K04017	11/11/13 16:09
7440-47-3	Chromium	**1.84**	**0.620**	1.24	3.10	1	J	SW6010C	3K04017	11/11/13 16:09
7440-48-4	Cobalt		1.55	3.10	3.88	1	U	SW6010C	3K04017	11/11/13 16:09
7440-50-8	Copper		1.24	2.48	3.10	1	U	SW6010C	3K04017	11/11/13 16:09
7439-89-6	Iron	**277**	**9.31**	18.6	31.0	1		SW6010C	3K04017	11/11/13 16:09
7439-92-1	Lead	**2.32**	**0.465**	0.931	0.931	1		SW6010C	3K04017	11/11/13 16:09
7439-95-4	Magnesium		310	931	1550	1	U	SW6010C	3K04017	11/11/13 16:09
7439-96-5	Manganese	**6.15**	**0.931**	1.86	4.65	1		SW6010C	3K04017	11/11/13 16:09
7440-02-0	Nickel		0.931	1.86	3.10	1	U	SW6010C	3K04017	11/11/13 16:09
7440-09-7	Potassium		310	931	1550	1	U	SW6010C	3K04017	11/11/13 16:09
7782-49-2	Selenium		0.931	1.55	1.86	1	U	SW6010C	3K04017	11/11/13 16:09
7440-22-4	Silver		0.310	0.620	3.10	1	U	SW6010C	3K04017	11/11/13 16:09
7440-23-5	Sodium		310	931	1550	1	U	SW6010C	3K04017	11/11/13 16:09
7440-28-0	Thallium		0.931	1.24	2.48	1	U	SW6010C	3K04017	11/11/13 16:09
7440-62-2	Vanadium		1.55	3.10	3.88	1	U	SW6010C	3K04017	11/11/13 16:09
7440-66-6	Zinc		1.55	3.10	6.20	1	U	SW6010C	3K04017	11/11/13 16:09

U-BL

C1

ANALYSIS DATA SHEET

JM10-DPT4-0911H

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Solid
Sampled: 10/29/13 12:15
% Solids: 64.38

SDG: 1311013
Project: NAS Jacksonville JM-10
Laboratory ID: 1311013-08
Received: 11/01/13 08:20

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0202	0.0419	0.0513	1	U	SW7471B	3K11001	11/11/13 17:05
7429-90-5	Aluminum	**17600**	**15.2**	30.5	60.9	1		SW6010C	3K04017	11/11/13 16:14
7440-36-0	Antimony		1.52	2.44	4.57	1	U	SW6010C	3K04017	11/11/13 16:14
7440-38-2	Arsenic	**3.30**	**0.914**	1.83	3.05	1		SW6010C	3K04017	11/11/13 16:14
7440-39-3	Barium	**31.9**	**1.52**	6.09	12.2	1		SW6010C	3K04017	11/11/13 16:14
7440-41-7	Beryllium		0.305	0.609	1.52	1	U	SW6010C	3K04017	11/11/13 16:14
7440-43-9	Cadmium		0.305	0.609	1.52	1	U	SW6010C	3K04017	11/11/13 16:14
7440-70-2	Calcium		305	609	1520	1	U	SW6010C	3K04017	11/11/13 16:14
7440-47-3	Chromium	**19.9**	**0.609**	1.22	3.05	1		SW6010C	3K04017	11/11/13 16:14
7440-48-4	Cobalt		1.52	3.05	3.81	1	U	SW6010C	3K04017	11/11/13 16:14
7440-50-8	Copper		1.22	2.44	3.05	1	U	SW6010C	3K04017	11/11/13 16:14
7439-89-6	Iron	**8960**	**9.14**	18.3	30.5	1		SW6010C	3K04017	11/11/13 16:14
7439-92-1	Lead	**9.08**	**0.457**	0.914	0.914	1		SW6010C	3K04017	11/11/13 16:14
7439-95-4	Magnesium	**747**	**305**	914	1520	1	J	SW6010C	3K04017	11/11/13 16:14
7439-96-5	Manganese	**6.40**	**0.914**	1.83	4.57	1		SW6010C	3K04017	11/11/13 16:14
7440-02-0	Nickel	**2.60**	**0.914**	1.83	3.05	1	J	SW6010C	3K04017	11/11/13 16:14
7440-09-7	Potassium	**550**	**305**	914	1520	1	J	SW6010C	3K04017	11/11/13 16:14
7782-49-2	Selenium		0.914	1.52	1.83	1	U	SW6010C	3K04017	11/11/13 16:14
7440-22-4	Silver		0.609	0.609	3.05	1	MU	SW6010C	3K04017	11/11/13 16:14 UJ-M1
7440-23-5	Sodium		305	914	1520	1	U	SW6010C	3K04017	11/11/13 16:14
7440-28-0	Thallium		0.914	1.22	2.44	1	U	SW6010C	3K04017	11/11/13 16:14
7440-62-2	Vanadium	**34.8**	**1.52**	3.05	3.81	1		SW6010C	3K04017	11/11/13 16:14
7440-66-6	Zinc	**5.65**	**1.52**	3.05	6.09	1	J	SW6010C	3K04017	11/11/13 16:14

