PRE-DESIGN INVESTIGATION REPORT

Former Manchester Tank Company
Cedartown, Polk County, Georgia

Prepared for Textron Inc.

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Section 1

Introduction

This document has been prepared to present the Pre-Design Investigation findings for the Former Manchester Tank Company site in Cedartown, Georgia (HSI No. 10765). The Pre-Design Investigation was the first step towards corrective action implementation, as identified in the Corrective Action Plan (CAP) (CDM Smith, September 2013). The primary investigation objectives were to determine locations that will achieve sufficient hydraulic containment in the source area and along downgradient property lines and to install extraction wells at those locations to protect potential receptors (**Figure 1-1**). Also presented as part of this report are the design criteria and concepts for the proposed groundwater extraction and treatment system.

This report consists of the following components:

- Section 2 – Pre-Design Investigation Activities
- Section 3 – Pre-Design Investigation Results
- Section 4 – Current Site Conceptual Model
- Section 5 – Groundwater Extraction and Treatment Design
- Section 6 – References

Section 2

Pre-Design Investigation Activities

This section describes the Pre-Design Investigation activities and methodologies. The exploratory borings that were installed, converted, and abandoned throughout the entire investigation are summarized on **Figure 2-1** and in **Table 2-1**. Field sample purge sheets are provided in **Appendix A**. Boring and well construction logs for the exploratory borings and monitoring wells are provided in **Appendix B.** Field notes collected in the site log books for the Pre-Design Investigation are provided in **Appendix C**. Detailed investigation results are introduced in Section 3 and discussed further in the updated Site Conceptual Model in Section 4.

2.1 Activity Timeline

The Pre-Design Investigation was performed between May 2014 and March 2015 in three phases:

- Initial investigation and site aquifer performance tests (APTs) performed May 2, 2014 through June 26, 2014;
- Sonic drilling and APTs performed August 4, 2014 through August 20, 2014; and
- Additional offsite drilling and APTs performed February 23, 2015 through March 17, 2015.

These work phases are discussed in greater detail below.

2.2 Initial Investigation and Site APTs – May through June 2014

The initial drilling activities at the site were performed from May through June 2014 and included the installation of two monitoring wells and 20 exploratory borings (see orange squares on Figure 2-1). The driller selected for this work was Tri-State Drilling LLC (Tri-State). The wells and exploratory borings were installed using standard air-drilling techniques.

2.2.1 Exploratory Borings

Twenty exploratory borings were installed during the initial investigation phase. The boreholes were initially constructed by drilling to a depth of approximately 3 feet into rock. Each borehole then had 10-inch diameter steel surface casing grouted in place. The casing depth varied from 5 feet to a maximum of 22 feet.

After setting surface casing, the boreholes were completed to depth using a 6-inch air hammer bit. In general, the exploratory borings completed in the east boundary area were terminated at a total depth of 45 feet to intersect Unit B, and all others were constructed to a total depth of 100 feet to intersect Unit C. In select locations, the final depths were altered based on field observations or other data (e.g., laboratory results from another location).

During this phase of work, several of the exploratory borings were converted to other types of wells or abandoned based on observed groundwater yield at well development. During development, each well was assessed for yield potential. Depending on observed results, the borings were either 1) left as an

open hole boring for potential use as an extraction well, 2) converted to a 2-inch monitoring well using standard well construction techniques (sand pack, bentonite seal, and grout), 3) converted to a 4-inch extraction well (using standard well construction techniques, or 4) abandoned by grouting to ground surface (reference orange symbols on Figure 2-1 for conversion locations). In summary:

- EXP-2 was converted to a 4-inch polyvinyl chloride (PVC) extraction well because of the water-bearing fractures and mud seams encountered at this location.
- Borings that showed little to no water production (e.g., a 2-foot water column in a 45-foot boring after several days), were abandoned with grout to land surface. Abandoned exploratory borings were: EXP-1A, EXP-4, EXP-6A, EXP-8A, and EXP-10.
- Borings that had limited yield were converted to 2-inch PVC monitoring wells. The converted exploratory borings were EXP-1, EXP-5A, EXP-6, EXP-6B, EXP-8 and EXP-10A.
- Borings that were not converted or abandoned were left as open-hole construction for further evaluation during the APTs, and all borings had their surface casings cut to ground surface.

2.2.2 Monitoring Wells

In addition to exploratory borings that were converted to monitoring wells, two planned monitoring wells were installed: MW-56C and MW-57A (see orange symbols on Figure 2-1). MW-56C was installed to refine the vertical extent of volatile organic compounds (VOCs) along the southeast property boundary, while MW-57A was installed at the request of the Georgia Environment Protection Division (EPD). These wells were completed as 2-inch PVC wells using standard well construction techniques. Because it was installed in rock, 6-inch steel surface casing was installed to a depth of 45 feet for MW-56C.

2.2.3 Site APTs

In June 2014, APTs were performed at five exploratory borings: EXP-2, -2A, -3A, -4A, and -5 (Figure 2-1). Additionally, APTs were attempted at EXP-7 and EXP-9A, but these open holes had infilling since installation. APTs were conducted by placing a 4-inch submersible pump in the test well and pumping for up to eight hours. While the wells were being pumped, water level drawdown was measured in the pumped well and select adjacent wells using data loggers.

In conjunction with the APTs, groundwater samples were collected at the start and end of each test and analyzed for parameters relevant to possible groundwater treatment strategies. Groundwater samples were analyzed by Analytical Environmental Services Inc. (AES) in Atlanta, Georgia. The analyses included:

- VOCs by method 8260 B
- Total Organic Carbon (TOC) by method 5310B
- Total Hardness by 2340B
- Total Alkalinity by 2320B
- Total Suspended Solids (TSS) by 2540D
- Total Dissolved Solids (TDS) by 2540C
- Total Iron, Manganese, and Calcium by 6010C

APT samples were collected directly from the discharge piping, through a sample port, before final discharge into the purge water storage tank. Samples were placed in a cooler on ice and hand delivered to the laboratory.

In addition to the laboratory analyses, the following field parameters were collected at the time of sample collection using a water quality multi-parameter probe and field test kits by Hach:

- pH
- Oxidation Reduction Potential
- Conductivity
- Turbidity
- Dissolved Oxygen
- Total Dissolved Solids
- Ferrous Iron (by Hach field test kit)

2.4 Sonic Drilling and APTs – August 2014

Due to subsurface conditions and delays in obtaining an access agreement from Missouri Machine and Plow (MM&P), some of the exploratory borings and one monitoring well could not be installed during the initial investigation phase. In particular, the conditions at EXP-11 and EXP-11A were found to be unsafe for air drilling due to ground stability issues. Drilling in these locations was completed by TerraSonic International (TerraSonic) using sonic drilling methods. Exploratory borings EXP-11 and EXP-11A, were completed in this phase in addition to monitoring well MW-58A. MW-58A was another monitoring well that was requested by EPD but could not be installed until execution of the MM&P access agreement. As previously mentioned, exploratory borings EXP-7 and EXP-9A had infilled. Because initial yield tests indicated these locations may be viable extraction wells, TerraSonic completed these boreholes as extraction wells with 4-inch PVC screen and casing pipe using standard well construction techniques.

Upon completion of the sonic drilling, additional APT tests were performed on the newly installed wells: EXP-7, -9A, -11, and -11A (see blue symbols on Figure 2-1). Following the same protocol as for the June 2014 site APTs, field parameters and groundwater samples were collected for data that would be applicable for design of a groundwater treatment system. Laboratory samples were analyzed by AES.

Groundwater samples were also collected from several exploratory borings and monitoring wells and analyzed for VOCs by AES. Disposable polyethylene tubing was set in the screen interval of monitoring wells or near the bottom of open bore wells, and groundwater was purged for a minimum of 30 minutes and until field readings had stabilized.

2.5 Additional Offsite Drilling and APTs – February through March 2015

While the first two phases identified locations that could possibly provide sufficient flow to contain groundwater immediately east of the MM&P property (EXP-8, -9, -9A, -10, -11, and -11A on Figure 2-1), the APT results showed that most of these wells were less than ideal with groundwater extraction rates less than 1 gallon per minute. As a result, EXP-12 and EXP-13 (see green symbols on Figure 2-1) were installed in March 2015 by Tri-State in an effort to achieve higher groundwater yields. APTs following the same protocol as before were also performed on EXP-12 and EXP-13 following their installation.

2.6 Investigative Derived Waste Management

Investigative derived waste (IDW) generated during the pre-design investigation was containerized, sampled for disposal characterization, and disposed of in a manner appropriate to the characterization results. In general, soil IDW was containerized in roll-offs that were covered and lined, and aqueous IDW from well development and APTs was containerized in frac tanks or temporary polyethylene tanks. One frac tank of purge water generated during the initial investigation phase had analytical results above the toxicity characteristic limits. Water from this single frac tank was disposed of as hazardous waste, while all other generated IDW was disposed of as nonhazardous.

Section 3

Pre-Design Investigation Results

3.1 Analytical Results

The laboratory reports from AES are presented in **Appendix D**, and the groundwater VOC results are summarized in **Table 3-1**. **Table 3-2** summarizes the laboratory data for other analytical parameters (e.g., calcium, total iron, etc.) that are of interest for a groundwater treatment system. Only those wells that were potential groundwater extraction wells were sampled for non-VOC parameters. Groundwater samples were collected:

1. During an APT, with one sample being collected an hour after the start and another sample collected at the end, assuming the location could sustain extraction for an extended period of time. Samples were collected from a sample port located on the pump discharge piping;
2. From monitoring wells and exploratory borings where APTs were not performed; and
3. In the case of MW-56C, at the time of well development by decreasing the flow from the well development pump, after development had been completed.

The TCE results for Units A/B and Unit C are presented on **Figure 3-1** and **Figure 3-2**, respectively. Generally, the TCE results shows that the VOC distribution was as expected; however, groundwater results for MW-56C are higher than previously observed in this area.

3.2 APT Results

APTs were performed to estimate the potential groundwater extraction rates from the extraction wells installed during this investigation and to assess the groundwater quality for treatment purposes. The APTs were not intended to provide a hydraulic containment demonstration because this invariably requires long-term pumping that is not feasible at the pre-design stage. Extraction well flow rates were estimated during 1) well development; 2) short-term low flow pumping; and 3) longer term higher flow pumping in wells believed to be potential extraction wells. Water quality was assessed as described above.

The test results are summarized in **Table 3-3**. Based on a combination of each well's estimated flow rate and location, the following wells were selected for use as future extraction wells: EXP-2, EXP-3A, EXP-4A, EXP-7, EXP-12, and EXP-13. EXP-3 and EXP-11A were retained on a contingency basis for potential future use. The remaining exploratory borings are not useful for groundwater extraction.

The APT data and analyses are presented in **Appendix E** with the pertinent results summarized in Table 3-3. In a few instances, sufficient data curves resulted that allowed estimates of transmissivity from observation wells. In these instances, the data were interpreted using the Theis unsteady-state method (Kruseman, 1991). This method and the additional methods discussed below are an over simplification of the site-specific fractured rock aquifer. The methods and results are intended only for guidance in planning future work. Ultimately, achieving the containment objectives must be measured based on actual results of long-term extraction in the fractured rock aquifer. Transmissivity estimates

were also made using the recovery data from extraction and observation wells and using the Theis recovery method (Kruseman, 1991).

CDM Smith then completed APT simulations using an analytical approach that incorporated the observed flow rates, observed drawdown, and calculated transmissivity to provide estimates of storativity and extraction well efficiency. The formula used for the simulations is also based on the Theis equation, and the method for estimating the well function from polynomial approximation is from Walton, 1991.

As the storativity vales in Table 3-3 indicate, the aquifer response to pumping in the source area and at EXP-7 indicates confined or semi-confined conditions, which results in the lower storativity values. The consequence of the aquifer being confined / semi-confined is that a larger radius of influence can be established. EXP-4A on the east site boundary appears to be under semi-confined to unconfined conditions, along with the offsite area, where the storativity values are higher.

Additional simulations were completed using the "calibrated" APT simulations to assess long-term extraction and provide initial estimates of the long-term radius of influence. It must be understood that the cone of depression in a fractured rock aquifer is invariably irregular and tends to be elongated along fracture zones and truncated by low permeability rock beyond fracture zones. In addition, the sustainable long-term pumping rate can be as much as 50% or lower than predicted because fracture storage draining/dewatering. The actual sustained flow is derived from recharge to fracture zones from the bulk rock surrounding the fractures. While the flow may be decreased, the containment zone should not decrease. CDM Smith has been conservative in assigning long-term pumping rates. **Figure 3-3** provides the conceptual radius of influence derived from the simulations for each planned and contingency extraction well.

3.3 Subsurface Conditions

The exploratory borings installed on the site generally confirmed the previously established site conceptual model and site hydrogeology (Corrective Action Plan, September 2013). As expected, several of the exploratory borings encountered fractures in Unit B and Unit C while most of the exploratory borings failed to produce sustainable groundwater yields. Most of the fractures encountered in Unit B occurred at a depth of less than 20 feet, while those in Unit C occurred at a depth between 40 feet and 50 feet. The Unit B water bearing fractures typically contained mud that caused infilling of the borehole. Mud was a particular issue at EXP-2 and EXP-9A and required installation of screens. However, these screened wells became low in efficiency as the mud invaded the sand pack. Fractures encountered during the Pre-Design Investigation are shown in the boring logs provided in Appendix A, and Section 4 presents the site conceptual model, updated for the Pre-Design Investigation findings.

Section 4

Current Site Conceptual Model

CDM Smith has updated the site conceptual model (SCM) to incorporate the results from the Pre-Design Investigation. While our understanding of the site stratigraphy has not changed with respect to the previous SCM (Corrective Action Plan, September 2013), we have developed a more in depth conceptual model (discussed below) regarding the occurrence and migration of groundwater at the site. In addition, more detailed VOC distribution data are now available.

4.1 Site Stratigraphy

The site is located in the Valley and Ridge physiographic province, which is typically characterized by folded bedrock forming alternating anticlines and synclines that produce the characteristic valleys and ridges. The bedrock beneath the site is the Newala Limestone that is overlain by a thin veneer of weathered limestone residuum, and the bedrock is present at land surface at several locations. Based on rock cores from the site, the Newala Limestone bedding planes at the site are essentially horizontal. The site-specific hydrogeologic layers of interest have been classified by CDM Smith to include four units, as summarized below.

- **Unit A Residuum** – This is the uppermost unit and is typically unsaturated, but may contain groundwater under water table conditions in regions where this layer is thicker and penetrates to the depth of the water table. The residuum ranges from sandy clay to clayey sand, has an average 12-foot thickness, and has a maximum observed thickness of 25 feet. Groundwater flow in the residuum and Unit B are mapped together and is to the northeast (**Figure 4-1**).

- **Unit B Upper Bedrock** – The uppermost bedrock typically contains groundwater under water table conditions. A definitive demarcation between Units B and underlying Unit C does not exist, but Unit B is assumed to be limited to less than 20 to 25 feet of land surface. Previous drilling indicated that the Unit B limestone has few fractures, which tend to be thin and produce little groundwater. However, exploratory borings EXP-4A and borings in the vicinity of EXP- 11 and EXP-11A revealed enlarged fractures in Unit B. The hydraulic gradient in Units A/B shown on Figure 4-1 is extremely flat between the former source area and the downgradient east property line. This flat gradient should increase the ability to obtain containment along the property line.

- **Unit C Bedrock** – This unit is similar to Unit B except that the fractures tend to be less frequent, and groundwater in Unit C is presumed to be confined to some extent. The APTs indicated confined to semi-confined conditions on site and a lesser extent off site. A definitive demarcation between Units C and underlying Unit D does not exist, but Unit C is assumed to be limited to within approximately 95 feet of land surface. Of approximately 48 boreholes that penetrate Unit C and have boring logs that include fracture information, 19 boreholes, or approximately 40%, document water producing fractures in Unit C. Most of these fractures were observed at depths from 40 to 50 feet. Fractures encountered in Unit C during the exploratory boring program were also concentrated in the 40- to 50-foot range. **Figure 4-2** presents an updated potentiometric surface map for Unit C. The current potentiometric surface map indicates a low in the potentiometric surface from the vicinity of EXP-1 down to EXP-3A

with an abrupt increase at MW-41C. The low point in the potentiometric surface is believed to be caused by open fractures or solution features in the vicinity of the former source area. Otherwise, groundwater flow in Unit C is to the northeast. The vertical gradient on the site is primarily upward from Unit C to Unit B associated with the confined/semi-confined conditions. This gradient is reversed downgradient where unconfined conditions are believed to exist.

- **Unit D Bedrock** – The limestone bedrock is dense, hard, light gray to dark gray, and contains numerous styolites. Styolites form from insoluble residue accumulation as calcium carbonate dissolves while the limestone undergoes lithification. This tends to produce limestone with a very low primary porosity, as shown by previous coring. Unit D is primarily a confining unit. There have been no TCE detections in groundwater samples collected from Unit D monitoring wells MW-35D and MW-55D, indicating that there is no vertical migration to Unit D.

4.2 Hydrogeology

The site stratigraphy is shown on the hydrogeologic cross section on **Figure 4-3**. Based on the APT results, the bulk rock in all zones has a very low hydraulic conductivity, and groundwater migration relies almost entirely on fractures and increased aquifer yield relies on fracture zones enlarged by dissolution. Groundwater flow is to the northeast and toward Cedar Creek. Transmissivity in the former source area is relatively high. The higher transmissivity is attributed to more frequent fractures, both large and small, as compared to the remainder of the site. Fractures measuring approximately 0.5 feet or less are the most common and wells having these types of fractures typically supply less than 0.5 gpm. However, it is probable that these types of fractures have a significant role in VOC migration. Where the fractures are thicker, aquifer transmissivity is increased and substantial flow can result. Most thick fractures have been found to contain mud. CDM Smith believes that this mud is the insoluble residue derived from limestone dissolution during fracture enlargement. The source of the insoluble residue is the high concentration of styolites in the formation.

When drilling with air, the down-hole air stream evacuates the borehole at depth placing high pressure on the mud and causing it to rush into the bore hole. In some instances, this problem can be remedied by continued mud removal and the borehole can stabilize. However, this is not always the case, and well screens need to be installed. The problem with well screens is the tendency of the sand pack to become infiltrated and clogged by the mud. A better solution is to remove the mud using a less aggressive method than air lift, such as using a mud pump to stabilize the borehole.

4.3 TCE Distribution

The TCE distributions in groundwater for Unit A/B and Unit C are presented in Figure 4-1 and Figure 4-2, respectively. The TCE distribution has not changed substantially since the previous SCM. TCE in the former source area is present at relatively high concentrations; however these concentrations reduce significantly during pumping. This implies that TCE mass is adsorbed to the bulk rock matrix, and this TCE mass may be slow to desorb into a mobile aqueous phase. Migration from the former source area beyond the east site boundary is apparently slow and limited because of low fracture frequency.

Additional VOC data at the southeast boundary area shows that TCE concentrations are higher than previously reported in Unit C. While it is possible that TCE from this area is the source of the TCE at the offsite boundary area, a direct link between these areas has not been established to account for the

TCE concentrations observed at the offsite boundary area. However, the extent of VOCs in groundwater is delineated and sufficient detail is available to proceed with corrective action.

Note that CDM Smith performed a well inspection on April 27, 2015. The inspection revealed that monitoring wells MW-44C, MW-52C, and MW-55D on the MM&P property could not be located and the land surface had been graded and covered with gravel. CDM Smith will request that MM&P locate and uncover these wells for inspection by CDM Smith. Future monitoring may not be possible and/or advisable from these wells, depending on their conditions and potential uncertainties related to well integrity and surface water infiltration.

Section 5

Groundwater Extraction and Treatment Design

The corrective action objective for the site is to achieve Type 3/4 risk reduction standards (RRSs) for groundwater except for the source area (Type 5 RRSs) and a small portion of the nearby residential neighborhood (Type 1 RRSs), as discussed in the CAP. The selected corrective action for the Former Manchester Tank site is onsite and offsite containment and treatment of the dissolved plume.

To achieve the corrective action performance objectives, site remediation will be accomplished by focusing on four containment areas: 1) the former source area, 2) the east boundary area, east of the former source area along the property boundary with MM&P, 3) the southeast boundary area, southeast of the former source area along the property boundary with the MM&P site, and 4) the offsite boundary area immediately east of the MM&P site. These containment zone are shown on **Figure 5-1**.

Because of the distance between the offsite area and the onsite areas, two treatment systems are planned. The conceptual site plan for the onsite and offsite treatment systems is shown on **Figure 5-2**. Groundwater containment will be accomplished with six extraction wells: EXP-2 and EXP-3A in the former source area; EXP-4A in the east boundary area; EXP-7 in the southeast area; and EXP-12 and EXP-13 in the offsite area. Two contingency wells will remain in place for future extraction needs in the event that the planned wells do not achieve the corrective action objective: EXP-3 in the former source area and EXP-11A in the offsite area.

The VOC and APT results from EXP-12 and EXP-13 have resulted in a revised containment strategy for the offsite area. Originally, the CAP called for extracted groundwater to be conveyed back to the Former Manchester Tank site; however, CDM Smith now concludes that it would be more cost-effective and efficient to treat the offsite groundwater in a smaller, localized treatment system, which would eliminate the need for a pipeline across the MM&P property and simplify access requirements. The APT results from EXP-12 and EXP-13 support offsite hydraulic control from these two wells, and this approach will be more effective than the originally planned four wells at lower rates. However, EXP-11A will remain available as a contingency well in the event that the surrounding containment area is not large enough. This contingency well can be added to the extraction well network rather easily.

5.1 Design Criteria

5.1.1 POTW Discharge Requirements

Extracted groundwater will be treated and then discharged to the City of Cedartown Wastewater Treatment Facility (POTW) located off Girard Avenue via an industrial discharge permit. There will be two discharge points: one from the treatment system on the Former Manchester Tank facility and one from the small treatment system in the offsite area immediately east of MM&P. CDM Smith anticipates that the two discharges can be handled via one permit; however, two permits may be necessary depending on City requirements.

The analytical results show that most extraction wells have a TCE concentration above the 500 µg/L and the City has indicated that this level may be used as the discharge limit to the POTW. Wastewater

exceeding this level cannot be discharged to the Cedartown Wastewater Treatment Facility without pretreatment. Thus, the primary purpose of treating the groundwater will be to reduce the TCE concentration to less than 500 µg/L. Based on the observed water quality and previous discussions with the City, it appears unlikely that more stringent discharge criteria will be required. CDM Smith has experience with a similarly treated discharge to Publically Operated Treatment Works where a 2.13 mg/L Total Toxic Organics (TTO) was imposed, and such a limit is common to many industrial discharge permits. If TCE is treated to below 500 µg/L, TTO is expected to also be less than 2.13 mg/L.

5.1.2 Air Treatment Requirement

The proposed method of treatment for groundwater is to use an air stripper. The Georgia Rules for Air Quality Control (Chapter 391-3-1, effective October 14, 2014), adopt several Federal provisions for the emissions of hazardous air pollutants, including the Emission Standards for Hazardous Air Pollutants: Site Remediation (40 CFR Part 63, Subpart GGGGG). Subpart GGGGG establishes emissions limitations and work practice standards for hazardous air pollutants emitted from site remediation activities. Air stripping is specifically listed as an example remediation process covered by that subpart.

Per 63.7881(c) of Subpart GGGGG, remediation activities are not subject to the requirements of this subpart if the total quantity of all hazardous air pollutants (HAPs) removed is less than 1 megagram per year (Mg/yr). **Table 5-1** presents the estimated quantities of HAPs that would be discharged to the atmosphere using an air stripper for groundwater treatment. The highest expected HAP loading is approximately 0.60 tons per year, or 0.54 Mg/yr, which is significantly less than the 1 Mg/yr limit. The loading estimate is conservative since it is based on a total groundwater flow of 70 gallons per minute (gpm) and since it includes 1,2-dichloroethene, which is not a listed HAP in 40 CFR Part 63. Based on the calculation and Georgia rules, treatment of the off gas from an air stripper is not required. No risk is anticipated to the surrounding community based on the low emission levels.

Cedartown is not in a non-attainment air quality area, nor are sensitive receptors (e.g., daycare facilities, nursing homes, etc.) located near the site.

5.2 Design Concepts Common to Both Treatment Systems

5.2.1 Extraction Wells

Each extraction well, either 4-inch PVC or open bore, will be equipped with a 4-inch submersible pump that is sized according to the flow and head requirements at each location. Pumps in open bore wells will be fitted with a shroud at set near the bottom of the well to allow continued removal of mud that may enter the borehole. Pumps set in screened wells will be installed at the bottom of each well as long as silt and sediment is not a concern. A pressure transducer will also be installed in each well for water level measurement and pump control. Where feasible, well heads will be constructed above-ground and protected in fiberglass shelters. Well heads will be protected by bollards. Above ground shelters may not be feasible in some areas on the MM&P property pending further access discussions with MM&P. In such locations, below ground vaults may be used to house the well head equipment. In general, each well head will have:

- An electric disconnect switch to cut power to the pump;
- A transition from drop pipe to double-contained high density polyethylene (HDPE) pipe;
- A sample port;

- A flow control valve;
- A check valve to prevent backflow into the well;
- An electronic flow meter; and
- A pressure switch to shut down the pump in the event of blockage.

5.2.2 Piping

All underground piping will be double-contained HDPE pipe. This material will be used from the extraction wells to the respective treatment systems. From the well head, the conveyance pipe will be installed below ground for the entire run from the well to the respective treatment system. The dual wall pipe will be terminated by daylighting the containment pipe into the secondary containment area for each treatment system, and a level switch in the secondary containment will shut down the treatment system and all pumps in the event of any water accumulation. Piping that is within secondary containment and connecting treatment system components or conveying treated water will be schedule 80 PVC.

5.2.3 Instrumentation and Control

Each treatment system will be equipped with the instrumentation necessary to monitor the systems remotely, ensure proper extraction and treatment, and completely shut down the systems in the event of system excursions. Instrumentation will include, but not be limited to:

- Water level indicators and switches in the extraction wells to start and stop pumps;
- Flow meters at each extraction well;
- High water level switches in containment vessels (e.g., equalization tanks and secondary containment) to automatically shut down the treatment system and all extraction wells; and
- Pressure indicators and high pressure switches on pressurized line to indicate potential blockage.

CDM Smith plans to control the groundwater extraction rate at each well using manual flow control valves. Additionally, each system will be equipped with basic telemetry to provide limited remote monitoring of the systems such as viewing water levels in the extraction wells, extraction flow rates, and treatment system alarms; and limited control such as turning pumps on and off and altering water level setpoints in the wells. CDM Smith anticipates that communication between the two treatment systems will be accomplished by radio signals, and the system will be remotely accessible by Internet access. Additional testing (e.g., a radio survey) will be performed to verify the communication method. The telemetry will allow both systems to be monitored with minimal site visits and will alert operators to system alarms and shutdowns.

5.3 Onsite Treatment System Design Concepts

Containment and treatment of the former source area, east boundary area, and southeast boundary area will occur similarly to what was originally proposed in the CAP. Four extraction wells will be operated on site: EXP-2, -3A, -4A, and -7. Additionally, EXP-3 will remain as a contingency well in the event it is needed for improved hydraulic control. As shown on Figure 5-2, the groundwater will be conveyed to a treatment system located in northwest corner of the existing building. This area of the

building is unoccupied, and its existing construction as a warehouse makes it suitable for the treatment system. CDM Smith anticipates the footprint of the system will be approximately 25 feet by 15 feet. The entire treatment system will be surrounded by a curb and the concrete floor refinished to seal any cracks. The curbed area will provide secondary containment and will be sized to contain the volume of the equalization tank.

The process equipment for the treatment system will be straightforward. Groundwater from the extraction wells will discharge into a 1,000-gallon polyethylene influent equalization tank. An influent pump will transfer water from the tank to the air stripper, where a blower will remove the VOCs from groundwater. It is estimated that a relatively simple three-tray air stripper with a 10-horsepower blower will be capable of treating the influent to a TCE concentration that is well below the 500 µg/L TCE discharge criteria. After the air stripper, treated groundwater will be discharged to the sewer by a small centrifugal pump.

5.3.1 Piping

With the exception of EXP-2, groundwater from the submersible pump will be conveyed in 1-inch piping. Above-ground piping will be schedule 80 PVC at the well head. After the instrumentation, and prior to going underground, the pipe will transition to 1-inch x 3-inch HDPE double contained piping. The piping at EXP-2 will use 2-inch PVC and 2-inch x 4-inch HDPE piping to accommodate the expected flow rate from that well.

As shown in Figure 5-2, the extracted groundwater from EXP-7 will be conveyed in a dedicated 1-inch x 3-inch HDPE line all the way to the treatment system. Once in the building, the pipe will be run on wall hangars or on rafter supports to the treatment system.

Groundwater from the other site wells will manifold into a common conveyance pipe. Prior to EXP-2, these wells will manifold into a single 2-inch x 4-inch double contained HDPE pipe. At EXP-2, the conveyance pipe diameter will increase to 3-inch x 6-inch for the remaining run to the treatment system to handle the increased flow rate. The containment pipe will daylight into the treatment system's secondary containment, where a level switch will be used to shut down the system and all extraction wells if there is water accumulation. Following treatment, the water will be discharged to the sanitary sewer, located to the north of the facility, through a 3-inch schedule 80 PVC pipe.

5.3.2 Air Stripper Loading

Based on the APT results, CDM Smith expects that the onsite system will be required to treat approximately 50 gpm from the onsite wells. The anticipated equilibrium flow rates and concentrations of the detected VOCs from each well are presented in Table 5-1. Note that the VOC concentrations used in Table 5-1 are from samples collected at the end of the APT, if applicable, to better represent expected equilibrium conditions during groundwater extraction.

Although CDM Smith anticipates that the extraction rate for the onsite system will be approximately 50 gpm, EXP-2 has demonstrated a very high yield potential because of a productive water-bearing fracture. It is likely that EXP-2 will initially sustain a substantially higher flow rate until it has dewatered the fracture. Thus, CDM Smith will size the onsite remediation system (piping, air stripper, etc.) to convey and treat a total combined flow of 70 gpm with the concentrations provided in Table 5-1 expected to be conservative.

5.3.3 Air Stripper Scaling Potential

Because air strippers are highly oxidative environments, precipitation and scaling can be significant problems in these types of treatment systems leading to reduced performance and downtime. In addition to VOC analysis; calcium, iron, and manganese were analyzed from groundwater samples because they can form these precipitates of concern. These non-VOC analytical results were previously shown in Table 3-1. Non-VOC analyses were not performed at EXP-3; however, its results should not vary significantly from the other wells, and its limited flow rate will not significantly impact the characteristic of the combined influent stream.

