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19th SEMI-ANNUAL WATER QUALITY MONITORING REPORT

J.E.D. Solid Waste Management Facility
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TABLE OF CONTENTS

1. INTRODUCTION 1

1.1 Terms of Reference 1

1.2 Overview 1

1.3 Site Description 1

2. MONITORING WELL DETAILS 4

2.1 Well Layout and Construction 4

2.2 Turbidity Issues 5

3. MONITORING WELL SAMPLING 6

3.1 Sampling Locations and Procedures 6

3.2 Sample Analyses 7

4. ANALYTICAL RESULTS 8

4.1 Field Parameters 8

4.2 Groundwater Monitoring Wells 8

4.3 Data Validation 12

4.4 Impact of Turbidity on Metals Concentrations 12

5. GROUNDWATER LEVEL MEASUREMENTS AND FLOW DIRECTION 13

5.1 Field Measurements 13

5.2 Water Level Contours 13

6. SURFACE WATER SAMPLING 14

6.1 Sampling Locations and Procedures 14

7. CONCLUSIONS AND RECOMMENDATIONS 15

7.1 Sampling Locations 15

7.2 Sample Analyses 15

LIST OF TABLES

Table 1 Summary of Monitoring Well Construction Details

Table 2 Summary of Final Field Parameter Results and Field Data

Table 3 Summary of Groundwater Analytical Results

Table 4 Groundwater Level Measurements

LIST OF FIGURES

Figure 1 "A" Zone (Shallow) Wells – Water Level Contours

LIST OF APPENDICES

Appendix A: Water Quality Monitoring Certification – FDEP Form 62-701.900(31)

Appendix B: Field Sampling Logs

Appendix C: Field Instrument Calibration Logs

Appendix D: Chain-of-Custody Forms

Appendix E: CD Containing Analytical Laboratory Reports

1. INTRODUCTION

1.1 Terms of Reference

On behalf of Omni Waste of Osceola County, LLC (Omni), Geosyntec Consultants (Geosyntec) has prepared the 19th semi-annual water quality monitoring report for the J.E.D. Solid Waste Management (JED) facility. This report summarizes and provides interpretation of the water quality monitoring performed in accordance with the Water Quality Monitoring Plan (Plan) prepared as part of the JED facility permit application. The requirements for executing the Plan were presented in Appendix 3 - Monitoring Plan Implementation Schedule (MPIS) of the current Permit (Permit Number SO49-0199726-022) that authorizes the development of Phases 1 through 4 at the JED facility issued by the Florida Department of Environmental Protection (FDEP) on 12 July 2012.

This report was prepared on behalf of Progressive Waste Solutions of FL, Inc. (PWS), parent company of Omni Waste of Osceola County, LLC, owner and operator of the JED facility by Geosyntec. A completed water quality certification form (FDEP Form 62-701.900[31]) is included in **Appendix A**.

1.2 Overview

The Plan and the MPIS describe a water quality monitoring program at the JED facility that has as its intent to: (i) measure and report groundwater and surface water conditions for the monitoring network; (ii) monitor the groundwater flow direction; and (iii) monitor the groundwater and surface water quality on a semi-annual basis. The 19th semi-annual water quality monitoring event was completed from 18 November through 5 December 2013. This report includes presentation and discussions of the sample locations, sampling procedures, laboratory analyses and results, field data measurements, groundwater level measurements, groundwater flow direction and surface water quality monitoring. In addition, this report includes a comparison of the analytical results of this sampling event to applicable Groundwater Cleanup Target Levels (GCTLs) as promulgated in Chapter 62-777, Florida Administrative Code (FAC).

1.3 Site Description

The JED facility is located in eastern Osceola County, Florida, west of highway U.S. 441, and approximately 6.5 miles south of Holopaw. The facility is a Class I landfill which is linked to highway U.S. 441 by a 2.9-mile access road. The JED facility comprises a total of approximately 2,179 acres. The landfill footprint at build-out will be approximately 360 acres and consist of 23 landfill cells that will provide available waste capacity for a period of approximately 30 years. The FDEP issued a permit to construct and operate Phase 1 development of the JED facility in October 2003. Phase 1 development includes four landfill

cells (Cells 1 through 4), located in the northern part of the landfill encompassing approximately 54 acres. As part of Phase 1, forty-five (45) groundwater monitoring wells were installed in fifteen (15) clusters (MW-1 through MW-15) around the perimeter of the Phase 1 development area. The baseline water quality report for the Phase 1 monitoring well network was submitted to FDEP in May 2004. All components of the Phase 1 development have been constructed.

The FDEP issued a permit to construct and operate Phases 2 and 3 at the JED facility in March 2007. The development of Phases 2 and 3 includes six cells (Cells 5 through 10) with a total footprint of approximately 72 acres. As part of Phases 2 and 3 development, and as approved by FDEP, six (6) existing Phase 1 monitoring wells (MW-14 A, B, and C, and MW-15 A, B, and C), and ten (10) piezometers were decommissioned. The wells and piezometers were decommissioned to allow for construction of future cells, construction of a storm water retention basin located within Phases 2 and 3, and due to the close proximity of piezometers to the new network wells installed. The decommissioning of the monitoring wells and piezometers was discussed in the Phases 2 and 3 baseline water quality report. For the development of Phases 2 and 3, twenty-four (24) additional groundwater monitoring wells were installed in eight (8) well clusters (MW-16 through MW-23) around the perimeter of the Phases 2 and 3 development areas in September 2007. The baseline water quality report for the Phases 2 and 3 monitoring well network was submitted to FDEP in January 2008.

The FDEP issued a permit to construct and operate Phases 1 through 3 with vertical expansion at the JED facility in April 2008. In April 2009, the MPIS for the semi-annual water quality monitoring well network and sampling schedule were updated for Phases 1, 2 and 3. The modification included a reduction of the Phase 3 monitoring wells required to be sampled semi-annually until such time that waste placement commences in one of the Phase 3 cells (i.e., Cells 8, 9 and 10) and the sampling schedule was modified for the B-zone (intermediate) and C-zone (deep). These monitoring wells are now sampled on an alternating annual basis. The C-zone monitoring wells MW-1 through MW-13, MW-16, MW-19 through MW-23 and B-zone monitoring well MW-16B are sampled in November and reported in January; B-zone monitoring wells MW-1 through MW-13, MW-16, MW-19 through MW-23 and C-zone monitoring well MW-16C are sampled in May and reported in July.

Cell 1 was completed in January 2004, Cell 4 was completed in May 2005, Cell 2 was completed in April 2006, Cell 3 was completed in October 2006, Cell 5 was completed in October 2007, Cell 6 was completed in July 2008 and Cell 7 was completed in August 2010. The FDEP issued a permit to construct a lateral expansion of the facility on 8 August 2011, which authorizes construction of Phases 3-8, Cells 8-23. Cell 8 was completed in April 2012. During construction startup of Cell 8 in November 2011, monitoring well cluster MW-22 (A, B and C) was decommissioned to accommodate the perimeter road access to Cell 8. The MW-22 cluster abandonment report was submitted to the FDEP in April 2012. The well cluster was replaced in March 2012 and located on the perimeter access road approximately 800 feet south of well

cluster MW-23. The shallow, intermediate and deep monitoring wells were designated MW-22RA, MW-22RB and MW-22RC, respectively. The baseline water quality report for cluster MW-22R was submitted to the FDEP in July 2012.

The Cell 9 disposal area construction was completed in October 2013 and approved by the FDEP in November 2013. As with previous construction and expansion efforts (i.e., Cell 8 disposal area) well cluster MW-20 was installed in a temporary location on the Phase 3 stormwater berm. Cell 9 construction activities included substantial modifications to the berm and as such, a request was made to abandon the well cluster. In addition, the MW-16 cluster was abandoned at its temporary location and replaced in a permanent location on the backside of the perimeter berm near the Cell 9 sump. Monitoring well clusters MW-16 and MW-20 were abandoned on 24 June 2013. Replacement monitoring wells MW-16RA, MW-16RB and MW-16RC were installed in October 2013. The monitoring well abandonment and installation report was submitted to the FDEP in November 2013.

An update to the MPIS was recently approved by the FDEP in January 2014. The major changes include the

- Installation and sampling schedule of monitoring wells for the Phase 4 construction (includes Cells 10, 11, 12 and 13),
- Removal of the “C” zone wells from the semi-annual sampling schedule, and
- Installation of only “A” and “B” zone wells at the new monitoring well cluster locations.

The January 2014 MPIS revision will be implemented during the 20th semi-annual groundwater sampling event in May 2014.

2. MONITORING WELL DETAILS

2.1 Well Layout and Construction

For the Phase 1 development, forty five (45) groundwater monitoring wells were installed in fifteen (15) clusters (MW-1 through MW-15) around the perimeter of the Phase 1 development area. In accordance with the FDEP permit requirements monitoring well clusters were located such that the spacing between well clusters was no greater than 500 feet. For development of Phases 2 and 3, twenty four (24) groundwater monitoring wells were installed in eight (8) clusters (MW-16 through MW-23) around the perimeter of the Phases 2 and 3 development areas. In accordance with the FDEP permit requirements, the monitoring well clusters were located such that the spacing between detection well clusters (MW-16 through MW-21) was approximately 500 feet, and the spacing between background well clusters (MW-22R and MW-23) was approximately 800 feet. Each monitoring well cluster consisted of three (3) groundwater monitoring wells installed: (i) across the water table to monitor the upper limit of the surficial aquifer (identified as A-zone [shallow] wells); (ii) within the lower limit of the upper surficial aquifer above the intermediate clay layer (identified as C-zone [deep] wells); and (iii) at an intermediate depth between the shallow and deep wells (identified as B-zone [intermediate] wells).

A layout depicting the location of groundwater monitoring wells installed for Phases 2 and 3, and the previously installed groundwater monitoring wells for Phase 1 are shown for the shallow zone ("A" wells) on **Figure 1**. As shown, groundwater monitoring well clusters MW-1 through MW-13, MW-22R, MW-23, and MW-16R were installed along the top of the outer edge of the landfill perimeter berm. The ground surface at the location of the wells in the perimeter berm is at approximately elevation 92 ft with respect to National Geodetic Vertical Datum of 1929 (NGVD, 1929). Groundwater monitoring well cluster MW-17 was installed along the outer edge of the landfill perimeter berm that serves as the initial storm water berm. The ground surface at these two well locations is at approximately elevation 85 ft NGVD, 1929. Monitoring well clusters MW-18, MW-19 and MW-21 were installed along the interim Phase 3 storm water berm at the southern limit of the Phase 3 development at approximately elevation 84 ft NGVD, 1929. The locations of each well, in Florida state plane coordinates and latitude/longitude, and elevation NGVD, 1929 were surveyed by professional land surveyors licensed in the State of Florida.

Wells were constructed with 2-inch diameter schedule (SCH) 40 polyvinyl chloride (PVC) casing. The well screens were 10-ft in length with #6-slot (0.006-in.). A 30/45 graded silica sand was placed around the screen to a height of 2 to 3 ft above the top of the screen. A seal of 30/65 graded fine silica sand was placed above the sand filter around the screen. The remaining annular space from the top of the fine sand filter seal to the existing ground surface was grouted using a tremie pipe with a cement/bentonite mixture containing no more than 5 percent bentonite by dry weight. The PVC well casings were extended approximately 2.5 to 3 ft above the existing

ground surface. Surface completion consisted of a protective aluminum casing with a lockable cover set in a concrete pad. Each well was provided with a well cap, padlock, and an identification label. A summary of the monitoring well construction details are presented in **Table 1**.

2.2 Turbidity Issues

As discussed in the baseline water quality reports for the Phase 1, and Phases 2 and 3 monitoring networks, the formation around the screened intervals consists primarily of a fine, brown to dark brown, silty sand. Due to the subsurface formation properties, fine-grained and colloidal material are able to pass through the sand filter pack in many wells, primarily in the B-zone and C-zone wells. This is the case even though the wells are constructed using the smallest screen slot size (0.006 in.) commonly available. Most of the intermediate and deep wells had turbidity values in excess of the 20 nephelometric turbidity unit (NTU) criterion even after extended well development and the removal of multiple well volumes.

The difficulty in attaining the desired turbidity criterion was originally discussed at a meeting between Geosyntec and FDEP on 12 January 2004 during the well development activities associated with the wells installed as part of the Phase 1 development. Geosyntec notified FDEP again on 14 September 2007 of the elevated turbidity levels even after extended well development during development of the Phases 2 and 3 monitoring wells. In accordance with these discussions, it was agreed to collect field-filtered (1-micron) and unfiltered samples for metals analyses for any sample with a turbidity value greater than 20 NTU. The data generated by the dual sampling is expected to help demonstrate: (i) what effect turbidity may have on metal analyses (i.e., compare total and dissolved metals concentrations); and (ii) whether groundwater samples with turbidities greater than 20 NTU showed higher concentrations of metals than those samples with turbidities less than 20 NTU.

3. MONITORING WELL SAMPLING

3.1 Sampling Locations and Procedures

In accordance with the MPIS, twenty-six (26) monitoring wells installed as part of the Phase 1 development and seventeen (17) of the monitoring wells installed as part of the Phase 2 and 3 development were sampled during the 19th semi-annual sampling event. Monitoring wells sampled this monitoring event included A and C-zone monitoring wells MW-1 through MW-13, MW-16R, MW-17 through MW-19, and MW-21, MW-22R, MW-23 and B-zone monitoring wells MW-16RB, MW-17B, and MW-18B. Low-flow sampling techniques were used for groundwater sample collection. Except for the turbidity considerations as described in the previous section, all groundwater sampling was performed in accordance with the current applicable FDEP Standard Operating Procedures (DEP-SOP-001-01, December 2008) for groundwater sampling. Additionally, for quality control (QC) purposes, two blind duplicate samples were collected and analyzed.

Peristaltic pumps were used to purge and sample all A-zone (shallow) and the majority of the C-zone (deep) groundwater monitoring wells. Because of continued issues relative to turbidity levels, a stainless steel submersible pump was used to purge and sample B-zone monitoring wells MW-16RB through MW-18B and C-zone monitoring wells MW-16RC through MW-19C and MW-21C through MW-23C. A submersible pump is utilized in select monitoring wells where the pump rate of the peristaltic pump is not sufficient to adequately purge the wells. New tubing (silicone and/or polyethylene) was used at each monitoring well.

During the purging process, a YSI 556 water quality meter equipped with a flow-through cell was used to monitor the following field parameters: pH; temperature; field conductivity; oxidation-reduction potential (ORP); and dissolved oxygen. Turbidity levels were measured using a LaMotte 2020e turbidity meter. Field parameters were recorded on sample collection forms, which are contained in **Appendix B**. Observations pertaining to the color of the groundwater samples collected were also noted on the sample collection forms. When the field parameters stabilized within the acceptable tolerances required by the FDEP SOP, well purging was considered complete and groundwater samples were collected. For wells where the turbidity was not less than 20 NTU, stability was established by purging at least three well volumes and observing variations in the measured turbidity. For problematic wells, once the turbidity had stabilized and all other parameters conformed to the guidance set forth in the FDEP SOP's, samples were collected. Filtered and unfiltered samples were collected from the newly installed monitoring wells MW-16RB and MW-22RC due to elevated turbidity levels observed during purging.

For monitoring wells where peristaltic pumps were used, volatile organic compound (VOC) sample vials were filled by removing the down well sample tubing, disconnecting the tubing from the water quality meter flow through cell, and reversing the flow direction on the peristaltic

pump. For the monitoring wells that were purged and sampled with the stainless steel submersible pump, all sample aliquots were filled directly from the down-well tubing.

The calibration of the water quality monitoring instruments was checked daily and re-calibrated when necessary. Water quality instrument calibration forms are presented in **Appendix C**. Samples were placed in coolers and packed with bagged ice for transport to the analytical laboratory. Chain-of-Custody (COC) forms were completed and accompanied the samples to the analytical laboratory. All COC forms are included in **Appendix D**. Trip blank samples accompanied all sample coolers with VOC samples. Temperature blanks were packed in each sample cooler and security seals were affixed to every cooler shipped.

3.2 Sample Analyses

Samples were analyzed by ALS Environmental (formerly Columbia Analytical Services) of Jacksonville, Florida (ALS) in accordance with the National Environmental Laboratory Accreditation Conference (NELAC) standards. ALS holds certification from the Florida Department of Health (FDOH) for the analytical test methods used for this project and is certified in the State of Florida for analysis of environmental samples.

Groundwater samples were analyzed by ALS for total ammonia as nitrogen (N), chlorides, nitrate, total dissolved solids (TDS), iron, mercury, sodium, total phenolic compounds and the 40 Code of Federal Regulations (CFR) Part 258 Appendix I parameters. Other required parameters (i.e., pH; temperature; conductivity; turbidity; ORP; and dissolved oxygen) were measured in the field during collection of the groundwater samples.

4. ANALYTICAL RESULTS

4.1 Field Parameters

Table 2 provides a summary of the field measurements of selected water quality parameters utilized for determining sample stability for this semi-annual monitoring event.

4.2 Groundwater Monitoring Wells

The analytical laboratory results for this groundwater sampling event have been transferred to a compact disc (CD) and are included in **Appendix E**. Analytical results have been summarized in **Table 3** to show all parameters where a constituent concentration was reported above the applicable FDEP Groundwater Cleanup Target Level (GCTL). Any parameter exceeding the GCTL has been highlighted orange. The following discussion regarding groundwater quality is limited to those parameters where the GCTL was exceeded in at least one groundwater monitoring well and has been organized by analytical method.

Total Metals (Methods 6020 and 6010B)

Arsenic

Arsenic was reported above the GCTL of 10 µg/L at only MW-13A (10.5 µg/L). Please note in the MPIS under item 5, the FDEP has accepted a background arsenic concentration of 20 µg/L in MW-13A.

Iron

Iron was reported above the GCTL of 300 µg/L in all twenty (20) of the A-zone monitoring wells sampled with the concentrations ranging between 360 and 28,500 µg/L, with the highest concentration from MW-13A. Iron was detected above the GCTL in all three (3) of the B-zone monitoring wells sampled this event with concentrations ranging between 520 and 8,290 µg/L, with the highest concentration from MW-16RB. Iron was reported above the GCTL in all twenty (20) of the C-zone monitoring wells sampled with the concentrations ranging between 490 and 11,000 µg/L, with the highest concentration from MW-8C. Iron has historically exceeded the GCTL in all wells at the site for all monitoring events including the baseline events. The iron concentrations reported for the 19th semi-annual event are consistent with period of record data.

Lead

Lead was reported above the GCTL of 15 µg/L at monitoring well MW-16RB at a concentration of 31.4 µg/L in the unfiltered (total) sample and at a concentration of 0.82 µg/L in the filtered (dissolved) sample. Comparison of the filtered and unfiltered samples indicates the elevated turbidity was causing the exceedance of lead at the newly installed MW-16RB. The lead concentrations reported for the 19th semi-annual event are consistent with period of record data.

Sodium

Sodium was detected above the GCTL of 160 mg/L in shallow monitoring well MW-1A (336 mg/L). This result indicates an increase in sodium concentration in MW-1A since the May 2013 sampling event. With the previous exception, the sodium concentrations reported for the 19th semi-annual event are consistent with period of record data.