ANALYSIS DATA SHEET

JM10-DPT5-0305

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Solid
Sampled: 10/30/13 12:00
% Solids: 76.28

SDG: 1311013
Project: NAS Jacksonville JM-10
Laboratory ID: 1311013-09
Received: 11/01/13 08:20

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0160	0.0332	0.0406	1	U	SW7471B	3K11001	11/11/13 17:06
7429-90-5	Aluminum	**1400**	**12.7**	25.5	50.9	1		SW6010C	3K04017	11/11/13 16:18
7440-36-0	Antimony		1.27	2.04	3.82	1	U	SW6010C	3K04017	11/11/13 16:18
7440-38-2	Arsenic		0.764	1.53	2.55	1	U	SW6010C	3K04017	11/11/13 16:18
7440-39-3	Barium	**3.71**	**1.27**	5.09	10.2	1	~~J~~	SW6010C	3K04017	11/11/13 16:18 U-BL
7440-41-7	Beryllium		0.255	0.509	1.27	1	U	SW6010C	3K04017	11/11/13 16:18
7440-43-9	Cadmium		0.255	0.509	1.27	1	U	SW6010C	3K04017	11/11/13 16:18
7440-70-2	Calcium	**5780**	**255**	509	1270	1		SW6010C	3K04017	11/11/13 16:18
7440-47-3	Chromium	**2.86**	**0.509**	1.02	2.55	1		SW6010C	3K04017	11/11/13 16:18
7440-48-4	Cobalt		1.27	2.55	3.18	1	U	SW6010C	3K04017	11/11/13 16:18
7440-50-8	Copper	**1.85**	**1.02**	2.04	2.55	1	J	SW6010C	3K04017	11/11/13 16:18
7439-89-6	Iron	**511**	**7.64**	15.3	25.5	1		SW6010C	3K04017	11/11/13 16:18
7439-92-1	Lead	**6.79**	**0.382**	0.764	0.764	1		SW6010C	3K04017	11/11/13 16:18
7439-95-4	Magnesium		255	764	1270	1	U	SW6010C	3K04017	11/11/13 16:18
7439-96-5	Manganese	**7.42**	**0.764**	1.53	3.82	1		SW6010C	3K04017	11/11/13 16:18
7440-02-0	Nickel		0.764	1.53	2.55	1	U	SW6010C	3K04017	11/11/13 16:18
7440-09-7	Potassium		255	764	1270	1	U	SW6010C	3K04017	11/11/13 16:18
7782-49-2	Selenium		0.764	1.27	1.53	1	U	SW6010C	3K04017	11/11/13 16:18
7440-22-4	Silver		0.255	0.509	2.55	1	U	SW6010C	3K04017	11/11/13 16:18
7440-23-5	Sodium		255	764	1270	1	U	SW6010C	3K04017	11/11/13 16:18
7440-28-0	Thallium		0.764	1.02	2.04	1	U	SW6010C	3K04017	11/11/13 16:18
7440-62-2	Vanadium	**1.73**	**1.27**	2.55	3.18	1	J	SW6010C	3K04017	11/11/13 16:18
7440-66-6	Zinc	**11.6**	**1.27**	2.55	5.09	1		SW6010C	3K04017	11/11/13 16:18