The Langelier Saturation Index (LSI) provides a means to qualitatively estimate the stability of calcium carbonate in water and determine if scaling is a significant concern in an air stripper. In general, an LSI of less than -0.5 has no scale forming potential, above +0.5 there is scale forming potential, and values in between are generally in equilibrium. The LSI calculation for each well was performed using the corrosivity estimator from the American Water Works Association. There are two methods for calculating LSI, the original 1936 method and the revised 1998 method, with the 1998 method being more conservative. The LSI for each well and the combined influent flow are calculated assuming the samples collected at the end of each APT, if applicable, are representative of equilibrium conditions. The calculated LSI values are shown in **Table 5-2**, and it can be seen that the LSI results for most wells are negative. The combined influent flow to the air stripper has an LSI that indicates precipitation will not be a problem.

Iron and manganese can also form precipitate oxides that results in air stripper fouling. In general, fouling in air strippers becomes a serious issue at iron concentrations above 5 milligrams per liter (mg/L) (FRTR, Version 4.0). As shown in Table 5-2, the expected concentration in the combined influent stream is for both constituents is much less than the 5 mg/L concentration where air stripper degradation is a concern.

5.4 Offsite Treatment System Design Concepts

Offsite groundwater will be extracted from EXP-12 and EXP-13, as shown on Figure 5-1. The groundwater will be conveyed to the small treatment system located in a shed near EXP-12. The shed footprint will be approximately 12 feet by 16 feet. Included within the shed will be a bag filter for sediment removal and two carbon vessels for treatment of the groundwater prior to discharge to the sewer. The entire treatment system will be set within a collapsible wall spill containment unit.

The carbon filters will consist of two vessels with 18.5 cubic feet of activated carbon in each, and each capable of a maximum flow of 25 gallons per minute and pressures up to 75 pounds per square inch (such as the Evoqua PV500). The vessels will be operated in a lead-lag configuration with a manifold connecting the two that can be configured so that either vessel can be in the lead position. The vessels will be filled with a granular activated carbon media that is designed to remove chlorinated organics. CDM Smith anticipates that the lead carbon vessel will last approximately one year before carbon changeout is necessary.

5.4.1 Piping

Similar to the onsite treatment system, piping at the well heads will consist of 1-inch hose and pipe that transitions to double contained 1-inch x 3-inch HDPE for the underground run to the treatment system. Unlike the onsite system, the pipes from the extraction wells EXP-12 and EXP-13 will not manifold together; rather, they will be run individually to the treatment system. In the event that

contingency well EXP-11A is needed to obtain hydraulic control, its lines will either be manifolded into the pipe from EXP-12 or run separately to the treatment shed. The APT results from the contingency wells show they have very low yield potential (approximately 0.5 gpm each) and manifolding them into the 1-inch x 3-inch line does not pose any hydraulic issues. The proposed treatment shed will be located adjacent to the existing sanitary sewer, and treated water would be discharged by a short section of 1-inch schedule 80 PVC.

5.4.2 Hydraulic and VOC Load

Table 5-3 presents the estimated hydraulic and VOC loading for the proposed carbon system using EXP-12 and 13. If extraction from the EXP-12 and EXP-13 is insufficient to achieve the required hydraulic containment, EXP-11A will not significantly increase hydraulic load on the system. The proposed carbon vessels have a flow rate capability of 25 gpm, and the anticipated maximum extraction from this area is approximately 20 gpm. From the APT results, EXP-11A does have a higher VOC concentration than the other wells; however, it will not significantly impact the operation of the carbon filter system if it is placed in service.

5.4.3 Potential for Direct Discharge

The existing TCE concentrations from the proposed extraction (EXP-12 and EXP-13) wells are below the 500 µg/L criteria expected to be imposed as a discharge requirement to the Cedartown Wastewater Treatment Facility. While already below, a treatment system is proposed initially to handle any fluctuations in VOC concentrations and should one or both of the contingency wells be brought on line. It is expected that after an initial extraction period (six months to a year), equilibrium TCE concentrations will be low enough to allow direct discharge to the Cedartown Wastewater Treatment Facility.

Section 6

Conclusions

As stated in Section 1, the primary pre-design investigation objectives were to determine locations that will achieve sufficient hydraulic containment in the former source area and along downgradient property lines and to install extraction wells at those locations to protect potential receptors. Additional pre-design objectives included groundwater characterization for treatment design, evaluating groundwater treatment requirements, and evaluating treatment technologies. CDM Smith's overall pre-design conclusions and expectations for containment system operation are summarized below.

- Of the 25 exploratory boring installed, CDM Smith concludes that groundwater extraction from EXP-2, -3A, -4A, -7, -12, and -13 will achieve hydraulic containment of the VOC groundwater plume in the three identified areas (Figure 1-1). Two wells, EXP-3 and -11A, are also retained for possible contingency use. EXP-7, -12, and -13 will be re-developed during system startup to improve well efficiencies.
- Treated groundwater effluent will be discharged to the POTW through existing sanitary sewer lines located on site. TCE will require treatment to below 500 ug/l.
- The total anticipated flow rate at startup is approximately 60 gpm to 65 gpm. The former source area and site boundary wells (EXP-2, -3A, -4A, and -7) are expected to produce approximately 45 gpm and the onsite treatment system will be sized for 70 gpm. An estimated 20-gpm flow rate from EXP-12 and -13 will be treated at the offsite boundary area using a system sized for 25 gpm.
- Treatment will be accomplished using conventional treatment technologies. Air stripping is proposed for the onsite system assuming that air treatment will not be required. The offsite system will use liquid phase granular activated carbon.
- The performance monitoring well network should not include monitoring wells on the MM&P site, to the extent possible, because we do not have the ability to protect these wells.

Three containment system operation terms have been identified to develop expectations and identify options to maximize system operation efficiency. These terms include the startup period with an approximate duration of two to three months, the short-term period of approximately two to five years, and the long-term period beyond five years.

Groundwater elevations will be monitored during system startup and periodically thereafter to document the containment area and optimize well flows accordingly. Water quality will also be monitored and the VOC concentrations in extracted groundwater are expected to decrease over time. CDM Smith anticipates that the offsite treatment system may not be necessary within the short term and direct discharge of the extracted groundwater to the POTW will be allowable. This is because the current VOC concentrations in the offsite boundary extraction wells are low and expected to decrease to below the POTW treatment standards relatively quickly.

Hydraulic containment in the former source area and along the onsite boundary will furthermore prevent VOCs from migrating from the Former Manchester Tank Company site to the MM&P site. Assuming that an undiscovered VOC source does not exist on the MM&P property, VOC mass reduction from groundwater extraction and attenuation should allow the offsite containment system to be shutdown in its entirety in the future. This possibility may exist in the short-term to long-term transition period. However, VOCs in groundwater that migrate downgradient of the MM&P site will need to meet residential RRSs.

Additional future reductions in extraction well operation are possible onsite. Operation of wells EXP-3A and -4A and may become redundant within the short-term period because of effective containment in the former source area and development of a large containment area by EXP-2 alone. However, long-term operation of EXP-2 and -7 is expected in order to contain groundwater onsite that exceeds the applicable RRSs.

A future option does exist that may allow all onsite wells to discontinue operation. This option involves groundwater modeling to determine the onsite VOC concentrations that would not result in exceedances of the residential RRSs downgradient of MM&P. A site-specific Type 5 RRS could then be proposed along with future monitoring to demonstrate that the Type 5 RRS is protective. Application of this approach may also require that MM&P enter the VRP as a qualifying property and impose groundwater use restrictions on their property.

Section 7

References

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CDM Smith. September, 2013. Corrective Action Plan, Former Manchester Tank Company, Cedartown, Polk County, Georgia.

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Georgia Department of Natural Resources Environmental Protection Division, Air Protection Branch. Georgia Rules for Air Quality Control, Chapter 391-3-1, Effective October 14, 2014. http://www.georgiaair.org/airpermit/html/aqrules/aqrules.htm

National Emission Standards for Hazardous Air Pollutants: Site Remediation, 40 CFR Part 63 Subpart GGGGG, Amended December 22, 2008. http://www.ecfr.gov/cgi-bin/text-idx?node=sp40.14.63.ggggg

Figures

Former Source
Containment Area

Unit A/B
Containment Area

Unit C
Containment Area

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Figure 1-1: Corrective Action Groundwater Containment Areas

Pre-Design Investigation Report
Former Manchester Tank Company Site - Cedartown, GA

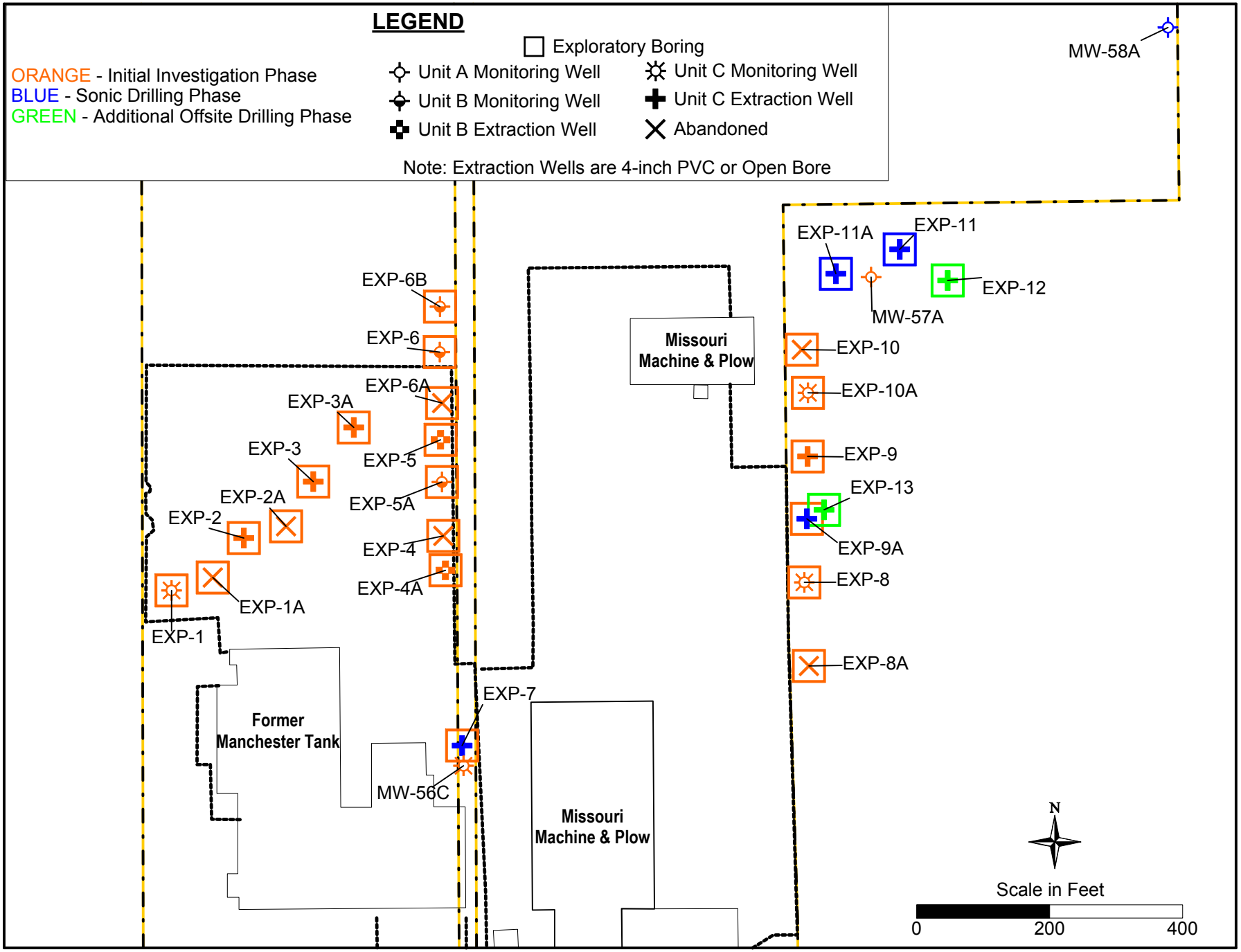

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Figure 2-1
Exploratory Boring and Well Locations
Pre-Design Investigation Report
Former Manchester Tank Company Site - Cedartown, GA

Fence

Property Lines

N

Scale in Feet

0 200 400

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Figure 3-1

Unit A/B Wells and TCE Concentrations

Pre-Design Investigation Report

Former Manchester Tank Company Site - Cedartown, GA

Fence

Property Lines

N

Scale in Feet

0 200 400

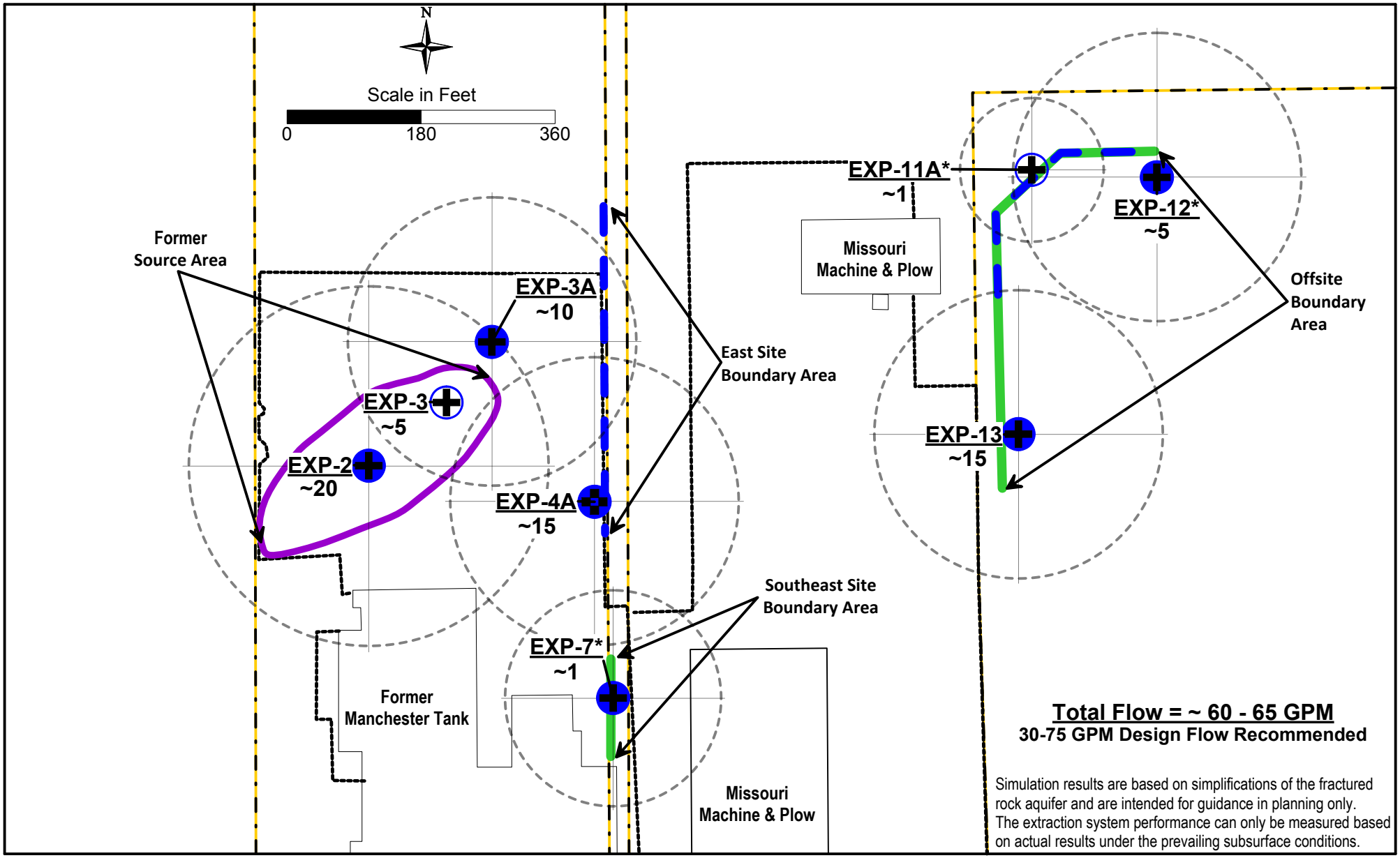
CDM Smith

Figure 3-2

Unit C Borings and TCE Concentrations

Pre-Design Investigation Report

Former Manchester Tank Company Site - Cedartown, GA



* - Flow estimate assumes increased well efficiency.

EXP-2 Well Code
~20 Simulated Flow Rate (gallons per minute)

Simulated Radius of Influence

Former Source Containment Area

Unit A/B Containment Area

Unit C Containment Area

Unit B/C Extraction Well

Unit B Extraction Well

Planned Extraction Well

Contingency Extraction Well

Property Lines

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Figure 3-3: Extraction Well Conceptual Radius of Influence

Pre-Design Investigation Report

Former Manchester Tank Company Site - Cedartown, GA

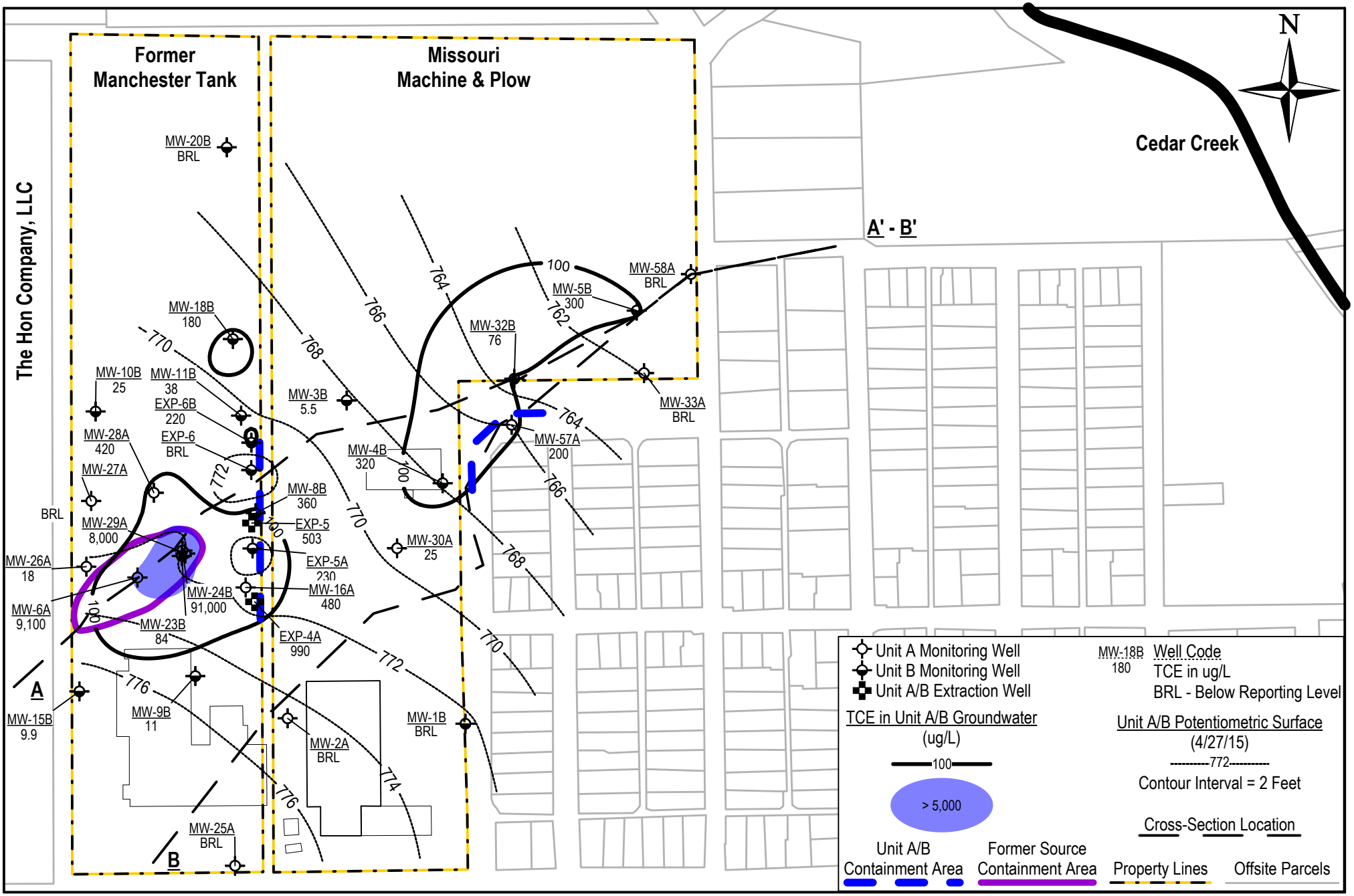

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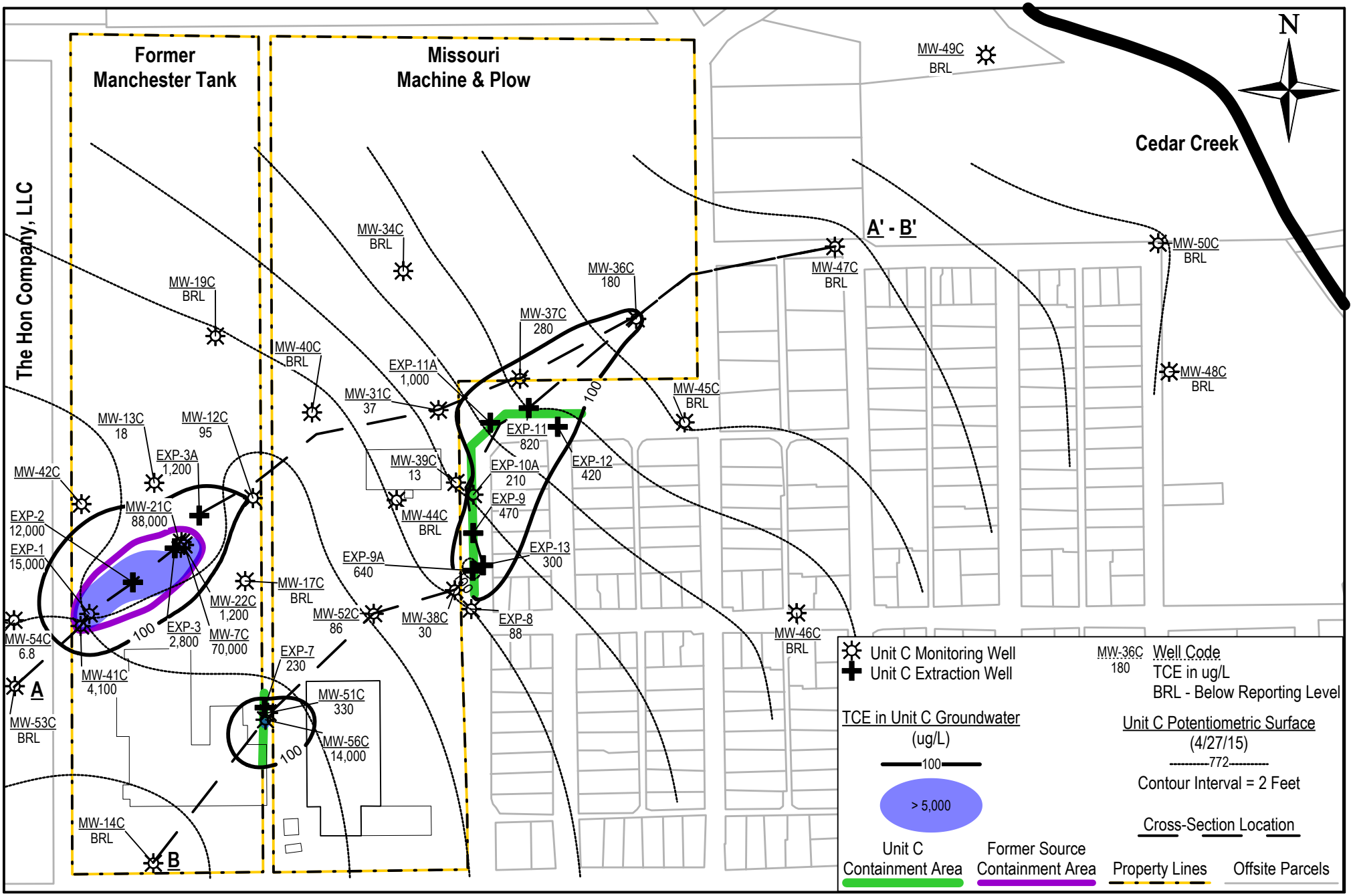
Figure 4-1: Unit A/B Data Summary

Pre-Design Investigation Report

Former Manchester Tank Company Site - Cedartown, GA



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Scale in Feet

0 320 640 960 1,280

Figure 4-2: Unit C Data Summary

Pre-Design Investigation Report

Former Manchester Tank Company Site - Cedartown, GA

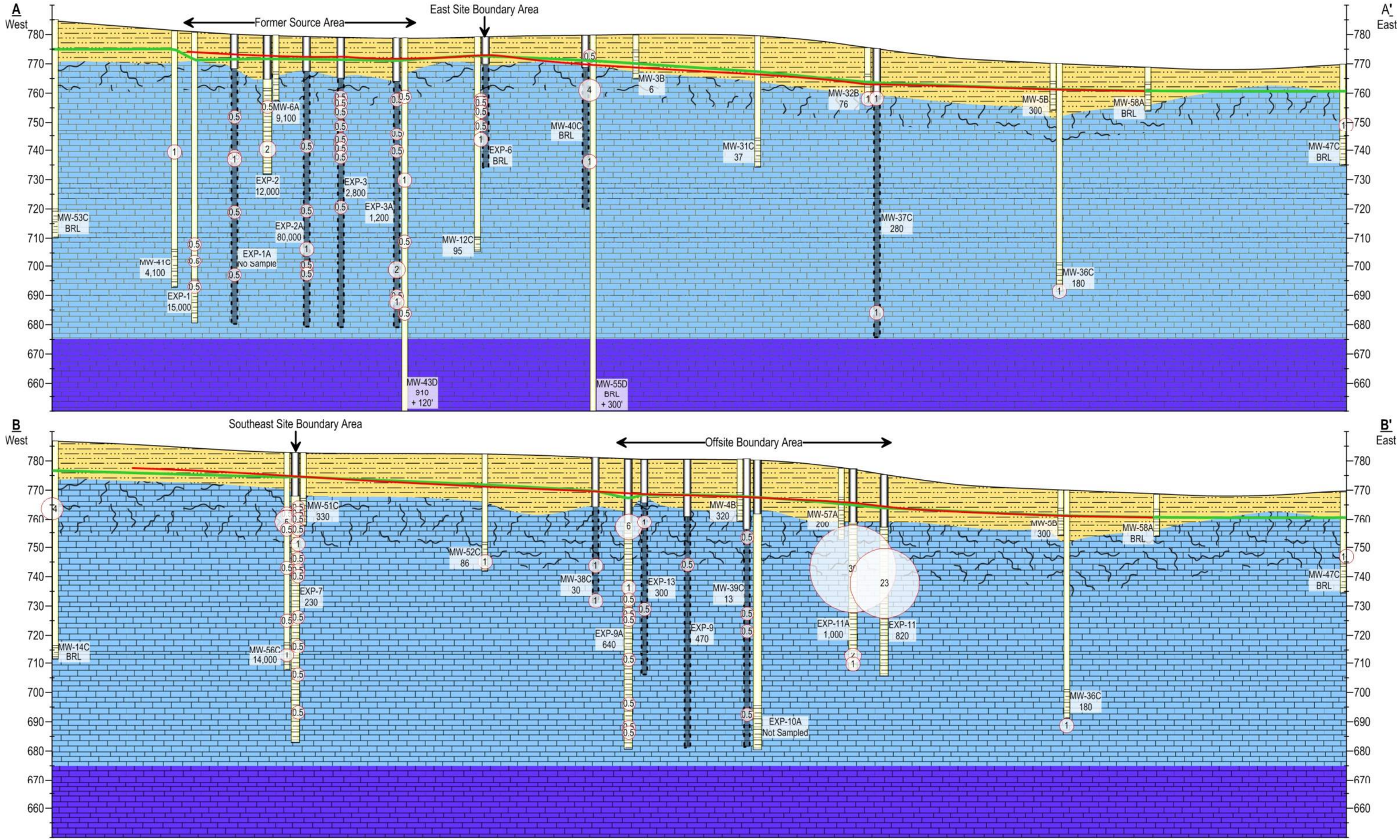

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Figure 4-3: Hydrogeologic Cross Sections

Pre-Design Investigation Report

Former Manchester Tank Company Site - Cedartown, GA

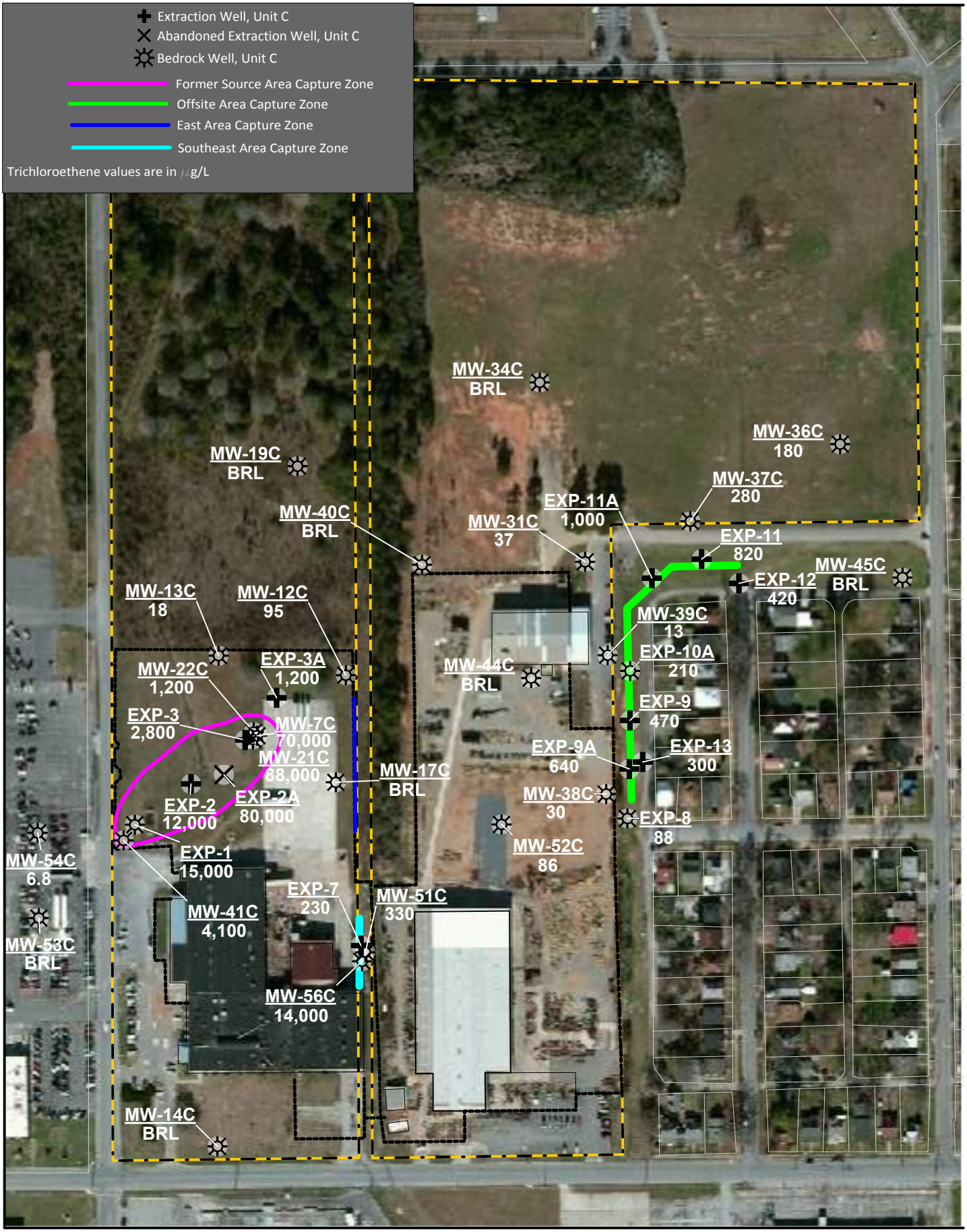

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Figure 5-1
Containment Zones
Pre-Design Investigation Report
Former Manchester Tank Company Site - Cedartown, GA