Ammonia-N (Method 350.1)

Ammonia-N was reported above the GCTL of 2.8 mg/L in twelve (12) of the A-zone monitoring wells sampled this event with the concentrations ranging between 4.19 and 16.4 mg/L, with the highest concentration from MW-1A. The GCTL for Ammonia-N was not exceeded in any samples collected from B or C-zone monitoring wells. The ammonia-N concentrations reported for the 19th semi-annual event are consistent with period of record data with the exceptions of an increase in MW-1A and decrease in MW-9A.

As indicated in recent correspondence by HDR, (Class I Permit Renewal Request for Additional Information – January 2012), given that the JED facility is a double geosynthetically lined landfill including a witness zone (secondary liner), an alternative and probable source of ammonia in groundwater at the JED facility includes naturally occurring sources of nitrogen containing compounds present in the organic rich soils. Under the right biogeochemical conditions, nitrogen containing compounds can be converted to ammonia under reducing geochemical conditions. Reducing conditions can be formed in a variety of ways including, shadow effect due to reduction of oxygen rich precipitation infiltration over a large area, displacement of oxygen by landfill gas immediately above the water table, and release of organic matter which promotes the growth of microorganisms which can consume oxygen.

As HDR noted, reductive dissolution is a plausible explanation for the detection of ammonia at the facility. Researchers have recently found good correlation with arsenic and ammonia with iron which supports the concept of reductive dissolution of iron hydroxide as a dominant reaction mobilizing these compounds in groundwater. The

reductive dissolution of iron and the associated mobilization of iron in groundwater are well documented in literature. More recent research demonstrates this same mechanism can explain the release of arsenic at landfills. The mechanisms of iron and arsenic chemistry are well established; however, the presence of ammonia in groundwater at landfills has only recently been evaluated.

It has been reported that ammonium will co-precipitate with iron. Conversely as a result of reductive dissolution, ammonium would be mobilized in the groundwater if no other adsorption sites are readily available for the ammonium cation. As a cation, ammonium may be bound to soil particles through ion exchange. If high concentrations of Fe^{+2} are released (such as those that occur during reductive dissolution), an increase in ammonium ion concentrations in groundwater would be expected.

A large scale leachate release would produce pronounced concentration increases in groundwater, but the increases in ammonia seem to occur at the onset of construction without correlation to the filling sequence. Neither the constituents nor the concentrations detected in groundwater appear to correlate well with leachate. As discussed in the recent 4th Biennial Report, if detections in groundwater were due to a direct leachate release, the concentrations of various indicator constituents (such as chloride, sodium etc.) found in groundwater should be relatively proportional to those found in leachate samples, particularly given the close proximity of the groundwater wells to the leachate sumps, however this is not the case. The VOC's (and concentrations) detected in leachate are markedly different than the VOC fingerprint at individual wells (which further supports landfill gas as the source of the benzene in groundwater). A direct release of leachate should also indicate proportional levels of other indicator compounds such as sodium, chloride and metals concurrent with ammonia.

Although ammonia is considered a common leachate indicator, no definitive evidence of a leachate discharge exists. The preponderance of evidence does support the concept that the source of ammonia is from reductive dissolution reactions mobilizing ammonia present in site soils. Shallow groundwater at the site is strongly reducing favoring the process of reductive dissolution.

Total Dissolved Solids (Method SM 2540C)

TDS was detected above the GCTL of 500 mg/L in shallow monitoring wells MW-1A (1,460 mg/L), MW-8A (1,210 mg/L) and MW-21A (597 mg/L). TDS is an indicator parameter whose value can be attributable to the presence of major cations and anions, such as calcium, magnesium, sodium, chloride, and sulfate. An increase in TDS was observed in monitoring wells MW-1A, MW-4A, and MW-9A while a decrease in TDS was observed in monitoring well MW-19A. The remaining monitoring wells are consistent with period of record data.

Chloride (Method 300.0)

Chloride was detected above the GCTL of 250 mg/L in shallow monitoring well MW-1A (617 mg/L). This result represents an increase since the May 2013 semi-annual sampling event. The remaining monitoring wells are consistent with period of record data.

40 CFR Part 258, Appendix I Volatile Compounds (Method 8260)

Benzene was detected above the GCTL of 1.0 µg/L in eleven (11) A-zone monitoring wells at concentrations ranging from 1.3 to 8.6 µg/L, with the highest concentration from MW-1A.

As indicated in recent correspondence by HDR (Class I Permit Renewal Request for Additional Information – January 2012) and by Geosyntec (Groundwater Contamination and Landfill Gas Migration Investigation and Assessment – December 2013) the source of benzene in groundwater is likely attributed to landfill gas. As noted in the previous discussion for detections of Ammonia-N, neither the constituents nor the concentrations of VOC's detected in groundwater appear to correlate well with leachate results. As discussed in the recent 4th Biennial Report, if detections in groundwater were due to a direct leachate release, the concentrations of various indicator constituents (such as chloride, sodium etc.) found in groundwater should be relatively proportional to those found in leachate samples, particularly given the close proximity of the groundwater wells to the leachate sumps, however this is not the case with the exception of at MW-1A. The VOC's (and concentrations) detected in leachate are markedly different than the VOC fingerprint at individual wells (which further supports landfill gas as the source of the benzene in groundwater).

Total Phenolics (Method 420.4)

Total phenolics were detected above the phenol GCTL of 10 µg/L in monitoring wells MW-11C (15 µg/L) and MW-17A (11 µg/L). It also should be noted that a GCTL is not established for total phenolics but rather only phenol. EPA Method 420.4 determines the level of total phenolics and does not quantify the level of phenol. The concentration of total phenolics has decreased in each monitoring well since the 18th semiannual sampling event for the A-zone and the 17th semiannual sampling event for the C-zone. Given that the results show the concentrations are similar and equally distributed in facility monitoring wells, the detections are likely a result of naturally occurring compounds.

4.3 Data Validation

All analyses were performed within the method specified holding times.

Two blind duplicate samples were collected during the 19th semi-annual monitoring event. The first duplicate sample was collected at monitoring well MW-1A; the second at MW-19A. Results of the duplicate samples are included in **Table 3**. Duplicate sample bottles were collected immediately following the original samples to assure near identical conditions were maintained during sampling.

To confirm sample validity, a relative percent difference (RPD) calculation was performed between the original samples and the duplicate samples. The average RPD for both duplicate samples was below five percent which indicates a strong correlation. This analysis shows that the laboratory analytical results are validated.

Additionally, the surrogate recovery, trip blanks, method blanks, matrix spike and matrix spike duplicates were within acceptable criterion on each laboratory report.

4.4 Impact of Turbidity on Metals Concentrations

Turbidity levels were less than the FDEP guidance of 20 NTUs in forty (40) of the forty three (43) wells sampled. Monitoring wells MW-16RB, MW-19C and MW-22RC had turbidity levels of 350, 61.6 and 101 NTU, respectively. More than three (3) well volumes were purged from MW-16RB, MW-19C and MW-22RC. Turbidity levels remained above one hundred (100) NTU in MW-16RB and MW-22RC which necessitated the use of a 0.45 micron filter to remove the suspended solids from the sample. The resulting turbidity in MW-16RB (28 NTU) and MW-22RC (1.0 NTU) were sufficiently low to collect a dissolved metals sample.

5. GROUNDWATER LEVEL MEASUREMENTS AND FLOW DIRECTION

5.1 Field Measurements

Groundwater level measurements were obtained on 14 November 2013 from all Phases 1 through 3 groundwater monitoring wells and the remaining piezometers installed as part of the original site hydrogeological investigation. All groundwater level measurements were made within an approximate 4-hr period. The groundwater level measurements from the monitoring wells and piezometers are presented in **Table 4**.

5.2 Water Level Contours

The water level contour map prepared from groundwater level measurements for the surficial aquifer in the A-zone (shallow) is presented in **Figure 1**. Historically, the direction of the horizontal component of groundwater flow for all three zones is predominantly east-northeast towards Bull Creek. The groundwater level elevation data collected on 14 November 2013 from the A-zone monitoring well network indicate the direction of the horizontal component of groundwater flow is predominantly east-northeast toward Bull Creek.

Historically, comparison of water levels between the A, B and C wells shows a similar vertical gradient ($1E^{-3}$ feet per foot [ft/ft]). These gradients are consistent with the regional gradient in the upper surficial aquifer and indicate an interconnected, sluggish flow regime in the saturated zone above the Intermediate Confining Unit (ICU).

6. SURFACE WATER SAMPLING

6.1 Sampling Locations and Procedures

During the November/December 2013 water quality monitoring event Bull Creek was dry with the exception of scattered stagnant pools; therefore a representative surface water sample could not be collected.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 Sampling Locations

The existing monitoring well network is adequate for monitoring purposes and no changes are recommended.

7.2 Sample Analyses

The detections of ammonia, iron, and arsenic above the GCTLs in specific groundwater monitoring wells have been discussed in detail in the 1st, 2nd, 3rd and 4th Biennial Technical Reports on Water Quality (November 2006, September 2008, November 2010 and November 2011, respectively). As discussed in Section 4.2, it is likely that the iron, arsenic and ammonia are not related to a leachate release from the disposal boundary, but rather mobilization of these constituents due to the presence of nitrogen containing compounds under reducing conditions. Our recommendation is to continue to monitor these constituents as part of the current MPIS.

The detections of sodium and chloride above the GCTLs in groundwater monitoring well MW-1A have increased since the 18th semi-annual water quality monitoring event. Sodium and chloride are leachate indicator parameters; however the concentrations seen in MW-1A are well below those observed in past leachate analyses. A release of leachate is not suspected to be the cause of the increased sodium and chloride. Rather, these detections are likely due to stormwater runoff and cover soil erosion from uncapped areas that occurred within the past year directly upslope of the Cell 5 sump area and MW-1A. Omni has assessed the stormwater drainage issues in this area and is in the process of installing additional stormwater downpiping and an outfall structure in this area. These improvements are expected to correct stormwater drainage issues in the vicinity of MW-1A and therefore, the concentrations of sodium and chloride are expected to decrease in the well over time. Our recommendation is to continue to monitor these constituents as part of the current MPIS.

Since total phenolics were added to the MPIS, this is the first sampling event were the majority of the monitoring well sample results were below the phenol GCTL of 10 µg/L with detections above the GCTL observed in MW-11C and MW-17A. It should be noted that a GCTL is not established for total phenolics but rather only phenol. EPA Method 420.4 determines the level of total phenolics and does not quantify the level of phenol.

It is likely that the total phenolic compounds are naturally occurring and not a result of a leachate release that the JED facility based upon two observations. The first is that the total phenolic compound detections were throughout the network at similar

concentrations. The second is that the most recent total phenolics results were at the lowest concentrations across the three zones historically observed. Since other leachate indicator parameters such as sodium, chloride and TDS are a part of the current monitoring requirements and have been since the baseline events, this may not be an appropriate indicator parameter. It is our recommendation to eliminate the total phenolic analysis from the monitoring parameter list.

Monitoring activities were initiated in November 2013 to further assess groundwater conditions adjacent to MW-3A, MW-10A and MW-11A. These activities included the installation of compliance assessment wells CW-1A, CW-2A and CW-3A at the locations indicated on **Figure 1**. The monitoring well installation details and sample analyses will be provided under separate cover.

Our recommendation is to continue semi-annual monitoring as stipulated in the current MPIS and continuation of the quarterly monitoring at the newly installed CW-1A, CW-2A and CW-3A.

TABLES

Table 1

SUMMARY OF MONITORING WELL CONSTRUCTION DETAILS
19th SEMI-ANNUAL WATER QUALITY MONITORING EVENT
J.E.D. SOLID WASTE MANAGEMENT FACILITY

Well Designation	Latitude (NAD 1983)	Longitude (NAD 1983)	WACS ID	Date Installed	Top of Casing Elevation, TOC (feet NGVD 29)	Total Depth (feet BTOC)	Screen Setting				Sand Pack (feet BTOC)	Fine-Grained Sand Seal (feet BTOC)
							(feet BTOC)		(feet Elevation)			
							Top	Bottom	Top	Bottom		
MW-1A	28 03 48.55	81 05 59.88	19900	9-Dec-03	95.12	23.0	13.0	23.0	82.1	72.1	10.6	8.2
MW-2A	28 03 51.99	81 05 59.90	19903	10-Dec-03	95.21	22.6	12.6	22.6	82.6	72.6	10.3	8.9
MW-3A	28 03 55.34	81 05 59.91	19906	11-Dec-03	94.64	22.8	12.8	22.8	81.9	71.9	10.4	9.0
MW-4A	28 03 58.97	81 05 59.92	19909	12-Dec-03	95.48	23.1	13.1	23.1	82.4	72.4	10.8	9.4
MW-5A	28 04 02.92	81 05 59.95	19912	24-Nov-03	95.32	22.5	12.5	22.5	82.8	72.8	10.1	9.1
MW-6A	28 04 06.50	81 05 59.15	19915	25-Nov-03	94.72	22.6	12.6	22.6	82.2	72.2	10.6	8.6
MW-7A	28 04 07.13	81 05 54.78	19918	26-Nov-03	95.48	23.3	13.3	23.3	82.2	72.2	10.3	9.3
MW-8A	28 04 06.20	81 05 50.64	19921	5-Dec-03	94.67	22.5	12.5	22.5	82.2	72.2	10.2	8.6
MW-9A	28 04 04.34	81 05 46.60	19924	4-Dec-03	94.66	22.4	12.4	22.4	82.3	72.3	10.0	8.6
MW-10A	28 04 00.07	81 05 44.77	19927	3-Dec-03	96.25	22.1	12.1	22.1	84.1	74.1	9.8	7.6
MW-11A	28 03 55.43	81 05 43.27	19930	3-Dec-03	93.56	22.8	12.8	22.8	80.7	70.7	10.5	9.1
MW-12A	28 03 52.08	81 05 43.26	19933	2-Dec-03	95.10	23.0	13.0	23.0	82.1	72.1	10.7	9.3
MW-13A	28 03 48.67	81 05 43.25	19936	8-Dec-03	95.19	22.5	12.5	22.5	82.7	72.7	10.2	7.7
MW-14A	Monitoring Well Abandoned 10 July 2007											
MW-15A	Monitoring Well Abandoned 10 July 2007											
MW-16A	Monitoring Well Abandoned 24 June 2013											
MW-16RA	28 03 44.56	81 05 40.18	22342	15-Oct-13	95.01	23.9	13.5	23.5	81.5	71.5	9.0	8.0
MW-17A	28 03 42.38	81 05 35.42	22345	22-Sep-07	88.86	19.9	9.4	19.4	79.5	69.5	7.4	6.4
MW-18A	28 03 37.21	81 05 35.16	22348	11-Sep-07	87.56	17.7	7.2	17.2	80.4	70.4	5.2	4.2
MW-19A	28 03 33.40	81 05 39.60	22351	11-Sep-07	87.54	17.7	7.2	17.2	80.4	70.4	5.2	4.2
MW-20A	Monitoring Well Abandoned 24 June 2013											
MW-21A	28 03 32.10	81 05 52.48	22357	14-Sep-07	87.20	18.0	7.5	17.5	79.7	69.7	5.5	4.5
MW-22A	Monitoring Well Abandoned 11 November 2011											
MW-22RA	28 03 34.703	81 06 0.622	28685	14-Mar-12	95.00	23.7	13.0	23.0	82.0	72.0	10.5	9.5
MW-23A	28 03 42.41	81 05 59.79	22363	25-Sep-07	97.90	27.8	17.3	27.3	80.7	70.7	15.3	14.3

Table 1

SUMMARY OF MONITORING WELL CONSTRUCTION DETAILS
19th SEMI-ANNUAL WATER QUALITY MONITORING EVENT
J.E.D. SOLID WASTE MANAGEMENT FACILITY

Well Designation	Latitude (NAD 1983)	Longitude (NAD 1983)	WACS ID	Date Installed	Top of Casing Elevation, TOC (feet NGVD 29)	Total Depth (feet BTOC)	Screen Setting				Sand Pack (feet BTOC)	Fine-Grained Sand Seal (feet BTOC)
							(feet BTOC)		(feet Elevation)			
							Top	Bottom	Top	Bottom		
MW-1B	28 03 48.59	81 05 59.89	19901	9-Dec-03	95.00	47.9	37.9	47.9	57.1	47.1	35.6	33.1
MW-2B	28 03 51.94	81 05 59.90	19904	10-Dec-03	95.17	48.3	38.3	48.3	56.9	46.9	36.0	34.6
MW-3B	28 03 55.31	81 05 59.91	19907	11-Dec-03	94.68	47.6	37.6	47.6	57.1	47.1	35.3	33.9
MW-4B	28 03 59.01	81 05 59.92	19910	12-Dec-03	95.18	47.4	37.4	47.4	57.8	47.8	35.1	33.5
MW-5B	28 04 02.88	81 05 59.95	19913	24-Nov-03	95.30	47.1	37.1	47.1	58.2	48.2	34.4	32.7
MW-6B	28 04 06.48	81 05 59.18	19916	25-Nov-03	94.60	47.4	37.4	47.4	57.2	47.2	34.9	33.5
MW-7B	28 04 07.13	81 05 54.81	19919	26-Nov-03	95.27	47.5	37.5	47.5	57.8	47.8	34.5	33.5
MW-8B	28 04 06.19	81 05 50.60	19922	5-Dec-03	94.58	49.6	39.6	49.6	55.0	45.0	37.1	35.6
MW-9B	28 04 04.31	81 05 46.56	19925	4-Dec-03	94.63	49.1	39.1	49.1	55.5	45.5	36.8	35.3
MW-10B	28 04 00.04	81 05 44.75	19928	3-Dec-03	96.23	48.3	38.3	48.3	58.0	48.0	35.9	33.9
MW-11B	28 03 55.40	81 05 43.27	19931	2-Dec-03	93.59	47.9	37.9	47.9	55.7	45.7	35.5	34.0
MW-12B	28 03 52.05	81 05 43.27	19934	1-Dec-03	95.01	49.0	39.0	49.0	56.1	46.1	36.6	35.1
MW-13B	28 03 48.64	81 05 43.24	19937	8-Dec-03	95.12	47.2	37.2	47.2	58.0	48.0	34.8	33.4
MW-14B	Monitoring Well Abandoned 10 July 2007											
MW-15B	Monitoring Well Abandoned 10 July 2007											
MW-16B	Monitoring Well Abandoned 24 June 2013											
MW-16RB	28 03 44.54	81 05 40.14	22343	15-Oct-13	94.97	46.6	36.5	46.5	58.5	48.5	33.0	31.0
MW-17B	28 03 42.35	81 05 35.36	22346	20-Sep-07	88.79	40.2	29.7	39.7	59.1	49.1	27.7	26.7
MW-18B	28 03 37.16	81 05 35.19	22349	11-Sep-07	87.43	37.8	27.3	37.3	60.1	50.1	25.3	24.3
MW-19B	28 03 33.38	81 05 39.66	22352	11-Sep-07	87.64	37.7	27.2	37.2	60.4	50.4	25.2	24.2
MW-20B	Monitoring Well Abandoned 24 June 2013											
MW-21B	28 03 32.09	81 05 52.55	22358	17-Sep-07	87.23	37.6	27.1	37.1	60.1	50.1	25.1	24.1
MW-22B	Monitoring Well Abandoned 11 November 2011											
MW-22RB	28 03 34.665	81 05 59.850	28686	15-Mar-12	94.86	46.1	35.5	45.5	59.4	49.4	33.0	28.0
MW-23B	28 03 42.46	81 05 59.79	22364	25-Sep-07	97.91	42.75	32.3	42.3	65.7	55.7	30.3	29.3