ANALYSIS DATA SHEET

JM10-DPT5-0810

Laboratory: Empirical Laboratories, LLC
Client: CH2M Hill, Inc.
Matrix: Solid
Sampled: 10/30/13 12:15
% Solids: 65.91

SDG: 1311013
Project: NAS Jacksonville JM-10
Laboratory ID: 1311013-10
Received: 11/01/13 08:20

CAS NO.	Analyte	Conc. (mg/Kg dry)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0191	0.0396	0.0484	1	U	SW7471B	3K11001	11/11/13 17:08
7429-90-5	Aluminum	**19500**	**14.9**	29.7	59.5	1		SW6010C	3K04017	11/11/13 16:22
7440-36-0	Antimony		1.49	2.38	4.46	1	U	SW6010C	3K04017	11/11/13 16:22
7440-38-2	Arsenic	**2.05**	**0.892**	1.78	2.97	1	J	SW6010C	3K04017	11/11/13 16:22
7440-39-3	Barium	**26.3**	**1.49**	5.95	11.9	1		SW6010C	3K04017	11/11/13 16:22
7440-41-7	Beryllium		0.297	0.595	1.49	1	U	SW6010C	3K04017	11/11/13 16:22
7440-43-9	Cadmium		0.297	0.595	1.49	1	U	SW6010C	3K04017	11/11/13 16:22
7440-70-2	Calcium		297	595	1490	1	U	SW6010C	3K04017	11/11/13 16:22
7440-47-3	Chromium	**22.6**	**0.595**	1.19	2.97	1		SW6010C	3K04017	11/11/13 16:22
7440-48-4	Cobalt		1.49	2.97	3.72	1	U	SW6010C	3K04017	11/11/13 16:22
7440-50-8	Copper		1.19	2.38	2.97	1	U	SW6010C	3K04017	11/11/13 16:22
7439-89-6	Iron	**7010**	**8.92**	17.8	29.7	1		SW6010C	3K04017	11/11/13 16:22
7439-92-1	Lead	**9.42**	**0.446**	0.892	0.892	1		SW6010C	3K04017	11/11/13 16:22
7439-95-4	Magnesium	**685**	**297**	892	1490	1	J	SW6010C	3K04017	11/11/13 16:22
7439-96-5	Manganese	**8.06**	**0.892**	1.78	4.46	1		SW6010C	3K04017	11/11/13 16:22
7440-02-0	Nickel	**2.40**	**0.892**	1.78	2.97	1	J	SW6010C	3K04017	11/11/13 16:22
7440-09-7	Potassium	**581**	**297**	892	1490	1	J	SW6010C	3K04017	11/11/13 16:22
7782-49-2	Selenium		0.892	1.49	1.78	1	U	SW6010C	3K04017	11/11/13 16:22
7440-22-4	Silver		0.297	0.595	2.97	1	U	SW6010C	3K04017	11/11/13 16:22
7440-23-5	Sodium		297	892	1490	1	U	SW6010C	3K04017	11/11/13 16:22
7440-28-0	Thallium		0.892	1.19	2.38	1	U	SW6010C	3K04017	11/11/13 16:22
7440-62-2	Vanadium	**20.9**	**1.49**	2.97	3.72	1		SW6010C	3K04017	11/11/13 16:22
7440-66-6	Zinc	**5.82**	**1.49**	2.97	5.95	1	J	SW6010C	3K04017	11/11/13 16:22

ANALYSIS DATA SHEET

JM10-DPT1-0406

Laboratory:	Empirical Laboratories, LLC	SDG:	1311013
Client:	CH2M Hill, Inc.	Project:	NAS Jacksonville JM-10
Matrix:	Solid	Laboratory ID:	1311013-01
Sampled:	10/30/13 15:00	Received:	11/01/13 08:20