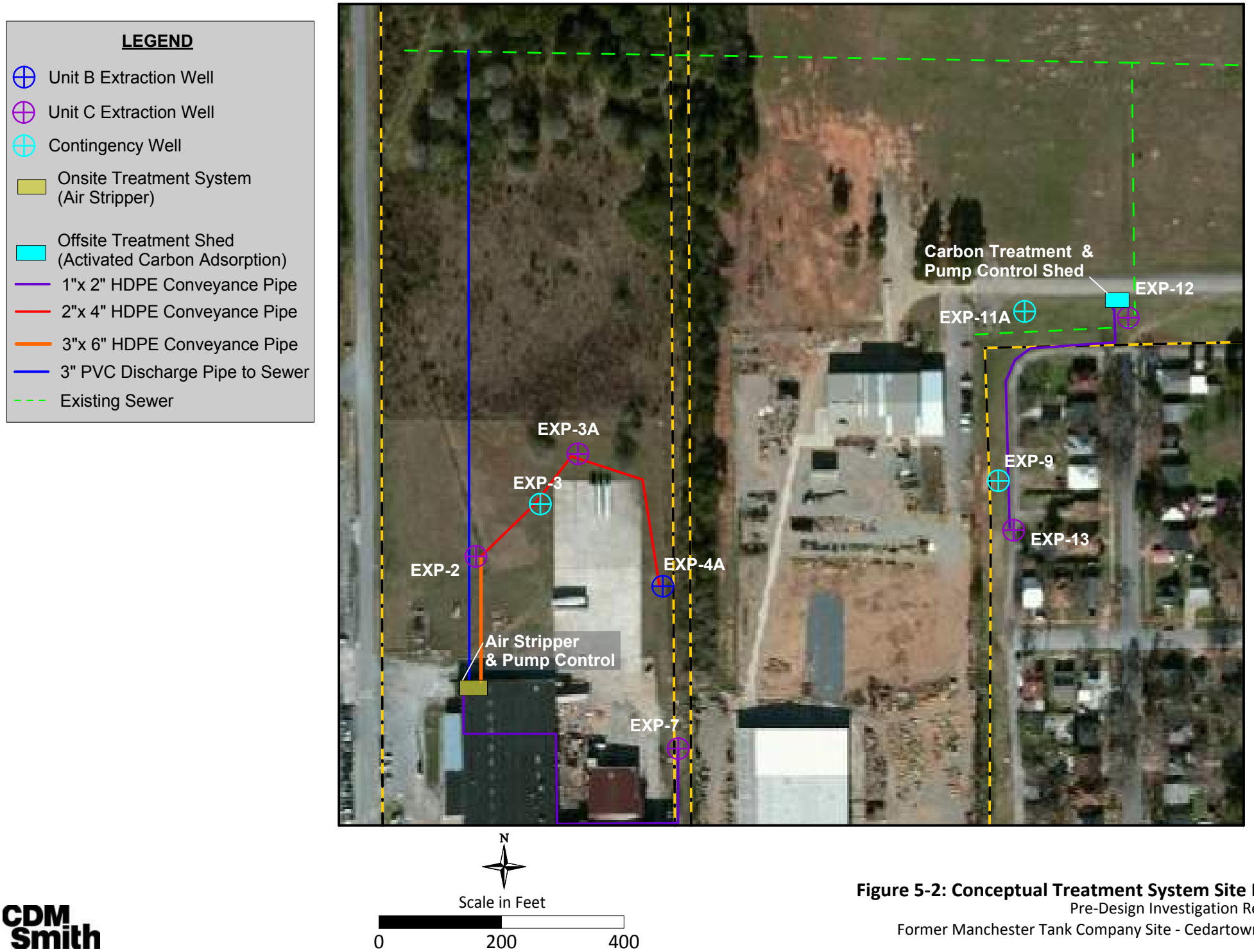

Figure 5-2: Conceptual Treatment System Site Plan
Pre-Design Investigation Report
Former Manchester Tank Company Site - Cedartown, GA

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Tables

Table 2-1

Pre-Design Exploratory Boring and Well Summary

Pre-Design Investigation Report

Former Manchester Tank Co. Site - Cedartown, GA

Location ID	Unit	Area	Total Depth (ft bgs)	Completion Type	Surface Casing Depth (ft bgs)	Surface Casing Diameter (in)	Open Interval (ft bgs)	Remarks
Initial Investigation - Exploratory Borings								
EXP-1	C	Former Source	100.6	2" Monitoring Well	11	10	85-100	Low recharge during development
EXP-1A	B/C	Former Source	100.1	Abandoned	10	10	NA	Negligible recharge during development
EXP-2	B	Former Source	48	4" Screened Extraction Well	14	10	14-43	Highly productive during initial testing
EXP-2A	B/C	Former Source	99.9	Abandoned	10	10	NA	Negligible recharge during development
EXP-3	B/C	Former Source	99.3	6" Open Bore Extraction Well	15	10	15-99.3	Moderately productive during initial testing
EXP-3A	B/C	Former Source	99.5	6" Open Bore Extraction Well	16	10	16-99.5	Moderately productive during initial testing
EXP-4	B	East Site Boundary	43.5	Abandoned	14	10	NA	Negligible recharge during development
EXP-4A	B	East Site Boundary	44.4	6" Open Bore Extraction Well	10	10	10-44.4	Moderately productive during initial testing
EXP-5	B	East Site Boundary	44.3	6" Open Bore Extraction Well	5	10	5-44.3	Low recharge during development
EXP-5A	B	East Site Boundary	44.7	2" Monitoring Well	9	10	9-44.7	Low recharge during development
EXP-6	B	East Site Boundary	44.8	2" Monitoring Well	9.5	10	9.5-44.8	Low recharge during development
EXP-6A	B	East Site Boundary	44.9	Abandoned	8	10	NA	Failed to recharge after drilling

Table 2-1

Pre-Design Exploratory Boring and Well Summary

Pre-Design Investigation Report

Former Manchester Tank Co. Site - Cedartown, GA

Location ID	Unit	Area	Total Depth (ft bgs)	Completion Type	Surface Casing Depth (ft bgs)	Surface Casing Diameter (in)	Open Interval (ft bgs)	Remarks
EXP-6B	B	East Site Boundary	44.6	2" Monitoring Well	8.5	10	29.5-44.5	Low recharge during development
EXP-7	B/C	Southeast Site Boundary	99.4	4" Screened Extraction Well	14	10	19.4-99.4	Low recharge during development
EXP-8	C	Offsite Boundary	99.7	2" Monitoring Well	21	10	84.7-99.7	Negligible recharge during development
EXP-8A	B/C	Offsite Boundary	100	Abandoned	20	10	NA	Failed to recharge after drilling
EXP-9	B/C	Offsite Boundary	97.3	6" Open Bore Extraction Well	20	10	20-97.3	Low recharge during development
EXP-9A	B/C	Offsite Boundary	100	4" Screened Extraction Well	21	10	24-99	Low recharge during development
EXP-10	B/C	Offsite Boundary	99.7	Abandoned	17.5	10	NA	Failed to recharge after drilling
EXP-10A	C	Offsite Boundary	100	2" Monitoring Well	15	10	85-100	Low recharge during development
Initial Investigation - Monitoring Wells								
MW-56C	C	Southeast Site Boundary	68	2" Monitoring Well	45	6	58-68	
MW-57A	A	Offsite Boundary	25	2" Monitoring Well	None	None	15-25	

Table 2-1

Pre-Design Exploratory Boring and Well Summary

Pre-Design Investigation Report

Former Manchester Tank Co. Site - Cedartown, GA

Location ID	Unit	Area	Total Depth (ft bgs)	Completion Type	Surface Casing Depth (ft bgs)	Surface Casing Diameter (in)	Open Interval (ft bgs)	Remarks
Follow-up Sonic Drilling								
EXP-11	B/C	Offsite Boundary	70	4" Screened Extraction Well	None	8	15-70	Low recharge during development
EXP-11A	B/C	Offsite Boundary	70	4" Screened Extraction Well	None	8	15-70	Low recharge during development
MW-58A	A	Offsite Boundary	15	2" Monitoring Well	None	None	5-15	
Additional Offsite Drilling								
EXP-12	B/C	Offsite Boundary	75	6" Open Bore Extraction Well	15	8	15-70	Moderately productive during initial testing
EXP-13	B/C	Offsite Boundary	75	6" Open Bore Extraction Well	15	8	15-70	Moderately productive during initial testing

Table 3-1

Exploratory Boring and Monitoring Well VOC Results

Pre-Design Investigation Report

Former Manchester Tank Co. Site - Cedartown, GA

Sample ID	APT Test Hour	Sample Date	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	2-Butanone	Acetone	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Freon-113	m,p-Xylene	o-Xylene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl chloride
EXP-1	-	8/14/2014	**2,300**	< 250	**350**	**530**	< 250	< 2,500	< 2,500	< 250	**9,200**	< 250	< 500	< 250	< 250	< 250	< 250	< 250	**15,000**	**160**
EXP-2	1	6/20/2014	**210 E**	**12**	**110**	**320 E**	< 5	< 50	< 50	< 5	**12,000 E**	< 5	< 10	**11**	< 5	**26**	**10**	**190**	**12,000 E**	**160**
	5	6/20/2014	**92**	< 5	**19**	**42**	< 5	< 50	< 50	< 5	**2,700**	< 5	< 10	< 5	< 5	**11**	< 5	**37**	**1,100**	**19**
EXP-2A	1	6/18/2014	**5,400**	**57**	**920**	**3,100**	**43**	< 50	**340**	**6.3**	**100,000**	**76**	**11**	**190**	**71**	**45**	**120**	**1,500**	**80,000**	**1,100**
EXP-3	-	8/14/2014	**84**	< 5	**54**	**160**	< 5	< 50	< 50	< 5	**7,600**	< 5	< 10	< 5	< 5	< 5	< 5	**120**	**2,800**	**7.7**
EXP-3A	1	6/23/2014	**64**	< 5	**11**	**45**	< 5	< 50	< 50	< 5	**2,000 E**	< 5	< 10	< 5	< 5	< 5	< 5	**25**	**1,200 E**	< 2
	6	6/23/2014	**72**	< 5	**13**	**45**	< 5	< 50	< 50	< 5	**1,800**	< 5	< 10	< 5	< 5	**5.5**	< 5	**28**	**990**	< 2
EXP-4A	1	6/25/2014	**60**	< 5	**11**	**120**	< 5	< 50	< 50	< 5	**2,000**	< 5	< 10	< 5	< 5	< 5	< 5	**36**	**990**	**8.3**
	6	6/25/2014	**45**	< 5	**7.7**	**71**	< 5	< 50	< 50	< 5	**1,300**	< 5	< 10	< 5	< 5	< 5	< 5	**22**	**770**	**5.2**
EXP-5	1	6/19/2014	**16**	< 5	< 5	**14**	< 5	**210**	**240**	< 5	**510**	< 5	< 10	< 5	< 5	< 5	< 5	**7.5**	**530**	**2.7**
EXP-5A	-	8/14/2014	**12**	< 5	< 5	**14**	< 5	< 50	< 50	< 5	**520**	< 5	< 10	< 5	< 5	< 5	< 5	**5.6**	**230**	< 2
EXP-6	-	8/13/2014	< 5	< 5	< 5	< 5	< 5	< 50	< 50	< 5	**8.5**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 2
EXP-6B	-	8/13/2014	**7.1**	< 5	< 5	**6.6**	< 5	< 50	< 50	< 5	**310**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**220**	< 2
EXP-7	1	8/13/2014	**8.6**	< 5	**10**	< 5	< 5	< 50	< 50	< 5	**79**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**230**	**16**
EXP-8	-	8/15/2014	< 5	< 5	< 5	< 5	< 5	< 50	< 50	< 5	**37**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**88**	< 2
EXP-9	-	8/15/2014	**39**	< 5	< 5	**15**	< 5	< 50	< 50	< 5	**190**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**470**	< 2
EXP-9A	1	8/14/2014	< 5	< 5	< 5	< 5	< 5	**120**	**110**	**5**	**35**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**130**	< 2
	2	8/18/2014	< 5	< 5	< 5	**23**	< 5	< 50	< 50	< 5	**170**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**640**	< 2
EXP-10A	-	8/14/2014	**17**	< 5	< 5	< 5	< 5	< 50	< 50	< 5	**110**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**210**	< 2
EXP-11	1	8/20/2014	< 5	< 5	< 5	**20**	< 5	< 50	< 50	< 5	**84**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**820**	< 2
EXP-11A	1	8/19/2014	**13**	< 5	< 5	**22**	< 5	< 50	< 50	< 5	**140**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**1,000**	< 2
EXP-12	1	3/19/2015	**53**	< 5	< 5	**6.2**	< 5	< 50	< 50	< 5	**130**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**410**	< 2
	4	3/19/2015	**59**	< 5	< 5	**7.1**	< 5	< 50	< 50	< 5	**150**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**420**	< 2
EXP-13	1	3/18/2015	**5.7**	< 5	< 5	**5.6**	< 5	< 50	< 50	< 5	**130**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**210**	< 2
	8	3/18/2015	**15**	< 5	<5	**8.4**	< 5	< 50	< 50	< 5	**120**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**300**	< 2
MW-56C	-	5/8/2014	< 5	< 5	**7.2**	**11**	< 5	< 50	< 50	< 5	**590**	< 5	< 10	< 5	< 5	**6.5**	**30**	< 5	**14,000**	**27**
MW-57A	-	8/14/2014	**34**	< 5	< 5	< 5	< 5	< 50	< 50	< 5	**110**	< 5	< 10	< 5	< 5	< 5	< 5	< 5	**200**	< 2
MW-58A	-	8/15/2014	< 5	< 5	< 5	< 5	< 5	< 50	< 50	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 2

Notes:

< indicates that the compounds was not detected above the specified laboratory reporting limit.

E - estimated (value above quantitation range)

B - analyte detected in the associated method blank

All units are micrograms per liter (µg/L)

Only those compounds detected in at least one sample are included on this table.

Bold values indicate detections above the laboratory reporting limit

APT Test Hour indicates the hour after pumping started in which a sample was collected, if applcable.

Table 3-2

Exploratory Boring and Monitoring Well Non-VOC Results

Pre-Design Investigation

Former Manchester Tank Co. Site - Cedartown, GA

Sample ID	APT Test Hour	Sample Date	Total Organic Carbon	Calcium	Iron	Manganese	Total Suspended Solids	Total Disolved Solids	Hardness (as $CaCO_3$)	Total Alkalinity (as $CaCO_3$)
EXP-2	1	6/20/2014	**5.26**	**78.9**	**54.6**	**1.09**	**1,120**	**480**	**309**	**245**
	5	6/20/2014	< 1	**60.9**	**2.95**	**0.0844**	**49**	**298**	**228**	**210**
EXP-2A	1	6/18/2014	**17.7**	**100**	**1.58**	**0.0643**	**146**	**331**	**453**	**295**
EXP-3A	1	6/23/2014	< 5	**59.0**	< 0.1	< 0.015	**255**	**546**	**212**	**225**
	6	6/23/2014	< 1	**57.4**	< 0.1	< 0.015	< 5	**269**	**207**	**380**
EXP-4A	1	6/25/2014	**6.12**	**57.6**	< 0.1	**0.0167**	< 5	**267**	**214**	**225**
	6	6/25/2014	**2.82**	**55.2**	< 0.1	**0.0251**	< 5	**246**	**213**	**190**
EXP-5	1	6/19/2014	**2.03**	**56.7**	**2.84**	**0.103**	**588**	**195**	**237**	**280**
EXP-7	1	8/13/2014	**1.86**	**47.3**	**0.833**	**0.999**	**14**	**239**	**178**	**181**
EXP-9A	1	8/14/2014	**1.74**	**37.4**	**17**	**0.247**	**407**	**223**	**148**	**127**
	2	8/18/2014	< 1	**34.8**	**2.41**	**0.184**	**34**	**235**	**128**	**144**
EXP-11	1	8/20/2014	< 1	**175**	**156**	**4.08**	**3,280**	**443**	**536**	**414**
EXP-11A	1	8/19/2014	< 1	**42.1**	**9.98**	**0.294**	**192**	**293**	**170**	**139**
EXP-12	1	3/19/2015	< 1	**138**	**0.187**	**1.17**	**9,420**	**1,110**	**402**	**370**
	4	3/19/2015	< 1	**94.4**	**0.377**	**0.524**	**3,120**	**624**	**280**	**370**
EXP-13	1	3/18/2015	< 1	**60.6**	**0.295**	**0.103**	**155**	**312**	**208**	**370**
	8	3/18/2015	< 1	**59.1**	< 0.1	< 0.005	< 5	**254**	**203**	**200**

Notes:

< indicates that the compounds was not detected above the specified laboratory reporting limit.

E - estimated (value above quantitation range)

B - analyte detected in the associated method blank

All units are milligrams per liter (mg/L)

Only those compounds detected in at least one sample are included on this table.

Bold values indicate detections above the laboratory reporting limit

APT Test Hour indicates the hour after pumping started in which a sample was collected, if applcable.

Table 3-3
APT Summary
Pre-Design Investigation Report
Former Manchester Tank Co. Site - Cedartown, GA

Test Well	Aquifer Performance Test Results (1)					Prolonged Pumping Simulation (1, 2)		Remarks
	Pumping Rate Gal./Min.	APT Average Transmissivity Ft^2/Day	Simulated Transmissivity Ft^2/Day	Simulated Storativity Decimal	Estimated Well Efficiency	Test Pumping Rate Gal./Min.	Simulated Radius of Influence Ft	
EXP-2	29	3,089	1,700	0.009	98%	20	+250	**Planned Extraction Well** Can likely be operated at a higher rate if needed
EXP-2A	0.5	NC	--	--	--	--	--	**Abandoned** following test
EXP-3	2.5	NC	--	--	--	--	--	**Contingency Extraction Well** Flow rate is from initial test, extended test not performed based on EXP-2 & EXP-3A results
EXP-3A	11	NC	80	0.009	97% (3)	10	+250	**Planned Extraction Well** Can likely be operated at a higher rate if needed (data logger malfunction during test)
EXP-4A	22	5,303	1,350	0.14	100%	15	~200	**Planned Extraction Well** Can likely be operated at a higher rate if needed
EXP-5	0.5	NC	--	--	--	--	--	**Redundant** Excessive drawdown at low flow (data logger malfunction during test)
EXP-7	0.4	1.2	1.2	0.005	40%	0.15	~150	**Planned Extraction Well** Efficiency may improve with continued operation (data logger malfunction during test)
EXP-9A	0.4	0.3	0.3	0.15	62%	0.1	Negligible	**Redundant** Excessive drawdown at low flow

Table 3-3
APT Summary
Pre-Design Investigation Report
Former Manchester Tank Co. Site - Cedartown, GA

Test Well	Aquifer Performance Test Results (1)					Prolonged Pumping Simulation (1, 2)		Remarks
	Pumping Rate Gal./Min.	APT Average Transmissivity Ft^2/Day	Simulated Transmissivity Ft^2/Day	Simulated Storativity Decimal	Estimated Well Efficiency	Test Pumping Rate Gal./Min.	Simulated Radius of Influence Ft	
EXP-11	0.5	6	6	0.15	16%	0.15	~50	**Redundant** (observation well data obscured by barometric pressure)
EXP-11A	5.7	14	14	0.15	33%	1	~100	**Contingency Extraction Well** Efficiency may improve with continued operation, cannot sustain 5 gpm
EXP-12	1.2	22	22	0.15	69%	3	~200	**Planned Extraction Well** further development will increase efficiency and flow rate
EXP-13	2.4	29	29	0.15	100%	15	+200	**Planned Extraction Well**

NC - Not calculable

-- Calculations not performed

Notes:

(1) - Methods used and derived results are based on simplifications of the fractured rock aquifer and are intended for guidance in planning only. The extraction system performance can only be measured based on actual results under the prevailing subsurface conditions.

(2) - Prolonged operation period is 180 days.

(3) - Value is assumed and could not be calculated based on the available information.

Table 5-1

Air Stripper Loading and Emissions

Pre-Design Investigation Report

Former Manchester Tank Co. Site - Cedartown, GA

Location ID	Estimated Flow (gpm)	ug/L						
		TCE	1,1,1-TCA	1,1-DCA	1,1-DCE	1,2-DCE	PCE	VC
EXP-2	20	1,100	92	19	42	2,737	11	19
EXP-3A	10	990	72	13	45	1,828	5.5	-
EXP-4A	15	770	45	7.7	71	1,322	-	5.2
EXP-7	1	230	8.6	10	-	79	-	16
Combined Influent	**46**	**950**	**71**	**14**	**51**	**2020**	**6**	**10**
Contingency								
EXP-3	5	2,800	84	54	160	7,720	-	7.7
Contingency Influent	**51**	**1,131**	**72**	**18**	**62**	**2,579**	**5**	**10**

Air Stripper Hazardous Air Pollutant Loading Estimate

Estimated Flow (GPM)	Conservative Flow (GPM)	Total VOC (ug/L)	Estimated		Conservative	
			lb/day	ton/yr	lb/day	ton/yr
45.5	70	3,877	2.1	0.39	3.3	0.60

Notes:

TCE: Trichloroethene

1,1,1-TCA: 1,1,1-Trichloroethane

1,1-DCA: 1,1-Dichloroethane

cis-1,2-DCE: cis-1,2-Dichloroethene

PCE: Tetrachloroethene

VC: Vinyl Chloride

VOC concentrations are from samples collected at the end of the APTs, if applicable

1,2-DCE is the sum of cis- and trans-1,2-DCE

Table 5-2

Langelier Saturation Index for Air Stripper

Pre-Design Investigation Report

Former Manchester Tank Co. Site - Cedartown, GA

Sample ID	pH (s.u.)	TDS (mg/L)	Calcium (mg/L)	Iron (mg/L)	Manganese	Hardness (as $CaCO_3$)	Alkalinity (as $CaCO_3$)	LSI (1936)	LSI (1998)	Estimated Flow (gpm)
EXP-2	7.65	298	60.9	2.95	0.084	228	210	0.12	0.46	20
EXP-3A	6.44	269	57.4	ND	ND	207	380	-0.85	-0.59	10
EXP-4A	6.29	246	55.2	ND	0.025	213	190	-1.32	-0.97	15
EXP-7	6.17	239	47.3	0.833	0.999	178	181	-1.52	-1.18	0.5
Combined Influent	6.92	274	58.1	1.31	0.056	218	240	**-0.50**	**-0.179**	46

Note:

TDS: Total Dissolved Solids

$CaCO_3$: Calcium Carbonate

s.u. : standard units

LSI: Langelier Saturation Index

The combined influent flow assumes a contribution from EXP-3, which was not sampled for non-VOC analysis

Calculation assumes a temperature of 20oC

Table 5-3
Activated Carbon System Loading
Pre-Design Investigation Report
Former Manchester Tank Co. Site - Cedartown, GA

Location ID	Estimated Flow (gpm)	ug/L						
		TCE	1,1,1-TCA	1,1-DCA	1,1-DCE	1,2-DCE	PCE	VC
EXP-12	3	420	59	-	7.1	150	-	-
EXP-13	15	300	15	-	8.4	120	-	-
Expected Influent	**18**	**320**	**22**	**-**	**8**	**125**	**-**	**-**
Contingency								
EXP-11A	1	1,000	13	-	22	140	-	-
Contingency Influent	19	356	22	-	9	126	-	-

Notes:
TCE: Trichloroethene
1,1,1-TCA: 1,1,1-Trichloroethane
1,1-DCA: 1,1-Dichloroethane
cis-1,2-DCE: cis-1,2-Dichloroethene
PCE: Tetrachloroethene
VC: Vinyl Chloride
VOC concentrations are from samples collected at the end of the APTs, if applicable
1,2-DCE is the sum of cis- and trans-1,2-DCE

Appendix A

Field Sample and Purge Sheets

Groundwater Sampling Log

Well #: MW-58A

Site Name: FMTS | Site Location: Cedartown, GA | Sample ID: MW-58A | Date: 8/15/14

Purge Data

Well Diameter (in): 2" | TD (ft): 14.81 | DTW (ft): 7.76 | *Well Capacity (gal/ft):

Field equipment/instruments: Horiba U-52, Geo pump

(Total Well Depth - Depth to Water) x Well Capacity = Gallons Per Volume x 3 = Calculated Purge Volume

Start Time: 1150 (-) x (gal/ft) = gallons x 3 volumes = gallons

Time	Depth to Water	Volume (gal)	Temp. (°C)	pH	O.R.P.	Cond. (ms/cm °c)	Turb. (NTU)	D.O. (mg/L)	T.D.S. (g/L)	Notes: Odor, color, etc.
1155	8.03	0.25	22.31	8.21	47	0.513	356	1.98	0.329	
1200	8.07	0.50	21.89	7.72	39	0.516	67.2	0.99	0.326	
1205	8.09	0.75	21.92	7.53	25	0.505	0.0	0.92	0.323	
1210	8.10	1.00	21.90	7.50	20	0.499	0.0	0.88	0.324	
1215	8.10	1.25	21.90	7.45	14	0.493	0.0	0.85	0.321	

Sample Collection Time: 1215 | Filtered: Y / N | Duplicate: Y / N | Duplicate Time: 0800 | Duplicate ID: DUP 1

Sampled by (print): Nicholas Feller | Sampled by (sign): [signature]

Remarks

Hach Results (mg/L)

Total Iron	Ferrous Iron	Sulfate	Nitrate	Alkalinity	CO_2	MNO_4

* Well Capacity (gal/ft): 1" = 0.041 2" = 0.163 3" = 0.367 4" = 0.653 5" = 1.020 6" = 1.469

For odd well sizes use the equation [well diameter(in)^2 x water colomn(ft)] / 24.5

Groundwater Sampling Log

Well #: EXP-9

Site Name: FMTS	Site Location: Cedartown, GA	Sample ID: EXP-9	Date: 8/15/14

Purge Data

Well Diameter (in): 6"	TD (ft): 100'	DTW (ft): 17.29	*Well Capacity (gal/ft):	Field equipment/instruments

(Total Well Depth - Depth to Water) x Well Capacity = Gallons Per Volume x 3 = Calculated Purge Volume

Start Time: 1115 (-) x (gal/ft) = gallons x 3 volumes = gallons

Horiba U-52
Geo pump

Time	Depth to Water	Volume (gal)	Temp. (°C)	pH	O.R.P.	Cond. (ms/cm °c)	Turb. (NTU)	D.O. (mg/L)	T.D.S. (g/L)	Notes: Odor, color, etc.
1120	17.39	0.25	24.41	8.62	50	0.237	208	2.56	0.154	
1125	17.37	0.50	23.20	8.68	50	0.238	158	2.08	0.155	
1130	17.37	0.75	21.82	8.71	47	0.242	144	1.98	0.157	
1135	17.37	1.00	21.45	8.70	45	0.243	77.8	1.92	0.158	
1140	17.37	1.25	21.29	8.69	44	0.243	69.1	1.89	0.158	

Sample Collection Time: 1140	Filtered: Y / N	Duplicate: Y / N	Duplicate Time:	Duplicate ID:
Sampled by (print): Nicholas Fuller		Sampled by (sign):		

Remarks

Hach Results (mg/L)

Total Iron	Ferrous Iron	Sulfate	Nitrate	Alkalinity	CO_2	MNO_4

* Well Capacity (gal/ft): 1" = 0.041 2" = 0.163 3" = 0.367 4" = 0.653 5" = 1.020 6" = 1.469

For odd well sizes use the equation [well diameter(in)^2 x water colomn(ft)] / 24.5

Groundwater Sampling Log

Well #: Exp-8

Site Name: EMTS | Site Location: Cedartown, GA | Sample ID: Exp-8 | Date: 8/19/14

Purge Data

Well Diameter (in): 2" | TD (ft): 106' | DTW (ft): 17.07 | *Well Capacity (gal/ft):

Field equipment/instruments: Horiba U-52, Geo pump

(Total Well Depth - Depth to Water) x Well Capacity = Gallons Per Volume x 3 = Calculated Purge Volume

Start Time: 1030 (-) x (gal/ft) = gallons x 3 volumes = gallons

Time	Depth to Water	Volume (gal)	Temp. (°C)	pH	O.R.P.	Cond. (ms/cm °c)	Turb. (NTU)	D.O. (mg/L)	T.D.S. (g/L)	Notes: Odor, color, etc.
1035	17.13	0.25	20.65	8.52	77	0.349	201	1.95	0.227	
1040	17.16	0.50	20.47	8.49	35	0.348	175	1.99	0.226	
1045	17.17	0.75	20.46	8.45	17	0.347	60.4	1.39	0.226	
1050	17.17	1.00	20.62	8.43	12	0.347	40.4	1.26	0.225	
1055	17.18	1.25	20.89	8.41	6	0.345	30.6	1.17	0.224	
1100	17.18	1.50	20.96	8.39	5	0.344	29.8	1.08	0.224	

Sample Collection Time: 1100 | Filtered: Y / N | Duplicate: Y / N | Duplicate Time: | Duplicate ID:

Sampled by (print): Nicholas Fuller | Sampled by (sign): [signature]

Remarks

Hach Results (mg/L)