Table 1

SUMMARY OF MONITORING WELL CONSTRUCTION DETAILS
19th SEMI-ANNUAL WATER QUALITY MONITORING EVENT
J.E.D. SOLID WASTE MANAGEMENT FACILITY

Well Designation	Latitude (NAD 1983)	Longitude (NAD 1983)	WACS ID	Date Installed	Top of Casing Elevation, TOC (feet NGVD 29)	Total Depth (feet BTOC)	Screen Setting				Sand Pack (feet BTOC)	Fine-Grained Sand Seal (feet BTOC)
							(feet BTOC)		(feet Elevation)			
							Top	Bottom	Top	Bottom		
MW-1C	28 03 48.63	81 05 59.88	19902	9-Dec-03	95.18	75.2	65.2	75.2	30.0	20.0	62.9	61.4
MW-2C	28 03 51.90	81 05 59.89	19905	10-Dec-03	95.32	68.4	58.4	68.4	36.9	26.9	56.1	53.7
MW-3C	28 03 55.28	81 05 59.91	19908	11-Dec-03	94.66	68.7	58.7	68.7	36.0	26.0	56.3	54.8
MW-4C	28 03 59.04	81 05 59.92	19911	12-Dec-03	95.39	72.5	62.5	72.5	32.9	22.9	61.2	59.6
MW-5C	28 04 02.83	81 05 59.95	19914	24-Nov-03	95.39	73.0	63.0	73.0	32.4	22.4	60.7	58.7
MW-6C	28 04 06.46	81 05 59.22	19917	25-Nov-03	94.58	73.2	63.2	73.2	31.4	21.4	60.2	57.7
MW-7C	28 04 07.13	81 05 54.86	19920	25-Nov-03	94.93	73.3	63.3	73.3	31.6	21.6	60.3	59.3
MW-8C	28 04 06.17	81 05 50.55	19923	5-Dec-03	94.50	73.9	63.9	73.9	30.6	20.6	61.6	59.8
MW-9C	28 04 04.29	81 05 46.53	19926	4-Dec-03	94.54	73.8	63.8	73.8	30.8	20.8	61.4	59.4
MW-10C	28 04 00.01	81 05 44.74	19929	3-Dec-03	96.36	73.7	63.7	73.7	32.7	22.7	61.4	60.0
MW-11C	28 03 55.36	81 05 43.26	19932	2-Dec-03	93.65	73.4	63.4	73.4	30.3	20.3	61.0	59.6
MW-12C	28 03 52.01	81 05 43.26	19935	1-Dec-03	95.10	73.6	63.6	73.6	31.5	21.5	60.2	58.7
MW-13C	28 03 48.60	81 05 43.25	19938	8-Dec-03	95.04	73.0	63.0	73.0	32.1	22.1	60.7	58.2
MW-14C	Monitoring Well Abandoned 10 July 2007											
MW-15C	Monitoring Well Abandoned 10 July 2007											
MW-16C	Monitoring Well Abandoned 24 June 2013											
MW-16RC	28 03 44.52	81 05 40.11	22344	16-Oct-13	95.03	75.3	65.0	75.0	30.0	20.0	60.0	59.0
MW-17C	28 03 42.31	81 05 35.31	22347	20-Sep-07	88.85	67.3	56.8	66.8	32.0	22.0	54.8	53.8
MW-18C	28 03 37.10	81 05 35.22	22350	12-Sep-07	87.42	67.2	56.7	66.7	30.8	20.8	54.7	53.7
MW-19C	28 03 33.37	81 05 39.72	22353	10-Sep-07	87.44	66.7	56.2	66.2	31.2	21.2	54.2	53.2
MW-20C	Monitoring Well Abandoned 24 June 2013											
MW-21C	28 03 32.10	81 05 52.61	22359	17-Sep-07	87.13	62.6	52.1	62.1	35.1	25.1	50.1	49.1
MW-22C	Monitoring Well Abandoned 11 November 2011											
MW-22RC	28 03 34.629	81 05 59.854	28687	15-Mar-12	95.13	66.6	56.0	66.0	39.1	29.1	50.0	49.0
MW-23C	28 03 42.51	81 05 59.80	22365	24-Sep-07	97.93	67.1	56.6	66.6	41.4	31.4	54.6	53.6

Table 2

SUMMARY OF FINAL FIELD PARAMETER RESULTS AND FIELD DATA
19th SEMI-ANNUAL WATER QUALITY MONITORING EVENT
J.E.D. SOLID WASTE MANAGEMENT FACILITY

Monitoring Well	Temperature (°C)[1]	pH (Standard Units)	Specific Conductance (uS/cm)[2]	Turbidity (NTUs)[3]	Oxidation-Reduction Potential (mV)[4]	Dissolved Oxygen (mg/L)[5]	Purging Method
MW-1A	27.32	4.77	2,655	1.2	-87.9	0.32	Peristaltic Pump
MW-2A	28.02	4.80	311	0.8	-44.8	0.27	Peristaltic Pump
MW-3A	27.57	5.24	654	2.1	-43.4	0.42	Peristaltic Pump
MW-4A	28.10	5.15	756	6.3	-107.7	0.37	Peristaltic Pump
MW-5A	26.79	5.18	487	11.6	-74.0	0.39	Peristaltic Pump
MW-6A	25.47	4.89	429	1.2	-39.4	0.38	Peristaltic Pump
MW-7A	24.64	4.94	339	0.7	-42.5	0.42	Peristaltic Pump
MW-8A	25.30	4.09	1,447	1.5	11.3	0.46	Peristaltic Pump
MW-9A	27.29	4.89	244	17.8	-32.2	0.49	Peristaltic Pump
MW-10A	24.65	4.93	174	4.6	-32.0	0.62	Peristaltic Pump
MW-11A	26.95	4.66	399	4.6	-7.3	0.49	Peristaltic Pump
MW-12A	26.68	4.24	153	0.9	66.1	0.57	Peristaltic Pump
MW-13A	27.33	4.79	601	1.1	50.6	0.48	Peristaltic Pump
MW-16RA	25.85	5.04	187	5.1	103.5	0.99	Peristaltic Pump
MW-17A	24.49	4.13	123	2.1	105.4	1.03	Peristaltic Pump
MW-18A	26.00	4.67	161	5.3	30.0	0.59	Peristaltic Pump
MW-19A	25.67	4.64	121	4.4	108.7	0.48	Peristaltic Pump
MW-21A	25.72	3.82	745	2.8	307.7	0.79	Peristaltic Pump
MW-22RA	26.21	5.18	635	1.9	21.1	0.55	Peristaltic Pump
MW-23A	26.22	5.32	668	3.0	-12.8	0.45	Peristaltic Pump
MW-16RB	24.64	4.89	74	350 (filtered to 28)	0.4	0.41	Submersible Pump
MW-17B	24.33	4.46	258	1.9	10.8	0.65	Submersible Pump
MW-18B	25.00	4.42	112	2.1	40.3	0.44	Submersible Pump
MW-1C	26.30	5.04	67	7.2	-8.2	0.63	Peristaltic Pump
MW-2C	26.21	4.47	56	1.9	34.6	0.47	Peristaltic Pump
MW-3C	26.93	4.52	67	3.8	132.2	0.53	Peristaltic Pump
MW-4C	28.30	5.47	143	2.8	17.5	0.57	Peristaltic Pump
MW-5C	25.99	4.75	79	1.8	24.4	0.56	Peristaltic Pump
MW-6C	24.74	4.46	54	1.6	77.2	0.63	Peristaltic Pump
MW-7C	23.94	4.92	62	1.2	49.6	0.63	Peristaltic Pump
MW-8C	24.56	4.31	431	1.3	2.4	0.59	Peristaltic Pump
MW-9C	25.90	5.41	348	3.2	-45.5	0.56	Peristaltic Pump
MW-10C	24.04	4.76	152	2.6	11.2	0.95	Peristaltic Pump
MW-11C	25.91	5.13	115	1.4	50.3	0.60	Peristaltic Pump
MW-12C	25.91	4.68	58	2.2	55.8	1.09	Peristaltic Pump
MW-13C	26.21	4.44	78	2.4	83.7	0.69	Peristaltic Pump
MW-16RC	24.06	5.32	164	10.0	65.7	0.69	Submersible Pump
MW-17C	23.69	4.81	96	7.0	79.5	0.62	Submersible Pump
MW-18C	23.82	4.45	117	12.7	77.8	0.35	Submersible Pump
MW-19C	25.18	4.99	113	61.6	78.0	0.76	Submersible Pump
MW-21C	24.12	4.98	117	16.9	50.8	0.32	Submersible Pump
MW-22RC	24.19	4.77	84	101 (filtered to 1.6)	72.5	0.35	Submersible Pump
MW-23C	25.01	5.30	102	10.0	39.6	0.49	Submersible Pump

Notes:

[1] °C = degrees Celsius

[2] uS/cm = micro Siemens per centimeter

[3] NTU = Nephelometric Turbidity Units

[4] mV = millivolts

[5] mg/L = milligram per liter

Table 3

SUMMARY OF GROUNDWATER ANALYTICAL DATA
19th SEMI-ANNUAL WATER QUALITY MONITORING EVENT
J.E.D. SOLID WASTE MANAGEMENT FACILITY

Well ID	1,4-Dichlorobenzene	Benzene	Chlorobenzene	cis-1,2-Dichloroethene	Ethylbenzene	Total Xylenes	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Mercury	Nickel	Selenium	Sodium	Vanadium	Zinc	Ammonia	Chloride	Nitrate as N	Total Phenols*	TDS
	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (mg/L)	GCTL (ug/L)	GCTL (ug/L)	GCTL (mg/L)	GCTL (mg/L)	GCTL (mg/L)	GCTL(µg/L)	GCTL (mg/L)
	75	**1**	**100**	**70**	**700**	**10000**	**10**	**2000**	**4**	**5**	**100**	**420**	**1000**	**300**	**15**	**2**	**100**	**50**	**160**	**49**	**5000**	**2.8**	**250**	**10**	**10**	**500**
MW-1A	3.3	8.6	0.59 i	0.63 i	0.91 i	4.1	3.3	92.2	0.06 i	0.1 u	3.5	4.5	0.5 i	20,100	0.12 u	0.02 u	11.6	1.8 i	336	10.1	2.5 i	16.4	617	0.03 u	9 i	1,460
MW-1A (Duplicate-1)	3.1	8.3	0.53 i	0.63 i	0.89 i	3.8	3.6	88.7	0.06 i	0.1 u	3.4	4.3	0.5 i	19,400	0.12 u	0.02 u	11.1	1.6 i	326	10.3	2.3 i	16.4	598	0.03 u	5 i	1,290
MW-1C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	14.2	0.07 i	0.1 u	0.5 i	0.03 i	0.4 i	500	0.12 u	0.02 u	0.5 u	1.1 u	4.76	0.6 i	2.8 i	0.078	6.28	0.03 u	5 i	51
MW-2A	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	32.6	0.08 i	0.1 u	1.6	1.7	0.3 u	6,280	0.12 u	0.02 u	2.8	1.1 u	17.4	2.1	2.2 i	2.30	25.4	0.03 u	5 i	198
MW-2C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	13.4	0.17 i	0.1 u	0.5 i	0.03 u	0.3 u	490	0.12 u	0.02 u	0.5 u	1.1 u	5.28	1.2 i	1.6 u	0.092	6.28	0.03 u	5 i	43
MW-3A	2.1	7.2	0.52 i	0.36 u	3.0	0.31 u	0.9 i	19.5	0.05 i	0.1 u	2.6	1.8	0.8 i	9,210	0.12 u	0.02 u	0.7 i	1.1 u	62.7	10.4	1.8 i	11.5	127	0.03 u	4 u	369
MW-3C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	11.2	0.06 i	0.1 u	0.4 i	0.03 u	0.3 i	750	0.12 u	0.02 u	0.5 u	1.1 u	5.12	1.0 i	1.8 i	0.13	7.52	0.03 u	10 i	48
MW-4A	0.16 u	4.1	0.16 u	0.36 u	0.21 u	0.31 u	2.2	45.6	0.05 i	0.1 u	1.8	1.5	1.9	5,840	1.29	0.02 i	2.8	1.1 u	42.3	3.5	1.8 i	10.9	71.6	0.03 u	4 u	475
MW-4C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	9.0	0.04 u	0.1 u	0.4 i	0.03 u	0.3 u	680	0.12 u	0.02 u	0.5 u	1.1 u	7.40	0.9 i	1.6 u	0.099	11.3	0.03 u	4 u	98
MW-5A	0.16 u	1.3	0.16 u	0.36 u	0.21 u	0.31 u	1.8	12.1	0.04 u	0.1 u	1.3	0.3 i	1.7	1,250	0.70	0.02 u	1.2 i	1.1 u	17.6	1.8 i	1.6 u	9.87	25.3	0.03 u	9 i	369
MW-5C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	16.5	0.05 i	0.1 u	0.2 u	0.03 u	0.3 u	680	0.12 u	0.02 u	0.5 u	1.1 u	7.86	0.5 i	24.3	0.087	11.7	0.03 u	4 u	65
MW-6A	0.16 u	2.6	0.16 u	0.36 u	0.24 i	0.31 u	1.6	6.6	0.04 u	0.1 u	0.8 i	0.7 i	1.1	21,500	0.12 u	0.02 u	0.5 u	2.3	41.0	2.2	2.8 i	6.01	81.9	0.03 u	4 i	197
MW-6C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	25.0	0.09 i	0.1 u	0.5 i	0.03 u	1.5	520	0.12 u	0.02 u	0.5 u	1.5 i	5.23	0.5 i	1.6 u	0.132	6.41	0.03 u	5 i	43
MW-7A	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	1.8	21.2	0.04 u	0.1 u	1.5	1.7	0.3 u	13,300	0.12 u	0.02 u	0.9 i	2.7	20.3	2.1	1.6 u	6.86	34.2	0.03 u	4 u	191
MW-7C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	21.9	0.09 i	0.1 u	0.3 i	0.03 u	2.5	740	0.12 u	0.02 u	0.5 u	1.3 i	5.83	0.6 i	1.8 i	0.086	8.16	0.03 u	7 i	38
MW-8A	0.16 u	4.1	0.16 u	0.36 u	0.21 u	0.31 u	1.3	35.6	0.33 i	0.1 u	2.3	2.6	0.7 i	6,690	0.12 u	0.02 u	7.1	2.4	24.2	4.2	3.3 i	5.74	19.2	0.03 u	9 i	1,210
MW-8C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	140	0.31 i	0.1 u	0.2 u	0.03 u	0.8 i	11,000	0.12 u	0.02 u	0.5 u	1.5 i	26.4	0.6 i	2.0 i	0.408	127	0.03 u	9 i	235
MW-9A	0.16 u	3.7	0.16 u	0.36 u	0.21 u	0.31 u	3.7	5.9	0.04 u	0.1 u	3.0	0.3 i	4.7	880	0.41 i	0.10 i	1.2 i	1.6 i	29.4	1.9 i	2.0 i	5.06	14.2	0.03 u	5 i	188
MW-9C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	81.1	0.13 i	0.1 u	0.5 i	0.04 i	1.3	2,830	0.12 u	0.02 u	4.6	1.7 i	18.6	1.6 i	20.4	0.734	27.3	0.03 u	4 u	176
MW-10A	0.16 u	5.1	0.16 u	0.62 i	0.21 u	0.40 i	1.5	8.2	0.04 u	0.1 u	1.9	0.03 u	0.5 i	830	0.12 u	0.02 i	1.0 i	1.1 u	10.8	0.7 i	1.6 u	4.96	14.1	0.03 u	4 u	126
MW-10C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.6 i	39.1	0.06 i	0.1 u	0.9 i	0.03 u	0.3 u	1,500	0.12 u	0.02 u	0.5 u	1.1 u	14.9	1.0 i	45.0	0.193	25.6	0.03 u	5 i	101
MW-11A	1.5	5.7	0.18 i	0.47 i	0.48 i	0.44 i	2.0	49.2	0.18 i	0.1 u	2.0	0.9 i	0.3 u	2,690	0.12 u	0.02 u	2.5	1.1 u	35.5	3.7	1.6 u	4.19	46.7	0.03 u	4 u	223
MW-11C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	10.6	0.04 u	0.1 u	0.8 i	0.03 u	0.3 u	510	0.12 u	0.02 u	0.5 u	1.1 u	11.3	0.6 i	1.9 i	0.071	18.1	0.03 u	15	76
MW-12A	0.16 u	4.2	0.16 u	0.36 u	0.45 i	0.57 i	1.6	17.8	0.08 i	0.1 u	1.2	1.1	0.3 u	2,260	0.12 u	0.02 u	2.3	1.1 u	11.6	1.3 i	1.6 u	0.425	18.8	0.03 u	4 u	91
MW-12C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	19.4	0.13 i	0.1 u	0.7 i	0.03 u	0.3 u	620	0.12 u	0.02 u	0.5 u	1.1 u	5.82	0.3 u	1.6 u	0.089	8.50	0.03 u	4 u	46
MW-13A	0.16 u	1.6	0.16 u	0.40 i	0.21 u	0.31 u	10.5	47.8	0.07 i	0.1 u	1.9	0.7 i	0.3 u	28,500	0.12 u	0.02 u	0.8 i	1.1 u	50.6	3.0	1.6 u	1.38	103	0.03 u	4 u	336
MW-13C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	21.6	0.07 i	0.1 u	0.5 i	0.03 u	0.3 u	560	0.12 u	0.02 u	0.5 u	1.1 u	8.72	0.6 i	1.6 u	0.108	14.2	0.03 u	4 u	58
MW-16RA	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	27.2	0.04 u	0.1 u	1.1	0.03 u	0.3 u	360	0.12 u	0.02 u	0.6 i	1.1 u	8.16	3.9	1.6 u	0.934	9.37	0.17 i	4 u	128
MW-16RB (Total)	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	1.4	313	0.63	0.21 i	28.0	1.0 i	9.3	8,290	31.4	0.19	3.8	5.7	8.63	33.9	4.7 i	0.173	8.44	0.03 u	4 i	496
MW-16RB (Dissolved)	NA	NA	NA	NA	NA	NA	0.5 u	20.2	0.04 u	0.1 u	2.3	0.2 i	0.5 i	960	0.82	0.02 u	0.5 i	1.1 u	8.61	2.5	1.6 u	NA	NA	NA	NA	NA
MW-16RC	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	3.4	42.3	0.07 i	0.1 u	2.2	0.1 i	0.3 u	1,300	0.12 u	0.02 u	1.5 i	1.1 u	15.8	3.3	3.9 i	0.141	22.9	0.03 u	4 u	101
MW-17A	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	57.4	0.14 i	0.15 i	1.0 i	0.5 i	0.3 u	970	0.83	0.03 i	2.0 i	1.1 u	4.75	3.8	1.6 u	0.717	8.46	0.45	11	75
MW-17B	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 i	43.7	0.05 i	0.1 u	0.8 i	0.4 i	0.9 i	2,930	0.12 u	0.03 i	0.5 u	1.1 u	26.3	1.2 i	1.6 u	0.435	36.6	0.03 u	4 i	158
MW-17C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	15.2	0.04 i	0.1 u	1.6	0.04 i	0.3 u	750	0.12 u	0.02 i	0.5 u	1.1 u	10.9	1.6 i	1.6 u	0.146	15.2	0.03 u	9 i	72
MW-18A	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.7 i	16.0	0.04 u	0.1 u	1.9	0.2 i	0.3 u	620	0.82	0.04 i	1.2 i	1.1 u	13.1	3.3	1.6 u	1.38	22.9	0.03 u	10 i	133
MW-18B	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	7.7	0.04 u	0.1 u	0.9 i	0.08 i	0.3 u	520	0.12 u	0.02 u	0.5 u	1.1 u	17.3	0.8 i	1.6 u	0.033 v	26.1	0.03 u	4 u	66
MW-18C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	30.6	0.09 i	0.1 u	1.6	0.05 i	0.3 u	800	0.13 i	0.02 i	0.5 u	1.1 u	12.6	1.7 i	4.3 i	0.110	20.2	0.03 u	5 i	83
MW-19A	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	1.8	53.9	0.06 i	0.1 u	1.0	0.3 i	0.3 u	2,870	0.12 u	0.03 i	0.5 u	1.1 u	7.58	2.8	1.7 i	0.377	18.5	0.03 u	4 u	68
MW-19A (Duplicate-2)	1.16 u	1.21 u	1.16 u	1.36 u	1.21 u	1.31 u	1.7	53.0	0.08 i	0.1 u	1.1	0.3 i	0.3 u	2,660	0.12 u	0.03 i	0.5 u	1.1 u	7.67	2.9	1.6 u	0.399	18.5	0.03 u	9 i	68
MW-19C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	59.9	0.40 i	0.1 u	4.9	0.1 i	0.3 u	1,250	0.25 i	0.03 i	0.6 i	1.1 u	9.83	4.9	1.8 i	0.065	18.1	0.03 u	4 u	78
MW-21A	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	41.4	0.64	1.3	2.0	46.1	0.3 u	3,220	1.01	0.03 i	26.9	1.1 u	15.8	7.2	16.7	0.541	21.7	0.31	6 i	597
MW-21C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	78.5	0.32 i	0.1 u	5.5	0.2 i	0.3 u	2,650	0.96	0.03 i	0.8 i	1.1 u	10.7	5.1	2.8 i	0.230	22.0	0.03 u	9 i	90
MW-22RA	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	1.0	61.7	0.04 u	0.1 u	2.5	0.1 i	0.3 u	8,960	0.12 u	0.02 u	0.5 u	1.1 u	26.5	2.9	1.6 u	9.03	31.8	0.03 u	4 u	399
MW-22RC (Total)	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.8 i	71.4	0.35 i	0.11 i	9.8	0.8 i	0.6 i	2,510	2.65	0.03 i	2.0 i	1.1 u	6.88	10.3	3.9 i	0.111	9.16	0.03 u	4 u	117
MW-22RC (Dissolved)	NA	NA	NA	NA	NA	NA	0.5 u	11.1	0.04 u	0.1 u	1.2	0.03 u	0.3 u	830	0.12 u	0.02 u	0.5 u	1.1 u	6.85	0.9 i	1.6 u	NA	NA	NA	NA	NA
MW-23A	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.7 i	21.1	0.04 u	0.1 u	2.1	0.3 i	0.3 u	1,190	0.12 u	0.02 u	1.0 i	1.1 u	25.3	3.4	1.6 u	5.60	21.9	0.03 u	4 u	444
MW-23C	0.16 u	0.21 u	0.16 u	0.36 u	0.21 u	0.31 u	0.5 u	8.8	0.04 u	0.1 u	1.2	0.03 u	0.3 u	520	0.12 u	0.02 u	0.5 u	1.1 u	5.40	0.9 i	1.6 u	0.102	7.87	0.03 u	5 i	68