Parameters listed below do not require Dry Weight correction:

CAS NO.	Analyte	Conc. (mg/Kg)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-44-0	Total Organic Carbon	414	200	400	800	1	J	LLOYDKAHN	3K06012	11/06/13 17:42

1311013

AGVIQ CH2M HILL

1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
Tel No (770) 604-9182
Fax No (770) 604-9183

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 470875-103113-001

PROJECT NAME	PROJECT NUMBER	LAB NAME AND CONTACT	FAX AND MAIL REPORTS/EDD TO RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.)
PSC 47 / Pesticide Shop NAS Jacksonville	470875	Empirical Laboratories, LLC Sonya Gordon	Juan Acaron / CH2M HILL juan.acaron@ch2m.com	3011 SW Williston Rd, Gainesville Fl 32608 352-374-1725 fax 352-384-7002 phone
PROJECT PHASE/SITE/TASK	CTO OR DO NUMBER	LAB PO NUMBER	FAX AND MAIL REPORTS/EDD TO RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.)
Soil Sampling - October 2013	JM10	817501	Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8067 fax 770-604-9182 phone
PROJECT CONTACT	PROJECT TEL NO AND FAX NO	LAB TEL NO AND FAX NO	FAX AND MAIL REPORTS/EDD TO RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.)
Juan Acaron / Eric Davis	770-604-9182 phone 770-604-9282 fax	Phone: 615-345-1115 Fax: 866-417-0548	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, GA 30328 678-579-8176 fax 678-530-4124 phone

ANALYSES REQUIRED (Include Method Number)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on SOP)	DATE COLLECTED	TIME COLLECTED	DATA REQ LEVEL (See codes on SOP)	TAT (calendar days)	TAL Metals by 6010C	TOC Lloyd Kahn											SAMPLE TYPE (see codes on SOP)	CONTAINER/ SCREENING REASON	LAB ID (for lab use)
1	JM10-DPT1-0406	DPT-1	SO	10/30/13	1300	C	14	X	X											N		01
2	JM10-DPT1-0810	DPT-1	SO	10/30/13	1215	C	14	X												N		02
3	JM10-DPT2-0406	DPT-2	SO	10/30/13	900	C	14	X												N		03
4	JM10-DPT2-0810	DPT-2	SO	10/30/13	915	C	14	X												N		04
5	JM10-DPT3-0406	DPT-3	SO	10/30/13	800	C	14	X												N		05
6	JM10-DPT3-0810	DPT-3	SO	10/30/13	815	C	14	X												N		06
7	JM10-DPT4-0405	DPT-4	SO	10/29/13	1200	C	14	X												N		07
8	JM10-DPT4-0911H	DPT-4	SO	10/29/13	1215	C	14	X												N		08
9	JM10-DPT5-0405	DPT-5	SO	10/30/13	1200	C	14	X												N		09
10	JM10-DPT5-0810	DPT-5	SO	10/30/13	1215	C	14	X												N		10

SAMPLER(S) AND COMPANY (Printed)	COURIER AND BILL OF LADING NUMBER	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab use)
Juan Acaron / CH2M HILL Keith Dobson / CH2M HILL	FedEx Master - 797053955544	

RELINQUISHED BY (Printed Name and Signature)	DATE	TIME	RECEIVED BY (Printed Name and Signature)	DATE	TIME
Juan Acaron	31-Oct-2013	1900			
			Josh Gross	11/1/13	0820