Total Iron	Ferrous Iron	Sulfate	Nitrate	Alkalinity	CO_2	MNO_4

* Well Capacity (gal/ft): 1" = 0.041 2" = 0.163 3" = 0.367 4" = 0.653 5" = 1.020 6" = 1.469

For odd well sizes use the equation [well diameter(in)^2 x water colomn(ft)] / 24.5

Groundwater Sampling Log

Well #: EXP-10A

Site Name: FMGS	Site Location: Cedartown	Sample ID: EXP-10A	Date: 8/19/14

Purge Data

Well Diameter (in): 2"	TD (ft): 99.22	DTW (ft): 14.81	*Well Capacity (gal/ft):	Field equipment/instruments

(Total Well Depth - Depth to Water) x Well Capacity = Gallons Per Volume x 3 = Calculated Purge Volume

Start Time: 1655 (-) x (gal/ft) = gallons x 3 volumes = gallons

Horiba U-52
Geo pump

Time	Depth to Water	Volume (gal)	Temp. (°C)	pH	O.R.P.	Cond. (ms/cm °c)	Turb. (NTU)	D.O. (mg/L)	T.D.S. (g/L)	Notes: Odor, color, etc.
1700	14.86	0.25	23.45	8.48	19	0.271	390	2.59	0.176	
1705	14.89	0.50	22.39	8.53	15	0.274	89.4	1.65	0.178	
1710	14.90	0.75	21.87	8.53	11	0.276	85.7	1.63	0.179	
1715	14.90	1.00	22.05	8.52	9	0.274	83.6	1.67	0.178	

Sample Collection Time: 1715	Filtered: Y / N	Duplicate: Y / N	Duplicate Time:	Duplicate ID:

Sampled by (print): Nicholas Fuller

Sampled by (sign): [signature]

Remarks	Total Iron	Ferrous Iron	Sulfate	Nitrate	Alkalinity	CO_2	MNO_4

Hach Results (mg/L)

* Well Capacity (gal/ft): 1" = 0.041 2" = 0.163 3" = 0.367 4" = 0.653 5" = 1.020 6" = 1.469

For odd well sizes use the equation [well diameter(in)^2 x water colomn(ft)] / 24.5

Groundwater Sampling Log

Well #: MW-57A

Site Name: FMTS	Site Location: Cedartown, GA	Sample ID: MW-57A	Date: 8/14/14

Purge Data

Well Diameter (in): 2 1	TD (ft): 24.70	DTW (ft): 10.22	*Well Capacity (gal/ft):	Field equipment/instruments

(Total Well Depth - Depth to Water) x Well Capacity = Gallons Per Volume x 3 = Calculated Purge Volume

Start Time: 1620 (-) x (gal/ft) = gallons x 3 volumes = gallons

Horiba U-52
Geo Pump

Time	Depth to Water	Volume (gal)	Temp. (°C)	pH	O.R.P.	Cond. (ms/cm °c)	Turb. (NTU)	D.O. (mg/L)	T.D.S. (g/L)	Notes: Odor, color, etc.
1625	10.31	0.25	20.85	8.01	53	0.478	609	2.47	0.311	
1630	10.33	0.50	20.70	7.85	51	0.478	331	3.05	0.311	
1635	10.34	0.75	19.87	7.65	46	0.483	255	3.08	0.314	
1640	10.34	1.00	20.02	7.54	38	0.483	215	2.98	0.314	
1645	10.34	1.25	19.90	7.49	35	0.484	206	2.46	0.315	

Sample Collection Time: 1645	Filtered: Y / N	Duplicate: Y / N	Duplicate Time:	Duplicate ID:

Sampled by (print): Nicholas Fuller

Sampled by (sign): [signature]

Remarks

Hach Results (mg/L)

Total Iron	Ferrous Iron	Sulfate	Nitrate	Alkalinity	CO_2	MNO_4

* Well Capacity (gal/ft): 1" = 0.041 2" = 0.163 3" = 0.367 4" = 0.653 5" = 1.020 6" = 1.469

For odd well sizes use the equation [well diameter(in)^2 x water colomn(ft)] / 24.5

Groundwater Sampling Log

Well #: Exp-1

Site Name: FMTS | Site Location: Cedartown, GA | Sample ID: Exp 1 | Date: 8/14/14

Purge Data

Well Diameter (in): 2" | TD (ft): 100 | DTW (ft): 10.70 | *Well Capacity (gal/ft):

Field equipment/instruments: Horiba U-52, Geo pump

(Total Well Depth - Depth to Water) x Well Capacity = Gallons Per Volume x 3 = Calculated Purge Volume

Start Time: 1540 (-) x (gal/ft) = gallons x 3 volumes = gallons

Time	Depth to Water	Volume (gal)	Temp. (°C)	pH	O.R.P.	Cond. (ms/cm °c)	Turb. (NTU)	D.O. (mg/L)	T.D.S. (g/L)	Notes: Odor, color, etc.
1545	10.83	0.25	27.72	9.56	-73	0.409	26.3	1.59	0.266	
1550	10.85	0.50	25.47	9.08	-73	0.402	20.5	1.35	0.263	
1555	10.86	0.75	24.30	8.78	-87	0.401	15.2	1.24	0.260	
1600	10.86	1.00	23.79	8.59	-87	0.403	13.9	1.21	0.262	
1605	10.87	1.25	23.35	8.41	-87	0.405	12.9	1.35	0.263	

Sample Collection Time: 1605 | Filtered: Y / N | Duplicate: Y / N | Duplicate Time: | Duplicate ID:

Sampled by (print): Nicholas Fuller | Sampled by (sign): [signature]

Remarks

Hach Results (mg/L)

Total Iron	Ferrous Iron	Sulfate	Nitrate	Alkalinity	CO_2	MNO_4

* Well Capacity (gal/ft): 1" = 0.041 2" = 0.163 3" = 0.367 4" = 0.653 5" = 1.020 6" = 1.469

For odd well sizes use the equation [well diameter(in)^2 x water colomn(ft)] / 24.5

Groundwater Sampling Log

Well #: Exp-3

Site Name: FMTS	Site Location: Cellertown, GA	Sample ID: Exp-3	Date: 8/19/14

Purge Data

Well Diameter (in): 2"	TD (ft): 100'	DTW (ft): 10.22	*Well Capacity (gal/ft):	Field equipment/instruments

(Total Well Depth - Depth to Water) x Well Capacity = Gallons Per Volume x 3 = Calculated Purge Volume

Start Time: 1450 (-) x (gal/ft) = gallons x 3 volumes = gallons

Horiba U-52
Geo pump

Time	Depth to Water	Volume (gal)	Temp. (°C)	pH	O.R.P.	Cond. (ms/cm °c)	Turb. (NTU)	D.O. (mg/L)	T.D.S. (g/L)	Notes: Odor, color, etc.
1455	10.26	0.25	23.10	10.63	-34	0.225	95.0	1.87	0.147	
1500	10.25	0.50	24.35	10.37	-44	0.230	29.8	1.55	0.150	
1505	10.26	0.75	25.59	10.27	-49	0.235	14.7	1.45	0.153	
1510	10.27	1.00	25.61	10.24	-53	0.239	8.5	1.61	0.156	
1515	10.26	1.25	25.65	10.22	-56	0.244	2.8	1.63	0.159	
1520	10.26	1.50	25.68	10.21	-57	0.248	2.7	1.67	0.161	

Sample Collection Time: 1520	Filtered: Y / N	Duplicate: Y / N	Duplicate Time:	Duplicate ID:

Sampled by (print): Nicholas Fuller

Sampled by (sign): [signature]

Remarks

Hach Results (mg/L)

Total Iron	Ferrous Iron	Sulfate	Nitrate	Alkalinity	CO_2	MNO_4

* Well Capacity (gal/ft): 1" = 0.041 2" = 0.163 3" = 0.367 4" = 0.653 5" = 1.020 6" = 1.469

For odd well sizes use the equation [well diameter(in)^2 x water colomn(ft)] / 24.5

Groundwater Sampling Log

Well #: EXP-5A

Site Name: FMTS	Site Location: Cedartown, GA	Sample ID: EXP-5A	Date: 8/14/14

Purge Data

Well Diameter (in): 2"	TD (ft): 45'	DTW (ft): 8.24	*Well Capacity (gal/ft):	Field equipment/instruments

(Total Well Depth - Depth to Water) x Well Capacity = Gallons Per Volume x 3 = Calculated Purge Volume

Start Time: 1400 (-) x (gal/ft) = gallons x 3 volumes = gallons

Horiba U-52
Geo pump

Time	Depth to Water	Volume (gal)	Temp. (°C)	pH	O.R.P.	Cond. (ms/cm °c)	Turb. (NTU)	D.O. (mg/L)	T.D.S. (g/L)	Notes: Odor, color, etc.
1405	8.31	0.25	23.42	12.27	-113	1.10	189	1.64	0.693	
1410	8.33	0.50	21.51	12.45	-150	0.952	96.0	1.46	0.610	
1415	8.34	0.75	21.03	12.49	-161	0.937	38.1	1.20	0.599	
1420	8.34	1.00	21.66	12.51	-171	0.918	21.7	1.09	0.587	
1425	8.35	1.25	21.26	12.53	-170	0.900	13.9	1.06	0.576	
1430	8.35	1.50	21.27	12.52	-172	0.893	14.4	1.10	0.572	

Sample Collection Time: 1430	Filtered: Y / ~~N~~	Duplicate: Y / ~~N~~	Duplicate Time:	Duplicate ID:

Sampled by (print): Nicholas Fuller

Sampled by (sign): [signature]

Remarks

Hach Results (mg/L)

Total Iron	Ferrous Iron	Sulfate	Nitrate	Alkalinity	CO_2	MNO_4

* Well Capacity (gal/ft): 1" = 0.041 2" = 0.163 3" = 0.367 4" = 0.653 5" = 1.020 6" = 1.469

For odd well sizes use the equation [well diameter(in)^2 x water colomn(ft)] / 24.5

Groundwater Sampling Log

Well #: EXP-6

Site Name: FMTS	Site Location: Cedartown, GA	Sample ID: EXP-6	Date: 8/13/14

Purge Data

Well Diameter (in): 2"	TD (ft): 45'	DTW (ft): 9.73	*Well Capacity (gal/ft):	Field equipment/instruments
(Total Well Depth - Depth to Water) x Well Capacity = Gallons Per Volume x 3 = Calculated Purge Volume				Horiba U-52
Start Time: 1530	(-) x (gal/ft) = gallons x 3 volumes = gallons			Geo Pump

Time	Depth to Water	Volume (gal)	Temp. (°C)	pH	O.R.P.	Cond. (ms/cm °c)	Turb. (NTU)	D.O. (mg/L)	T.D.S. (g/L)	Notes: Odor, color, etc.
1535	10.01	0.25	17.81	9.11	-137	0.326	45.1	1.73	0.212	
1540	10.05	0.50	17.66	9.73	-139	0.320	22.9	1.04	0.208	
1545	10.06	0.75	17.71	9.88	-139	0.316	10.6	0.81	0.206	
1550	10.06	1.00	17.82	9.90	-140	0.315	2.0	0.87	0.205	
1555	10.07	1.25	17.81	9.91	-141	0.315	0.0	0.89	0.205	

Sample Collection Time: 1555	Filtered: Y / (N)	Duplicate: Y / (N)	Duplicate Time:	Duplicate ID:
Sampled by (print): Nicholas Fuller		Sampled by (sign):		

Remarks

Hach Results (mg/L)

Total Iron	Ferrous Iron	Sulfate	Nitrate	Alkalinity	CO_2	MNO_4

* Well Capacity (gal/ft): 1" = 0.041 2" = 0.163 3" = 0.367 4" = 0.653 5" = 1.020 6" = 1.469

For odd well sizes use the equation [well diameter(in)^2 x water colomn(ft)] / 24.5

Groundwater Sampling Log

Well #: EXP-6B

Site Name: FMTS	Site Location: Cedartown, GA	Sample ID: EXP-6B	Date: 8/13/14

Purge Data

Well Diameter (in): 2"	TD (ft): 45	DTW (ft): 9.96	*Well Capacity (gal/ft):	Field equipment/instruments
(Total Well Depth - Depth to Water) x Well Capacity = Gallons Per Volume x 3 = Calculated Purge Volume				Horiba U-52 Geo Pump
Start Time: 1455	(-) x (gal/ft) = gallons x 3 volumes = gallons			

Time	Depth to Water	Volume (gal)	Temp. (°C)	pH	O.R.P.	Cond. (ms/cm °c)	Turb. (NTU)	D.O. (mg/L)	T.D.S. (g/L)	Notes: Odor, color, etc.
1500	10.13	0.25	18.02	7.46	23	0.417	9.5	1.70	0.271	
1505	10.15	0.50	17.85	7.82	-16	0.415	0.0	0.98	0.270	
1510	10.16	0.75	17.94	7.98	-39	0.411	0.0	0.91	0.267	
1515	10.18	1.00	17.99	8.10	-59	0.407	0.0	0.78	0.265	
1520	10.19	1.25	17.95	8.12	-66	0.405	0.0	0.76	0.263	

Sample Collection Time: 1520	Filtered: Y / N	Duplicate: Y / N	Duplicate Time:	Duplicate ID:
Sampled by (print): Nicholas Feller		Sampled by (sign):		

Remarks	Hach Results (mg/L)						
	Total Iron	Ferrous Iron	Sulfate	Nitrate	Alkalinity	CO_2	MNO_4

* Well Capacity (gal/ft): 1" = 0.041 2" = 0.163 3" = 0.367 4" = 0.653 5" = 1.020 6" = 1.469

For odd well sizes use the equation [well diameter(in)^2 x water colomn(ft)] / 24.5

Appendix B

Boring Logs

EXP-1 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/2/2014
Project No.:	1727-103736	End Date:	6/10/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-1	Surface Casing Dia./Depth:	10" Steel Casing to 11'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 85'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 85'-100', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description
1	0	**CLAY**, sandy, silty, organics, trace rock fragments, dark brown, sand fine-grained, dry
2	0.4	**SILT**, clayey, sandy grading to trace sand, trace weathered limestone, light and yellowish brown, brown and reddish brown from 1 to 2 feet, sand fine-grained, dry to moist
3		
4		
5		
6		
7	0.7	**CLAY**, silty, trace fine-grained sand and weathered limestone, light brown, moist
8		
9	Not Measured	**LIMESTONE**, light to dark gray, soft to dense
10		
11		
12		
13		
14		
15		
16		
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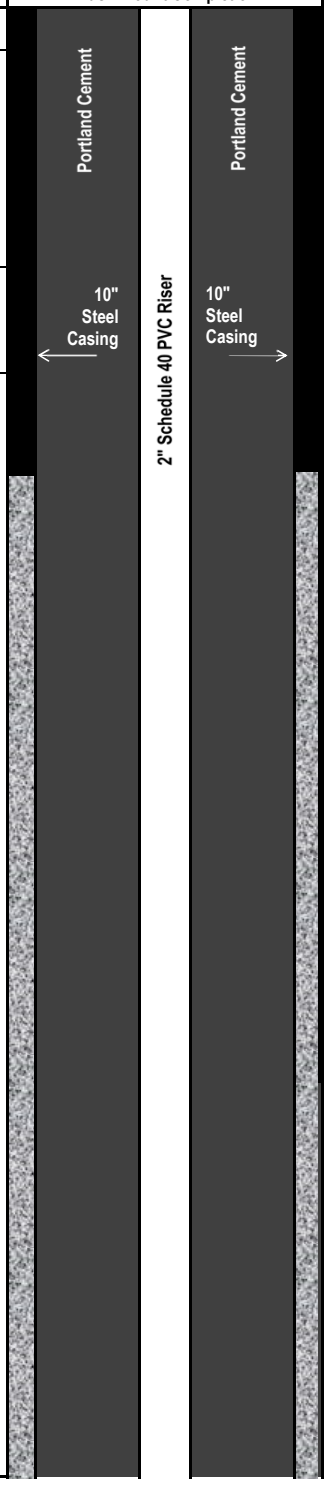
Well Construction

Flush-Mount Completion



EXP-1 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/2/2014
Project No.:	1727-103736	End Date:	6/10/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-1	Surface Casing Dia./Depth:	10" Steel Casing to 11'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 85'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 85'-100', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction: Flush-Mount Completion
35	Not Measured	**LIMESTONE**, light to dark gray, soft to dense	Portland Cement; 2" Schedule 40 PVC Riser; Portland Cement
36			
37			
38			
39			
40			
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42			
43			
44			
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EXP-1 Boring Log

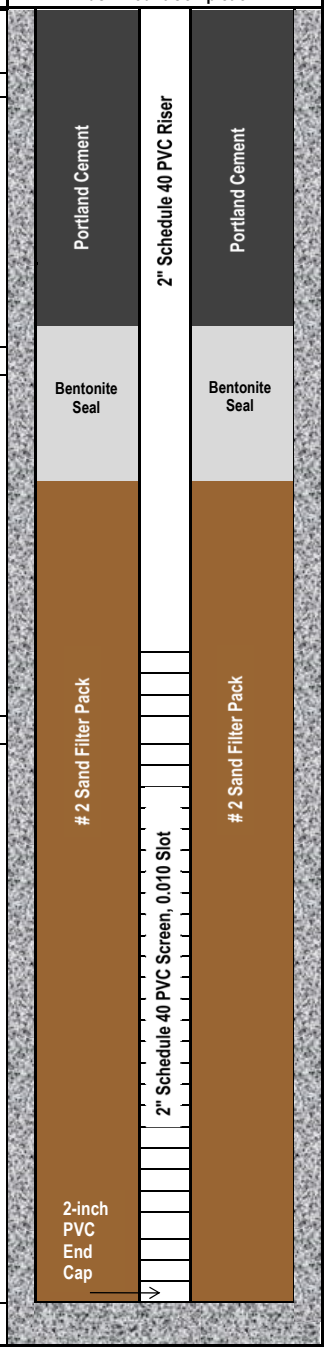
Project:	Cedartown Remediation Well Installation	Start Date:	5/2/2014
Project No.:	1727-103736	End Date:	6/10/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-1	Surface Casing Dia./Depth:	10" Steel Casing to 11'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 85'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 85'-100', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description
71	Not Measured	**LIMESTONE**, light to dark gray, dense
72		**FRACTURE**, silt-bearing, light brown, dry
73		**LIMESTONE**, light to dark gray, dense
74		
75		
76		
77		
78		
79		**FRACTURE**, dry
80		**LIMESTONE**, light to dark gray, dense
81		
82		
83		
84		
85		
86		
87		**FRACTURE**, silt-bearing, light brown, dry
88		**LIMESTONE**, light to dark gray, dense
89		
90		
91		
92		
93		
94		
95		
96		
97		
98		
99		
100		
101		**Boring terminated at 100 feet.**

Well Construction

Flush-Mount Completion



EXP-1A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/13/2014
Project No.:	1727-103736	End Date:	6/10/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-1A	Surface Casing Dia./Depth:	10" Steel Casing to 10'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Abandoned
1	0	**CLAY**, sandy, silty, organics, trace rock fragments, dark brown, sand fine-grained, dry	Abandoned with Grout to Surface
2	0.1	**CLAY**, silty, sandy, trace weathered limestone, light and yellowish brown, and reddish brown, sand fine-grained, dry	
3			
4	0.5	**SILT**, clayey, sandy, trace weathered limestone, light and yellowish brown, sand fine-grained, moist	
5			
6	0.5	**CLAY**, silty, trace fine-to medium-grained sand and weathered limestone, light brown, moist	
7			
8	Not Measured	**LIMESTONE**, light to dark gray, soft to dense	
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29		**FRACTURE**, dry	
30		**LIMESTONE**, light to dark gray, soft to dense	
31			
32			
33			
34			

EXP-1A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/13/2014
Project No.:	1727-103736	End Date:	6/10/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-1A	Surface Casing Dia./Depth:	10" Steel Casing to 10'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Abandoned
35	Not Measured	**LIMESTONE**, light to dark gray, soft to dense	Abandoned with Grout to Surface
36			
37			
38			
39			
40			
41			
42		**FRACTURE**, dry	
43		**LIMESTONE**, light to dark gray, soft to dense	
44		**FRACTURE**, dry	
45		**LIMESTONE**, light to dark gray, soft to dense	
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
60			
61			
62		**FRACTURE**, dry	
63		**LIMESTONE**, light to dark gray, soft to dense	
64			
65			
66			
67			
68			
69			
70			

EXP-1A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/13/2014
Project No.:	1727-103736	End Date:	6/10/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-1A	Surface Casing Dia./Depth:	10" Steel Casing to 10'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Abandoned
71	Not Measured	**LIMESTONE**, light to dark gray, soft to dense	Abandoned with Grout to Surface
72			
73			
74			
75			
76			
77			
78			
79			
80			
81			
82			
83		**FRACTURE**, dry	
84		**LIMESTONE**, light to dark gray, dense	
85			
86			
87			
88			
89			
90			
91			
92			
93			
94		**FRACTURE**, dry	
95		**LIMESTONE**, light to dark gray, dense	
96			
97			
98			
99			
100			
101		**Boring terminated at 100 feet.**	

EXP-2 Boring Log

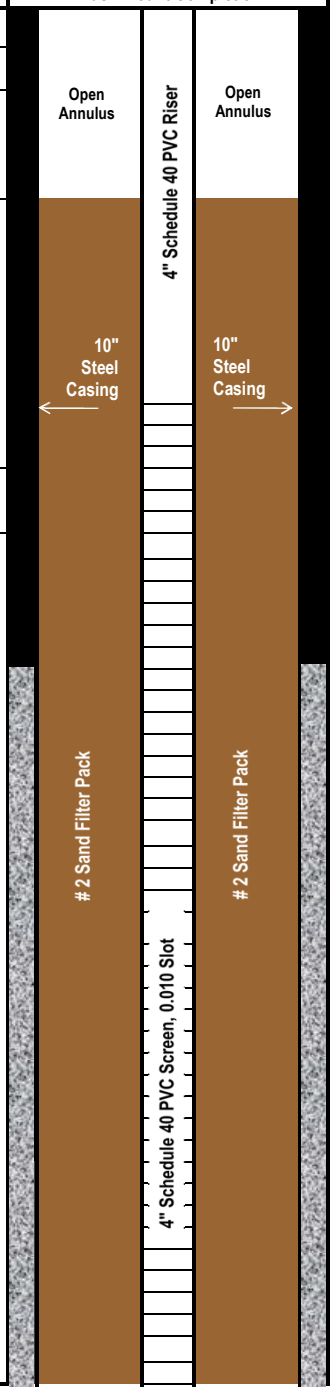
Project:	Cedartown Remediation Well Installation	Start Date:	5/6/2014
Project No.:	1727-103736	End Date:	6/12/2014
Logged/Checked By:	Daniel Forbes and Nick Fuller/Tom Duffey	Total Depth:	48'
Location Code:	EXP-2	Surface Casing Dia./Depth:	10" Steel Casing to 14'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	4" PVC to 8'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	4" PVC: 8'-43', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description
1	0	**CLAY**, sandy, silty, organics, brown, and light brown, sand fine-grained, dry
2	0	**SAND**, silty, clayey, trace organics, light brown, and orangish brown, fine-grained, dry
3	0.2	**SILT,** clayey, sandy, light and yellowish brown, sand fine-grained, dry to moist
4		
5	1.4	**CLAY**, silty, sandy grading to trace sand, trace weathered limestone, light brown, and orangish brown, sand fine-grained, moist
6		
7		
8		
9		
10	1.9	**WEATHERED LIMESTONE**, silty, sandy, clayey, light brown, sand fine-to medium-grained, moist to wet
11		
12	Not Measured	**LIMESTONE,** light to dark gray, soft to dense
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

Well Construction

Flush-Mount Completion



EXP-2 Boring Log

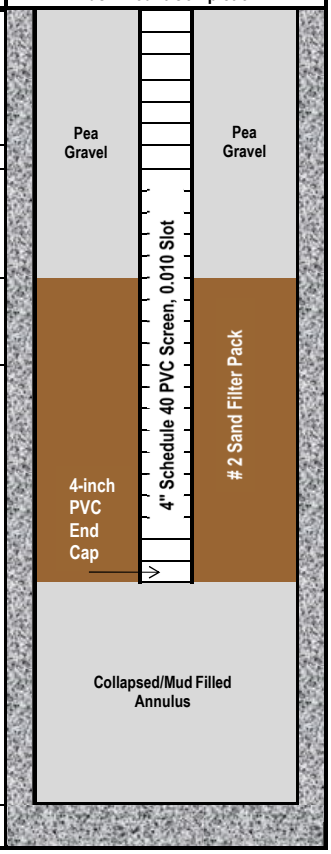
Project:	Cedartown Remediation Well Installation	Start Date:	5/6/2014
Project No.:	1727-103736	End Date:	6/12/2014
Logged/Checked By:	Daniel Forbes and Nick Fuller/Tom Duffey	Total Depth:	48'
Location Code:	EXP-2	Surface Casing Dia./Depth:	10" Steel Casing to 14'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	4" PVC to 8'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	4" PVC: 8'-43', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description
31	Not Measured	**LIMESTONE**, light to dark gray, soft to dense
32		
33		
34		**FRACTURE**, water producing
35		**LIMESTONE,** light to dark gray, soft
36		
37	4,023	**FRACTURE**, water producing, silt and sand infilling (mud), solvent odor
38		
39	Not Measured	**LIMESTONE**, light to dark gray, soft to dense
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		**Boring terminated at 48 feet.**

Well Construction

Flush-Mount Completion



EXP-2A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/13/2014
Project No.:	1727-103736	End Date:	5/15/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-2A	Surface Casing Dia./Depth:	10" Steel Casing to 10'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Abandoned
1	0	**CLAY**, sandy, silty, organics, trace rock fragments, dark brown, sand fine-grained, dry	Abandoned with Grout to Surface
2	0	**SAND**, silty, clayey, trace organics, light and yellowish brown, and orangish brown, fine-grained, dry	
3			
4	1.6	**SILT**, clayey, sandy, trace weathered limestone, light and yellowish brown, sand fine-grained, moist	
5	2.5	**CLAY**, silty, sandy, trace weathered limestone, light brown, sand fine-grained, moist	
6			
7			
8	Not Measured	**LIMESTONE**, light to dark gray, soft to dense	
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			

EXP-2A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/13/2014
Project No.:	1727-103736	End Date:	5/15/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-2A	Surface Casing Dia./Depth:	10" Steel Casing to 10'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Abandoned
35	Not Measured	**LIMESTONE**, light to dark gray, soft to dense	Abandoned with Grout to Surface
36		**FRACTURE**, dry	
37		**LIMESTONE,** light to dark gray, soft to dense	
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58		**FRACTURE**, dry	
59		**LIMESTONE**, light to dark gray, soft to dense	
60			
61			
62			
63			
64			
65			
66			
67			
68			
69			
70			

EXP-2A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/13/2014
Project No.:	1727-103736	End Date:	5/15/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-2A	Surface Casing Dia./Depth:	10" Steel Casing to 10'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Abandoned
71	Not Measured	**LIMESTONE**, light to dark gray, soft to dense	Abandoned with Grout to Surface
72		**FRACTURE**, dry	
73		**LIMESTONE**, light to dark gray, dense	
74			
75			
76			
77		**FRACTURE, dry**	
78		**LIMESTONE**, light to dark gray, dense	
79			
80			
81		**FRACTURE, dry**	
82		**LIMESTONE,** light to dark gray, soft to dense	
83			
84			
85			
86			
87			
88			
89			
90			
91			
92			
93			
94			
95			
96			
97			
98			
99			
100			
101		**Boring terminated at 100 feet.**	

EXP-3 Boring Log

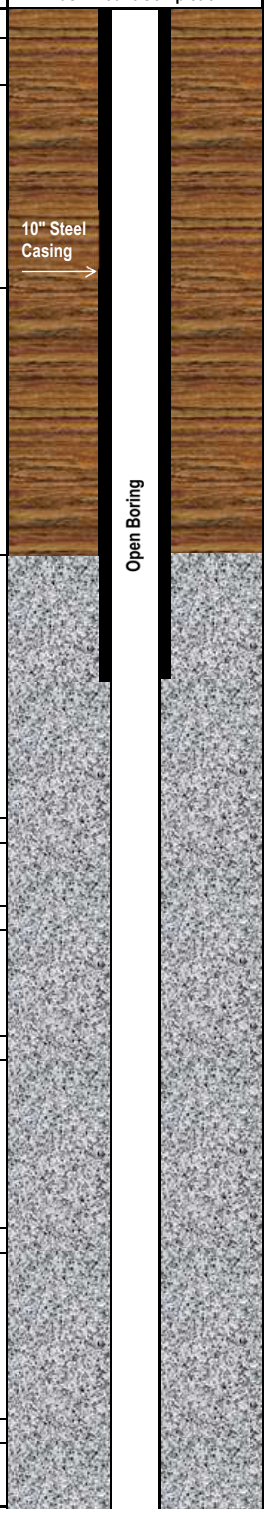
Project:	Cedartown Remediation Well Installation	Start Date:	5/2/2014
Project No.:	1727-103736	End Date:	5/7/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-3	Surface Casing Dia./Depth:	10" Steel Casing to 15'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description
1	0	**CLAY**, sandy, silty, organics, trace rock fragments, dark brown, sand fine-grained, dry
2	0	**SAND**, silty, clayey, trace organics, light and yellowish brown, and orangish brown, fine-grained, dry
3	1.5	**SILT**, clayey, sandy, trace weathered limestone, light and yellowish brown, sand fine-grained, moist
4		
5		
6		
7	2.9	**CLAY**, silty, sandy, trace weathered limestone, light brown, sand fine-grained, moist
8		
9		
10		
11		
12		
13	Not Measured	**LIMESTONE**, light to dark gray, soft to dense
14		
15		
16		
17		
18		
19		**FRACTURE**, dry
20		**LIMESTONE**, light to dark gray, soft
21		**FRACTURE**, water producing, silt-bearing, light brown
22		**LIMESTONE**, light to dark gray, soft
23		
24		**FRACTURE**
25		**LIMESTONE**, light to dark gray, soft
26		
27		
28		**FRACTURE**
29		**LIMESTONE**, light to dark gray, dense
30		
31		
32		
33		**FRACTURE**
34		**LIMESTONE**, light to dark gray, soft

Well Construction

Flush-Mount Completion



EXP-3 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/2/2014
Project No.:	1727-103736	End Date:	5/7/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-3	Surface Casing Dia./Depth:	10" Steel Casing to 15'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring
Drilling Method: Air (Driltech Model T25KW)			