NOTES:

i — The Reported Value is between the Laboratory Method Detection Limit (MDL) and the Laboratory Practical Quantitation Limit (PQL).

Detect

Exceeds GCTL

NA — Filtered (Dissolved) samples apply only to metals analysis. All metals results refer to total concentration unless otherwise noted.

u = indicates that the compound was analyzed for but not detected at or above the value shown

v = indicates that the analyte was detected in both the sample and the associated method blank

* = Total Phenol analysis by EPA Method 420.1. MDL (5 µg/L) is below GCTL; however the PQL (10 µg/L) is equivalent to the GCTL and therefore given an **i** qualifier.

Please note GCTL is for concentration of Phenol per 62-777 and not Total Phenols which may include additional compounds.

Table 4

GROUNDWATER LEVEL MEASUREMENTS
19th SEMI-ANNUAL WATER QUALITY MONITORING EVENT
J.E.D. SOLID WASTE MANAGEMENT FACILITY

Site Name: JED Solid Waste Management Facility **Sampling Personnel:** Joe Terry
Location: Osceola County, Florida **Field Conditions:** m. sunny, ~60°F in the a.m.
Date: 14-Nov-2013

Well ID	Time	TOC Elevation	Depth to Water (ft)	Well Depth (ft)	GW Elevation	Field Observations
DP-1	Piezometer Abandoned 3 October 2003					
DP-2	Piezometer Abandoned 3 October 2003					
DP-3	Piezometer Abandoned 16 January 2006					
DP-4	Piezometer Abandoned 16 January 2006					
DP-5	Piezometer Abandoned 10 July 2007					
DP-6	Piezometer Abandoned 10 July 2007					
DP-7	Piezometer Abandoned 10 July 2007					
DP-8	Piezometer Abandoned 10 July 2007					
DP-9	Piezometer Abandoned 10 July 2007					
DP-10	Piezometer Abandoned 10 July 2007					
DP-11	Piezometer Abandoned 10 July 2007					
DP-12	Piezometer Abandoned 10 July 2007					
DP-13	Piezometer Abandoned 11 July 2007					
DP-14	NM	81.97	NM	18.62	NM	inaccesible due to flooding
DP-15	NM	81.98	NM	53.70	NM	inaccesible due to flooding
DP-16	NM	82.57	NM	18.53	NM	inaccesible due to flooding
DP-17	NM	82.58	NM	53.75	NM	inaccesible due to flooding
DP-18	15:25	84.38	5.77	52.90	78.61	
DP-19	15:25	84.34	5.70	18.40	78.64	
DP-20	13:55	83.07	3.71	18.35	79.36	
DP-21	13:55	83.00	3.65	53.68	79.35	
DP-22	8:15	81.00	2.37	18.63	78.63	
DP-23	8:15	81.27	2.71	53.73	78.56	
DP-24	NM	82.22	NM	18.52	NM	inaccesible due to flooding
SZ-1	Piezometer Abandoned 10 July 2007					
SZ-2	13:55	83.16	5.94	75.39	77.22	
SZ-3	8:15	81.27	4.80	78.85	76.47	
MW-1A	13:30	95.12	16.01	23.19	79.11	
MW-1B	13:30	95.00	15.95	48.11	79.05	
MW-1C	13:30	95.18	16.19	74.63	78.99	
MW-2A	13:20	95.21	16.25	22.89	78.96	
MW-2B	13:20	95.17	16.22	48.31	78.95	
MW-2C	13:20	95.32	16.42	68.59	78.90	
MW-3A	13:10	94.64	15.61	23.02	79.03	
MW-3B	13:10	94.68	15.63	47.89	79.05	
MW-3C	13:10	94.66	15.67	69.02	78.99	

Table 4

GROUNDWATER LEVEL MEASUREMENTS
19th SEMI-ANNUAL WATER QUALITY MONITORING EVENT
J.E.D. SOLID WASTE MANAGEMENT FACILITY

Site Name: JED Solid Waste Management Facility
Location: Osceola County, Florida
Date: 14-Nov-2013
Sampling Personnel: Joe Terry
Field Conditions: m. sunny, ~60°F in the a.m.

Well ID	Time	TOC Elevation	Depth to Water (ft)	Well Depth (ft)	GW Elevation	Field Observations
MW-4A	13:00	95.48	16.35	23.33	79.13	
MW-4B	13:00	95.18	16.06	47.69	79.12	
MW-4C	13:00	95.39	16.41	72.73	78.98	
MW-5A	11:20	95.32	16.59	22.76	78.73	
MW-5B	11:20	95.30	16.65	47.36	78.65	
MW-5C	11:20	95.39	17.05	73.32	78.34	
MW-6A	11:10	94.72	16.96	22.88	77.76	
MW-6B	11:10	94.60	16.82	47.73	77.78	
MW-6C	11:10	94.58	16.91	73.28	77.67	
MW-7A	11:00	95.48	17.70	23.58	77.78	
MW-7B	11:00	95.27	17.47	48.18	77.80	
MW-7C	11:00	94.93	17.27	73.55	77.66	
MW-8A	10:40	94.67	16.86	22.76	77.81	
MW-8B	10:40	94.58	16.83	49.50	77.75	
MW-8C	10:40	94.50	16.93	73.99	77.57	
MW-9A	10:30	94.66	17.00	22.63	77.66	
MW-9B	10:30	94.63	17.03	49.33	77.60	
MW-9C	10:30	94.54	17.10	73.99	77.44	
MW-10A	10:20	96.25	18.50	22.43	77.75	
MW-10B	10:20	96.23	18.50	48.48	77.73	
MW-10C	10:20	96.36	18.83	73.83	77.53	
MW-11A	10:10	93.56	15.95	22.89	77.61	
MW-11B	10:10	93.59	16.10	48.03	77.49	
MW-11C	10:10	93.65	16.18	73.78	77.47	
MW-12A	10:00	95.10	17.20	23.27	77.90	
MW-12B	10:00	95.01	17.23	49.19	77.78	
MW-12C	10:00	95.10	17.37	73.79	77.73	
MW-13A	9:50	95.19	16.96	22.79	78.23	
MW-13B	9:50	95.12	16.89	47.46	78.23	
MW-13C	9:50	95.04	16.89	73.26	78.15	
MW-14A	Monitoring Well Abandoned 10 July 2007					
MW-14B	Monitoring Well Abandoned 10 July 2007					
MW-14C	Monitoring Well Abandoned 10 July 2007					
MW-15A	Monitoring Well Abandoned 10 July 2007					
MW-15B	Monitoring Well Abandoned 10 July 2007					
MW-15C	Monitoring Well Abandoned 10 July 2007					

Table 4

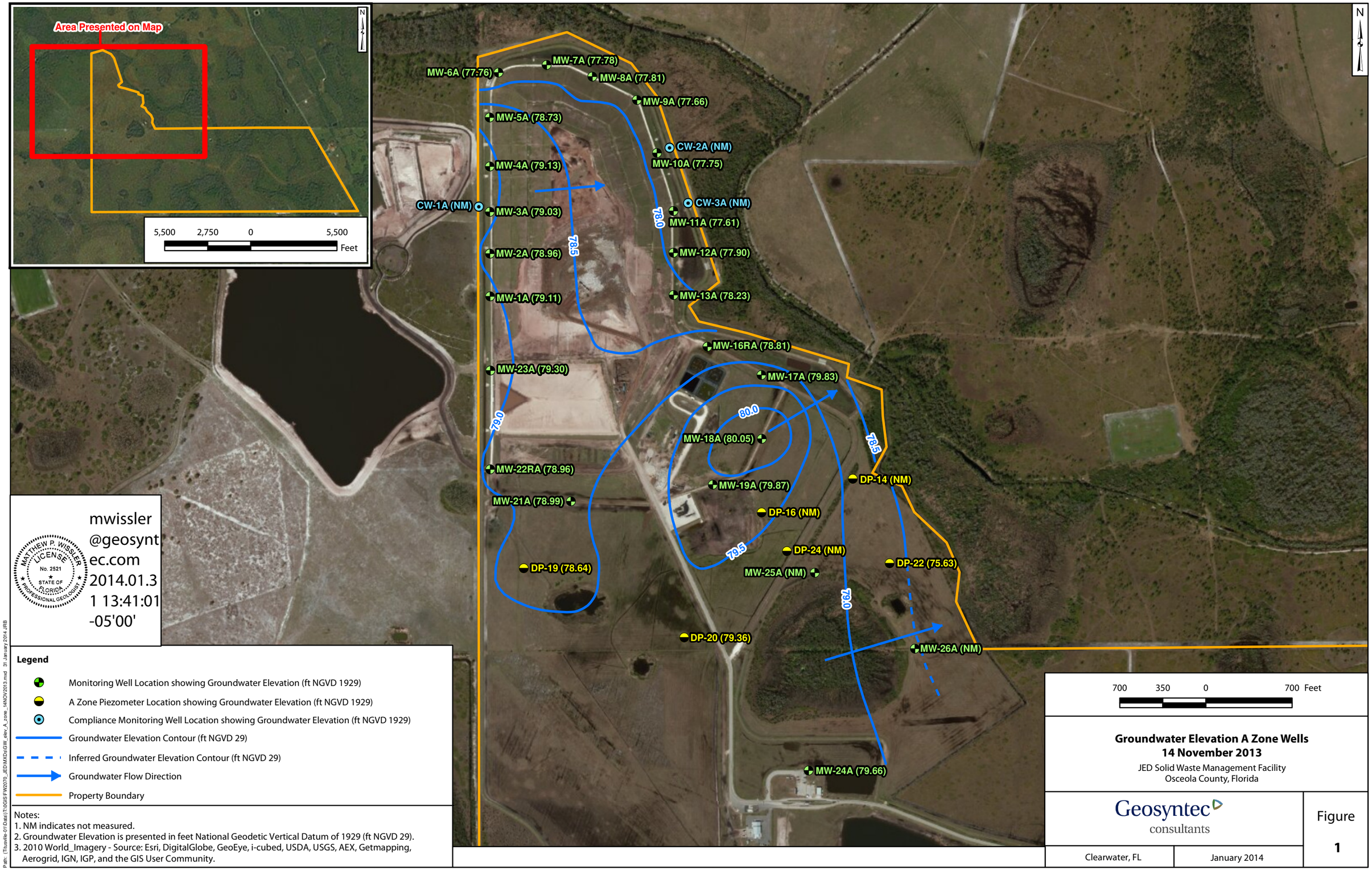
GROUNDWATER LEVEL MEASUREMENTS
19th SEMI-ANNUAL WATER QUALITY MONITORING EVENT
J.E.D. SOLID WASTE MANAGEMENT FACILITY

Site Name: JED Solid Waste Management Facility
Location: Osceola County, Florida
Date: 14-Nov-2013
Sampling Personnel: Joe Terry
Field Conditions: m. sunny, ~60°F in the a.m.

Well ID	Time	TOC Elevation	Depth to Water (ft)	Well Depth (ft)	GW Elevation	Field Observations
MW-16A	Monitoring Well Abandoned 24 June 2013					
MW-16B	Monitoring Well Abandoned 24 June 2013					
MW-16C	Monitoring Well Abandoned 24 June 2013					
MW-16RA	9:00	95.01	16.20	21.00	78.81	
MW-16RB	9:00	94.97	16.19	44.00	78.78	
MW-16RC	9:00	95.03	16.34	73.00	78.69	
MW-17A	8:30	88.86	9.03	20.17	79.83	
MW-17B	8:30	88.79	9.31	40.47	79.48	
MW-17C	8:30	88.85	9.59	67.55	79.26	
MW-18A	14:55	87.56	7.51	17.98	80.05	
MW-18B	14:55	87.43	7.46	38.10	79.97	
MW-18C	14:55	87.42	7.45	67.38	79.97	
MW-19A	15:05	87.54	7.67	17.93	79.87	
MW-19B	15:05	87.64	7.75	37.97	79.89	
MW-19C	15:05	87.44	7.57	66.95	79.87	
MW-20A	Monitoring Well Abandoned 24 June 2013					
MW-20B	Monitoring Well Abandoned 24 June 2013					
MW-20C	Monitoring Well Abandoned 24 June 2013					
MW-21A	15:15	87.20	8.21	18.32	78.99	
MW-21B	15:15	87.23	8.17	37.92	79.06	
MW-21C	15:15	87.13	8.25	62.48	78.88	
MW-22A	Monitoring Well Abandoned 11 November 2011					
MW-22B	Monitoring Well Abandoned 11 November 2011					
MW-22C	Monitoring Well Abandoned 11 November 2011					
MW-22RA	13:45	95.00	16.04	23.66	78.96	
MW-22RB	13:45	94.86	15.85	46.13	79.01	
MW-22RC	13:45	95.13	16.15	66.58	78.98	
MW-23A	13:38	97.90	18.60	28.03	79.30	
MW-23B	13:38	97.91	18.59	43.00	79.32	
MW-23C	13:38	97.93	18.66	67.32	79.27	
MW-24A	15:35	86.97	7.31	24.21	79.66	
MW-25A	NM	82.36	NM	24.76	NM	inaccesible due to flooding
MW-26A	NM	82.01	NM	24.03	NM	inaccesible due to flooding
MW-27C	NM	81.66	NM	58.37	NM	inaccesible due to flooding

Notes: Well caps removed site wide and wells allowed to stabilize prior to measurements.

FIGURE



mwissler
@geosyntec.com
2014.01.31 13:41:01
-05'00'

MATTHEW P. WISSLER
LICENSE
No. 2521
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

Legend

- Monitoring Well Location showing Groundwater Elevation (ft NGVD 1929)
- A Zone Piezometer Location showing Groundwater Elevation (ft NGVD 1929)
- Compliance Monitoring Well Location showing Groundwater Elevation (ft NGVD 1929)
- Groundwater Elevation Contour (ft NGVD 29)
- Inferred Groundwater Elevation Contour (ft NGVD 29)
- Groundwater Flow Direction
- Property Boundary

Notes:
1. NM indicates not measured.
2. Groundwater Elevation is presented in feet National Geodetic Vertical Datum of 1929 (ft NGVD 29).
3. 2010 World_Imagery - Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community.

Groundwater Elevation A Zone Wells
14 November 2013
JED Solid Waste Management Facility
Osceola County, Florida

Geosyntec consultants

Clearwater, FL | January 2014

Figure 1

Path: (Titusville-01\Data)T:\GIS\FW2079_JED\MXDs\GW_elev_A_zone_14NOV2013.mxd 31 January 2014 JRB

APPENDIX A

Water Quality Monitoring Certification
FDEP Form 62-701.900(31)

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form #: 62-701.900(31), F.A.C
Form Title: Water Quality Monitoring Certification
Effective Date: January 6, 2010
Incorporated in Rule 62-701.510(9), F.A.C.