Form CC300, Rev 0400

11

1311013

Attachment F
Bulk Attenuation Rate Calculation Tables and Figures

Table F-1

Arsenic Concentrations from Wells Along the Building 937 Plume Centerline

PSC 47, NAS Jacksonville

Jacksonville, Florida

Station ID	Date	Distance from Source Area	Arsenic Concentration (µg/L)	Natural Log of Arsenic Concentration (µg/L)
MW-03S	5/28/08	0	8150	9.01
MW-02S	5/28/08	42	3280	8.10
MW-14S	6/2/08	118	4.3 U	1.46
MW-03S	9/26/08	0	13200 B	9.49
MW-02S	9/26/08	42	11700	9.37
MW-14S	9/29/08	118	7.96	2.07
MW-03S	12/17/08	0	8980	9.10
MW-02S	12/10/08	42	8540 B	9.05
MW-14S	12/17/08	118	3.84 J	1.35
MW-03S	3/16/09	0	4870	8.49
MW-02S	3/12/09	42	4520	8.42
MW-14S	3/17/09	118	3.88 J	1.36
MW-03S	10/20/10	0	11400	9.34
MW-02S	10/22/10	42	6660	8.80
MW-14S	10/22/10	118	8.75 J	2.17
MW-03S	4/6/11	0	4040	8.30
MW-02S	4/6/11	42	10200	9.23
MW-14S	4/4/11	118	6.62 U	1.89
MW-03S	10/31/11	0	16400	9.71
MW-02S	11/1/11	42	15800	9.67
MW-14S	10/28/11	118	3.31 U	1.20
MW-03S	4/20/12	0	27400	10.22
MW-02S	4/20/12	42	16000	9.68
MW-14S	4/23/12	118	3.94 J	1.37
MW-03S	10/10/13	0	9150	9.12
MW-02S	10/10/13	42	6510	8.78
MW-14S	10/11/13	118	3 U	1.10

Notes:

µg/L - micrograms per liter

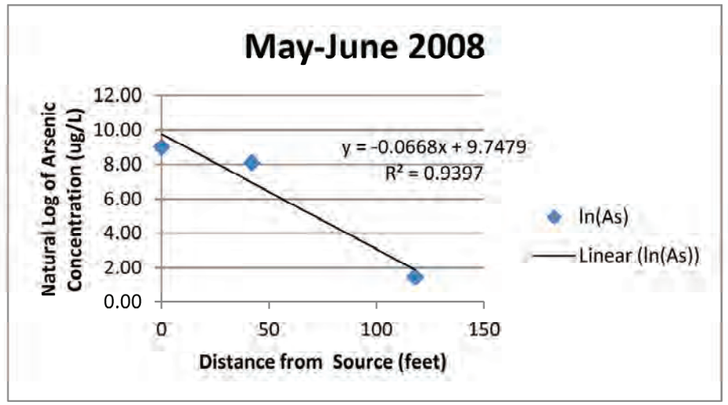
J - estimated value

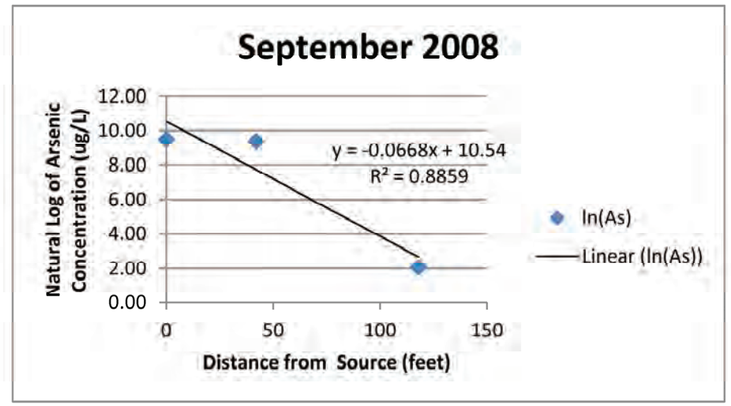
B - also detected in blank

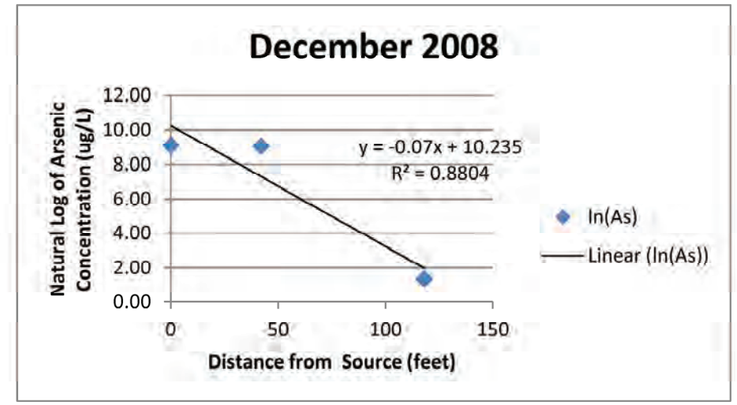
U - analyte not detected above method detection limit

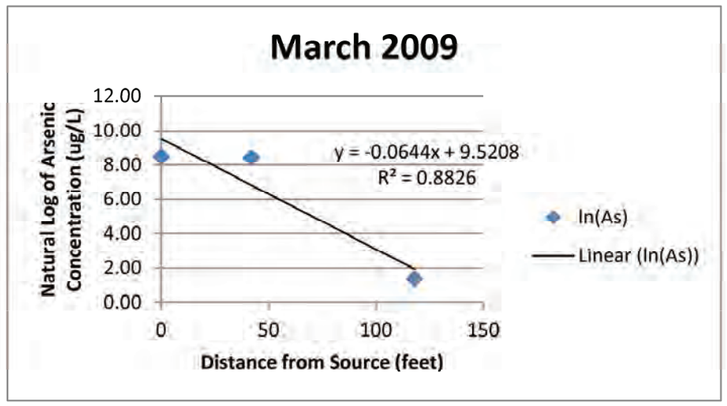
Table F-2
Bulk Attenuation Rate Calculation Input Variables and Results
PSC 47, NAS Jacksonville
Jacksonville, Florida

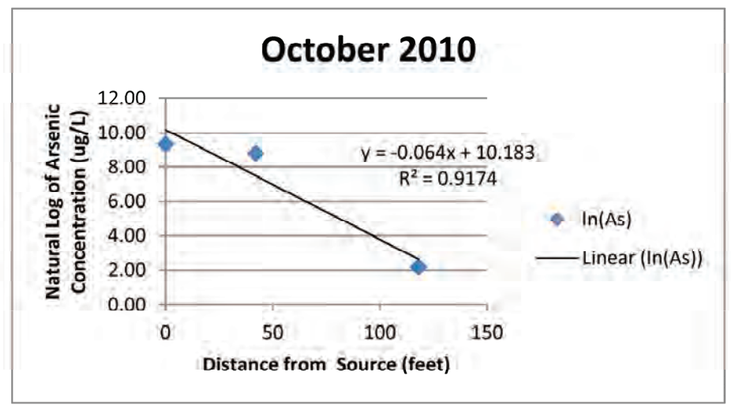
Monitoring Event	Groundwater Velocity (feet/year)	Retardation Factor	GCTL (ug/L)	Slope	Bulk Attenuation Rate Constant, k ($year^{-1}$)	Migration Time to GCTL (years)	Migration Distance to GCTL (feet)
May-June 2008	17.08	1	10	-0.0668	1.14	5.88	100
September 2008	17.08	1	10	-0.0668	1.14	6.30	108
December 2008	17.08	1	10	-0.0700	1.20	5.69	97
March 2009	17.08	1	10	-0.0644	1.10	5.63	96
October 2010	17.08	1	10	-0.0640	1.09	6.44	110
April 2011	17.08	1	10	-0.0594	1.01	5.92	101
October 2011	17.08	1	10	-0.0768	1.31	5.64	96
April 2012	17.08	1	10	-0.0791	1.35	5.86	100
October 2013	17.08	1	10	-0.0720	1.23	5.54	95
Average	17.08	1	10	-0.0688	1.18	5.88	100