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Flush-Mount Completion
35	Not Measured	**LIMESTONE**, light to dark gray, soft	Open Boring
36		**FRACTURE**, water producing	
37		**LIMESTONE,** light to dark gray, soft	
38			
39		**FRACTURE**	
40		**LIMESTONE**, light to dark gray, soft to dense	
41			
42			
43			
44			
45		**FRACTURE**	
46		**LIMESTONE**, light to dark gray, soft to dense	
47			
48			
49			
50			
51			
52			
53			
54			
55			
56		**FRACTURE**	
57		**LIMESTONE**, light to dark gray, soft to dense	
58			
59			
60			
61			
62			
63			
64			
65			
66			
67			
68			
69			
70			

EXP-3 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/2/2014
Project No.:	1727-103736	End Date:	5/7/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-3	Surface Casing Dia./Depth:	10" Steel Casing to 15'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring
Drilling Method: Air (Driltech Model T25KW)			

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Flush-Mount Completion
71	Not Measured	**LIMESTONE**, light to dark gray, soft to dense	Open Boring
72			
73			
74			
75			
76			
77			
78			
79			
80			
81			
82			
83			
84			
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95			
96			
97			
98			
99			
100			
101		**Boring terminated at 100 feet.**	

EXP-3A Boring Log

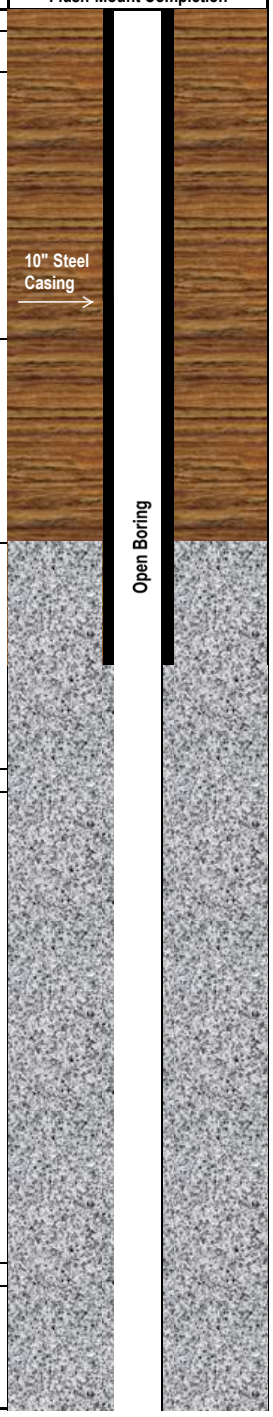
Project:	Cedartown Remediation Well Installation	Start Date:	5/20/2014
Project No.:	1727-103736	End Date:	5/21/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-3A	Surface Casing Dia./Depth:	10" Steel Casing to 16'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description
1	0	**CLAY**, sandy, silty, organics, brown, and orangish brown, sand fine-grained, moist
2		**SAND**, silty, clayey, trace organics, light brown, and orangish brown, fine-grained, moist
3	1.3	**SILT**, clayey, trace fine-grained sand and weathered limestone, light brown, and orangish brown, sand fine-grained, dry
4		
5		
6		
7		
8		
9	1.7	**CLAY**, silty, weathered limestone, trace fine-grained sand, light brown, dry to moist
10		
11		
12		
13		
14	Not Measured	**LIMESTONE,** hard, gray
15		
16		
17		
18		
19		**FRACTURE**, water producing, less than 6", silt-bearing, light brown
20		**LIMESTONE**
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		**FRACTURE**, water producing, silt-bearing, light brown
32		**LIMESTONE**
33		
34		

Well Construction

Flush-Mount Completion



EXP-3A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/20/2014
Project No.:	1727-103736	End Date:	5/21/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-3A	Surface Casing Dia./Depth:	10" Steel Casing to 16'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction: Flush-Mount Completion
35		**LIMESTONE**	Open Boring
36			
37		**FRACTURE, ,** water producing	
38		**LIMESTONE,** hard, gray	
39			
40			
41			
42			
43			
44			
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48			
49			
50			
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70			

EXP-3A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/20/2014
Project No.:	1727-103736	End Date:	5/21/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-3A	Surface Casing Dia./Depth:	10" Steel Casing to 16'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Flush-Mount Completion
71	Not Measured	**LIMESTONE**, hard, gray	Open Boring
72			
73			
74			
75			
76			
77			
78		**FRACTURE**, water producing	
79		**LIMESTONE**	
80		**FRACTURE, ,** less than 6"	
81		**LIMESTONE**	
82			
83			
84			
85			
86			
87		**FRACTURE, ,** less than 6"	
88		**LIMESTONE**	
89			
90			
91			
92			
93			
94			
95			
96			
97			
98			
99		**FRACTURE**, water producing, silt-bearing, tan	
100		**LIMESTONE**	
101		**Boring terminated at 100 feet.**	

EXP-4 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/6/2014
Project No.:	1727-103736	End Date:	5/8/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	45'
Location Code:	EXP-4	Surface Casing Dia./Depth:	10" Steel Casing to 14'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Abandoned
1	0	**CLAY**, sandy, silty, organics, dark brown, sand fine-grained, moist	Abandoned with Grout to Surface
2	0.3	**SILT**, clayey, sandy, light and yellowish brown, and orangish brown, sand fine-grained, dry to moist	
3			
4	1.1	**CLAY**, silty, trace fine-grained sand and weathered limestone, light brown, and yellowish brown, moist	
5			
6			
7			
8			
9	0.9	**WEATHERED LIMESTONE**, silty, sandy, clayey, light brown, sand fine-to medium-grained, dry to moist	
10	1.4	**CLAY**, weathered limestone, silty, trace fine-to medium-grained sand, light brown, and yellowish brown, moist	
11			
12	Not Measured	**LIMESTONE**, light to dark gray, soft to dense	
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33		**FRACTURE**, dry	
34		**LIMESTONE**, light to dark gray, soft to dense	

EXP-4 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/6/2014
Project No.:	1727-103736	End Date:	5/8/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	45'
Location Code:	EXP-4	Surface Casing Dia./Depth:	10" Steel Casing to 14'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring
Drilling Method: Air (Driltech Model T25KW)			

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Abandoned
35	Not Measured	**LIMESTONE**, light to dark gray, soft to dense	Abandoned with Grout to Surface
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46		**Boring terminated at 45 feet.**	

EXP-4A Boring Log

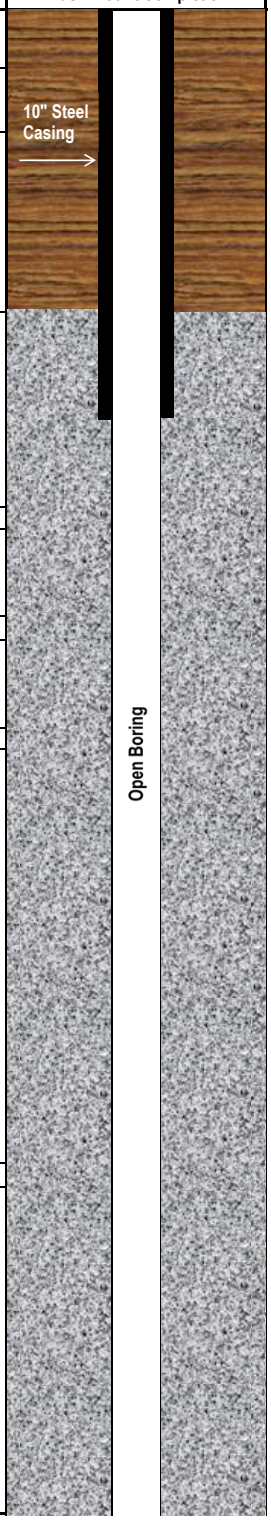
Project:	Cedartown Remediation Well Installation	Start Date:	5/14/2014
Project No.:	1727-103736	End Date:	5/20/2014
Logged/Checked By:	Daniel Forbes & Nick Fuller/Tom Duffey	Total Depth:	45'
Location Code:	EXP-4A	Surface Casing Dia./Depth:	10" Steel Casing to 9'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description
1	0	**CLAY**, sandy, silty, organics, dark brown, sand fine-grained, moist
2	1.7	**SILT**, clayey, sandy, trace weathered limestone, light and yellowish brown, and orangish brown, sand fine-grained, dry to moist
3	1.2	**CLAY**, silty, trace fine-grained sand and weathered limestone, light brown, orangish and yellowish brown, moist
4		
5		
6		
7	Not Measured	**LIMESTONE**, hard, gray
8		
9		
10		
11		
12		**FRACTURE**, less than 6"
13		**LIMESTONE**, hard, gray
14		**FRACTURE**, water producing, silt-bearing, light brown
15		**LIMESTONE**, hard, gray
16		
17		**FRACTURE**, water producing
18		**LIMESTONE**, hard, gray
19		
20		
21		
22		
23		
24		
25		
26		
27		**FRACTURE,** less than 6"
28		**LIMESTONE**, hard, gray
29		
30		
31		
32		
33		
34		

Well Construction

Flush-Mount Completion



EXP-4A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/14/2014
Project No.:	1727-103736	End Date:	5/20/2014
Logged/Checked By:	Daniel Forbes & Nick Fuller/Tom Duffey	Total Depth:	45'
Location Code:	EXP-4A	Surface Casing Dia./Depth:	10" Steel Casing to 9'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Flush-Mount Completion
35	Not Measured	**LIMESTONE**, hard, gray	Open Boring
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46		**Boring terminated at 45 feet.**	

EXP-5 Boring Log

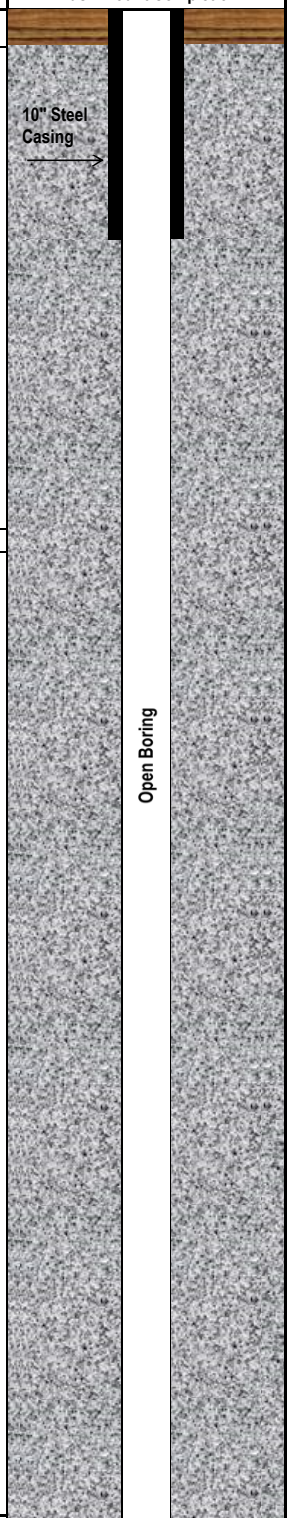
Project:	Cedartown Remediation Well Installation	Start Date:	5/6/2014
Project No.:	1727-103736	End Date:	5/8/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	45'
Location Code:	EXP-5	Surface Casing Dia./Depth:	10" Steel Casing to 5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description
1	0	**SAND**, silty, clayey, organics, brown, and dark brown, fine-grained, moist
2	Not Measured	**LIMESTONE**, light to dark gray, soft to dense
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		**FRACTURE**, dry
13		**LIMESTONE**, light to dark gray, soft to dense
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		

Well Construction

Flush-Mount Completion



EXP-5 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/6/2014
Project No.:	1727-103736	End Date:	5/8/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	45'
Location Code:	EXP-5	Surface Casing Dia./Depth:	10" Steel Casing to 5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Flush-Mount Completion
35	Not Measured	**LIMESTONE**, light to dark gray, soft to dense	Open Boring
36			
37		**FRACTURE**, dry	
38		**LIMESTONE**, light to dark gray, soft to dense	
39			
40			
41			
42			
43			
44		**FRACTURE**, water producing	
45		**LIMESTONE**, light to dark gray, soft	
46		**Boring terminated at 45 feet.**	

EXP-5A Boring Log

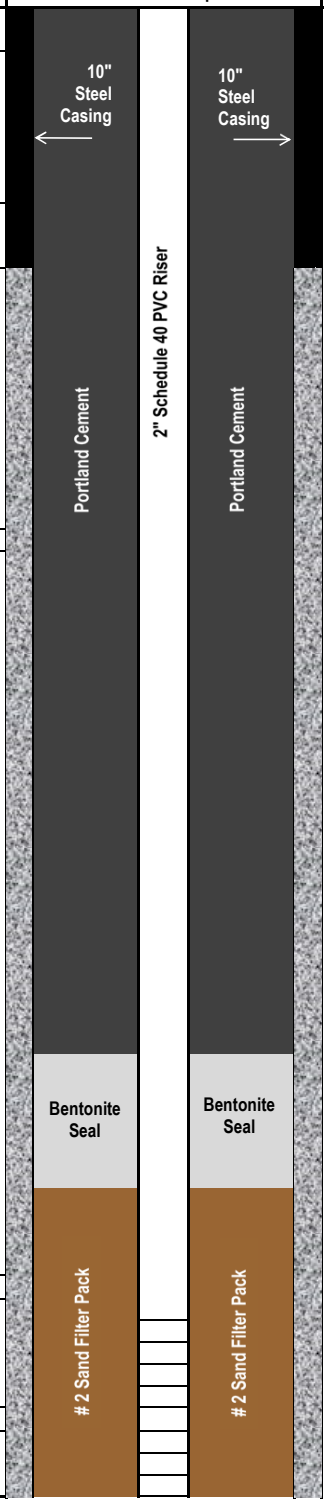
Project:	Cedartown Remediation Well Installation	Start Date:	5/14/2014
Project No.:	1727-103736	End Date:	5/20/2014
Logged/Checked By:	Daniel Forbes & Nick Fuller/Tom Duffey	Total Depth:	45'
Location Code:	EXP-5A	Surface Casing Dia./Depth:	10" Steel Casing to 9'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 30'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 30'-45', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description
1	0	**SAND**, silty, clayey, organics, brown, and dark brown, fine-grained, moist
2	0.9	**SILT**, clayey, sandy, trace weathered limestone, light and yellowish brown, and orangish brown, sand fine-grained, dry to moist
3		
4		
5	1	**CLAY**, silty, trace fine-grained sand and weathered limestone, light brown, moist
6		
7	Not Measured	**LIMESTONE**, hard, gray
8		
9		
10		
11		
12		
13		**FRACTURE**, less than 6"
14		**LIMESTONE**, hard, gray
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		**FRACTURE**, less than 6"
31		**LIMESTONE**, hard, gray
32		
33		**FRACTURE**, less than 6"
34		**LIMESTONE**, hard, gray

Well Construction

Flush-Mount Completion



EXP-5A Boring Log

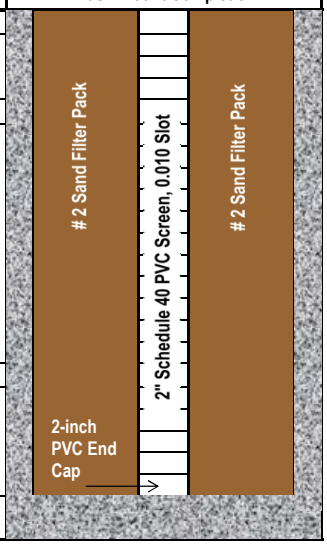
Project:	Cedartown Remediation Well Installation	Start Date:	5/14/2014
Project No.:	1727-103736	End Date:	5/20/2014
Logged/Checked By:	Daniel Forbes & Nick Fuller/Tom Duffey	Total Depth:	45'
Location Code:	EXP-5A	Surface Casing Dia./Depth:	10" Steel Casing to 9'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 30'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 30'-45', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description
35	Not Measured	**FRACTURE**, less than 6"
36		**LIMESTONE**, hard, gray
37		**FRACTURE**, less than 6"
38		**LIMESTONE**, hard, gray
39		
40		
41		
42		
43		**FRACTURE**
44		**LIMESTONE**, hard, gray
45		
46		**Boring terminated at 45 feet.**

Well Construction

Flush-Mount Completion



EXP-6 Boring Log

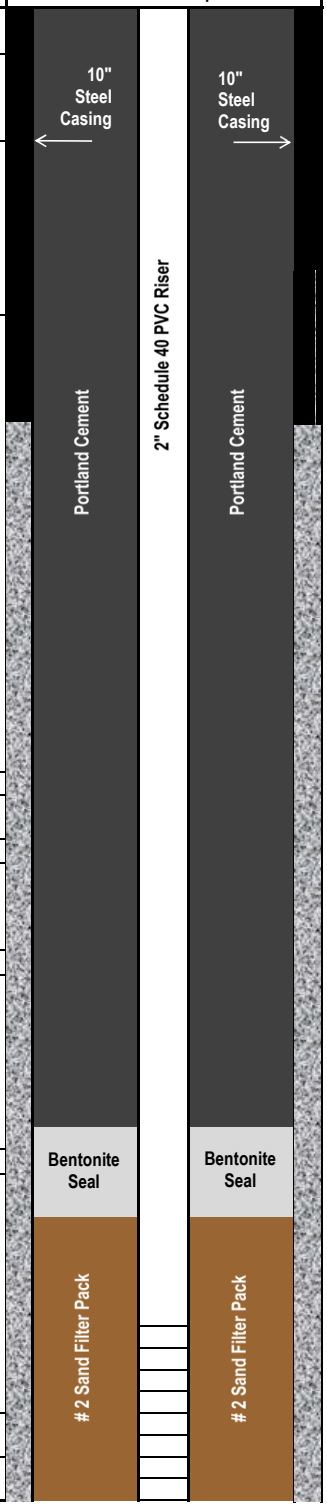
Project:	Cedartown Remediation Well Installation	Start Date:	5/13/2014
Project No.:	1727-103736	End Date:	5/20/2014
Logged/Checked By:	Daniel Forbes & Nick Fuller/Tom Duffey	Total Depth:	45'
Location Code:	EXP-6	Surface Casing Dia./Depth:	10" Steel Casing to 9.5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 30'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 30'-45', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description
1	0	**SAND**, silty, clayey, organics, brown, and dark brown, fine-grained, moist
2	0	**SILT**, clayey, sandy, light brown, yellowish and orangish brown, and reddish brown, sand fine-grained, moist
3		
4	0.3	**CLAY**, silty, trace fine-to medium-grained sand and weathered limestone, light brown, reddish and yellowish brown, moist
5		
6		
7		
8	Not Measured	**LIMESTONE**, hard, gray
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		**FRACTURE**, less than 6"
19		**LIMESTONE**, hard, gray
20		**FRACTURE**, less than 6"
21		**LIMESTONE**, hard, gray
22		**FRACTURE**, less than 6"
23		**LIMESTONE**, hard, gray
24		
25		
26		
27		**FRACTURE**, less than 6"
28		**LIMESTONE**, hard, gray
29		
30		
31		
32		
33		**FRACTURE**
34		**LIMESTONE**, hard, gray

Well Construction

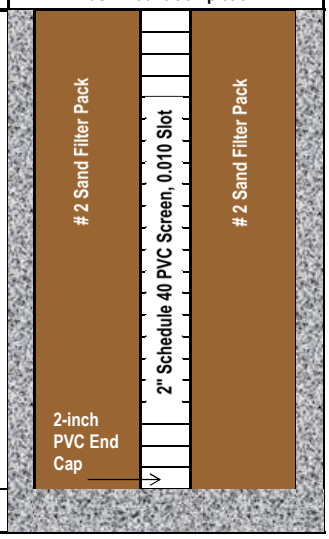
Flush-Mount Completion



EXP-6 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/13/2014
Project No.:	1727-103736	End Date:	5/20/2014
Logged/Checked By:	Daniel Forbes & Nick Fuller/Tom Duffey	Total Depth:	45'
Location Code:	EXP-6	Surface Casing Dia./Depth:	10" Steel Casing to 9.5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 30'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 30'-45', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description	Well Construction
			Flush-Mount Completion
35	Not Measured	**LIMESTONE**, hard, gray	
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46		**Boring terminated at 45 feet.**	

EXP-6A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/20/2014
Project No.:	1727-103736	End Date:	5/21/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	45'
Location Code:	EXP-6A	Surface Casing Dia./Depth:	10" Steel Casing to 8'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring
Drilling Method: Air (Driltech Model T25KW)			

Depth (feet)	Formation Description	Well Construction
		Abandoned
1	**TOPSOIL**, organics, clay, silty, sandy, dark brown	Abandoned with Grout to Surface
2	**CLAY,** silty, sandy, dark brown	
3	**CLAY**, silty, sandy, light brown	
4		
5		
6	**LIMESTONE**, hard, gray	
7		
8		
9		
10		
11		
12		
13		
14		
15		
16	**FRACTURE**, less than 6"	
17	**LIMESTONE**, hard, gray	
18		
19		
20		
21		
22		
23		
24		
25	**FRACTURE**	
26	**LIMESTONE**, hard, gray	
27	**FRACTURE**, soft zone	
28	**LIMESTONE**, hard, gray	
29		
30		
31		
32	**FRACTURE**, less than 6"	
	LIMESTONE, hard, gray	
33	**FRACTURE**, less than 6"	
34	**LIMESTONE**, hard, gray	

EXP-6A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/20/2014
Project No.:	1727-103736	End Date:	5/21/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	45'
Location Code:	EXP-6A	Surface Casing Dia./Depth:	10" Steel Casing to 8'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring
Drilling Method: Air (Driltech Model T25KW)			

Depth (feet)	Formation Description	Well Construction
		Abandoned
35	**LIMESTONE**, hard, gray	Abandoned with Grout to Surface
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46	**Boring terminated at 45 feet.**	

EXP-6B Boring Log

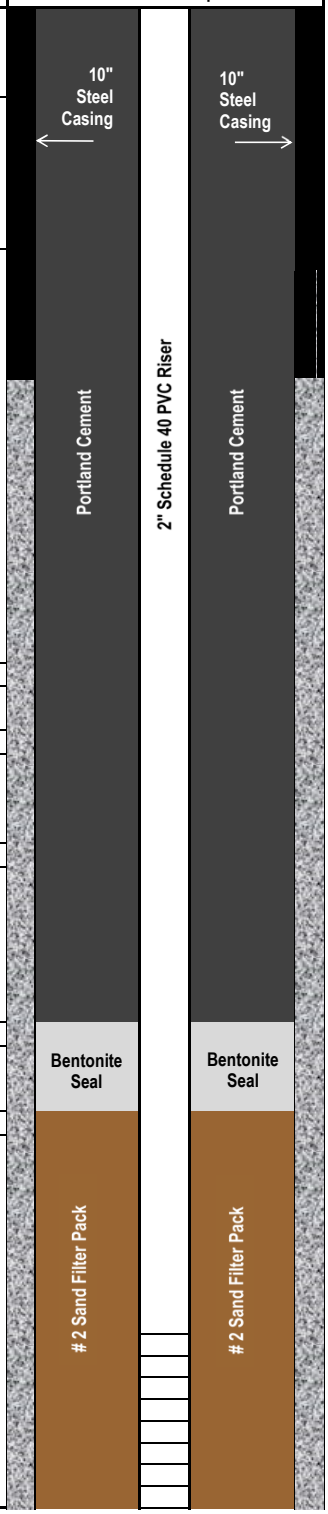
Project:	Cedartown Remediation Well Installation	Start Date:	5/20/2014
Project No.:	1727-103736	End Date:	5/21/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	45'
Location Code:	EXP-6B	Surface Casing Dia./Depth:	10" Steel Casing to 8.5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 30'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 30'-45', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
1	**CLAY,** silty, sandy, dark brown
2	
3	**CLAY**, silty, sandy, light brown
4	
5	
6	**LIMESTONE**, hard, gray
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	**FRACTURE**, less than 6"
	LIMESTONE, hard, gray
17	**FRACTURE**, less than 6"
18	**LIMESTONE**, hard, gray
19	
20	**FRACTURE**, less than 6"
21	**LIMESTONE**, hard, gray
22	
23	
24	**FRACTURE**, less than 6"
	LIMESTONE, hard, gray
25	
26	**FRACTURE**, less than 6"
27	**LIMESTONE**, hard, gray
28	
29	
30	
31	
32	
33	
34	

Well Construction

Flush-Mount Completion



EXP-6B Boring Log

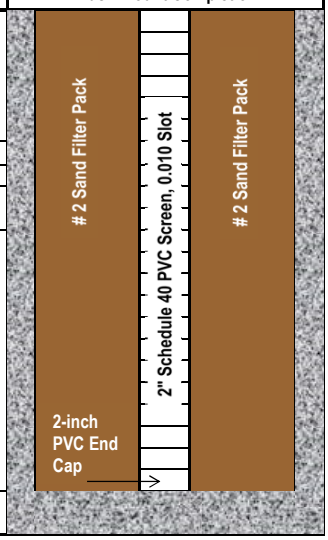
Project:	Cedartown Remediation Well Installation	Start Date:	5/20/2014
Project No.:	1727-103736	End Date:	5/21/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	45'
Location Code:	EXP-6B	Surface Casing Dia./Depth:	10" Steel Casing to 8.5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 30'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 30'-45', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
35	**LIMESTONE**, hard, gray
36	
37	
38	**FRACTURE**, less than 6" **LIMESTONE**, hard, gray
39	**FRACTURE**
40	**LIMESTONE**, hard, gray
41	
42	
43	
44	
45	
46	**Boring terminated at 45 feet.**

Well Construction

Flush-Mount Completion



EXP-7 Boring Log

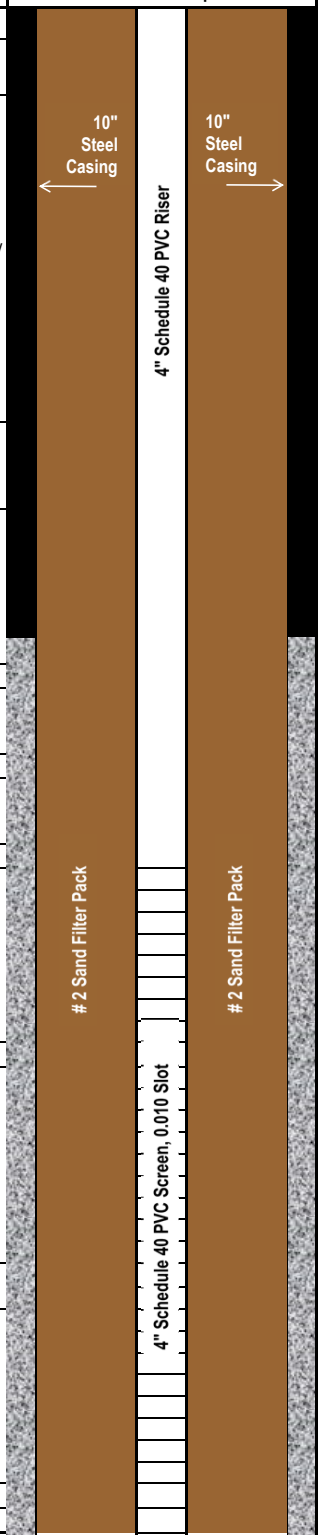
Project:	Cedartown Remediation Well Installation	Start Date:	5/1/2014
Project No.:	1727-103736	End Date:	5/14/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-7	Surface Casing Dia./Depth:	10" Steel Casing to 14'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	4" PVC to 19'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	4" PVC: 19'-99', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
	SAND, organics, trace clay, light brown, and orangish brown, fine-grained, dry
1	**SAND**, clayey, trace silt and weathered limestone, light brown, orangish and reddish brown, fine-grained, dry
2	
3	**CLAY**, silty, sandy, trace weathered limestone, light and yellowish brown, orangish and reddish brown, dry to moist
4	
5	
6	
7	
8	
9	
10	**CLAY**, trace silt, fine-grained sand, and weathered limestone, light brown, dark reddish brown and orangish brown, moist to wet
11	
12	**LIMESTONE**, light to dark gray, soft to dense
13	
14	
15	**FRACTURE**, water producing, silt-bearing, light brown
16	**LIMESTONE**, light to dark gray, soft
17	**FRACTURE**
18	**LIMESTONE**, light to dark gray, soft
19	**FRACTURE**
20	**LIMESTONE**, light to dark gray, soft
21	
22	
23	
24	**FRACTURE**
25	**LIMESTONE**, light to dark gray, soft to dense
26	
27	
28	
29	**FRACTURE**, water producing, silt-bearing, light brown
30	**LIMESTONE**, light to dark gray, soft to dense
31	
32	
33	
34	**FRACTURE**
	LIMESTONE, light to dark gray, soft to dense

Well Construction

Flush-Mount Completion



EXP-7 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/1/2014
Project No.:	1727-103736	End Date:	5/14/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-7	Surface Casing Dia./Depth:	10" Steel Casing to 14'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	4" PVC to 19'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	4" PVC: 19'-99', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description	Well Construction: Flush-Mount Completion
35	**LIMESTONE**, light to dark gray, soft to dense	# 2 Sand Filter Pack
36		
37		
38	**FRACTURE**	
	LIMESTONE, light to dark gray, soft	4" Schedule 40 PVC Screen, 0.010 Slot
39	**FRACTURE**	
40	**LIMESTONE**, light to dark gray, soft to dense	
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54	**FRACTURE**, water producing, silt-bearing, light brown	
	LIMESTONE, light to dark gray, soft to dense	
55		
56		
57		
58		
59		
60		
61		
62		
63		
64	**FRACTURE**	
	LIMESTONE, light to dark gray, soft to dense	
65		
66		
67		
68		

EXP-7 Boring Log

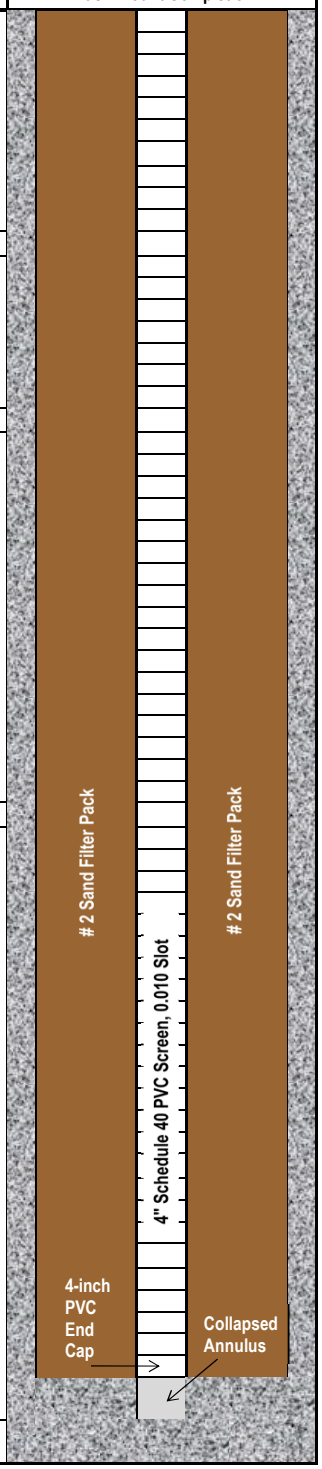
Project:	Cedartown Remediation Well Installation	Start Date:	5/1/2014
Project No.:	1727-103736	End Date:	5/14/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	100'
Location Code:	EXP-7	Surface Casing Dia./Depth:	10" Steel Casing to 14'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	4" PVC to 19'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	4" PVC: 19'-99', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
69	**LIMESTONE**, light to dark gray, soft to dense
70	
71	
72	
73	
74	**FRACTURE**, water producing, silt-bearing, light brown
75	**LIMESTONE**, light to dark gray, soft to dense
76	
77	
78	**FRACTURE**
79	**LIMESTONE**, light to dark gray, soft to dense
80	
81	
82	
83	
84	
85	
86	
87	**FRACTURE**
88	**LIMESTONE**, light to dark gray, soft to dense
89	
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	
100	
101	**Boring terminated at 100 feet.**