WATER QUALITY MONITORING CERTIFICATION

PART I GENERAL INFORMATION

(1) Facility Name J.E.D. Soild Waste Management Facility

Address 1501 Omni Way

City Saint Cloud Zip 34773 County Osceola

Telephone Number (407) 891-3720

(2) WACS Facility ID 89544

(3) DEP Permit Number SO49-0199726-022

(4) Authorized Representative's Name Mike Kaiser Title Engineer

Address 1099 Miller Drive

City Altamonte Springs Zip 32701 County Seminole

Telephone Number (904) 673-0446

Email address (if available) mkaiser@wsii.us

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission of false information including the possibility of fine and imprisonment.

1-20-2014 (Date)

Joseph Terry for Mike Kaiser (Owner or Authorized Representative's Signature)

PART II QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Waste Services of Florida, Inc.

Analytical Lab NELAC / HRS Certification # E82502

Lab Name ALS Environmental

Address 9143 Philips Highway, Suite 200 Jacksonville, Florida 32256

Phone Number (904) 739-2277

Email address (if available) Craig.Myers@ALSGlobal.com

APPENDIX B

Monitoring Well Sampling Logs

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-1A	SAMPLE ID:	DATE: 18 Nov 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 13 feet to 23 feet	STATIC DEPTH TO WATER (feet): 15.95	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (23 feet – 15.95 feet) X 0.16 gallons/foot = 1.1 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20	PURGING INITIATED AT: 0845	PURGING ENDED AT: 0955	TOTAL VOLUME PURGED (gallons): 7.7

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0945	6.6	6.6	0.11	16.41	4.78	27.27	2673	0.39	1.3	clear	-83.9
0950	0.55	7.15	0.11	16.41	4.78	27.30	2652	0.35	1.3	clear	-87.2
0955	0.55	7.7	0.11	16.41	4.77	27.32	2655	0.32	1.2	clear	-87.9

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1000	SAMPLING ENDED AT: 1015
PUMP OR TUBING DEPTH IN WELL (feet): 20	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: (Y) N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-1A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-1A	3	CG	40mL	None	None		8011	RFPP	<100
MW-1A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	425
MW-1A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	425
MW-1A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	425
MW-1A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	425

REMARKS:
weather: clear, 72°F
odor: none
Time on DUP 00:00

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-2A	SAMPLE ID: MW-2A	DATE: 18 Nov 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.6 feet to 22.6 feet	STATIC DEPTH TO WATER (feet): 16.16	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (22.6 feet – 16.16 feet) X 0.16 gallons/foot = 1.0 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20	PURGING INITIATED AT: 1155	PURGING ENDED AT: 1315	TOTAL VOLUME PURGED (gallons): 4

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1305	3.5	3.5	0.05	16.35	4.77	27.99	307	0.28	0.9	clear	-43.3
1310	0.25	3.75	0.05	16.35	4.80	28.06	311	0.27	0.7	clear	-43.5
1315	0.25	4	0.05	16.35	4.80	28.02	311	0.27	0.8	Clear	-44.8

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1315	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet): 20	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-2A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-2A	3	CG	40mL	None	None		8011	RFPP	<100
MW-2A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	200
MW-2A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	200
MW-2A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	200
MW-2A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	200

REMARKS:
weather: Mostly, 78°F
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773

WELL NO: MW-3A	SAMPLE ID: MW-3A	DATE: 19 Nov 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.8 feet to 22.8 feet	STATIC DEPTH TO WATER (feet): 15.55	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (22.8 feet – 15.55 feet) X 0.16 gallons/foot = 1.2 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 19	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 19	PURGING INITIATED AT: 0800	PURGING ENDED AT: 0900	TOTAL VOLUME PURGED (gallons): 3.6

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0850	3	3	0.06	15.67	5.22	27.51	632	0.41	2.1	clear	-39.7
0855	0.3	3.3	0.06	15.67	5.23	27.51	649	0.42	2.2	clear	-40.5
0857	0.12	3.42	0.06	15.67	5.23	27.60	652	0.41	2.1	clear	-42.5
0900	0.18	3.6	0.06	15.67	5.24	27.57	654	0.42	2.1	clear	-43.4

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 0900	SAMPLING ENDED AT: 0922
PUMP OR TUBING DEPTH IN WELL (feet): 19	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-3A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
	3	CG	40mL	None	None		8011	RFPP	<100
	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	225
	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	225
	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	225
MW-3A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	225

REMARKS:
weather: m.cloudy, 76°F
odor: sulfur-like

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-4A	SAMPLE ID: MW-4A	DATE: 19 Nov 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 13 feet to 23 feet	STATIC DEPTH TO WATER (feet): 16.32	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (23 feet – 16.32 feet) X 0.16 gallons/foot = 1.1 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20	PURGING INITIATED AT: 0955	PURGING ENDED AT: 1050	TOTAL VOLUME PURGED (gallons): 2.75

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1040	2.25	2.25	0.05	16.58	5.12	28.09	758	0.4	5.4	clear	-106.4
1045	0.25	2.5	0.05	16.58	5.13	28.09	757	0.39	6.5	clear	-107.0
1050	0.25	2.75	0.05	16.58	5.15	28.10	756	0.37	6.3	clear	-107.7

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1050	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet): 20	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-4A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-4A	3	CG	40mL	None	None		8011	RFPP	<100
MW-4A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	200
MW-4A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	200
MW-4A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	200
MW-4A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	200

REMARKS:
weather: overcast, 74°F, slight breeze
odor: sulfur-like

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-5A	SAMPLE ID: MW-5A	DATE: 19 Nov 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.5 feet to 22.5 feet	STATIC DEPTH TO WATER (feet): 16.57	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (22.5 feet – 16.57 feet) X 0.16 gallons/foot = 1.0 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20	PURGING INITIATED AT: 1130	PURGING ENDED AT: 1240	TOTAL VOLUME PURGED (gallons): 4.2

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1230	3.6	3.6	0.06	16.92	5.12	26.84	485	0.37	11.8	yellowish	-71.0
1235	0.3	3.9	0.06	16.92	5.18	26.78	487	0.37	11.6	" "	-73.8
1240	0.3	4.2	0.06	16.92	5.18	26.79	487	0.39	11.6	" "	-74.0

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1245	SAMPLING ENDED AT: 1258
PUMP OR TUBING DEPTH IN WELL (feet): 20	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-5A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-5A	3	CG	40mL	None	None		8011	RFPP	<100
MW-5A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	225
MW-5A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	225
MW-5A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	225
MW-5A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	225

REMARKS:
weather: m.cloudy, 78°F, slight breeze
odor: sulfur-like

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773
WELL NO: MW-6A	SAMPLE ID: MW-6A	DATE: 2 Dec. 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.6 feet to 22.6 feet	STATIC DEPTH TO WATER (feet): 16.06	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (22.6 feet – 16.06 feet) X 0.16 gallons/foot = 1.05 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20	PURGING INITIATED AT: 0910	PURGING ENDED AT: 1005	TOTAL VOLUME PURGED (gallons): 4.95

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0955	4.05	4.05	0.09	16.22	4.91	25.50	435	0.42	1.3	clear	-39.5
1000	0.45	4.5	0.09	16.22	4.89	25.45	425	0.4	1.2	clear	-40.9
1005	0.45	4.95	0.09	16.22	4.89	25.47	429	0.38	1.2	clear	-39.4

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1005	SAMPLING ENDED AT: 1020
PUMP OR TUBING DEPTH IN WELL (feet): 20	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-6A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-6A	3	CG	40mL	None	None		8011	RFPP	<100
MW-6A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	350
MW-6A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	350
MW-6A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	350
MW-6A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	350

REMARKS:
weather: overcast, 68°F
odor: sulfur like

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID. 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-7A	SAMPLE ID: MW-7A	DATE: 2 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 13 feet to 23 feet	STATIC DEPTH TO WATER (feet): 16.64	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (23.3 feet – 16.64 feet) X 0.16 gallons/foot = 1.1 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20	PURGING INITIATED AT: 1050	PURGING ENDED AT: 1155	TOTAL VOLUME PURGED (gallons): 3.25

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1145	2.75	2.75	0.05	16.74	4.92	24.62	338	0.42	0.9	clear	-39.1
1150	0.25	3	0.05	16.74	4.94	24.62	340	0.41	0.7	clear	-41.6
1155	0.25	3.25	0.05	16.74	4.94	24.64	339	0.42	0.7	clear	-42.5

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1155	SAMPLING ENDED AT: 1215
PUMP OR TUBING DEPTH IN WELL (feet): 20	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-7A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-7A	3	CG	40mL	None	None		8011	RFPP	<100
MW-7A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	200
MW-7A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	200
MW-7A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	200
MW-7A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	200

REMARKS:
weather: overcast, 68°F, slight breeze
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773
WELL NO: MW-8A	SAMPLE ID: MW-8A	DATE: 2 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.5 feet to 22.5 feet	STATIC DEPTH TO WATER (feet): 15.61	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (22.5 feet – 15.61 feet) X 0.16 gallons/foot = 1.1 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 19	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 19	PURGING INITIATED AT: 1235	PURGING ENDED AT: 1335	TOTAL VOLUME PURGED (gallons): 4.2

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1325	3.5	3.5	0.07	16.14	4.09	25.26	1452	0.5	1.5	clear	11.5
1330	0.35	3.85	0.07	16.14	4.09	25.24	1451	0.49	1.5	clear	11.5
1335	0.35	4.2	0.07	16.14	4.09	25.30	1447	0.46	1.5	clear	11.3

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1335	SAMPLING ENDED AT: 1350
PUMP OR TUBING DEPTH IN WELL (feet): 19	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-8A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-8A	3	CG	40mL	None	None		8011	RFPP	<100
MW-8A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	250
MW-8A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	250
MW-8A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	250
MW-8A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	250

REMARKS:
weather: overcast, 70°F
odor: sulfur-like

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-9A	SAMPLE ID: MW-9A	DATE: 2 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12 feet to 22 feet	STATIC DEPTH TO WATER (feet): 15.95	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (22.4 feet – 15.95 feet) X 0.16 gallons/foot = 1.0 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 19	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 19	PURGING INITIATED AT: 1410	PURGING ENDED AT: 1515	TOTAL VOLUME PURGED (gallons): 3.25

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1505	2.75	2.75	0.05	16.18	4.89	27.31	245	0.48	17.8	yellowish	-30.4
1510	0.25	3	0.05	16.18	4.90	27.30	244	0.46	17.9	" "	-32.5
1515	0.25	3.25	0.05	16.18	4.89	27.29	244	0.49	17.8	" "	-32.2

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1515	SAMPLING ENDED AT: 1528
PUMP OR TUBING DEPTH IN WELL (feet): 19	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-9A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-9A	3	CG	40mL	None	None		8011	RFPP	<100
MW-9A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	200
MW-9A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	200
MW-9A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	200
MW-9A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	200

REMARKS:
weather: overcast, 70°F
odor: sulfur-like

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773

WELL NO: MW-10A	SAMPLE ID: MW-10A	DATE: 3 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12 feet to 22 feet	STATIC DEPTH TO WATER (feet): 17.60	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (22 feet – 17.60 feet) X 0.16 gallons/foot = 0.7 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20	PURGING INITIATED AT: 0715	PURGING ENDED AT: 0825	TOTAL VOLUME PURGED (gallons): 3.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0815	3	3	0.05	17.75	4.90	24.69	174	0.72	4.7	clear	-31.9
0820	0.25	3.25	0.05	17.75	4.93	24.69	173	0.61	4.5	clear	-32.3
0825	0.25	3.5	0.05	17.75	4.93	24.65	174	0.62	4.6	clear	-32.0

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 0825	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet): 20	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-10A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-10A	3	CG	40mL	None	None		8011	RFPP	<100
MW-10A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	200
MW-10A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	200
MW-10A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	200
MW-10A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	200

REMARKS:
weather: p. cloudy, 60°F
odor: sulfur-like

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773
WELL NO: MW-11A	SAMPLE ID: MW-11A	DATE: 3 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.8 feet to 22.8 feet	STATIC DEPTH TO WATER (feet): 15.03	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (22.8 feet – 15.03 feet) X 0.16 gallons/foot = 1.2 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 19	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 19	PURGING INITIATED AT: 0905	PURGING ENDED AT: 1010	TOTAL VOLUME PURGED (gallons): 3.25

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1000	2.75	2.75	0.05	16.11	4.66	27.01	400	0.48	5	clear	-3.9
1005	0.25	3	0.05	16.11	4.65	26.96	400	0.49	5	clear	-6.3
1010	0.25	3.25	0.05	16.11	4.66	26.95	399	0.49	4.6	clear	-7.3

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1010	SAMPLING ENDED AT: 1030
PUMP OR TUBING DEPTH IN WELL (feet): 19	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-11A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-11A	3	CG	40mL	None	None		8011	RFPP	<100
MW-11A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	200
MW-11A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	200
MW-11A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	200
MW-11A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	200

REMARKS:
weather: clear, 75°F
odor: sulfur-like

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO MW 2A	SAMPLE ID: MW-12A	DATE: 3 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 13 feet to 23 feet	STATIC DEPTH TO WATER (feet): 16.43	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (23 feet – 16.43 feet) X 0.16 gallons/foot = 1.1 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20	PURGING INITIATED AT: 1055	PURGING ENDED AT: 1155	TOTAL VOLUME PURGED (gallons): 4.8

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1145	4	4	0.08	16.78	4.27	26.74	153	0.61	1.1	clear	61.7
1150	0.4	4.4	0.08	16.78	4.23	26.71	153	0.57	1.1	clear	62.8
1155	0.4	4.8	0.08	16.78	4.24	26.68	153	0.57	0.9	clear	66.1

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1155	SAMPLING ENDED AT: 1213
PUMP OR TUBING DEPTH IN WELL (feet): 20	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-12A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-12A	3	CG	40mL	None	None		8011	RFPP	<100
MW-12A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	300
MW-12A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	300
MW-12A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	300
MW-12A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	300

REMARKS:
weather: mostly, 75°F
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-13A	SAMPLE ID: MW-13A	DATE: 3 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 12.5 feet to 22.5 feet	STATIC DEPTH TO WATER (feet): 16.38	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (22.5 feet – 16.38 feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20	PURGING INITIATED AT: 1230	PURGING ENDED AT: 1340	TOTAL VOLUME PURGED (gallons): 5.6

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1330	4.8	4.8	0.08	16.58	4.76	27.32	598	0.51	0.8	clear	64.5
1335	0.4	5.2	0.08	16.58	4.83	27.33	600	0.49	1.1	clear	53.9
1340	0.4	5.6	0.08	16.58	4.79	27.33	601	0.48	1.1	clear	50.6

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1340	SAMPLING ENDED AT: 1355
PUMP OR TUBING DEPTH IN WELL (feet): 20	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-13A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-13A	3	CG	40mL	None	None		8011	RFPP	<100
MW-13A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	300
MW-13A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	300
MW-13A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	300
MW-13A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	300

REMARKS:
weather: m. sunny, 80°F
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773
WELL NO: MW-16RA	SAMPLE ID: MW-16RA	DATE: 3 Dec. 2013

PURGING DATA

JT 12-3-13

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 13.5 feet to 23.5 feet	STATIC DEPTH TO WATER (feet): 15.81 ~~15.79~~	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (23.93 feet – 15.81 feet) X 0.16 gallons/foot = 1.3 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20	PURGING INITIATED AT: 1420	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1440	1.6	1.6	0.08	16.02	5.04	25.90	187	1.89	5.4	clear	103.8
1445	0.4	2	0.08	16.02	5.03	25.87	188	1.50	5.3	clear	104.2
1450	0.4	2.4	0.08	16.02	5.04	25.85	187	0.99	5.1	clear	103.5

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1450	SAMPLING ENDED AT: 1505
PUMP OR TUBING DEPTH IN WELL (feet): 20	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-16RA	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
↓	3	CG	40mL	None	None		8011	RFPP	<100
	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	300
	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	300
	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	300
MW-16RA	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	300

REMARKS:
weather: m. sunny, 82°F
odor: none
initial turbidity: 7.9 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-17A	SAMPLE ID: MW-17A	DATE: 5 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 9.4 feet to 19.4 feet	STATIC DEPTH TO WATER (feet): 8.69	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (19.4 feet – 8.69 feet) X 0.16 gallons/foot = 1.7 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 14	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15	PURGING INITIATED AT: 0655	PURGING ENDED AT: 0750	TOTAL VOLUME PURGED (gallons): 4

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0725	2.4	2.4	0.08	10.31	4.11	24.48	123	1.06	1.5	clear	107.0
0735	0.8	3.2	0.08	10.31	4.13	24.50	123	1.06	2.1	clear	105.7
0750	0.8	4	0.08	10.31	4.13	24.49	123	1.03	2.1	clear	105.4

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 0750	SAMPLING ENDED AT: 0807
PUMP OR TUBING DEPTH IN WELL (feet): 15	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-17A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
	3	CG	40mL	None	None		8011	RFPP	<100
	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	300
	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	300
	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	300
MW-17A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	300

REMARKS:
weather: clear, 69°F
odor: none
initial turbidity: 3.4 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773
WELL NO: MW-18A	SAMPLE ID: MW-18A	DATE: 5 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 7 feet to 17 feet	STATIC DEPTH TO WATER (feet): 7.41	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (17.2 feet – 7.41 feet) X 0.16 gallons/foot = 1.6 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13	PURGING INITIATED AT: 0935	PURGING ENDED AT: 1055	TOTAL VOLUME PURGED (gallons): 4.8

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1045	4.2	4.2	0.06	7.60	4.62	25.98	160	0.58	9.6	clear	34.5
1050	0.3	4.5	0.06	7.60	4.65	25.99	161	0.59	6.8	clear	31.7
1055	0.3	4.8	0.06	7.60	4.67	26.00	161	0.59	5.3	clear	30.0

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1055	SAMPLING ENDED AT: 1112
PUMP OR TUBING DEPTH IN WELL (feet): 13	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-18A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
	3	CG	40mL	None	None		8011	RFPP	<100
	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	225
	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	225
	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	225
MW-18A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	225

REMARKS:
weather: clear, 83°F
odor: none
initial turbidity: 9.4 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-19A	SAMPLE ID: MW-19A	DATE: 4 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 7 feet to 17 feet	STATIC DEPTH TO WATER (feet): 7.39	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (17.2 feet – 7.39 feet) X 0.16 gallons/foot = 1.6 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12	PURGING INITIATED AT: 1440	PURGING ENDED AT: 1515	TOTAL VOLUME PURGED (gallons): 2.4

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1505	1.6	1.6	0.08	7.76	4.61	25.63	121	0.49	4.4	Clear	111.4
1510	0.4	2	0.08	7.76	4.63	25.69	121	0.48	4.2	clear	109.3
1515	0.4	2.4	0.08	7.76	4.64	25.67	121	0.48	4.4	clear	108.7

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1515	SAMPLING ENDED AT: 1545
PUMP OR TUBING DEPTH IN WELL (feet): 12	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: (Y) N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-19A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-19A	3	CG	40mL	None	None		8011	RFPP	<100
MW-19A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	300
MW-19A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	300
MW-19A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	300
MW-19A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	300