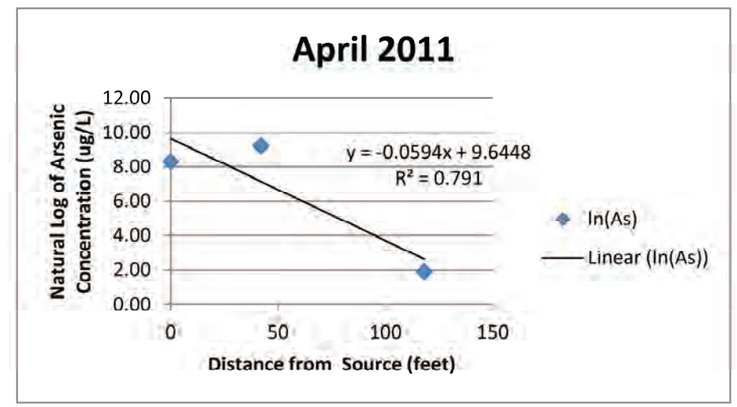


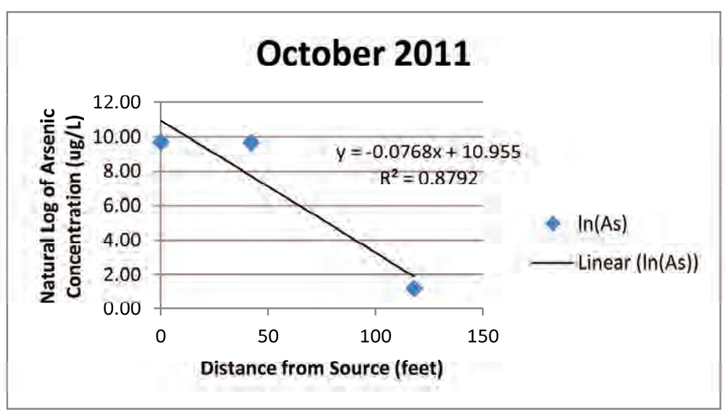


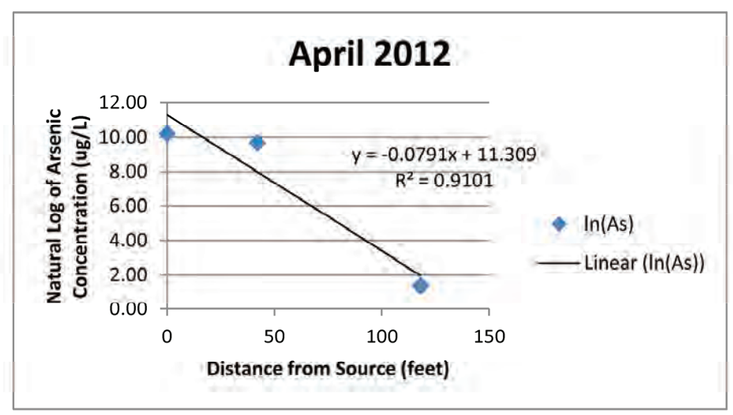












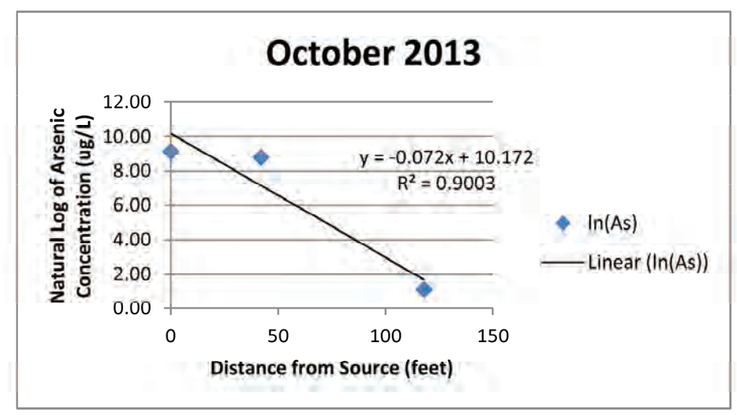


FIGURE F-1
Natural Log of Arsenic Concentration vs. Distance from Source
PSC 47, Naval Air Station Jacksonville
Jacksonville, Florida