Well Construction

Flush-Mount Completion



EXP-8 Boring Log

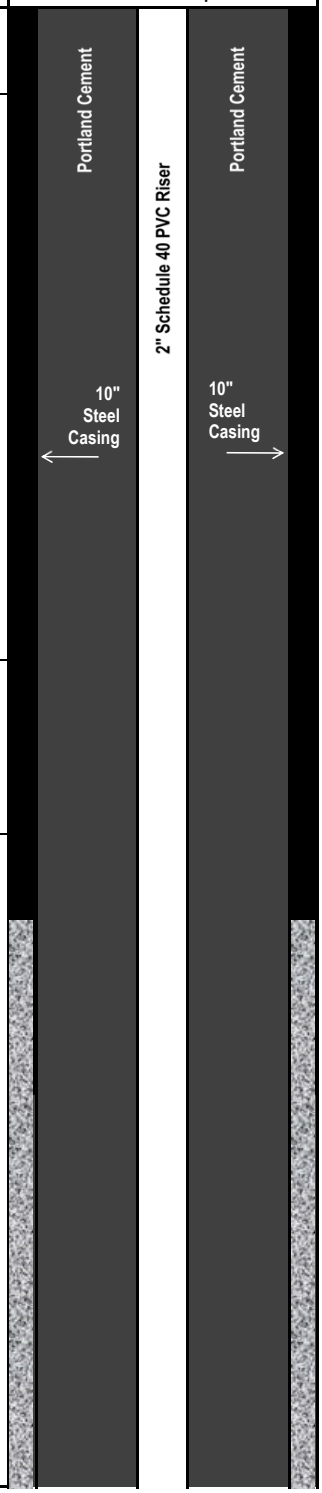
Project:	Cedartown Remediation Well Installation	Start Date:	5/27/2014
Project No.:	1727-103736	End Date:	5/28/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-8	Surface Casing Dia./Depth:	10" Steel Casing to 21'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 85'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 85'-100', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
1	**SILT,** clayey, hard at 2', some rock fragments, reddish brown
2	
3	**SILT,** sandy, clayey, rock fragments, light yellowish brown
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	**VOID**, very soft mud
17	
18	
19	
20	**LIMESTONE**, hard, gray
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	

Well Construction

Flush-Mount Completion



EXP-8 Boring Log

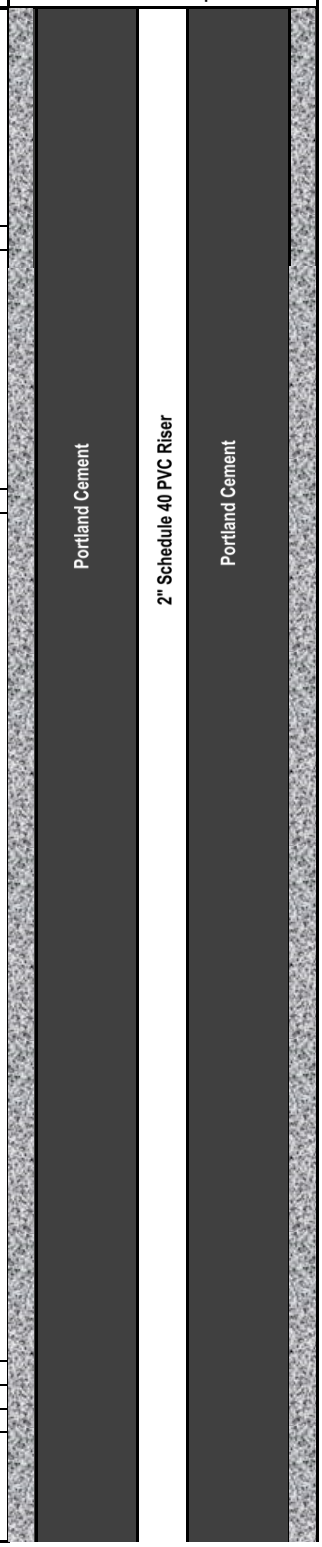
Project:	Cedartown Remediation Well Installation	Start Date:	5/27/2014
Project No.:	1727-103736	End Date:	5/28/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-8	Surface Casing Dia./Depth:	10" Steel Casing to 21'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 85'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 85'-100', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
35	**LIMESTONE**, hard, gray
36	
37	
38	
39	
40	**FRACTURE**
41	**LIMESTONE**, hard, gray
42	
43	
44	
45	
46	**FRACTURE**, less than 6 inches
47	**LIMESTONE,** hard, gray
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	**FRACTURE**, less than 6 inches **LIMESTONE**, hard, gray
67	**FRACTURE**, less than 6 inches
68	**LIMESTONE**, hard, gray
69	

Well Construction

Flush-Mount Completion



EXP-8 Boring Log

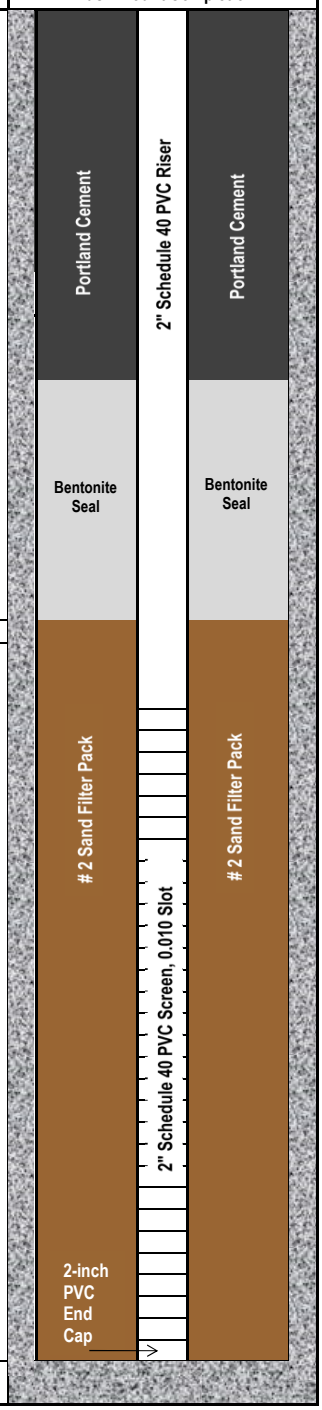
Project:	Cedartown Remediation Well Installation	Start Date:	5/27/2014
Project No.:	1727-103736	End Date:	5/28/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-8	Surface Casing Dia./Depth:	10" Steel Casing to 21'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 85'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 85'-100', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
70	**LIMESTONE**, hard, gray
71	
72	
73	
74	
75	
76	
77	
78	
79	
80	
81	
82	
83	
84	**FRACTURE,** less than 6 inches
85	**LIMESTONE**, hard, gray
86	
87	
88	
89	
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	
100	
101	**Boring terminated at 100 feet.**

Well Construction

Flush-Mount Completion



EXP-8A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	6/2/2014
Project No.:	1727-103736	End Date:	6/3/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-8A	Surface Casing Dia./Depth:	10" Steel Casing to 20.5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description	Well Construction
		Abandoned
1	**TOPSOIL,** organics, clay, silt, sand, dark brown, dry	Abandoned with Grout to Surface
2	**CLAY,** silty, sandy, brown, dry	
3		
4		
5	**CLAY,** silty, some sand, light brown, dry	
6		
7		
8		
9		
10		
11	**CLAY,** silty, some sand, orangish brown, dry	
12		
13		
14		
15		
16		
17		
18	**LIMESTONE,** hard, gray, water at 18'	
19		
20		
21	**LIMESTONE,** hard, gray	
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		

EXP-8A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	6/2/2014
Project No.:	1727-103736	End Date:	6/3/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-8A	Surface Casing Dia./Depth:	10" Steel Casing to 20.5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description	Well Construction
		Abandoned
35	**LIMESTONE**, hard, gray	Abandoned with Grout to Surface
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48	**FRACTURE,** less than 6 inches	
49	**LIMESTONE,** hard, gray	
50		
51		
52		
53		
54		
55		
56	**FRACTURE,** less than 6 inches	
57	**LIMESTONE,** hard, gray	
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68		

EXP-8A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	6/2/2014
Project No.:	1727-103736	End Date:	6/3/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-8A	Surface Casing Dia./Depth:	10" Steel Casing to 20.5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description	Well Construction
		Abandoned
69	**LIMESTONE**, hard, gray	Abandoned with Grout to Surface
70		
71		
72		
73		
74		
75		
76		
77	**FRACTURE,** less than 6 inches	
78	**LIMESTONE,** hard, gray	
79		
80		
81		
82		
83		
84		
85		
86		
87		
88		
89		
90		
91		
92		
93		
94		
95		
96		
97		
98		
99		
100		
101	**Boring terminated at 100 feet.**	

EXP-9 Boring Log

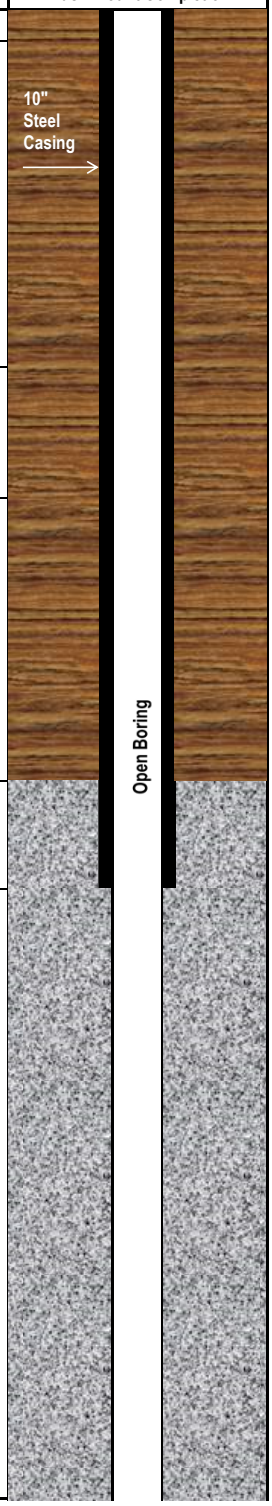
Project:	Cedartown Remediation Well Installation	Start Date:	5/27/2014
Project No.:	1727-103736	End Date:	5/28/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-9	Surface Casing Dia./Depth:	10" Steel Casing to 20'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
1	**TOPSOIL,** organics, clay, silty, sandy, dry
2	**CLAY,** silty, sandy, reddish brown, dry
3	
4	
5	
6	
7	
8	
9	**CLAY,** very silty, some sand, reddish brown, dry
10	
11	
12	**CLAY,** silty, sandy, orangish brown, dry to moist
13	
14	
15	
16	
17	
18	**LIMESTONE,** hard, gray
19	
20	
21	**LIMESTONE,** hard, gray
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	

Well Construction

Flush-Mount Completion



EXP-9 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/27/2014
Project No.:	1727-103736	End Date:	5/28/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-9	Surface Casing Dia./Depth:	10" Steel Casing to 20'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description	Well Construction: Flush-Mount Completion
35	**LIMESTONE**, hard, gray	Open Boring
36		
37		
38	**FRACTURE,** water producing, dark gray silt	
39	**LIMESTONE,** hard, gray	
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
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61		
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63		
64		
65		
66		
67		
68		

EXP-9 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/27/2014
Project No.:	1727-103736	End Date:	5/28/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-9	Surface Casing Dia./Depth:	10" Steel Casing to 20'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description	Well Construction
		Flush-Mount Completion
69	**LIMESTONE**, hard, gray	Open Boring
70		
71		
72		
73		
74		
75		
76		
77		
78		
79		
80		
81		
82		
83		
84		
85		
86		
87		
88		
89		
90		
91		
92		
93		
94		
95		
96		
97		
98		
99		
100		
101	**Boring terminated at 100 feet.**	

EXP-9A Boring Log

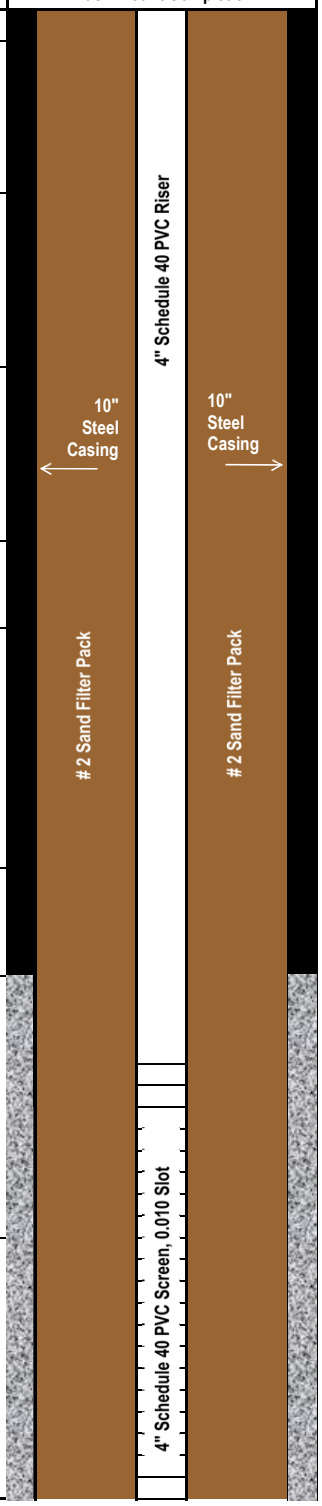
Project:	Cedartown Remediation Well Installation	Start Date:	6/3/2014
Project No.:	1727-103736	End Date:	6/4/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-9A	Surface Casing Dia./Depth:	10" Steel Casing to 22'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	4" PVC to 24'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	4" PVC: 24'-99', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
1	**TOPSOIL,** organics, clay, silt, sand, dark brown, dry
2	**CLAY,** silty, sandy, brown, dry
3	
4	
5	**CLAY,** silty, some sand, light brown, dry
6	
7	
8	
9	**CLAY,** silty, some sand, brown, dry
10	
11	
12	
13	**CLAY,** silty, some sand, orangish brown, dry
14	
15	**CLAY,** silty, some sand, light brown, dry
16	
17	
18	
19	
20	**LIMESTONE,** hard, gray
21	
22	
23	**FRACTURE,** mud seam
24	
25	
26	
27	
28	
29	**LIMESTONE,** hard, gray
30	
31	
32	
33	
34	

Well Construction

Flush-Mount Completion



EXP-9A Boring Log

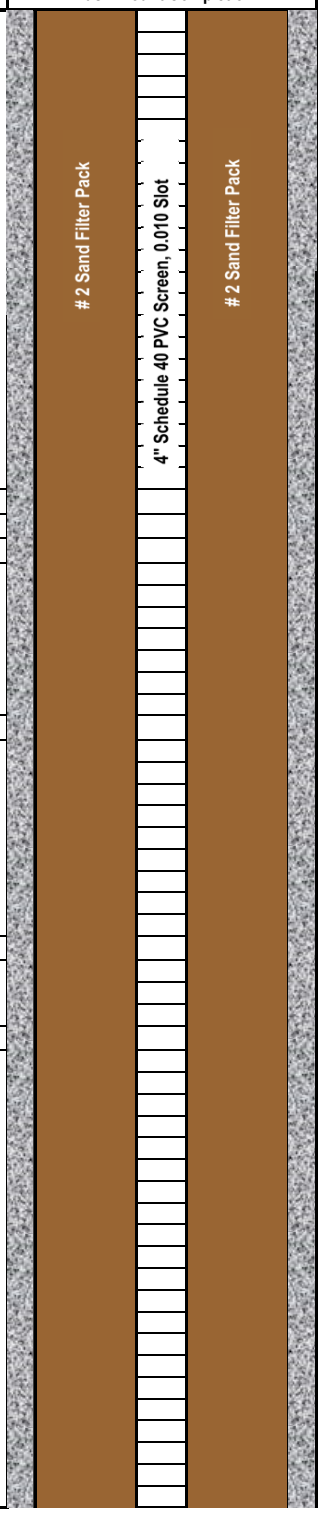
Project:	Cedartown Remediation Well Installation	Start Date:	6/3/2014
Project No.:	1727-103736	End Date:	6/4/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-9A	Surface Casing Dia./Depth:	10" Steel Casing to 22'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	4" PVC to 24'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	4" PVC: 24'-99', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
35	**LIMESTONE**, hard, gray
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	**FRACTURE**, water producing, silt-bearing **LIMESTONE,** hard, gray
47	**FRACTURE,** silt-bearing **LIMESTONE,** hard, gray
48	
49	
50	
51	**FRACTURE**, water producing, silt-bearing **LIMESTONE,** hard, gray
52	
53	
54	
55	
56	**FRACTURE**, water producing, silt-bearing **LIMESTONE,** hard, gray
57	
58	**FRACTURE**, water producing, silt-bearing **LIMESTONE,** hard, gray
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	

Well Construction

Flush-Mount Completion



EXP-9A Boring Log

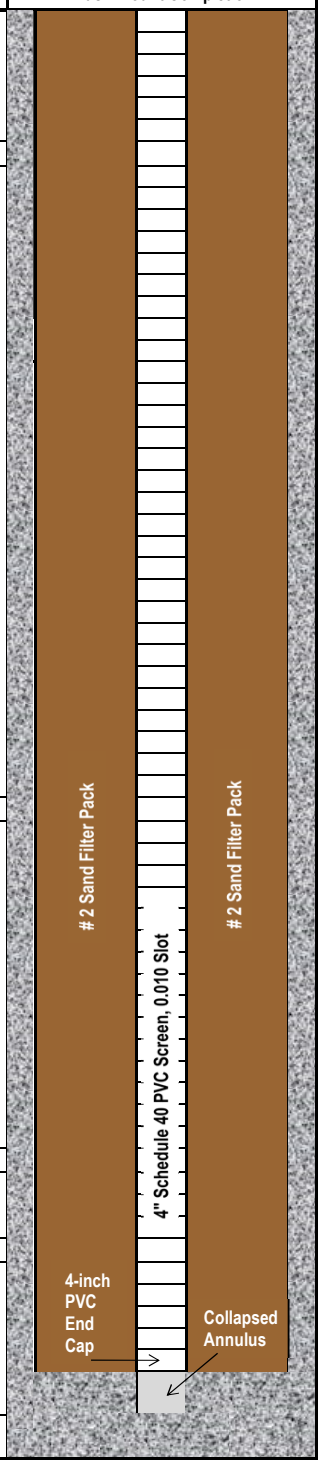
Project:	Cedartown Remediation Well Installation	Start Date:	6/3/2014
Project No.:	1727-103736	End Date:	6/4/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-9A	Surface Casing Dia./Depth:	10" Steel Casing to 22'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	4" PVC to 24'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	4" PVC: 24'-99', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
69	**LIMESTONE**, hard, gray
70	
71	
72	**FRACTURE**, water producing, silt-bearing
73	**LIMESTONE,** hard, gray
74	
75	
76	
77	
78	
79	
80	
81	
82	
83	
84	
85	
86	
87	**FRACTURE**, silt-bearing
88	**LIMESTONE,** hard, gray
89	
90	
91	
92	
93	
94	
95	**FRACTURE**, water producing, silt-bearing
96	**LIMESTONE,** hard, gray
97	**FRACTURE**
98	**LIMESTONE,** hard, gray
99	
100	
101	**Boring terminated at 100 feet.**

Well Construction

Flush-Mount Completion



EXP-10 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/27/2014
Project No.:	1727-103736	End Date:	5/28/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-10	Surface Casing Dia./Depth:	10" Steel Casing to 17.5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description	Well Construction
		Abandoned
1	**TOPSOIL,** organics, clay, silt, sandy, dry	Abandoned with Grout to Surface
2	**CLAY,** silty, sandy, dark brown, dry	
3	**CLAY,** silty, sandy, brown, dry	
4		
5		
6		
7		
8		
9	**CLAY,** silty, some sand, dark brown, dry	
10		
11		
12		
13		
14		
15	**LIMESTONE,** soft, gray	
16		
17	**LIMESTONE,** hard, gray	
18	**FRACTURE,** water producing, less than 6 inches	
19	**LIMESTONE**, hard, gray	
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		

EXP-10 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/27/2014
Project No.:	1727-103736	End Date:	5/28/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-10	Surface Casing Dia./Depth:	10" Steel Casing to 17.5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description	Well Construction
		Abandoned
35	**LIMESTONE**, hard, gray	Abandoned with Grout to Surface
36		
37		
38		
39		
40	**FRACTURE**	
41	**LIMESTONE,** hard, gray	
42		
43		
44		
45	**FRACTURE,** less than 6 inches	
46	**LIMESTONE,** hard, gray	
47		
48		
49		
50		
51		
52		
53		
54	**FRACTURE,** less than 6 inches	
55	**LIMESTONE,** hard, gray	
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68		

EXP-10 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/27/2014
Project No.:	1727-103736	End Date:	5/28/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-10	Surface Casing Dia./Depth:	10" Steel Casing to 17.5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description	Well Construction
		Abandoned
69	**FRACTURE,** less than 6 inches	Abandoned with Grout to Surface
70	**LIMESTONE,** hard, gray	
71		
72		
73		
74		
75		
76		
77		
78		
79		
80		
81		
82		
83		
84	**FRACTURE,** less than 6 inches	
85	**LIMESTONE**, hard, gray	
86		
87		
88		
89		
90		
91		
92		
93		
94		
95		
96		
97		
98		
99		
100		
101	**Boring terminated at 100 feet.**	

EXP-10A Boring Log

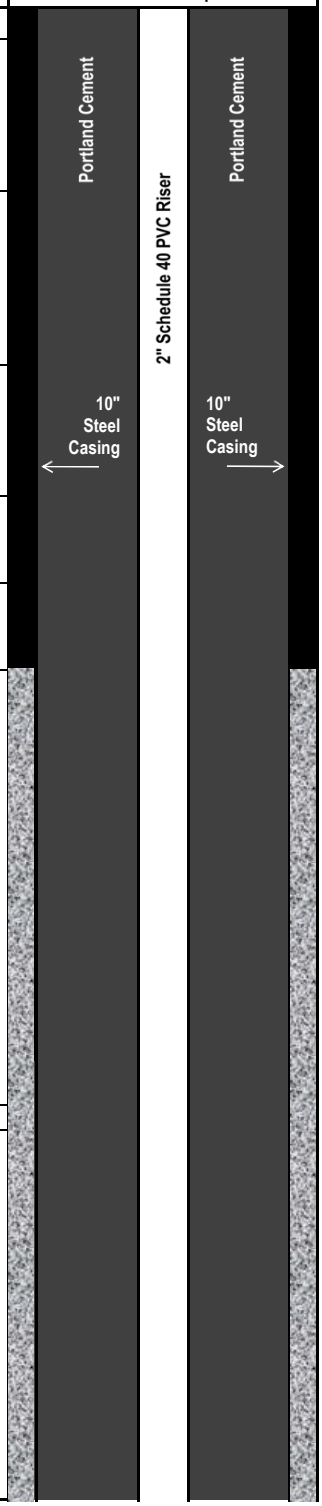
Project:	Cedartown Remediation Well Installation	Start Date:	6/2/2014
Project No.:	1727-103736	End Date:	6/3/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-10A	Surface Casing Dia./Depth:	10" Steel Casing to 15'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 85'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 85'-100', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
1	**TOPSOIL,** organics, clay, silt, sand, dark brown, dry
2	**CLAY,** silty, sandy, brown, dry
3	
4	
5	**CLAY,** silty, some sand, orangish brown to light brown, dry
6	
7	
8	
9	**CLAY,** silty, some sand, brown, dry
10	
11	
12	**CLAY,** silty, some sand, orangish brown, dry
13	
14	**LIMESTONE**, water producing, hard, small fracture at 14'
15	
16	**LIMESTONE,** hard, dry
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	**FRACTURE**, water producing, less than 6 inches
27	**LIMESTONE,** hard, gray
28	
29	
30	
31	
32	
33	
34	

Well Construction

Flush-Mount Completion



EXP-10A Boring Log

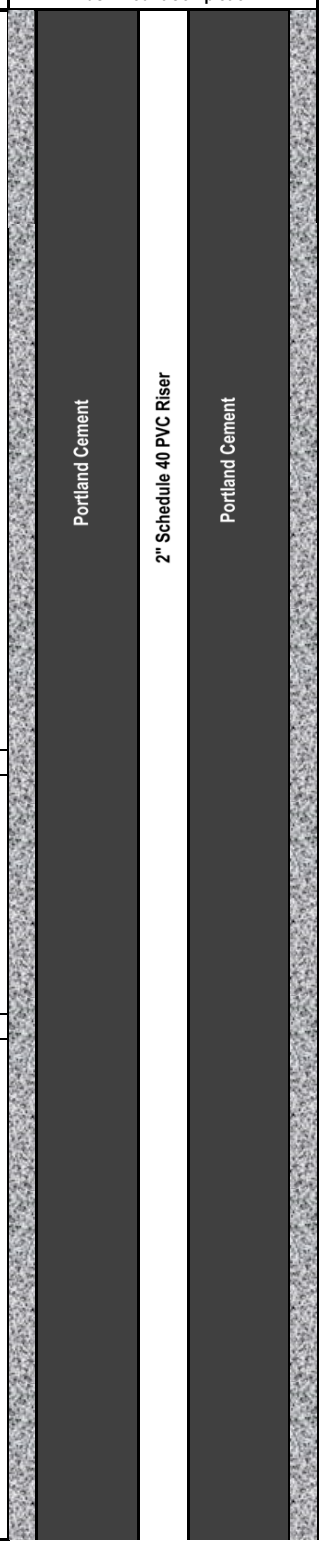
Project:	Cedartown Remediation Well Installation	Start Date:	6/2/2014
Project No.:	1727-103736	End Date:	6/3/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-10A	Surface Casing Dia./Depth:	10" Steel Casing to 15'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 85'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 85'-100', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
35	**LIMESTONE**, hard, gray
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	**FRACTURE,** less than 6 inches
53	**LIMESTONE,** hard, gray
54	
55	
56	
57	
58	**FRACTURE,** less than 6 inches
59	**LIMESTONE,** hard, gray
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	

Well Construction

Flush-Mount Completion



EXP-10A Boring Log

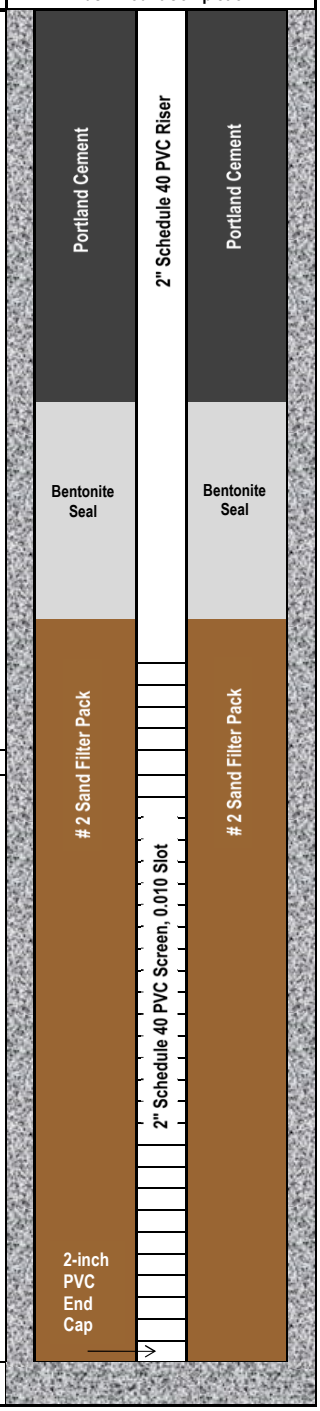
Project:	Cedartown Remediation Well Installation	Start Date:	6/2/2014
Project No.:	1727-103736	End Date:	6/3/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	100'
Location Code:	EXP-10A	Surface Casing Dia./Depth:	10" Steel Casing to 15'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 85'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 85'-100', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
70	**LIMESTONE**, hard, gray
71	
72	
73	
74	
75	
76	
77	
78	
79	
80	
81	
82	
83	
84	
85	
86	
87	**FRACTURE**
88	**LIMESTONE**, hard, gray
89	
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	
100	
101	**Boring terminated at 100 feet.**

Well Construction

Flush-Mount Completion



EXP-11 Boring Log

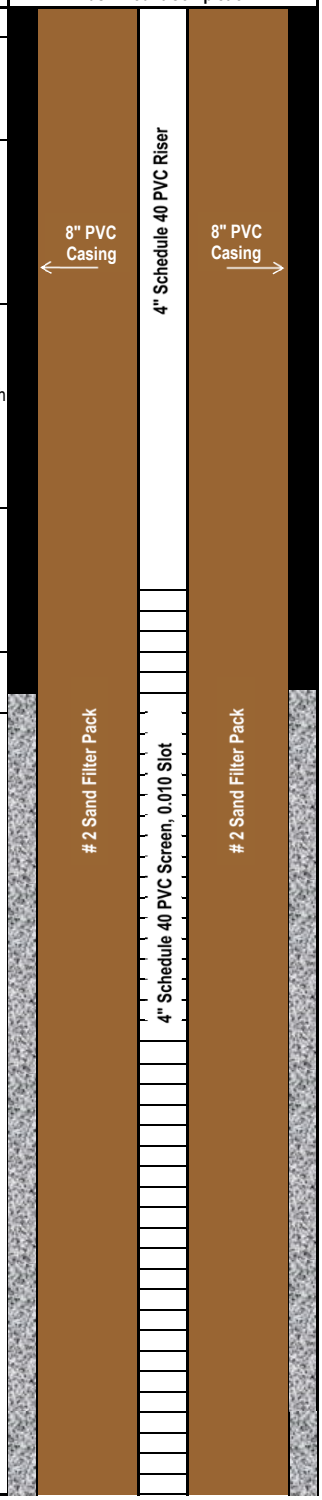
Project:	Cedartown Remediation Well Installation	Start Date:	8/4/2014
Project No.:	1727-103736	End Date:	8/8/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	69'
Location Code:	EXP-11	Surface Casing Dia./Depth:	8" PVC Casing to 16.5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	4" PVC to 14'
Driller:	Terra Sonic International	Screen Dia./Depth/Slot:	4" PVC: 14'-69', 0.01"