REMARKS:
weather: m.cloudy, 80°F
odor: none
initial turbidity: 21.5 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-21A	SAMPLE ID: MW-21A	DATE: 4 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 7.5 feet to 17.5 feet	STATIC DEPTH TO WATER (feet): 7.25	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (17.5 feet – 7.25 feet) X 0.16 gallons/foot = 1.6 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13	PURGING INITIATED AT: 1245	PURGING ENDED AT: 1315	TOTAL VOLUME PURGED (gallons): 2.1

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1305	1.4	1.4	0.07	7.70	3.81	25.71	744	0.85	3.6	clear	308.1
1310	0.35	1.75	0.07	7.70	3.81	25.75	744	0.80	3.4	clear	309.9
1315	0.35	2.1	0.07	7.70	3.82	25.72	745	0.79	2.8	clear	307.7

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1320	SAMPLING ENDED AT: 1335
PUMP OR TUBING DEPTH IN WELL (feet): 13	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-21A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-21A	3	CG	40mL	None	None		8011	RFPP	<100
MW-21A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	275
MW-21A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	275
MW-21A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	275
MW-21A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	275

REMARKS:
weather: p-cloudy, 78°F
odor: none
initial turbidity: 16.1 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-22RA	SAMPLE ID: MW-22RA	DATE: 4 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 13 feet to 23 feet	STATIC DEPTH TO WATER (feet): 15.41	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (23.7 feet – 15.41 feet) X 0.16 gallons/foot = 1.3 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 19	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 19	PURGING INITIATED AT: 1100	PURGING ENDED AT: 1130	TOTAL VOLUME PURGED (gallons): 3

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1120	2	2	0.1	15.60	5.17	26.27	635	0.59	1.7	clear	24.0
1125	0.5	2.5	0.1	15.60	5.19	26.20	635	0.58	1.7	clear	22.1
1130	0.5	3	0.1	15.60	5.18	26.21	635	0.55	1.9	clear	21.1

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1130	SAMPLING ENDED AT: 1148
PUMP OR TUBING DEPTH IN WELL (feet): 19	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-22RA	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
	3	CG	40mL	None	None		8011	RFPP	<100
	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	375
	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	375
	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	375
MW-22RA	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	375

REMARKS:
weather: clear, 78°F
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773

WELL NO: MW-23A	SAMPLE ID: MW-23A	DATE: 4 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 17.3 feet to 27.3 feet	STATIC DEPTH TO WATER (feet): 18.23	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (27.3 feet – 18.23 feet) X 0.16 gallons/foot = 1.5 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X feet) + 0.12 gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 23	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 23	PURGING INITIATED AT: 0910	PURGING ENDED AT: 1010	TOTAL VOLUME PURGED (gallons): 5.4

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1000	4.5	4.5	0.09	18.63	5.31	26.14	667	0.46	3	clear	-9.41
1005	0.45	4.95	0.09	18.63	5.31	26.22	668	0.45	3	clear	-11.5
1010	0.45	5.4	0.09	18.63	5.32	26.22	668	0.45	3	clear	-12.8

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1010	SAMPLING ENDED AT: 1025
PUMP OR TUBING DEPTH IN WELL (feet): 23	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-23A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-23A	3	CG	40mL	None	None		8011	RFPP	<100
MW-23A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	350
MW-23A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	350
MW-23A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	350
MW-23A	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	350

REMARKS:
weather: Clear, 70°F
odor: none
initial turbidity: 3.2

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773
WELL NO: MW-16RB	SAMPLE ID: MW-16RB	DATE: 4 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.375	WELL SCREEN INTERVAL DEPTH: 36.5 feet to 46.5 feet	STATIC DEPTH TO WATER (feet): 15.91	PURGE PUMP TYPE OR BAILER: electric submersible

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (46.63 feet – 15.91 feet) X 0.16 gallons/foot = 5 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.006 gallons/foot X 55 feet) + 0.12 gallons = 0.4 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 42	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 42	PURGING INITIATED AT: 0705	PURGING ENDED AT: 0815	TOTAL VOLUME PURGED (gallons): 35

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0805	30	30	0.5	16.65	4.90	24.65	74	0.42	348	cloudy	-0.3
0810	2.5	32.5	0.5	16.65	4.89	24.64	74	0.41	352	" "	+0.3
0815	2.5	35	0.5	16.65	4.89	24.64	74	0.41	350	" "	+0.4

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 0815	SAMPLING ENDED AT: 0830
PUMP OR TUBING DEPTH IN WELL (feet): 42	TUBING MATERIAL CODE: PE	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: 1 µm
FIELD DECONTAMINATION: PUMP: Yes	TUBING: No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-16RB	3	CG	40mL	HCL	Prefilled by lab		8260	ESP	<100
MW-16RB	3	CG	40mL	None	None		8011	ESP	<100
MW-16RB	1	PE	500mL	HNO_3	Prefilled by lab		Metals	ESP	400
MW-16RB	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	ESP	400
MW-16RB	1	PE	250mL	None	None		TDS, Cl, NO_3	ESP	400
MW-16RB	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	ESP	400

REMARKS:
weather: Cloudy, 63°F
odor: none
initial turbidity: 931 NTU
Collected 1-500mL nitric acid preserved bottle for dissolved metals analysis. Filtered turbidity: 28 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-17B	SAMPLE ID: MW-17B	DATE: 5 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.375	WELL SCREEN INTERVAL DEPTH: 29.7 feet to 39.7 feet	STATIC DEPTH TO WATER (feet): 9.21	PURGE PUMP TYPE OR BAILER: electric submersible

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (40.2 feet – 9.21 feet) X 0.16 gallons/foot = 5 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.006 gallons/foot X 50 feet) + 0.12 gallons = 0.4 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 35	PURGING INITIATED AT: 0715	PURGING ENDED AT: 0820	TOTAL VOLUME PURGED (gallons): 24.2

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0810	20.4	20.4	0.37	10.30	4.46	24.28	258	0.65	2	clear	10.6
0815	1.9	22.3	0.37	10.30	4.45	24.32	258	0.65	2	clear	11.2
0820	1.9	24.2	0.34	10.30	4.46	24.33	258	0.65	1.9	clear	10.8

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 0820	SAMPLING ENDED AT: 0832
PUMP OR TUBING DEPTH IN WELL (feet): 35	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP: Yes	TUBING: No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-17B	3	CG	40mL	HCL	Prefilled by lab		8260	ESP	<100
	3	CG	40mL	None	None		8011	ESP	<100
	1	PE	500mL	HNO_3	Prefilled by lab		Metals	ESP	350
	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	ESP	350
	1	PE	250mL	None	None		TDS, Cl, NO_3	ESP	350
MW-17B	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	ESP	350

REMARKS:
weather: clear, 64°F
odor: none
initial turbidity: 2.3 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773

WELL NO: MW-18B	SAMPLE ID: MW-18B	DATE: 5 Dec 2012

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.375	WELL SCREEN INTERVAL DEPTH: 27 feet to 37 feet	STATIC DEPTH TO WATER (feet): 7.31	PURGE PUMP TYPE OR BAILER: electric submersible

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (37.8 feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.006 gallons/foot X 50 feet) + 0.12 gallons = 0.4 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 32	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 32	PURGING INITIATED AT: 0935	PURGING ENDED AT: 1145	TOTAL VOLUME PURGED (gallons): 52

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1120	42	42	0.4	10.58	3.88	24.84	112	0.73	3.5	Clear	77.1
1125	2	44	0.4	10.58	3.94	24.90	112	0.62	3.2	Clear	72.2
1130	2	46	0.4	10.58	4.32	25.00	112	0.55	3.5	Clear	49.7
1135	2	48	0.4	10.58	4.42	25.01	112	0.47	2.9	Clear	42.3
1140	2	50	0.4	10.58	4.43	25.01	112	0.44	2.2	Clear	40.6
1145	2	52	0.4	10.58	4.42	25.00	112	0.44	2.1	Clear	40.3

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1145	SAMPLING ENDED AT: 1157
PUMP OR TUBING DEPTH IN WELL (feet): 37	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP: Yes	TUBING: No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-18B	3	CG	40mL	HCL	Prefilled by lab		8260	ESP	<100
	3	CG	40mL	None	None		8011	ESP	<100
	1	PE	500mL	HNO_3	Prefilled by lab		Metals	ESP	400
	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	ESP	400
	1	PE	250mL	None	None		TDS, Cl, NO_3	ESP	400
MW-18B	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	ESP	400

REMARKS:
weather: Clear, 83°F
odor: none
initial turbidity: 39 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773
WELL NO: MW-1C	SAMPLE ID: / DATE: 19 Nov 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 65 feet to 75 feet	STATIC DEPTH TO WATER (feet): 16.08	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (75 feet – 16.08 feet) X 0.16 gallons/foot = 9.4 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X 85 feet) + 0.12 gallons = 0.34 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 70	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 70	PURGING INITIATED AT: 0840	PURGING ENDED AT: 0920	TOTAL VOLUME PURGED (gallons): 3.6

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0910	2.7	2.7	0.09	16.28	5.02	26.31	67	0.72	7	clear	-6.1
0915	0.45	3.15	0.09	16.28	5.07	26.38	67	0.67	7.7	clear	-9.1
0920	0.45	3.6	0.09	16.28	5.04	26.30	67	0.63	7.2	clear	-8.2

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 0920	SAMPLING ENDED AT: 0940
PUMP OR TUBING DEPTH IN WELL (feet): 70	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-1C	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-1C	3	CG	40mL	None	None		8011	RFPP	<100
MW-1C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	350
MW-1C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	350
MW-1C	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	350
MW-1C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	350

REMARKS:
weather: clear, 72°F
odor: sulfur-like

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-2C	SAMPLE ID: MW-2C	DATE: 18 Nov 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 58 feet to 68 feet	STATIC DEPTH TO WATER (feet): 16.30	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X 60 feet) + 0.12 gallons = 0.3 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 63	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 63	PURGING INITIATED AT: 1200	PURGING ENDED AT: 1245	TOTAL VOLUME PURGED (gallons): 2.25

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1230	1.5	1.5	0.05	16.46	4.37	26.23	56	0.63	2.2	clear	52.8
1235	0.25	1.75	0.05	16.46	4.47	26.20	57	0.55	2.2	clear	38.3
1240	0.25	2	0.05	16.46	4.48	26.20	56	0.49	1.9	clear	35.0
1245	0.25	2.25	0.05	16.46	4.47	26.21	56	0.47	1.9	clear	34.6

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1245	SAMPLING ENDED AT: 1300
PUMP OR TUBING DEPTH IN WELL (feet): 63	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-2C	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-2C	3	CG	40mL	None	None		8011	RFPP	<100
MW-2C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	200
MW-2C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	200
MW-2C	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	200
MW-2C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	200

REMARKS:
weather: m. sunny, 78°F
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773

WELL NO: MW-3C	SAMPLE ID: MW-3C	DATE: 19 Nov 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 58.7 feet to 68.7 feet	STATIC DEPTH TO WATER (feet): 15.57	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X 80 feet) + 0.12 gallons = 0.33 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 64	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 64	PURGING INITIATED AT: 0755	PURGING ENDED AT: 0830	TOTAL VOLUME PURGED (gallons): 2.1

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0820	1.5	1.5	0.06	15.70	4.49	26.88	67	0.7	4.1	clear	121.9
0825	0.3	1.8	0.06	15.70	4.45	26.88	67	0.63	3.7	clear	123.2
0830	0.3	2.1	0.06	15.70	4.52	26.93	67	0.53	3.8	clear	132.2

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 0830	SAMPLING ENDED AT: 0847
PUMP OR TUBING DEPTH IN WELL (feet): 64	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW-3C	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-3C	3	CG	40mL	None	None		8011	RFPP	<100
MW-3C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	225
MW-3C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	225
MW-3C	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	225
MW-3C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	225

REMARKS:
weather: M. cloudy, 76°F
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-4C	SAMPLE ID: MW-4C	DATE: 19 Nov 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 62.5 feet to 72.5 feet	STATIC DEPTH TO WATER (feet): 16.38	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X 80 feet) + 0.12 gallons = 0.33 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 68	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 68	PURGING INITIATED AT: 0950	PURGING ENDED AT: 1025	TOTAL VOLUME PURGED (gallons): 2.45

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1010	1.4	1.4	0.07	16.52	5.43	28.20	133	0.95	2.2	clear	29.7
1015	0.35	1.75	0.07	16.52	5.48	28.28	141	0.68	2.1	clear	19.7
1020	0.35	2.1	0.07	16.52	5.47	28.30	142	0.61	2.3	clear	20.9
1025	0.35	2.45	0.07	16.52	5.47	28.30	143	0.57	2.8	clear	17.5

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1025	SAMPLING ENDED AT: 1030
PUMP OR TUBING DEPTH IN WELL (feet): 68	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-4C	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-4C	3	CG	40mL	None	None		8011	RFPP	<100
MW-4C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	275
MW-4C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	275
MW-4C	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	275
MW-4C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	275

REMARKS:
weather: Overcast, 74°F, slight breeze
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-5C	SAMPLE ID: MW-5C	DATE: 19 Nov 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 63 feet to 73 feet	STATIC DEPTH TO WATER (feet): 16.99	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X 85 feet) + 0.12 gallons = 0.34 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 68	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 68	PURGING INITIATED AT: 1130	PURGING ENDED AT: 1205	TOTAL VOLUME PURGED (gallons): 2.1

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1150	1.2	1.2	0.06	17.15	4.59	26.07	80	0.84	1.8	clear	56.0
1155	0.3	1.5	0.06	17.15	4.80	25.95	79	0.66	1.8	clear	23.4
1200	0.3	1.8	0.06	17.15	4.75	25.95	79	0.55	1.9	clear	24.7
1205	0.3	2.1	0.06	17.15	4.75	25.99	79	0.56	1.8	clear	24.4

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1205	SAMPLING ENDED AT: 1225
PUMP OR TUBING DEPTH IN WELL (feet): 68	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-5C	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-5C	3	CG	40mL	None	None		8011	RFPP	<100
MW-5C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	225
MW-5C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	225
MW-5C	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	225
MW-5C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	225

REMARKS:
weather: m. cloudy, 78°F, slight breeze

odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-6C	SAMPLE ID: MW-6C	DATE: 2 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 63 feet to 73 feet	STATIC DEPTH TO WATER (feet): 16.07	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X 80 feet) + 0.12 gallons = 0.33 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 68	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 68	PURGING INITIATED AT: 0900	PURGING ENDED AT: 0940	TOTAL VOLUME PURGED (gallons): 3.6

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0930	2.7	2.7	0.09	16.14	4.49	24.79	54	0.73	1.6	clear	75.1
0935	0.45	3.15	0.09	16.14	4.46	24.77	54	0.64	1.6	clear	77.6
0940	0.45	3.6	0.09	16.14	4.46	24.74	54	0.63	1.6	clear	77.2

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 0940	SAMPLING ENDED AT: 0952
PUMP OR TUBING DEPTH IN WELL (feet): 68	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-6C	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-6C	3	CG	40mL	None	None		8011	RFPP	<100
MW-6C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	350
MW-6C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	350
MW-6C	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	350
MW-6C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	350

REMARKS:
weather: overcast, 68°F
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773
WELL NO: MW-7C / SAMPLE ID: MW-7C	DATE: 2 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches):0.25	WELL SCREEN INTERVAL DEPTH: 63 feet to 73 feet	STATIC DEPTH TO WATER (feet): 16.24	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X 80 feet) + 0.12 gallons = 0.33 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 68	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 68	PURGING INITIATED AT: 1050	PURGING ENDED AT: 1125	TOTAL VOLUME PURGED (gallons): 1.75

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1105	0.75	0.75	0.05	16.32	5.33	23.76	75	1.45	1.8	clear	88.6
1110	0.25	1	0.05	16.37	5.04	23.82	67	1.01	1.2	clear	62.9
1115	0.25	1.25	0.05	16.32	4.92	23.90	63	0.7	1.3	clear	53.2
1120	0.25	1.5	0.05	16.32	4.92	23.92	63	0.63	1.1	clear	50.2
1125	0.25	1.75	0.05	16.32	4.92	23.94	62	0.63	1.2	clear	49.6

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1125	SAMPLING ENDED AT: 1138
PUMP OR TUBING DEPTH IN WELL (feet): 68	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW-7C	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-7C	3	CG	40mL	None	None		8011	RFPP	<100
MW-7C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	200
MW-7C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	200
MW-7C	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	200
MW-7C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	200

REMARKS:
weather: overcast, 68°F, slight breeze
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-8C	SAMPLE ID: MW-8C	DATE: 2 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 64 feet to 74 feet	STATIC DEPTH TO WATER (feet): 15.78	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (74 feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X 80 feet) + 0.12 gallons = 0.33 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 69	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 69	PURGING INITIATED AT: 1235	PURGING ENDED AT: 1305	TOTAL VOLUME PURGED (gallons): 2.1

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1250	1.05	1.05	0.07	15.88	4.27	24.66	392	1.03	1.3	clear	22.9
1255	0.35	1.4	0.07	15.88	4.32	24.57	420	0.87	1.5	clear	7.5
1300	0.35	1.75	0.07	15.88	4.32	24.55	437	0.69	1.3	clear	5.3
1305	0.35	2.10	0.07	15.88	4.31	24.56	431	0.59	1.3	clear	2.4

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1305	SAMPLING ENDED AT: 1315
PUMP OR TUBING DEPTH IN WELL (feet): 69	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-8C	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-8C	3	CG	40mL	None	None		8011	RFPP	<100
MW-8C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	250
MW-8C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	250
MW-8C	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	250
MW-8C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	250

REMARKS:
weather: overcast, 70°F
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-9C	SAMPLE ID: MW-9C	DATE: 2 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 63.5 feet to 73.5 feet	STATIC DEPTH TO WATER (feet): 15.98	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (73.8 feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X 80 feet) + 0.12 gallons = 0.35 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 69	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 69	PURGING INITIATED AT: 1410	PURGING ENDED AT: 1445	TOTAL VOLUME PURGED (gallons): 2.45

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1430	1.4	1.4	0.07	16.10	5.52	25.95	364	0.74	3.2	clear	-53.8
1435	0.35	1.75	0.07	16.10	5.47	25.94	349	0.66	3.3	clear	-51.2
1440	0.35	2.1	0.07	16.10	5.47	25.93	350	0.62	3.2	clear	-49.9
1445	0.35	2.45	0.07	16.10	5.41	25.90	348	0.56	3.2	clear	-45.5

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1445	SAMPLING ENDED AT: 1458
PUMP OR TUBING DEPTH IN WELL (feet): 69	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-9C	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-9C	3	CG	40mL	None	None		8011	RFPP	<100
MW-9C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	250
MW-9C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	250
MW-9C	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	250
MW-9C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	250

REMARKS:
weather: overcast, 70°F
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773

WELL NO: MW-10C	SAMPLE ID: MW-10C	DATE: 3 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 63.7 feet to 73.7 feet	STATIC DEPTH TO WATER (feet): 17.88	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (73.7 feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X 80 feet) + 0.12 gallons = 0.33 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 69	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 69	PURGING INITIATED AT: 0715	PURGING ENDED AT: 0755	TOTAL VOLUME PURGED (gallons): 2

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0740	1.25	1.25	0.05	17.93	4.80	24.03	156	1.15	2.7	clear	2.9
0745	0.25	1.5	0.05	17.93	4.75	24.05	154	0.93	2.5	clear	11.9
0750	0.25	1.75	0.05	17.93	4.77	24.05	152	0.97	2.7	clear	8.9
0755	0.25	2	0.05	17.93	4.76	24.04	152	0.95	2.6	clear	11.2

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 0755	SAMPLING ENDED AT: 0810
PUMP OR TUBING DEPTH IN WELL (feet): 69	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-10C	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-10C	3	CG	40mL	None	None		8011	RFPP	<100
MW-10C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	200
MW-10C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	200
MW-10C	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	200
MW-10C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	200

REMARKS:
weather: p.cloudy, 60°F
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-11C	SAMPLE ID: MW 11C	DATE: 3 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 63.4 feet to 73.4 feet	STATIC DEPTH TO WATER (feet): 15.23	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X 85 feet) + 0.12 gallons = 0.34 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 68	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 68	PURGING INITIATED AT: 0905	PURGING ENDED AT: 0940	TOTAL VOLUME PURGED (gallons): 3.15

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0930	2.75	2.75	0.09	15.35	5.13	25.94	114	0.64	1.3	clear	49.1
0935	0.45	2.7	0.09	15.35	5.16	25.93	114	0.62	1.6	clear	48.5
0940	0.45	3.15	0.09	15.35	5.13	25.91	115	0.6	1.4	clear	50.3

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 0940	SAMPLING ENDED AT: 0954
PUMP OR TUBING DEPTH IN WELL (feet): 68	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-11C	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-11C	3	CG	40mL	None	None		8011	RFPP	<100
MW-11C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	350
MW-11C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	350
MW-11C	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	350
MW-11C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	350

REMARKS:
weather: clear, 75°F
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-12C	SAMPLE ID: MW-12C	DATE: 3 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 63.6 feet to 73.6 feet	STATIC DEPTH TO WATER (feet): 16.59	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X 85 feet) + 0.12 gallons = 0.34 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 69	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 69	PURGING INITIATED AT: 1055	PURGING ENDED AT: 1120	TOTAL VOLUME PURGED (gallons): 1.25

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1110	0.75	0.75	0.05	16.68	4.67	25.89	58	1.12	2.5	clear	55.2
1115	0.25	1	0.05	16.68	4.68	25.94	57	1.1	2.6	clear	55.5
1120	0.25	1.25	0.05	16.68	4.68	25.91	58	1.09	2.2	clear	55.8

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1120	SAMPLING ENDED AT: 1137
PUMP OR TUBING DEPTH IN WELL (feet): 69	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-12C	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-12C	3	CG	40mL	None	None		8011	RFPP	<100
MW-12C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	200
MW-12C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	200
MW-12C	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	200
MW-12C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	200

REMARKS:
weather: mostly, 75°F
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773
WELL NO: MW-13C	SAMPLE ID: MW-13C	DATE: 3 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 63 feet to 73 feet	STATIC DEPTH TO WATER (feet): 16.28	PURGE PUMP TYPE OR BAILER: peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.0026 gallons/foot X 80 feet) + 0.12 gallons = 0.33 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 68	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 68	PURGING INITIATED AT: 1230	PURGING ENDED AT: 1305	TOTAL VOLUME PURGED (gallons): 2.8

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1255	2	2	0.08	16.37	4.48	26.20	79	0.85	1.8	clear	84.2
1300	0.4	2.4	0.08	16.37	4.40	26.24	78	0.76	2.2	clear	91.3
1305	0.4	2.8	0.08	16.37	4.44	26.21	78	0.69	2.4	clear	83.7

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1310	SAMPLING ENDED AT: 1325
PUMP OR TUBING DEPTH IN WELL (feet): 68	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-13C	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
MW-13C	3	CG	40mL	None	None		8011	RFPP	<100
MW-13C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	300
MW-13C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	300
MW-13C	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	300
MW-13C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	APP	300

REMARKS:
weather: Mostly sunny, 80°F
odor: none

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-16RC	SAMPLE ID: MW-16RC	DATE: 4 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.375	WELL SCREEN INTERVAL DEPTH: 65 feet to 75 feet	STATIC DEPTH TO WATER (feet): 16.03	PURGE PUMP TYPE OR BAILER: electric submersible

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (75-33 feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.006 gallons/foot X 85 feet) + 0.12 gallons = 0.6 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 70	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 70	PURGING INITIATED AT: 0705	PURGING ENDED AT: 0735	TOTAL VOLUME PURGED (gallons): 12

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0720	6	6	0.4	21.47	5.38	24.06	166	1.49	20.1	clear	56.4
0725	2	8	0.4	21.47	5.36	24.01	165	1.03	13	clear	59.6
0730	2	10	0.4	21.47	5.33	24.06	164	0.76	10.6	clear	64.7
0735	2	12	0.4	21.47	5.32	24.06	164	0.69	10.0	clear	65.7

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 0735	SAMPLING ENDED AT: 0750
PUMP OR TUBING DEPTH IN WELL (feet): 70	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP: Yes	TUBING: No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-16RC	3	CG	40mL	HCL	Prefilled by lab		8260	ESP	<100
MW-16RC	3	CG	40mL	None	None		8011	ESP	<100
MW-16RC	1	PE	500mL	HNO_3	Prefilled by lab		Metals	ESP	400
MW-16RC	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	ESP	400
MW-16RC	1	PE	250mL	None	None		TDS, Cl, NO_3	ESP	400
MW-16RC	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	ESP	400

REMARKS:
weather: cloudy, 63°F
odor: none
initial turbidity: 75.6 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773

WELL NO: MW-17C	SAMPLE ID: MW-17C	DATE: 5 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.375	WELL SCREEN INTERVAL DEPTH: 56.8 feet to 66.8 feet	STATIC DEPTH TO WATER (feet): 9.46	PURGE PUMP TYPE OR BAILER: electric submersible

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.006 gallons/foot X 80 feet) + 0.12 gallons = 0.6 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 62	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 62	PURGING INITIATED AT: 0700	PURGING ENDED AT: 0850	TOTAL VOLUME PURGED (gallons): 51.8

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0840	47	47	0.47	10.85	4.80	23.68	96	0.65	7	clear	79.9
0845	2.4	49.4	0.47	10.85	4.81	23.69	96	0.63	7.2	clear	79.3
0850	2.4	51.8	0.47	10.85	4.81	23.69	96	0.62	7	clear	79.5

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 0850	SAMPLING ENDED AT: 0905
PUMP OR TUBING DEPTH IN WELL (feet): 62	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP: Yes	TUBING: No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-17C	3	CG	40mL	HCL	Prefilled by lab		8260	ESP	<100
↓	3	CG	40mL	None	None		8011	ESP	<100
	1	PE	500mL	HNO_3	Prefilled by lab		Metals	ESP	450
	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	ESP	450
↓	1	PE	250mL	None	None		TDS, Cl, NO_3	ESP	450
MW-17C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	ESP	450

REMARKS:
weather: clear, 69°F
odor: none
initial turbidity: 40 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-18C	SAMPLE ID: MW-18C	DATE: 5 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.375	WELL SCREEN INTERVAL DEPTH: 56.5 feet to 66.5 feet	STATIC DEPTH TO WATER (feet): 7.31	PURGE PUMP TYPE OR BAILER: electric submersible

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (67.2 feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.006 gallons/foot X 75 feet) + 0.12 gallons = 0.6 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 62	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 62	PURGING INITIATED AT: 0935	PURGING ENDED AT: 1215	TOTAL VOLUME PURGED (gallons): 112

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1205	105	105	0.7	9.07	4.45	23.84	117	0.45	12.7	Clear	76.3
1210	3.5	108.5	0.7	9.07	4.45	23.83	118	0.4	12.7	Clear	76.8
1215	3.5	112	0.7	9.07	4.45	23.82	117	0.35	12.7	Clear	77.8

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1215	SAMPLING ENDED AT: 1225
PUMP OR TUBING DEPTH IN WELL (feet): 62	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP: Yes	TUBING: No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-18C	3	CG	40mL	HCL	Prefilled by lab		8260	ESP	<100
↓	3	CG	40mL	None	None		8011	ESP	<100
	1	PE	500mL	HNO_3	Prefilled by lab		Metals	ESP	425
	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	ESP	425
	1	PE	250mL	None	None		TDS, Cl, NO_3	ESP	425
MW-18C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	ESP	425

REMARKS:
weather: Clear, 83°F
odor: none
initial turbidity: 211 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773

WELL NO: MW-19C	SAMPLE ID: MW-19C	DATE: 4 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.375	WELL SCREEN INTERVAL DEPTH: 56 feet to 66 feet	STATIC DEPTH TO WATER (feet): 7.25	PURGE PUMP TYPE OR BAILER: electric submersible

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.006 gallons/foot X 75 feet) + 0.12 gallons = 0.6 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 61	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 61	PURGING INITIATED AT: 1440	PURGING ENDED AT: 1600	TOTAL VOLUME PURGED (gallons): 32

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1550	28	28	0.4	8.97	5.05	25.26	114	1.09	61.2	clear	69.7
1555	2	30	0.4	8.97	5.03	25.17	114	0.96	61.8	clear	70.3
1600	2	32	0.4	8.97	4.99	25.18	113	0.76	61.6	clear	78.0

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1600	SAMPLING ENDED AT: 1609
PUMP OR TUBING DEPTH IN WELL (feet): 61	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP: Yes	TUBING: No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-19C	3	CG	40mL	HCL	Prefilled by lab		8260	ESP	<100
↓	3	CG	40mL	None	None		8011	ESP	<100
↓	1	PE	500mL	HNO_3	Prefilled by lab		Metals	ESP	450
↓	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	ESP	450
↓	1	PE	250mL	None	None		TDS, Cl, NO_3	ESP	450
MW-19C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	ESP	450

REMARKS:
weather: m.cloudy, 80°F
odor: none
initial turbidity: 83.5 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-21C	SAMPLE ID: MW-21C	DATE: 4 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.375	WELL SCREEN INTERVAL DEPTH: 52 feet to 62 feet	STATIC DEPTH TO WATER (feet): 7.07	PURGE PUMP TYPE OR BAILER: electric submersible

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.006 gallons/foot X 70 feet) + 0.12 gallons = 0.5 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 57	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 57	PURGING INITIATED AT: 1245	PURGING ENDED AT: 1400	TOTAL VOLUME PURGED (gallons): 34.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1312	2.7	2.7	0.1						279	cloudy	
1318	increased purge rate to 0.75 GPM. Cumul. purge @ 1318 – 3 gallons										
1340	16.5	19.5	0.75	13.30	5.21	24.16	117	0.51	90	slightly cloudy	68.8
1350	7.5	27	0.75	13.30	4.99	24.10	116	0.34	31	clear	64.6
1355	3.75	30.75	0.75	13.30	4.97	24.08	115	0.33	23	clear	63.8
1400	3.75	34.5	0.75	13.30	4.98	24.12	117	0.32	16.9	clear	50.8

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): Joe Terry	SAMPLING INITIATED AT: 1400	SAMPLING ENDED AT: 1410
PUMP OR TUBING DEPTH IN WELL (feet): 57	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP: Yes	TUBING: No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	3	CG	40mL	HCL	Prefilled by lab		8260	ESP	<100
	3	CG	40mL	None	None		8011	ESP	<100
	1	PE	500mL	HNO_3	Prefilled by lab		Metals	ESP	380
	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	ESP	380
	1	PE	250mL	None	None		TDS, Cl, NO_3	ESP	380
	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	ESP	380

REMARKS:
weather: p.cloudy, 78°F
odor: none
initial turbidity: 3.4 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773	
WELL NO: MW-22RC	SAMPLE ID: MW-22RC	DATE: 4 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.375	WELL SCREEN INTERVAL DEPTH: 56 feet to 66 feet	STATIC DEPTH TO WATER (feet): 15.45	PURGE PUMP TYPE OR BAILER: electric submersible

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.006 gallons/foot X 75 feet) + 0.12 gallons = 0.6 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 61	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 61	PURGING INITIATED AT: 1055	PURGING ENDED AT: 1205	TOTAL VOLUME PURGED (gallons): 28

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1155	24	24	0.4	17.08	4.76	24.13	84	0.35	104	cloudy	89.4
1200	2	26	0.4	17.08	4.78	24.20	84	0.35	97.6	cloudy	73.4
1205	2	28	0.4	17.08	4.77	24.19	84	0.35	101	cloudy	72.5

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1205	SAMPLING ENDED AT: 1220
PUMP OR TUBING DEPTH IN WELL (feet): 61	TUBING MATERIAL CODE: PE	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: 1 µm
FIELD DECONTAMINATION: PUMP: Yes	TUBING: No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-22RC	3	CG	40mL	HCL	Prefilled by lab		8260	ESP	<100
	3	CG	40mL	None	None		8011	ESP	<100
	1	PE	500mL	HNO_3	Prefilled by lab		Metals	ESP	300
	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	ESP	300
	1	PE	250mL	None	None		TDS, Cl, NO_3	ESP	300
MW-22RC	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	ESP	300
	1	PE	500mL	HNO_3	"	"	Dissolved Metals	ESP	300

REMARKS:
weather: clear, 78°F
odor: none
initial turbidity: 5.4 NTU Filtered turbidity: 1.6

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)	SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773

WELL NO: MW-23C	SAMPLE ID: MW-23C	DATE: 4 Dec 2013

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 0.375	WELL SCREEN INTERVAL DEPTH: 55.6 feet to 66.6 feet	STATIC DEPTH TO WATER (feet): 18.25	PURGE PUMP TYPE OR BAILER: electric submersible

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X 0.16 gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.0 gallons + (0.006 gallons/foot X 75 feet) + 0.12 gallons = 0.6 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 62	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 62	PURGING INITIATED AT: 0905	PURGING ENDED AT: 0935	TOTAL VOLUME PURGED (gallons): 9

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
0925	6	6	0.3	18.73	5.28	24.98	102	0.51	11.1	clear	49.2
0930	1.5	7.5	0.3	18.73	5.31	25.00	103	0.5	11	clear	50.5
0935	1.5	9	0.3	18.73	5.30	25.01	102	0.49	10	clear	39.6

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 0940	SAMPLING ENDED AT: 0955
PUMP OR TUBING DEPTH IN WELL (feet): 62	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP: Yes	TUBING: No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-23C	3	CG	40mL	HCL	Prefilled by lab		8260	ESP	<100
MW-23C	3	CG	40mL	None	None		8011	ESP	<100
MW-23C	1	PE	500mL	HNO_3	Prefilled by lab		Metals	ESP	350
MW-23C	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	ESP	350
MW-23C	1	PE	250mL	None	None		TDS, Cl, NO_3	ESP	350
MW-23C	1	AG	250mL	H_2SO_4	Prefilled by lab		Total Phenols	ESP	350

REMARKS:
weather: Clear, 78°F
odor: none
initial turbidity: 19 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

APPENDIX C

Field Instrument Calibration Logs

Field Instrument Calibration Record

Site: JED SWMF Date: Nov 17, 2013

Water Quality Instrument Make: YSI Instrument Model Number: 556 Instrument Serial Number: 06A2173AL

Turbidity Instrument Make: LaMotte Instrument Model Number: 2020e Instrument Serial Number: ME12953

Time: 1830

Calibration Standard			Instrument Response	Percent Deviation(1) or Difference	Allowable Deviation(2)	Calibrated? Yes or No	Type of Calibration(3)	Calibration Performed By:
Lot No.	Expiration Date	Standard Value						
C359207	Feb 15, 2015	pH = 4.00	4.00	0	0.2	Y	I	JT
C358930	Feb 7, 2015	pH = 7.00	7.00	0	0.2	Y	I	JT
C256078	Oct 2014	pH = 10.00			0.2			
		Turbidity = 0.0 NTU						
		Turbidity = 1.0 NTU			10%			
C256861	Jan. 2014	Turbidity = 10 NTU	10.02	0.2	10%	Y	I	JT
		Conductivity = 84 µS/cm			5%			
C250309	Jan. 20, 2014	Conductivity = 500 µS/cm	500	0	5%	Y	I	JT
C257964	Jan. 2014	Conductivity = 1,000 µS/cm			5%			
	Per Table →	D.O. = 8.48 mg/L @ 23.6 °C	8.51	0.03	0.2 mg/l	Y	I	JT

Date: Nov 19, 2013 Time: 0600

Calibration Standard			Instrument Response	Percent Deviation(1) or Difference	Allowable Deviation(2)	Calibrated? Yes or No	Type of Calibration(3)	Calibration Performed By:
Lot No.	Expiration Date	Standard Value						
C359207	Feb 15, 2015	pH = 4.00	4.06	0.06	0.2	Y	C	JT
C358930	Feb 7, 2015	pH = 7.00	7.05	0.05	0.2	Y	C	JT
C256078	Oct 2014	pH = 10.00			0.2			
		Turbidity = 0.0 NTU						
		Turbidity = 1.0 NTU			10%			
C256861	Jan.2014	Turbidity = 10 NTU	10.12	1.2	10%	Y	C	JT
		Conductivity = 84 µS/cm			5%			
C250309	Jan. 20, 2014	Conductivity = 500 µS/cm	498	0.4	5%	Y	C	JT
C257964	Jan. 2014	Conductivity = 1,000 µS/cm			5%			
	Per Table →	D.O. = 8.36 mg/L @ 24.4 °C	8.3	0.06	0.2 mg/l	Y	C	JT

Note (1): Percent Deviation = (Standard Value – Instrument Response) ÷ Standard Value x 100

Note (2): Allowable Deviation: pH ± 0.2 of Standard Value; Conductivity ± 5 % of Standard Value; Salinity ± 3 % of Standard Value; DO ± 0.2 mg/L; Turbidity 0.1-10 NTU ± 10% of Standard Value, 11-40 NTU ±8% of Standard Value, 41-100 NTU ± 6.5% of Standard Value, >100 NTU ±5% of Standard Value

Note (3): Initial, Continual, Final

Field Instrument Calibration Record

Site: JED SWDF Date: 1 Dec 2013

Water Quality Instrument Make: YSI Instrument Model Number: 556 Instrument Serial Number: 06A2173AL

Turbidity Instrument Make: LaMotte Instrument Model Number: 2020e Instrument Serial Number: ME12953

Time: 1930

Calibration Standard			Instrument Response	Percent Deviation(1) or Difference	Allowable Deviation(2)	Calibrated? Yes or No	Type of Calibration(3)	Calibration Performed By:
Lot No.	Expiration Date	Standard Value						
C359207	Feb 15, 2015	pH = 4.00	4.00	0	0.2	Y	I	JT
C358930	Feb 7, 2015	pH = 7.00	7.00	0	0.2	Y	I	JT
C256078	Oct 2014	pH = 10.00			0.2			
		Turbidity = 0.0 NTU						
		Turbidity = 1.0 NTU			10%			
C256861	Jan. 2014	Turbidity = 10 NTU	10.09	0.9	10%	Y	C	JT
3AJ929	Oct 2014	Conductivity = 84 µS/cm	83	1.2	5%	Y	C	JT
C250309	Jan. 20, 2014	Conductivity = 500 µS/cm			5%			
C257964	Jan. 2014	Conductivity = 1,000 µS/cm	992	0.8	5%	Y	C	JT
	Per Table →	D.O. = 8.325 mg/L @ 24.6°C	8.35	0.03	0.2 mg/l	Y	I	JT