Drilling Method: Sonic (T-150 Drill Rig)

Depth (feet)	Formation Description
1	**SAND**, organics, trace clay, light brown, fine-grained, dry
2	**SAND**, clayey, trace silt and weathered limestone, light and yellowish brown, fine-grained, dry to moist
3	
4	**CLAY**, sandy, trace silt and weathered limestone, light and yellowish brown, sand fine-grained, moist
5	
6	
7	
8	**CLAY**, silty, trace fine-grained sand and weathered limestone, light and yellowish brown, reddish and orangish brown, moist
9	
10	
11	
12	
13	**WEATHERED LIMESTONE**, silty, sandy, clayey, light brown, sand fine-to medium-grained, moist to wet
14	
15	
16	**LIMESTONE**, light to dark gray, soft
17	
18	**FRACTURE**, water producing, silt-bearing, clay and sand, light brown, limestone fragments
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	

Well Construction

Flush-Mount Completion



EXP-11 Boring Log

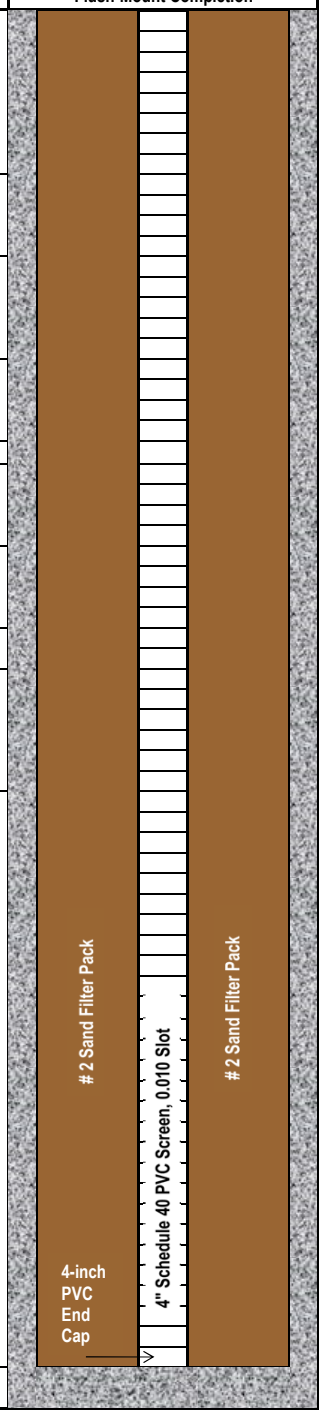
Project:	Cedartown Remediation Well Installation	Start Date:	8/4/2014
Project No.:	1727-103736	End Date:	8/8/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	69'
Location Code:	EXP-11	Surface Casing Dia./Depth:	8" PVC Casing to 16.5'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	4" PVC to 14'
Driller:	Terra Sonic International	Screen Dia./Depth/Slot:	4" PVC: 14'-69', 0.01"

Drilling Method: Sonic (T-150 Drill Rig)

Depth (feet)	Formation Description
37	**FRACTURE**, water producing, silt-bearing, clay and sand, light brown, limestone fragments
38	
39	
40	
41	**LIMESTONE**, light to dark gray, soft
42	
43	**LIMESTONE**, small fracture(s), silt-bearing, silt light brown, limestone light to dark gray, soft
44	
45	**LIMESTONE**, light to dark gray, soft
46	
47	**FRACTURE**
48	**LIMESTONE**, light to dark gray, soft
49	
50	**LIMESTONE**, small fracture(s), silt-bearing, silt light brown, limestone light to dark gray, soft
51	
52	**LIMESTONE**, light to dark gray, soft
53	**LIMESTONE**, small fractures, light to dark gray, soft
54	
55	
56	**LIMESTONE**, light to dark gray, soft to dense
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
70	**Boring terminated at 69 feet.**

Well Construction

Flush-Mount Completion



EXP-11A Boring Log

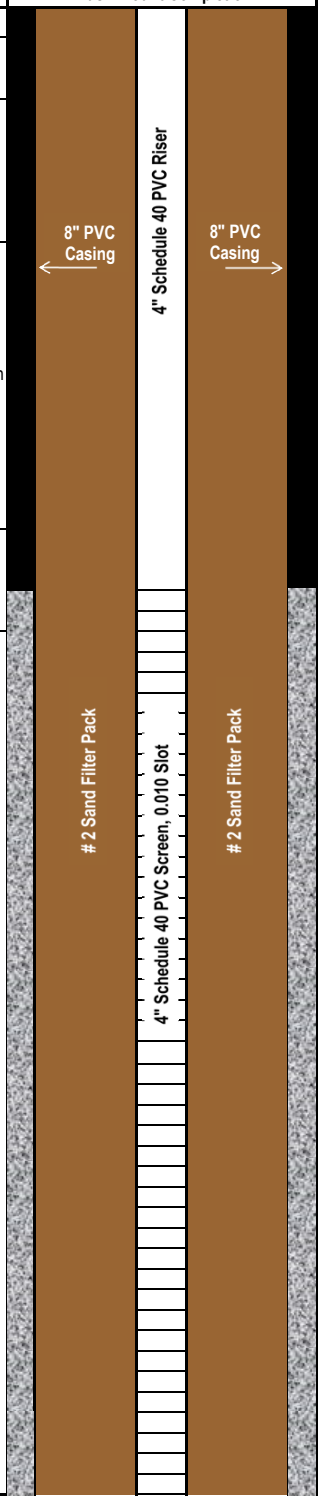
Project:	Cedartown Remediation Well Installation	Start Date:	8/4/2014
Project No.:	1727-103736	End Date:	8/9/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	69'
Location Code:	EXP-11A	Surface Casing Dia./Depth:	8" PVC Casing to 14'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	4" PVC to 14'
Driller:	Terra Sonic International	Screen Dia./Depth/Slot:	4" PVC: 14'-69', 0.01"

Drilling Method: Sonic (T-150 Drill Rig)

Depth (feet)	Formation Description
1	**SAND**, organics, trace clay, light brown, fine-grained, dry
2	**SAND**, clayey, trace silt and weathered limestone, light and yellowish brown, fine-grained, dry to moist
3	**CLAY**, sandy, trace silt and weathered limestone, light and yellowish brown, sand fine-grained, moist
4	
5	
6	**CLAY**, silty, trace fine-grained sand and weathered limestone, light and yellowish brown, reddish and orangish brown, moist
7	
8	
9	
10	
11	
12	
13	**LIMESTONE**, light to dark gray, soft
14	
15	
16	**FRACTURE**, water producing, silt-bearing, clay and sand, light brown, limestone fragments
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	

Well Construction

Flush-Mount Completion



EXP-11A Boring Log

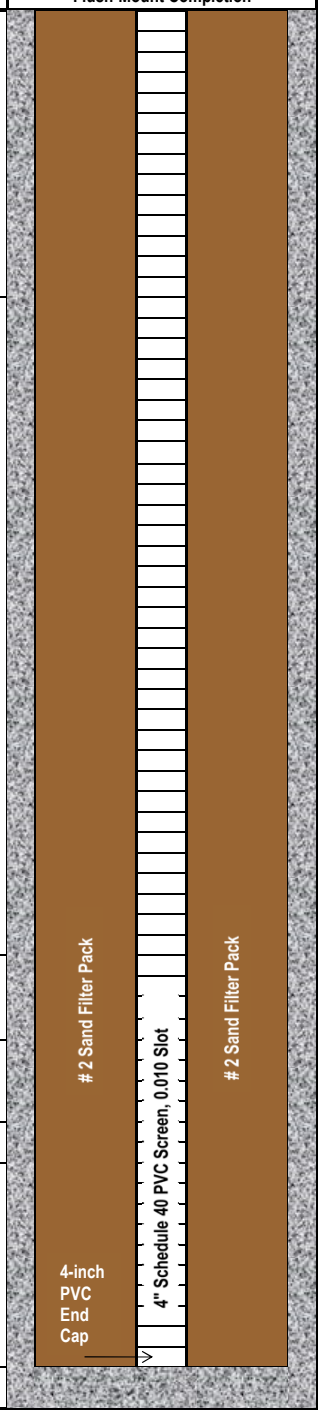
Project:	Cedartown Remediation Well Installation	Start Date:	8/4/2014
Project No.:	1727-103736	End Date:	8/9/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	69'
Location Code:	EXP-11A	Surface Casing Dia./Depth:	8" PVC Casing to 14'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	4" PVC to 14'
Driller:	Terra Sonic International	Screen Dia./Depth/Slot:	4" PVC: 14'-69', 0.01"

Drilling Method: Sonic (T-150 Drill Rig)

Depth (feet)	Formation Description
37	**FRACTURE**, water producing, silt-bearing, clay and sand, light brown, limestone fragments
38	
39	
40	
41	
42	
43	
44	**LIMESTONE**, light to dark gray, soft to dense
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	**FRACTURE**, silt-bearing, light brown
61	
62	**LIMESTONE**, light to dark gray, soft
63	
64	**FRACTURE**
65	**LIMESTONE**, light to dark gray, soft to dense
66	
67	
68	
69	
70	**Boring terminated at 69 feet.**

Well Construction

Flush-Mount Completion



EXP-12 Boring Log

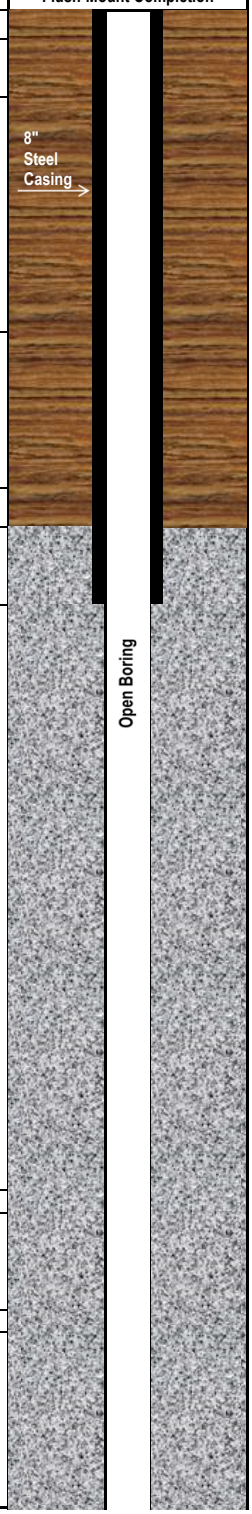
Project:	Cedartown Remediation Well Installation	Start Date:	2/22/2015
Project No.:	1727-103736	End Date:	2/23/2015
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	75'
Location Code:	EXP-12	Surface Casing Dia./Depth:	8" Steel Casing to 15'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
1	**TOPSOIL,** clay, silty, sand, dark brown, dry
2	**CLAY,** silty, some sand, brown, dry
3	**CLAY,** silty, some sand, light brown and brown, dry
4	
5	
6	
7	
8	
9	**CLAY,** silty, light brown and brown, moist
10	
11	
12	
13	**CLAY,** silty, light brown, wet
14	**LIMESTONE,** hard, gray
15	
16	**LIMESTONE,** hard, gray
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	**FRACTURE,** water producing
32	**LIMESTONE,** hard, gray
33	
34	**FRACTURE**
35	**LIMESTONE,** hard, gray
36	
37	
38	

Well Construction

Flush-Mount Completion



EXP-12 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	2/22/2015
Project No.:	1727-103736	End Date:	2/23/2015
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	75'
Location Code:	EXP-12	Surface Casing Dia./Depth:	8" Steel Casing to 15'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description	Well Construction
		Flush-Mount Completion
39	**LIMESTONE**, hard, gray	Open Boring
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		
55		
56		
	FRACTURE	
57	**LIMESTONE,** hard, gray	
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		
76	**Boring terminated at 75 feet.**	

EXP-13 Boring Log

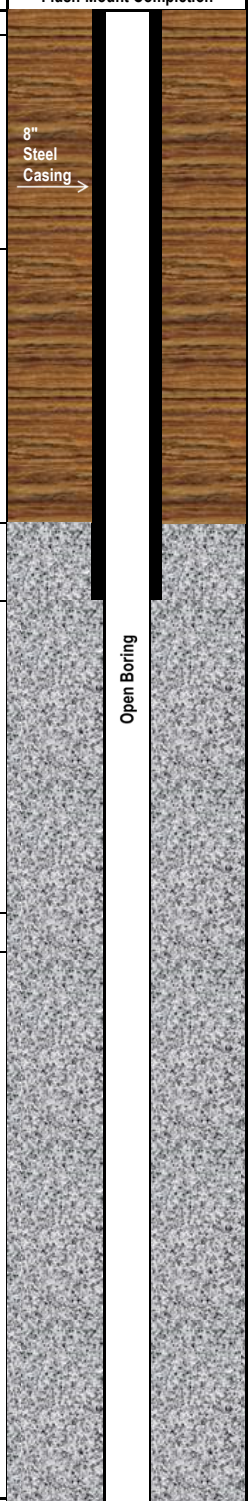
Project:	Cedartown Remediation Well Installation	Start Date:	2/22/2015
Project No.:	1727-103736	End Date:	2/23/2015
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	75'
Location Code:	EXP-13	Surface Casing Dia./Depth:	8" Steel Casing to 15'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
1	**TOPSOIL,** organics, clay, silty, sandy, dark brown, dry
2	**CLAY,** silty, sandy, brown to llight brown, dry
3	
4	
5	
6	
7	**CLAY,** silty, light brown, moist
8	
9	
10	
11	
12	
13	
14	**LIMESTONE,** hard, gray
15	
16	**LIMESTONE,** hard, gray
17	
18	
19	
20	
21	
22	
23	
24	**FRACTURE,** water producing, silt-bearing
25	**LIMESTONE,** hard, gray
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	

Well Construction

Flush-Mount Completion



EXP-13 Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	2/22/2015
Project No.:	1727-103736	End Date:	2/23/2015
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	75'
Location Code:	EXP-13	Surface Casing Dia./Depth:	8" Steel Casing to 15'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	Open Boring
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	Open Boring

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description	Well Construction
		Flush-Mount Completion
39	**LIMESTONE,** hard, gray	Open Boring
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54	**FRACTURE**	
55	**LIMESTONE,** hard, gray	
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		
76	**Boring terminated at 75 feet.**	

MW-56C Boring Log

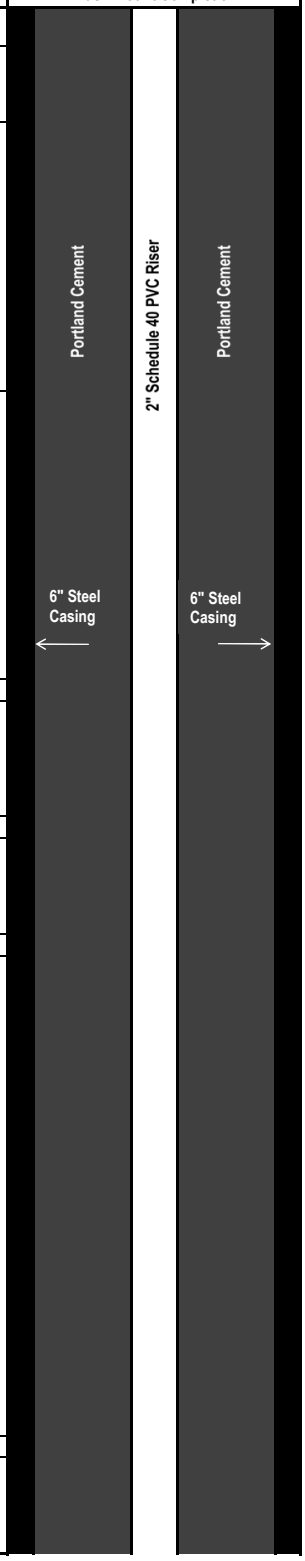
Project:	Cedartown Remedial Well Installation	Start Date:	4/30/2014
Project No.:	1727-103736	End Date:	5/16/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	75'
Location Code:	MW-41C	Surface Casing Dia./Depth:	6" Steel Casing to 45'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 58'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 58'-68', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description
1	0	**CLAY**, sandy, silty, organics, trace rock fragments, brown, and dark brown, sand fine-grained, dry
2	0.2	**SILT**, clayey, sandy, light and yellowish brown, orangish and reddish brown, sand fine-grained, dry to moist
3		
4	3.6	**CLAY**, silty, sandy, trace weathered limestone, light and yellowish brown, orangish and reddish brown, moist
5		
6		
7		
8		
9		
10		
11	Not Measured	**LIMESTONE**, light to dark gray, dense
12		
13		
14		
15		
16		
17		
18		**FRACTURE**, water producing
19		**LIMESTONE**, light to dark gray, soft
20		
21		
22		**FRACTURE**
23		**LIMESTONE**, light to dark gray, soft
24		
25		**FRACTURE**
26		**LIMESTONE**, light to dark gray, soft to dense
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		**FRACTURE**
39		**LIMESTONE**, light to dark gray, soft to dense
40		

Well Construction

Flush-Mount Completion



MW-56C Boring Log

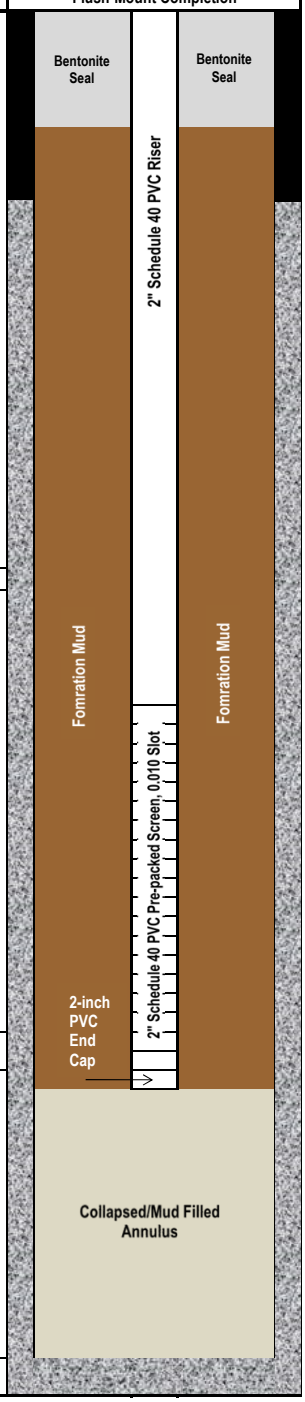
Project:	Cedartown Remedial Well Installation	Start Date:	4/30/2014
Project No.:	1727-103736	End Date:	5/16/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	75'
Location Code:	MW-41C	Surface Casing Dia./Depth:	6" Steel Casing to 45'
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 58'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 58'-68', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Photoionization Measurements (parts per million)	Formation Description
41	Not Measured	**LIMESTONE**, light to dark gray, soft to dense
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		
55		**FRACTURE**
56		**LIMESTONE**, light to dark gray, soft to dense
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		
67	124	**FRACTURE**, water producing, silt and sand infilling (mud)
68	Not Measured	**LIMESTONE**, light to dark gray, soft to dense
69		
70		
71		
72		
73		
74		
75		
76		**Boring terminated at 75 feet.**

Well Construction

Flush-Mount Completion



MW-57A Boring Log

Project:	Cedartown Remediation Well Installation	Start Date:	5/28/2014
Project No.:	1727-103736	End Date:	5/29/2014
Logged/Checked By:	Nick Fuller/Tom Duffey	Total Depth:	25'
Location Code:	MW-57A	Surface Casing Dia./Depth:	N/A
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 10'
Driller:	Tri-State Drilling, LLC	Screen Dia./Depth/Slot:	2" PVC: 10'-25', 0.01"

Drilling Method: Air (Driltech Model T25KW)

Depth (feet)	Formation Description
1	**TOPSOIL,** organics, clay, silt, sand, dark brown, dry
2	**CLAY,** silty, sandy, orangish brown, dry
3	
4	
5	
6	
7	**CLAY,** silty, some sand, dark brown, dry
8	
9	
10	
11	**CLAY**, silty, some sand, dark brown, wet
12	
13	
14	**LIMESTONE,** hard, dry
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	**Boring terminated at 25 feet.**

Well Construction

Flush-Mount Completion

MW-58A Boring Log

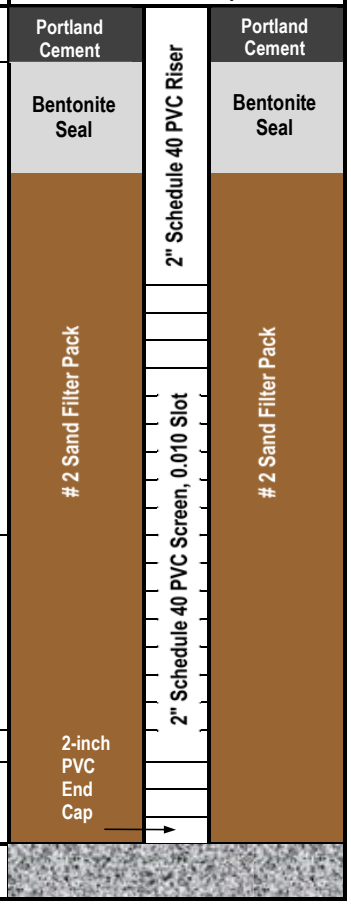
Project:	Cedartown Remediation Well Installation	Start Date:	8/8/2014
Project No.:	1727-103736	End Date:	8/9/2014
Logged/Checked By:	Daniel Forbes/Tom Duffey	Total Depth:	15'
Location Code:	MW-58A	Surface Casing Dia./Depth:	None
Location:	Cedartown, Georgia	Well Casing Dia./Depth:	2" PVC to 5'
Driller:	Terra Sonic International	Screen Dia./Depth/Slot:	2" PVC: 5'-15', 0.01"

Drilling Method: Sonic (T-150 Drill Rig)

Depth (feet)	Formation Description
1	**SILT**, sandy, organics, light brown, and dark brown, moist
2	**CLAY**, silty, sandy, trace weathered limestone, light and yellowish brown, and orangish brown, sand fine-grained, dry
3	
4	
5	
6	
7	
8	
9	
10	**LIMESTONE**, light to dark gray, soft
11	
12	
13	
14	**FRACTURE**, water producing
15	**LIMESTONE**, light to dark gray, soft
16	**Boring terminated at 15 feet.**

Well Construction

Flush-Mount Completion



CDM Smith

Appendix C

Log Book Scans

Location Cedartown, GA Date 4/22/14

Project / Client Texton

55°F Cloudy

0830 CDM Smith onsite (N. Fuller)

0900 National construction rental onsite to install temporary fence.

0930 GEL Geophysics onsite to perform private utility survey.

1015 John Barrow (Barrow Fence) onsite to give quote for gate install.

1025 John Barrow offsite. Minge Rental onsite to deliver porta-johns.

1030 Minge Rental offsite.

1040 Start up trimble GPS. TerraSync software not on device. Cannot locate points with GPS.

1210 All parties offsite because of rain. Fence contractor done with fence installation.

4/22/14

Location Cedartown, GA Date 4/23/14

Project / Client Texton

Sunny 60°F

0800 CDM Smith onsite (N. Fuller)

0815 Lee Williams (Hon) onsite to discuss container locations.

0845 GEL Geophysics onsite.

0850 Lee Williams offsite.

0910 Clean Harbors drops off 1st roll-off container.

1015 Marietta Trucking drops off frac-tank.

1130 N Fuller finishes locating borings with Avenza pdf maps.

1205 CDM Smith offsite for lunch.

1220 CDM Smith back onsite.

1245 Start to collect sample from water drums and close drum lids that are open.

Location Cedartown, GA Date 4/23/14

Project / Client Textron

Sunny 75°F

1315 collect IDW-1 (H_2O)

Drum Count

Empty - III

Soil - 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸

Water - I

Trash - 𝍸 II

1430 Clean Harbors onsite to deliver 2nd container. They will deliver 3rd container on 4/24 or 4/25

1445 CDM Smith offsite.

4-23-14

Location Cedartown, GA Date 5/13/14

Project / Client Textron

Sunny 65°F

0800 CDM Smith onsite (N. Fuller) Dan Forbes (CDM Smith) onsite with Tri-State Drilling.

0815 Site tour and well locations.

0845 Barrow Fence onsite to install gate.

1015 Start set-up on EXP-3

WL = 9.26 btoc

1049 - Start pump test

1135 - Stop pump test, Max pump flow rate was 2.25 gpm.

Projects (continued).

Printed in China

4-28-14 76° Sunny

#310 - Forbes onsite to initiate the installation of monitoring wells as part of the remedial design.

- Locate well locations at the Manchester Tank site. Well locations were flagged by Nick Fuller with CDM Smith.

1435 - Tri-State driller, Shannon Taylor, called and said that they would drop off the drill rig and support truck around 7pm. Will meet drill crew at 8am tomorrow.

1530 - Forbes offsite.

4-28-14

4-29-14 590 Sunny

0750 - Forbes onsite.

0833 - Drill crew onsite. The driller, Shannon Taylor, is not with the crew due to a house fire. Shannon left at 2am in the morning and will not return. A replacement driller will be sent today. One of the helpers, Danny White, has been training with the rig and will attempt to operate it until the new driller arrives.

0910 - Unload equipment and supplies.
- 2 roll off containers for cuttings and 1 Baker Frac Tank is onsite

0920 - Backhoe delivered

0932 - Mob support truck to water source and begin filling water tank.

0950 - Trash dumpster delivered.

1000 - Review well locations with driller.

1034 - Mob drill rig to MW-56C.

1115 - Drill crew offsite for lunch and to get supplies.

1130 - Forbes offsite.

1222 - Return from lunch.

1300 - Drill crew returns. Install containment pad.
- Hand auger ~3 feet

4-29-14 690 Sunny

Drilling Specs.

Driller/Helper - Danny White
Helper - Willie Oliver
Replacement Driller - Todd Neel
Company - Tri-State Drilling, LLC
Rig - Drilltech T 25KW
- 10" steel casing will be installed at all boring locations.
- 6" steel casing will be set to 45 feet at MW-56C
- Regolith cuttings will be screened with a Mini RAE 2000, Serial # 210 1078/PID - Calibrated by Pine Environmental

1310 - Prepare to drill MW-56C.

1315 - Air compressor on rig is overheating. The driller in training can't figure out how to operate the rig without overheating the air compressor.

1402 - Todd Neel, replacement driller, onsite.

1440 - Drill rig batteries are dead. Attempt to jump start but unsuccessful.

1500 - Helper offsite to buy new batteries.
- Lee Williams with HON stopped by. Informed Lee of the schedule. Will be available if we need anything.

1530 - Helper called and said the only part store in town that has the correct battery size will not have them until early evening.

4/30/14 67° Overcast

0720- Forbes onsite. Drill crew onsite at 0700.
0738- Calibrate PID using 100 ppm isobutylene.
0745- Begin drilling MW-56C with 8-inch air hammer.
0812- Currently at 10 feet / top of bedrock.
- Switch to 12-inch roller cone. Driller wants to set 10-inch steel casing to top of rock. Casing will be removed after completing MW-56C to 75 feet.
- Supplies needed for switching subs and breaking down the hammers were on support truck that was taken to Chattanooga Monday morning.
0822- Driller offsite to get supplies.
0940- Driller returns. Thunder / lightning in area. Will wait to pass before continuing with roller cone
1120- Begin drilling with 12-inch roller cone
1150- Set 10-inch steel casing
1215- Drill crew offsite for lunch
1220- Forbes offsite.
1242- Return
1315- Drill crew returns. Switch to 8-inch air hammer.
1340- Begin drilling in bedrock.

4/30/14 77° Sunny

1405- Currently at 28 feet. Stop to rewield a broken sub. Fracture at 17.5-18 producing good H_2O. Evacuate containment pad.
1500- Continue drilling MW-56C
1518- Terminate MW-56C at 45 feet. Prepare to set 6" steel casing.
1635- Complete installing casing / cleaning containment pad. Prepare to grout casing.
1810- Complete grouting casing.
- Clean work area
1835- Forbes / Drill crew offsite.

4/30/14

4/30/14 77° Sunny

MW-56C Continued

Depth	Description
37-37.5	Fracture
37.5-45	Limestone, light/dark gray, soft/dense

Continued on 5/1/14

45-54.5	SAA
54.5-55	Fracture
55-66.5	Limestone, light/dark gray, soft/dense
66.5-67.5	Fracture, mud seam, H_2O, silt and sand infilling, very thick.
67.5-75	Same as 55-66.5. Hard drilling due to mud.

-Terminate boring at 75 feet.

4/30/5/1/14

5-1-14 62° Sunny

0730 - Forbes onsite. Drill crew already onsite.
- Currently decontaminating rig and filling H_2O truck.
- Will set casing at EXP-7 and ream MW-56C to 75 feet after to avoid switching rig over to the air hammer.

0740 - Attempt to calibrate PID but not charged. Recharge PID in plant storage building.

0820 - Mob to EXP-7. Hand auger ~4 feet.

0830 - PID not charging. Call Pine Environmental. Pine will deliver a new PID this afternoon. Secondary battery not charging.

0835 - Begin drilling EXP-7 with 12" roller cone bit

EXP-7

Depth	Description
0-6"	SAND, trace clay, organics, light brown and orangish brown, fine-grained, dry
6"-15	SAND, clayey, trace silt/weathered limestone, light brown, orangish/reddish brown, fine-grained, dry
15-9	CLAY, silty, sandy, trace weathered limestone, light/yellowish brown, orangish and reddish brown, dry/moist, fine-grain

5-1-14 70° Sunny

EXP-7 Continued

Depth	Description
9-11	CLAY, trace silt/fine-grained sand/ weathered limestone, light brown, dark reddish and orangish brown, moist to wet
11-14	LIMESTONE, light/dark gray, soft and dense

0940 - Prepare to install/grout casing to 14 feet.
1130 - Complete setting 10" casing. Will quickly rinse back of rig before mobing to MW-56C and will rinse rollers one before next location.
1210 - Drill crew/Forbes offsite for lunch.
1250 - Return. Drill crew returns at 1255.
1300 - Setup on MW-56C. Switch rig setup.
1340 - Begin drilling MW-56C at 45 feet
1345 - Pine Environmental onsite. Delivered new PID calibrated by Pine on 4/30/14.
MiniRAE 2000 Serial #- 1245108 / PID
1450 - Complete MW-56C to 75 feet. Lost a little mud out of containment pad behind rig. Continued drilling to 75 feet while pad was slightly overflowing to avoid losing the air-hammer due to the mud thickness.