Date: 2 Dec 2013 Time: 1855

Calibration Standard			Instrument Response	Percent Deviation(1) or Difference	Allowable Deviation(2)	Calibrated? Yes or No	Type of Calibration(3)	Calibration Performed By:
Lot No.	Expiration Date	Standard Value						
C359207	Feb 15, 2015	pH = 4.00	3.99	0.01	0.2	Y	C	JT
C358930	Feb 7, 2015	pH = 7.00	6.96	0.04	0.2	Y	C	JT
C256078	Oct 2014	pH = 10.00			0.2			
		Turbidity = 0.0 NTU						
		Turbidity = 1.0 NTU			10%			
C256861	Jan.2014	Turbidity = 10 NTU	9.83	1.7	10%	Y	C	JT
3AJ929	Oct 2014	Conductivity = 84 µS/cm	84	0	5%	Y	C	JT
C250309	Jan. 20, 2014	Conductivity = 500 µS/cm			5%			
C257964	Jan. 2014	Conductivity = 1,000 µS/cm	1,012	1.2	5%	Y	C	JT
	Per Table →	D.O. = 8.514 mg/L @ 23.4°C	8.52	0.006	0.2 mg/l	Y	I	JT

Note (1): Percent Deviation = (Standard Value – Instrument Response) ÷ Standard Value x 100

Note (2): Allowable Deviation: pH ± 0.2 of Standard Value; Conductivity ± 5 % of Standard Value; Salinity ± 3 % of Standard Value; DO ± 0.2 mg/L; Turbidity 0.1-10 NTU ± 10% of Standard Value, 11-40 NTU ±8% of Standard Value, 41-100 NTU ± 6.5% of Standard Value, >100 NTU ±5% of Standard Value

Note (3): Initial, Continual, Final

Field Instrument Calibration Record

Site: JED SWDF Date: 3 Dec 2013

Water Quality Instrument Make: YSI Instrument Model Number: 556 Instrument Serial Number: 06A2173AL

Turbidity Instrument Make: LaMotte Instrument Model Number: 2020e Instrument Serial Number: ME12953

Time: 2030

Calibration Standard			Instrument Response	Percent Deviation(1) or Difference	Allowable Deviation(2)	Calibrated? Yes or No	Type of Calibration(3)	Calibration Performed By:
Lot No.	Expiration Date	Standard Value						
C359207	Feb 15, 2015	pH = 4.00	3.95	0.05	0.2	Y	C	JT
C358930	Feb 7, 2015	pH = 7.00	6.91	0.09	0.2	Y	C	JT
C256078	Oct 2014	pH = 10.00			0.2			
		Turbidity = 0.0 NTU						
		Turbidity = 1.0 NTU			10%			
C256861	Jan. 2014	Turbidity = 10 NTU	9.8	2	10%	Y	C	JT
3AJ929	Oct 2014	Conductivity = 84 µS/cm	86	2.4	5%	Y	C	JT
C250309	Jan. 20, 2014	Conductivity = 500 µS/cm			5%			
C257964	Jan. 2014	Conductivity = 1,000 µS/cm	1017	1.7	5%	Y	C	JT
	Per Table →	D.O. = 8.42 mg/L @ 24.0°C	8.44	0.02	0.2 mg/l	Y	I	JT

Date: 4 Dec 2013 Time: 2000

Calibration Standard			Instrument Response	Percent Deviation(1) or Difference	Allowable Deviation(2)	Calibrated? Yes or No	Type of Calibration(3)	Calibration Performed By:
Lot No.	Expiration Date	Standard Value						
C359207	Feb 15, 2015	pH = 4.00	3.97		0.2			
C358930	Feb 7, 2015	pH = 7.00	6.96		0.2			
C256078	Oct 2014	pH = 10.00			0.2			
		Turbidity = 0.0 NTU						
		Turbidity = 1.0 NTU			10%			
C256861	Jan.2014	Turbidity = 10 NTU	9.9		10%			
3AJ929	Oct 2014	Conductivity = 84 µS/cm	86		5%			
C250309	Jan. 20, 2014	Conductivity = 500 µS/cm			5%			
C257964	Jan. 2014	Conductivity = 1,000 µS/cm	1014		5%			
	Per Table →	D.O. = mg/L @ 24.6°C	8.38		0.2 mg/l			

Note (1): Percent Deviation = (Standard Value – Instrument Response) ÷ Standard Value x 100

Note (2): Allowable Deviation: pH ± 0.2 of Standard Value; Conductivity ± 5 % of Standard Value; Salinity ± 3 % of Standard Value; DO ± 0.2 mg/L; Turbidity 0.1-10 NTU ± 10% of Standard Value, 11-40 NTU ±8% of Standard Value, 41-100 NTU ± 6.5% of Standard Value, >100 NTU ±5% of Standard Value

Note (3): Initial, Continual, Final

Field Instrument Calibration Record

Site: JED SWDF Date: Dec 5, 2013

Water Quality Instrument Make: YSI Instrument Model Number: 556 Instrument Serial Number: 06A2173AL

Turbidity Instrument Make: LaMotte Instrument Model Number: 2020e Instrument Serial Number: ME12953

Time: 1730

Calibration Standard			Instrument Response	Percent Deviation(1) or Difference	Allowable Deviation(2)	Calibrated? Yes or No	Type of Calibration(3)	Calibration Performed By:
Lot No.	Expiration Date	Standard Value						
C359207	Feb 15, 2015	pH = 4.00	4.07	0.07	0.2	Y	C	JT
C358930	Feb 7, 2015	pH = 7.00	7.03	0.03	0.2	Y	C	JT
C256078	Oct 2014	pH = 10.00			0.2			
		Turbidity = 0.0 NTU						
		Turbidity = 1.0 NTU			10%			
C256861	Jan. 2014	Turbidity = 10 NTU	9.87	1.3	10%	Y	C	JT
3AJ929	Oct 2014	Conductivity = 84 µS/cm	86	2.4	5%	Y	C	JT
C250309	Jan. 20, 2014	Conductivity = 500 µS/cm			5%			
C257964	Jan. 2014	Conductivity = 1,000 µS/cm	1013	1.3	5%	Y	C	JT
	Per Table →	D.O. = 8.28 mg/L @ 24.9 °C	8.31	0.03	0.2 mg/l	Y	F	JT

Date: _____ Time: _____

Calibration Standard			Instrument Response	Percent Deviation(1) or Difference	Allowable Deviation(2)	Calibrated? Yes or No	Type of Calibration(3)	Calibration Performed By:
Lot No.	Expiration Date	Standard Value						
C359207	Feb 15, 2015	pH = 4.00			0.2			
C358930	Feb 7, 2015	pH = 7.00			0.2			
C256078	Oct 2014	pH = 10.00			0.2			
		Turbidity = 0.0 NTU						
		Turbidity = 1.0 NTU			10%			
C256861	Jan.2014	Turbidity = 10 NTU			10%			
3AJ929	Oct 2014	Conductivity = 84 µS/cm			5%			
C250309	Jan. 20, 2014	Conductivity = 500 µS/cm			5%			
C257964	Jan. 2014	Conductivity = 1,000 µS/cm			5%			
	Per Table →	D.O. = mg/L @ °C			0.2 mg/l			

Note (1): Percent Deviation = (Standard Value – Instrument Response) ÷ Standard Value x 100

Note (2): Allowable Deviation: pH ± 0.2 of Standard Value; Conductivity ± 5 % of Standard Value; Salinity ± 3 % of Standard Value; DO ± 0.2 mg/L; Turbidity 0.1-10 NTU ± 10% of Standard Value, 11-40 NTU ±8% of Standard Value, 41-100 NTU ± 6.5% of Standard Value, >100 NTU ±5% of Standard Value

Note (3): Initial, Continual, Final

APPENDIX D

Chain-of-Custody Forms

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

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PAGE 1 OF 1

SR#

CAS Contract

Project Name: JED SWDF	Project Number:
Project Manager: Joe Terry	Email Address: jterry@pwsfl.us
Company/Address: PWSFL, 11457 C.R. 672, Riverview, FL 33569	
Phone #: 813-943-8633	FAX #:
Sampler's Signature: Joe Terry	Sampler's Printed Name: Joe Terry

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	8260	8011	metals	NH_3	TDS & NO_3	Total Phenols	REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE					1	0	2	3	0	3	
NUMBER OF CONTAINERS											
MW-1A		11-18-13	1000	GW	10	3	3	1	1	1	1
MW-1C		↓	0920	↓	↓	↓	↓	↓	↓	↓	↓
MW-2A		↓	1315	↓	↓	↓	↓	↓	↓	↓	↓
MW-2C		↓	1245	↓	↓	↓	↓	↓	↓	↓	↓
Duplicate		↓	0000	GW	10	3	3	1	1	1	1
Trip Blank-I		11-18-13	0000	DI_{H_2O}	1	1					

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

Cooler ID: 13322-JED

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
X STANDARD
REQUESTED FAX DATE _____
REQUESTED REPORT DATE _____

REPORT REQUIREMENTS
____ I. Results Only
X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
____ V. Specialized Forms / Custom Report
Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Joe Terry	Signature	Signature	Signature	Signature	Signature
Printed Name: Joe Terry	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm: PWSFL	Firm	Firm	Firm	Firm	Firm
Date/Time: 11-18-13/1700	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Retained by Client

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PAGE 1 OF 1

SR#

CAS Contract

Project Name: JED SWDF	Project Number:
Project Manager: Joe Terry	Email Address: jterry@wsii.us
Company/Address: PWS FL, 11457 C.R. 672, Riverview, FL 33569	
Phone #: 813-943-8633	FAX #:
Sampler's Signature: Joe Terry	Sampler's Printed Name: Joe Terry

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	8260 (PRESERVATIVE 1)	BOD (PRESERVATIVE 0)	Metals (PRESERVATIVE 2)	NH_3 (PRESERVATIVE 3)	TDS & NO_3 (PRESERVATIVE 0)	Total Phenols (PRESERVATIVE 3)										REMARKS/ ALTERNATE DESCRIPTION
MW-3A		11-19-13	0900	GW	10	3	3	1	1	1	1									
MW-3C			0830																	
MW-4A			1050																	
MW-4C			1025																	
MW-5A			1215																	
MW-5C			1205	GW	10	3	3	1	1	1	1									
Trip Blank-2		11-19-13	0000	DI H_2O	1	1														

NUMBER OF CONTAINERS

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

Cooler ID: 13323-JED

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
X STANDARD
REQUESTED FAX DATE _____
REQUESTED REPORT DATE _____

REPORT REQUIREMENTS
____ I. Results Only
X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
____ V. Specialized Forms / Custom Report
Edata ____Yes ____No

INVOICE INFORMATION
PO #
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Joe Terry	Signature	Signature	Signature	Signature	Signature
Printed Name: Joe Terry	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm: PWS FL	Firm	Firm	Firm	Firm	Firm
Date/Time: 11-19-13/1400	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Retained by Client

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SR#

CAS Contract

Project Name: JED SWDF	Project Number:
Project Manager: Joe Terry	Email Address: jterry@pwsfl.us
Company/Address: PWSFL, 11457 CR 672, Riverview, FL 33569	
Phone #: 813-943-8633	FAX #:
Sampler's Signature: Joe Terry	Sampler's Printed Name: Joe Terry

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE	1	0	3	2	0	3									
NUMBER OF CONTAINERS	8260	8011	NH_3	Metals	TDS & NO_3	Total Phenols									
CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX											
MW-6A		12.2.13	1005	GW	10	3	3	1	1	1	1				
MW-6C			0940												
MW-7A			1155												
MW-7C			1125												
MW-8A			1335												
MW-8C			1305												
MW-9A			1515												
MW-9C			1445	GW	10	3	3	1	1	1	1				
Trip Blank-3			00:00	DI H_2O	1	1									
Trip Blank-4		12.2.13	00:00	DI H_2O	1	1									

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS

Coolers: 13336-JED-1 (MW-6A,C & MW-7A,C) (Trip Blank-3)
13336-JED-2 (MW-8A,C & MW-9A,C) (Trip Blank-4)

See QAPP ☐

TURNAROUND REQUIREMENTS

____ RUSH (SURCHARGES APPLY)

X STANDARD

REQUESTED FAX DATE _____

REQUESTED REPORT DATE _____

REPORT REQUIREMENTS

____ I. Results Only

X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

____ V. Specialized Forms / Custom Report

Edata ____ Yes ____ No

INVOICE INFORMATION

PO #

BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Joe Terry	Signature	Signature	Signature	Signature	Signature
Printed Name: Joe Terry	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm: PWSFL	Firm	Firm	Firm	Firm	Firm
Date/Time: 12.2.13/1615	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Retained by Client

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PAGE 1 OF 1

SR#

CAS Contract

Project Name: JED SWDF	Project Number:
Project Manager: Joe Terry	Email Address: jterry@wsi.us
Company/Address: PWSFL, 11457 C.R. 672, Riverview, FL 33569	
Phone #: 813-943-8637	FAX #:
Sampler's Signature: Joe Terry	Sampler's Printed Name: Joe Terry

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	8260	8011	NH_3	TDS, Cl, NO_3	metals	Total Phenols	REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE					1	0	3	0	2	3		
MW-10A		12.3.13	0825	GW	10	3	3	1	1	1	1	
MW-10C			0755									
MW-11A			1010									
MW-11C			0940									
MW-12A			1155									
MW-12C			1120									
MW-13A			1340									
MW-13C			1310									
MW-16RA			1450	GW	10	3	3	1	1	1	1	
Trip Blank-5		12.3.13	0000	DI H_2O	1	1						

SPECIAL INSTRUCTIONS/COMMENTS

Coolers: 13337-JED-1 (MW-10A,C; MW-11A,C; MW-12A,C; Trip Blank)
13337-JED-2 (MW-13A,C; MW-16RA; MW-11A)

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
X STANDARD
REQUESTED FAX DATE _____
REQUESTED REPORT DATE _____

REPORT REQUIREMENTS
____ I. Results Only
X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
____ V. Specialized Forms / Custom Report
Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Joe Terry	Signature	Signature	Signature	Signature	Signature
Printed Name: Joe Terry	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm: PWSFL	Firm	Firm	Firm	Firm	Firm
Date/Time: 12.3.13/1630	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Retained by Client

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

9143 Philips Highway, Ste 200 • Jacksonville, FL 32256 (904) 739-2277 • 800-695-7222 x06 • FAX (904) 739-2011

PAGE 1 OF 1

SR#

CAS Contract

Project Name: JED SWDF

Project Number:

Project Manager: Joe Terry

Email Address: jterry@wsi.us

Company/Address: PWSFL

Phone #: 813-943-8633

FAX #:

Sampler's Signature: Joe Terry

Sampler's Printed Name: Joe Terry

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	8260	8011	NH_3	metals	TDS, Cl, NO_3	Total Phenols	Dissolved metals	REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE						1	0	3	2	0	3	2	
MW-16RB		12.4.13	0815	GW	11	3	3	1	1	1	1	1	
MW-16RC		↓	0735	↓	10	↓	↓	↓	↓	↓	↓		
MW-23A		↓	1010	↓	10	↓	↓	↓	↓	↓	↓		
MW-23C		↓	0940	↓	10	↓	↓	↓	↓	↓	↓		
MW-22RA		↓	1130	↓	10	↓	↓	↓	↓	↓	↓		
MW-22RC		↓	1205	GW	11	3	3	1	1	1	1	1	
Trip Blank-6		12.4.13	00:00	DI H_2O	1	1							

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

Cooler ID: 13338-JED-1

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
X STANDARD
REQUESTED FAX DATE _____
REQUESTED REPORT DATE _____

REPORT REQUIREMENTS
____ I. Results Only
X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
____ V. Specialized Forms / Custom Report
Edata ____Yes ____No

INVOICE INFORMATION
PO #
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Joe Terry	Signature	Signature	Signature	Signature	Signature
Printed Name: Joe Terry	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm: PWSFL	Firm	Firm	Firm	Firm	Firm
Date/Time: 12.4.13/1700	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Retained by Client

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PAGE 1 OF 1

SR#

CAS Contract

Project Name: JED SWDF	Project Number:
Project Manager: Joe Terry	Email Address: jterry@wsi.us
Company/Address: PWSFL	
Phone #: 813-943-8633	FAX #:
Sampler's Signature: Joe Terry	Sampler's Printed Name: Joe Terry

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE	1	0	3	2	0	3
	8260	9011	NH3	metals	TDS & NO3	Total Phenols

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	8260	9011	NH3	metals	TDS & NO3	Total Phenols	REMARKS/ ALTERNATE DESCRIPTION
MW-19A		12.4.13	1515	GW	10	3	3	1	1	1	1	
MW-19C			1600		10							
MW-21A			1320		10							
MW-21C			1400		10							
Duplicate-2			00:00	GW	10	3	3	1	1	1	1	
Trip Blank-7		12.4.13	00:00	DD H_2O	1	1						

SPECIAL INSTRUCTIONS/COMMENTS

Cooler ID: 13338-JED-2

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
X STANDARD
REQUESTED FAX DATE
REQUESTED REPORT DATE

REPORT REQUIREMENTS
____ I. Results Only
X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
____ V. Specialized Forms / Custom Report
Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Joe Terry	Signature	Signature	Signature	Signature	Signature
Printed Name: Joe Terry	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm: PWSFL	Firm	Firm	Firm	Firm	Firm
Date/Time: 12-4-13/1700	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Retained by Client

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PAGE 1 OF 1

SR#

CAS Contract

Project Name: JED SWDF	Project Number:
Project Manager: Joe Terry	Email Address: jterry@wsi.us
Company/Address: PWSFL	
Phone #: 813-943-8633	FAX #:
Sampler's Signature: Joe Terry	Sampler's Printed Name: Joe Terry

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE	1	0	3	2	0	3
	8260	8011	NH_3	Metals	TDS Cl NO_3	Total Phenols

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	8260	8011	NH_3	Metals	TDS Cl NO_3	Total Phenols	REMARKS/ ALTERNATE DESCRIPTION
MW-17A		12.5.13	0750	GW	10	3	3	1	1	1	1	
MW-17B			0820									
MW-17C			0850									
MW-18A			1055									
MW-18B			1145									
MW-18C			1215	GW	10	3	3	1	1	1	1	
Trip Blk-8		12.5.13	0000	DI H_2O	1	1						

SPECIAL INSTRUCTIONS/COMMENTS

Cooler ID: 13339 - JED

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
X STANDARD
REQUESTED FAX DATE
REQUESTED REPORT DATE

REPORT REQUIREMENTS
____ I. Results Only
X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
____ V. Specialized Forms / Custom Report
Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Joe Terry	Signature	Signature	Signature	Signature	Signature
Printed Name: Joe Terry	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm: PWSFL	Firm	Firm	Firm	Firm	Firm
Date/Time: 12.5.13/1330	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Retained by Client

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APPENDIX E

CD Containing Analytical Laboratory Reports