5-1-14 76° Sunny

1500-1730 - Clean containment pad/spill area.
- Mob rig to decon area.
- Tri-State does not have pre-pack screens but will bring some next week.
1810 - Forbes/Drill crew offsite.

5-1-14

5-2-14 630 Partly Sunny

0720 - Forbes onsite. Drill crew already onsite - decontaminating drill rig.
- Calibrate PID using fresh air / 100 ppm isobutylene
0750 - Mob to EXP-1. Hand auger ~ 4 feet
0810 - Begin drilling EXP-1 (Tricone bit)

EXP-1

Depth	PID	Description
0-1	0	CLAY, sandy, silty, organics, trace rock fragments, dark brown, fine-grained, dry
1-6	0.4	SILT, clayey, sandy grading to sand, trace weathered limestone, light and yellowish brown/ brown and reddish brown 1-2 ft, fine-grained, dry to moist
6-8.5	0.7	CLAY, silty, trace fine-grained sand and weathered limestone, light brown, moist
8.5-11		Limestone, light/dark gray, soft/dense

0905 - Prepare to install / grout 10" casing to 11 feet
1000 - Mob to decon area. Rinse out grout plant.
1040 - Mob to EXP-3. Hand auger ~ 4 feet
1058 - Begin drilling EXP-3

5-2-14 71° Sunny

EXP-3

Depth	PID	Description
0-6"	0	CLAY, sandy, silty, organics, trace rock fragments, dark brown, fine-grained, dry
0-6"-1.5	0	SAND, silty, clayey, trace organics, light/yellowish brown, and orangish brown, fine-grained, dry
1.5-6	1.5	SILT, clayey, sandy, trace weathered limestone, light/yellowish brown, fine-grained, moist
6-12	2.9	CLAY, silty, sandy, trace weathered limestone, light brown, fine-grained, moist

1142 - Prepare to install / grout 10" casing to 15 feet.
1310 - Complete grouting casing. Drill crew is going to clean work area before leaving for the weekend.
1325 - Forbes offsite.

5-2-14

5-5-14 78° Sunny

1210 - Forbes onsite. Drill crew onsite at 11am.
- Same crew from last week with the exception of Todd Neel. Drill crew has decontaminated drill rods and is filling support truck with H_2O.

1250 - Mob to MW-56C and prepare to construct the well. Set containment pad prior to construction.

1335 - Bottom of screen set at 68 feet bgs. Hard at 68 / drilled to 75 feet. Limestone fragment likely bridged from fracture at 66.5 to 67.5 feet.
- Mud is at 43 feet bgs.

MW-56C Screen → 68-58 Pre-packed 0.01 SLOT
Sand → Formation mud to 43 feet
Bentonite → 40-43 Pellets/Chips

1400 - Begin cleaning containment pad.
1500 - Decontaminate drill rig.
1530 - Complete cleaning containment pad / area around MW-56C.
1605 - Complete rig decontamination. Mob to EXP-2 and will set casing in the morning.
1630 - Forbes / Drill crew offsite.

5-5-14

5-6-14 66° Partly Sunny

0715 - Forbes onsite. Drill crew already onsite.
- Prepare to set casing at EXP-2.
- Calibrate PID using fresh air and 100 ppm isobutylene.

0735 - Hand auger EXP-2 to ~4 feet

0745 - Begin drilling EXP-2.

EXP-2

Depth	PID	Description
0-6"	0	CLAY, sandy, silty, organics, brown and light brown, fine-grained, dry
6"-1.5	0	SAND, silty, clayey, trace organics, light brown, and orangish brown, fine-grained, dry
1.5-4	0.2	SILT, clayey, sandy, light/yellowish brown, fine-grained, dry/moist
4-9.5	1.4	CLAY, silty, sandy grading to trace sand, trace weathered limestone, light brown, and orangish brown, fine-grained, moist
9.5-11	1.9	Weathered limestone, silty, sandy, clayey, light brown, sand fine/medium grained, moist/wet
11-14	-	Limestone, light/dark gray

- Terminate at 14 feet to set 10" casing

5-6-14 67° Partly Sunny

0845 - Complete EXP-2 to 14 feet. Prepare to set / grout casing.

0930 - Complete grouting EXP-2. Rinse grout plant and prepare to decontaminate roller cone bit.

1005 - Mob to EXP-4. Hand auger ~4 feet.

1020 - Begin drilling EXP-4

EXP-4

Depth	PID	Description
0-6"	0	CLAY, sandy, silty, organics, dark brown, fine-grained, moist
6"-3	0.3	SILT, clayey, sandy, light and yellowish brown, and orangish brown, sand fine-grained, dry / moist
3-8	1.1	CLAY, silty, trace fine sand and weathered limestone, light brown, and yellowish brown, moist
8-9	0.9	Weathered limestone, silty, sandy, clayey, light brown, fine to medium-grained, dry to moist
9-11	1.4	CLAY, weathered limestone, silty, trace fine/medium sand, light brown, and yellowish brown, moist
11-14	—	Limestone, light/dark gray

Terminate at 14 feet to set 10" casing.

5-6-14 77° Sunny

1120 - Prepare to install / grout casing.

1150 - Complete installing casing (including grout).
- Mob roller cone bit/rod to decontamination area. Will clean after lunch.

1205 - Drill crew / Forbes offsite for lunch

1300 - Return from lunch. Decontaminate roller cone. Mob drill rig to EXP-5.

1315 - Hand auser EXP-5 to ~6". Likely a small piece of limestone at 6". Offset ~2 feet north but refusal encountered at same depth. Will breakthrough with air hammer.
- Switch rig to air hammer subs.

1340 - Begin drilling EXP-5 with 6" air hammer.

1350 - Drilled to 10 feet and in limestone. Will ream with roller cone and install casing.

~~M~~ OF EXP-5 0-6" lithology - Sand, silty, clayey, organics, brown, and dark brown, fine-grained, moist PID=0

6"-10 Limestone, light/dark gray soft/dense

1430 - Prepare to install / grout casing at EXP-5.

1520 - Complete grouting casing at EXP-5. Mob to MW-56C to grout.

1530 - Rinse roller cone bit/rod.

1415 - Complete grouting MW-56C. Will top off before completing well head.

5-6-14 81° Sunny

MW-56C - Note that drill crew left 10" casing at MW-56C. Was set temporarily while drilling to 45 feet to set 6" casing. 10" casing set to 10 feet bgs.

1710 - Complete rinsing grout plant and cleaning work areas.

1735 - Forbes / Drill crew offsite.

5-6-14

5-7-14 64° Sunny

0720 - Forbes onsite. Drill crew already onsite.
- Drill rig has been refueled.
- Calibrate PID using fresh air and 100 ppm isobutylene.

0800 - Mob to EXP-1 and prepare to drill to 100 ft.

0825 - Begin drilling EXP-1. Installed containment pad prior to drilling.

EXP-1

11-71.5 Limestone, light/dark gray, soft/dense dense from 70 - 71.5

71.5-72 Fracture, silt-bearing, light brown, dry

0942 - Stop at 72 feet to check for H_2O.

1000 - Blowing dust.

1005 - Continue EXP-1.

72-78 Same as 11-71.5, dense

78-78.5 Fracture

1015 - Stop at 78 feet to check for H_2O

1035 - Continue. Blowing dust.

78.5-86.5 Same as 72-78

86.5-87 Fracture, silt-bearing, light brown, dry

1045 - Stop at 88 feet to check for H_2O

1100 - No H_2O. Continue drilling.

87-100 Same as 72-78

- Terminate EXP-1 at 100 feet.

5-8-14 69° Sunny

0720 - Forbes onsite. Drill crew already onsite and has mobilized drill rig to decontamination area.

- Calibrate PID using fresh air and 100 ppm isobutylene.

0840 - Mob to EXP-2. Set-up containment pad.

0905 - Begin drilling EXP-2. Begin developing MW-56C.

EXP-2

14-33	Limestone, light to dark gray, soft to dense
33-33.5	Fracture, H_2O
33.5-36	Same as 14-33 / soft
36-38	Fracture, mud seam (silt/sand) Solvent odor - PID = 4,023 ppm Thick mud compared to MW-56C.
38-48	Limestone, light/dark gray, soft/dense

- Terminate at 48 feet. Mud is too thick for air hammer. Containment pad is full.

0950 - Complete EXP-2 to 48 feet. Prepare to clean containment pad.

1015 - Fence sub onsite. Fence blocking access to EXP-616B has been cut and folded back. Sub will return next week to install gate.

5-8-14 76° Sunny

1015 - Collect MW-56C for 8260B analysis. No water quality measurements collected. Turbidity less than 50 NTUs.

1030 - Mob rig to decontamination area. Drill crew is going to decontaminate drillrig and complete breaking down the containment pad while I leave to meet Nick Fuller with CDM Smith to give him the MW-56C sample.

1055 - Offsite to drop-off MW-56C sample.

1250 - Return.

1300 - Drill crew returns.

1310 - Mob to EXP-4. Set-up containment pad.

1330 - Begin drilling EXP-4.

EXP-4

14-32	Limestone, light/dark gray, soft/dense
32-32.5	Fracture / dry

1348 - Stop to check for H_2O.

1405 - Continue / Blowing rock flour

32.5-45	Same as 14-32 feet.

- Terminate at 45 feet.

1420 - Complete EXP-4. Clean containment pad and mob rig to decontamination area.

1510 - Complete decontaminating rig. Mob to EXP-5.

5-8-14 88° Sunny

1525 - Set-up on EXP-5 is complete. Prepare to drill to 45 feet.

1535 - Begin drilling EXP-5.

EXP-5

10 - 11.5 Limestone, light/dark gray

11.5 - 12 Fracture, dry

1540 - Currently at 15 feet and waiting to see if fracture has H_2O.

1555 - Continue drilling. No H_2O

12 - 36 Limestone, light/dark gray, soft and dense

~~36-0-36~~ (DF) 36 - 36.5 Fracture, dry

1615 - Stop to check for H_2O.

1630 - Continue. Fracture is dry.

36.5 - 43 Same as 12-36 feet

43 - 43.5 Fracture / H_2O <0.5 gpm

43.5 - 45 Limestone/ light/dark gray, soft

- Terminate boring at 45 feet.
- Allow to recharge to verify approximate gpm.

1710 - Mob rig to decontamination area. Fracture from 43-43.5 at EXP-5 is producing <0.5 gpm.

5-8-14 88° Sunny

1740 - Complete cleaning drill area / containment pad. Drill crew will decontaminate drill rig in the morning.

- Spoke with Lee Williams with HOU. Lee wants to attend the site meeting on May 20th. Told him I will check and let him know if that is okay. Lee is also concerned about drums inside / out adjacent to building left from previous operations/investigations.

1800 - Forbes/ Drill crew offsite.

5-8-14

5-9-14 70° Sunny

0730 - Forbes onsite. Drill crew already onsite and are decontaminating drill rig.
- Calibrate PID using fresh air and 100 ppm isobutylene.

0830 - Mob to EXP-7. Prepare to drill EXP-7 to 45 feet. Install containment pad.

0850 - Begin drilling EXP-7

EXP-7

14-14.5	Limestone, light/dark gray, soft/dense
14.5-15	Fracture, H_2O, silty, light brown
15-16.5	Same as 14-14.5, soft
16.5-17	Fracture
17-18.5	Same as 15-16.5
18.5-19	Fracture
19-23	Same as 15-16.5
23-23.5	Fracture
23.5-28	Limestone, light/dark gray, soft/dense
28-29	Fracture, H_2O, silty, light brown
29-33	Same as 15-16.5 /soft/dense
33-33.5	Fracture
33.5-37	Same as 23.5-28
37-37.5	Fracture
37.5-38.5	Limestone, light/dark gray, soft
38.5-39	Fracture

5-9-14 74° Sunny

EXP-7 Continued

39-45	Limestone, light/dark gray, soft/dense

- Terminate EXP-7 at 45 feet. Producing 4-6 gpm.

1020 - Complete EXP-7. Helper began developing EXP-3 at 1000.
- Clean work area /containment pad.

1100 - Pine Environmental onsite to pickup drill crews development pump (earlier than expected). Will return pump on Monday. EXP-3 is producing ~2.5 gpm based on stopwatch, bucket, and water level indicator testing. Pursed ~120 gallons. Drawdown is ~5 feet.

1115 - Mob rig to decontamination area.
- Begin disposing of trash drums from previous investigations. Trash will be removed from each drum and the drums will be flattened. Drums and trash will be placed in MSW dumpsters rented for this investigation.

1205 - Complete disposing of trash drums and cleaning decontamination area. Drill crew will arrive early on Monday to decontaminate drill rig.

5-9-14 78° Sunny

1215- Check roll-offs. Source area roll-off is almost half full and eastern boundary roll-off is a little more than half full.

1245- Forbes offsite. Drill crew will be leaving shortly.

5-9-14

5-12-14 81° Sunny

1230- Forbes onsite. Drill crew already onsite and are decontaminating drill rig.

1310- Mob to EXP-1A. Hand auger 4 feet.
- Calibrate PID using fresh air and 100 ppm isobutylene.

1325- Driller notices hydraulic fluid on ground after raising the mast.

1400- Hydraulic fluid is from a failed O-ring located in the hydraulic control box. Driller has ordered a replacement O-ring that will arrive at his hotel in the morning.

1430- Complete removing hydraulic fluid from the ground surface (3-4" spill).

1445- Forbes / Drill crew offsite.
- Pine Environmental delivers development pump while leaving.

5-12-14

5-13-14 69° Sunny

0830 - Forbes onsite. Helpers onsite reloading support truck with H_2O.
0940 - Driller onsite with replacement O-ring.
1030 - Complete repair.
1050 - Begin drilling EXP-1A. PID calibrated yesterday and was not used.

EXP-1A

Depth	PID	Description
0-1	0	CLAY, sandy, silty, organics, trace rock fragments, dark brown, fine-grained, dry
1-3	0.1	CLAY, silty, sandy, trace weathered limestone, light/yellowish brown, and reddish brown, fine-grained, dry
3-5	0.5	SILT, clayey, sandy, trace weathered limestone, light/yellowish brown, fine-grained, moist
5-7	0.5	CLAY, silty, trace fine- to medium-grained sand, trace weathered limestone, light brown, moist
7-10	—	Limestone, light/dark gray

- Terminate at 10 feet.
1155 - Prepare to install casing to 10 feet.

5-13-14 81° Sunny

1230 - Complete grouting casing at EXP-1A.
1300 - Begin developing EXP-1.
1315 - Complete rinsing roller cone bit/rod.
1325 - Mob to EXP-2A.
1330 - Fence sub onsite to install access gate for EXP 6/6B.
- EXP-1 developed dry. Will allow to recharge and develop again.
1335 - Hand auger EXP-2A to 10 feet.
1350 - Begin drilling EXP-2A.

EXP-2A

Depth	PID	Description
0-1	0	Same as EXP-1A
1-2.5	0	SAND, silty, clayey, trace organics, light/yellowish brown, and orangish brown, fine-grained, dry
2.5-4	1.6	SILT, clayey, sandy, trace weathered limestone, light and yellowish brown, fine-grained, moist
4-7	2.5	CLAY, silty, sandy, trace weathered limestone, light brown, fine-grained, moist
7-10	—	Limestone, light/dark gray

- Terminate boring at 10 feet.
1430 - Prepare to install 10" casing to 10 feet.

5-13-14 86° Sunny

1430 - Complete developing EXP1. Recharge is poor. Developed ~30 gallons. Drill crew has Alconox and will decontaminate pump before developing EXP-4.

1500 - Complete grouting casing. Prepare to rinse roller cone bit and rod.

- Begin developing EXP-4.

1515 - Developed EXP-4 dry. (±) 8 gallons. Will allow to recharge and redevelop later in the week. Fence sub offsite.

1530 - Mob to EXP-6. Hand auger ~4 feet.

1545 - Begin drilling EXP-6.

EXP6

Depth	PID	Description
0-1	0	SAND, silty, clayey, organics, brown, and dark brown, fine-grained, moist
1-3	0	SILT, clayey, sandy, light brown, yellowish and orangish brown, and reddish brown, fine-grained, moist
3-7	0.3	CLAY, silty, trace fine/medium sand, trace weathered limestone, light brown, reddish/yellowish brown, moist
7-10	—	Limestone, light/dark gray

- Terminate at 10 feet.

5-13-14 86° Sunny

1600 - Begin developing EXP-5.

1615 - Prepare to install 1 grout casing at EXP-6.

1630 - Complete grouting EXP-6. Clean work area.

1730 - Decontaminate roller cone bit/rod.

1745 - Complete developing EXP5. Developed dry and recharged multiple times. Producing <0.5 gpm. Developed gallons ~60.

1815 - Drill crew/Forbes offsite.

5-13-14

5-14-14 72° Sunny

0715 - Forbes onsite. Drill crew already onsite and has mobilized drill rig to EXP-3A.
- Calibrate PID using fresh air and 100 ppm isobutylene.

0730 - Hand auger ~4 feet
- Set-up containment pad.

0750 - Begin drilling EXP-3A

EXP-3A

Depth	PID	Description
0-6"	0	CLAY, sandy, silty, organics, brown and orangish brown, fine-grained, moist
6"-1.5	0	SAND, silty, clayey, trace organics, light brown, and orangish brown, fine-grained, moist
1.5-8	1.3	SILT, clayey, trace fine-grained sand/weathered limestone, light brown, and orangish brown, fine-grained, dry
8-13	1.7	CLAY, silty, weathered limestone, trace fine sand, light brown, dry to moist
13-16	-	Limestone, light/dark gray

- Terminate at 16 feet.

0840 - Prepare to install 10" casing/grout.

5-14-14 74° Sunny

0925 - Complete casing installation. Prepare to decontaminate roller cone bit/rods.

1000 - Mob to EXP-5A. Hand auger ~4 feet.

1020 - Begin drilling EXP-5A.

EXP-5A

Depth	PID	Description
0-1	0	SAND, silty, clayey, organics, brown and dark brown, fine-grained, moist
1-4.5	0.9	SILT, clayey, sandy, trace weathered limestone, light/yellowish brown, and orangish brown, fine-grained, dry/moist
4.5-6	1	CLAY, silty, trace fine sand/weathered limestone, light brown, moist
6-9	—	Limestone, light/dark gray

- Terminate boring at 9 feet

1050 - Prepare to install 10" casing/grout.

1115 - Complete casing installation. Prepare to rinse roller cone bit/rod

1145 - Forbes/Drill crew offsite for lunch.

1240 - Return. Mob to EXP-4A.
- Hand auger ~4 feet
- Set up containment pad.

5-14-14 82° Partly Sunny

1305- Begin drilling EXP-4A

EXP-4A

Depth	PID	Description
0-1	0	CLAY, sandy, silty, organics, dark brown, fine-grained, moist
1-2.5	1.7	SILT, clayey, sandy, trace weathered limestone, light/yellowish brown, and orangish brown, fine-grained, dry to moist
2.5-6.5	1.2	CLAY, silty, trace fine sand/ weathered limestone, light brown, orangish and yellowish brown, moist
6.5-9	–	Limestone, light/dark gray

- Terminate boring at 9 feet

1335- Prepare to install/grout 10" casing.

1410 - Complete casing installation. Mob rig to decontamination area. Will decontaminate and switch rig to air hammer subs.

1500 - Mob to EXP-7. Mark Herndon (TS) onsite.
- Setup containment pad

1520 - Begin drilling EXP-7 (45 to 100 feet)

1655- Complete EXP-7 to 100 Feet. Stopped and to pump out containment pad.

5-14-14 86° Sunny

EXP-7

45-53	Limestone, light/dark gray, soft/dense
53-53.5	Fracture, H_2O, silt (light brown)
53.5-63	Same as 45-53
63-63.5	Fracture
63.5-73	Same as 45-53
73-73.5	Fracture, H_2O, silt (light brown)
73.5-77	Same as 45-53
77-77.5	Fracture
77.5-86	Same as 45-53
86-86.5	Fracture
86.5-100	Same as 45-53

- Terminate EXP-7 at 100 feet
  - Producing ~6-8 gpm (combined flow from all fractures)

1700-1800 - Clean work area. Mobilize rig to decontamination pad. Refuel rig.

1830 - Forbes / Drill Crew / Mark Herndon offsite.

5-14-14

5-15-14 66° Cloudy

0740 - Forbes onsite. Drill crew is decontaminating drill rig. Site is very wet from ~1.5 inches of rain received overnight.

0830 - Mobilize to EXP-1A. Calibrate PID using fresh air and 100 ppm isobutylene.

0900 - Begin drilling EXP-1A. Roll-off delivered.

EXP-1A

10-28	Limestone, light/dark gray, soft/dense
28-28.5	Fracture
0915 -	Stop to check for H_2O
0930 -	Continue / Fracture dry
28.5-41	Same as 10-28
41-41.5	Fracture
41.5-43	Limestone, light/dark gray
43-44	Fracture
44-50	Same as 10-28
0950 -	Stop to check for H_2O
1010 -	Continue / Fractures dry
50-61	Same as 10-28
61-61.5	Fracture
61.5-70	Same as 10-28
1020 -	Stop to check for H_2O
1030 -	No H_2O
70-82	Same as 10-28
82-82.5	Fracture

5-15-14 71° Cloudy

EXP-1A Continued

82.5-93	Same as 10-28
93-93.5	Fracture
93.5-100	Same as 10-28

- Terminate boring at 100 feet
- allow to sit for 20 mins to check for H_2O / Dry

1120 - Complete containment pad cleanup. Mob rig to decontamination area.

1200 - Complete rinsing rig. Break for lunch. Mark Heinrich offsite to Chattanooga.

1240 - Forbes / Drill crew return.
- Mob to EXP-2A
- Install containment pad.

1300 - Begin drilling EXP-2A. Begin developing EXP-7.

EXP-2A

10-35.5	Limestone, light/dark gray, soft/dense
35.5-36	Fracture
36-40	Same as 10-35.5
1320 -	Stop to check for H_2O
1330 -	No H_2O
40-57.5	Same as 10-35.5
57.5-58	Fracture
58-60	Same as 10-35.5

5-15-15

EXP-2A Continued 76° Partly Sunny

1338 - Stop to check for H_2O

1350 - No H_2O

60-71 Same as 10-35.5

71-~~73~~ 72 (DF) Fracture

72-76.5 Same as 10-35.5

76.5-77 Fracture

77-80 Same as 10-35.5

80-80.5 Fracture

80.5-82 Same as 10-35.5

1405 - Stop to check for H_2O

1420 - Continue / Blowing rock flour.

82-100 Same as 10-35.5

- Terminate boring at 100 feet

1440 - Check for H_2O but boring is dry.

- Clean containment pad.

1510 - Mob rig to decontamination pad

- Drill rig is stuck north of EXP-3.
- Bottom rear axle is buried. (Mess)

1540 - Backhoe does not have enough power to pull rig out. Driller has called a tow truck.

1600 - Complete developing EXP-7 (~ 300 gallons)

5-15-15 76° Partly Sunny

1630 - Forbes offsite. Drill crew is waiting for tow truck. Will leave after rig is pulled out.

5-15-15

5-16-15 690 Sunny

0725- Forbes onsite. Drill crew onsite restoring ruts left by rig. Too wet to move rig or use backhoe to repair ruts. Received 0.5 inches of rain last night.

0800- Prepare to install pad/flush-mount vault for MW-56C. MW-56C was topped off with grout earlier this week.

0945- Complete pad/vault installation for MW-56C.

1000- Pickup miscellaneous trash/supplies.
- Clean decontamination pad following rinsing the rig.

1130- Forbes/Drill crew offsite.

Paul Fall
5-16-15

Location Cedartown, GA Date 5/14/14

Project / Client Texton

Sunny 65°F

0730 CDM Smith onsite (N Fuller, D. Forbes)

0745 Water level check on EXP-4 is 42.51' btoSC.

Water level check on EXP-5 is 5.76' btoSC. Will perform pump test on EXP-5

0815 Start Pump test on EXP-5

0830 Flow rate = 1.25 gpm
Based on pump curve this is not sustainable adjust down will retest flow rate in 5 minutes.

0835 Flow rate still not sustainable will adjust.

0840 Flow rate = 0.80 gpm, flow is still not sustainable will readjust @ 0845 and allow 5 minutes before flow rate test.

Location Cedartown, GA Date 5/14/14

Project / Client Texton

Sunny 70°F

0910 Flow Rate = 0.50 gpm will allow to continue, looks to be the max sustainable rate

1015 Turn pump off and start recovery test.

1530 Finish recovery test and pull all equipment.

1700 All parties offsite for day.

Location Cedartown, GA Date 5/15/14

Project / Client Textron

Rain 55°F

0745 Com Smith onsite (N. Fuller, D. Forbes)

0815 Drillers arrive onsite.

0845 set-up on EXP-7 to test.

0904 Start EXP-7 pump test

Flow Rate = 3.0 gpm

No fluctuation in water level

0920 Generator for drillers pump fail/overload. Restart, but pump will not run. EXP-7 will have a high flow rate most likely in the 4-6 gpm range possibly higher.

0925 Remove equipment from well.

0935 Marietta Trucking onsite to deliver roll-off box.

Location Cedartown, GA Date 5/15/14

Project / Client Textron

Cloudy, 65°F

1000 Marietta Trucking offsite.

1200 N. Fuller (Com Smith) offsite.

5-15-14

Location Cedartown, GA Date 5/19/14

Project / Client Textron

Cloudy 60°F

0815 CDM Smith onsite (N. Fuller)

0935 Clean Harbors onsite for drum pick-up.

0950 Hertz onsite with forklift.

1005 Hertz offsite.

1030 Tri-state Drilling onsite.

Danny - Driller
Willie - Helper
Matt - Helper

1200 Clean Harbors offsite.

1305 Dan Forbes (CDM Smith) onsite.

1600 Tri-state offsite

1650 CDM Smith offsite.

5-19-14

Location Cedartown, GA Date 5/20/14

Project / Client Textron

Sunny 55°F

0730 CDM Smith onsite (N. Fuller, D. Forbes)
Tri-state onsite waiting for stone

0745 Stone delivered to site. Tri-state starts to prep areas for drilling access.

0825 Begin Drilling EXP-9A
0835 Stop to set-up water pump.
0840 Start Drilling again
0850 Stop to dump water
0915 Start Drilling again
0920 Stop to dump water
0930 Start Drilling again
0940 Finish Drilling location

0950 start setting up stone to mobilize to EXP-6.

1105 Set-up on EXP-6.
1110 Start drilling EXP-6.
1120 Stop drilling
1130 Start drilling
1145 Finish drilling.

Location Cedartown, GA Date 5/20/14

Project / Client Textron

Sunny 60°F

EXP-4A

Depth	Description
10-13.5	Limestone, gray, white, hard
13.5-14	Fracture, ~~less than 6"~~ silt filled, H_2O
11-11.5	Fracture, less than 6"
14-16	Limestone, gray, hard
16-16.5	Fracture, H_2O Est. 4-6 gpm
16.5-26	Limestone, gray, hard
26-26.5	Fracture, less than 6" Est. 6-8 gpm
26.5-45	Limestone, gray, hard

EXP-6

Depth	Description
9.5-17	Limestone, gray, hard
17-17.5	Fracture
17.5-19	Limestone, gray, hard
19-19.5	Fracture
19.5-21.5	Limestone, gray, hard
21.5-22	Fracture
22-26	Limestone, gray, hard
26-26.5	Fracture, less than 6"
26.5-32	Limeston, gray, hard
32-32.5	Fracture
32.5-33	Fracture

Location Cedartown, GA Date 5/22/14

Project / Client Textron

Sunny 70°F

Exp-6 cont.

Depth	Description
33-45	Limestone, gray, hard

1215 Finish setup on EXP-6B and head to lunch.

1315 Return from lunch and start setting casing @ EXP-6B.

EXP-6B

Depth	Description
0-2	Clay, silty, sandy, dark brown
2-4	Clay, silty, sandy, light brown rock fragments.
4-5.5	Clay, silty, sandy, light brown rock fragments
5.5	Limestone

1415 Final depth is 8.5' for casing.

1530 Set-up on EXP-6A

Location Cedartown, GA Date 5/20/14

Project / Client Textron

Sunny 80°F

EXP-6A

Depth	Description
0-6"	Topsoil, grass, clay, silty, sandy dark brown,
6"-2'	Clay, silty, sandy, dark brown
2-4'	Clay, silty, sand (fine grained), Light brown
4-5'	Clay, silty, sand (fine grained) Light Brown
5'	Limestone

1645 Set casing @ 8' bgs.

1655 Tri-state grouts casing and decons drill rig.

1730 Finish site clean-up. All parties offsite.

5-20-14

Location Cedartown Date 5/21/14

Project / Client Textron

Sunny 60°F

0715 QDM Smith onsite (W. Fuller)
Tri-state already onsite

0720 set-up on EXP-3A

0750 Start Drilling EXP-3A
0830 Stop Drilling to deal with water and generator.
0840 Start Drilling again
0910 Finish Drilling EXP-3A to 100' bgs

1000 Set-up on EXP-5A.
1005 Start drilling EXP-5A
1030 Finish drilling EXP-5A

1115 Break from lunch
1215 return from lunch

1230 Start Drilling EXP-6B
1300 Finish Drilling EXP-6B

1340 Set up on EXP-6A
1350 Start drilling EXP-6A
1420 Finish drilling EXP-6A

Location Cedartown, GA Date 5/21/14

Project / Client Textron

Sunny 60°F

EXP-3A

Depth	Description
16 - 18.5	Limestone, gray, hard
18.5 - 19	Fracture, less than 6", silt bearing, light brown, H_2O
19 - 30.5	limestone
30.5 - 31	Fracture, H_2O, silty, light brown
31 - 36	limestone
36 - 36.5	Fracture, H_2O
36.5 - 77.5	Limestone, gray, hard
77.5 - 78	Fracture, H_2O
78 - 79	Limestone
79 - 79.5	Fracture, less than 6"
79.5 - 86	Limestone
86 - 86.5	Fracture, less than 6"
86.5 - 98	Limestone
98 - 99	Fracture, silt bearing, tan, H_2O
99 - 100	Limestone

Est - 4-6 gpm

1600 DTW = 8.46

Location Cedartown, GA Date 5/21/14

Project / Client Textron

Sunny 65°F

EXP-5A

Depth	Description
9 - 12	limestone, gray, hard
12 - 12.5	Fracture
12.5 - 29	Limestone, gray, hard
29 - 29.5	Fracture, less than 6"
29.5 - 32	Limestone, gray, hard
32 - 32.5	Fracture less than 6"
32.5 - 34	Limestone, gray, hard
34 - 34.5	Fracture less than 6"
34.5 - 36	Limestone, gray, hard
36 - 36.5	Fracture, less than 6"
36.5 - 42	Limestone, gray hard
42 - 42.5	Fracture
42.5 - 45	Limestone, gray, hard

Location Cedartown, GA Date 5/20/14

Project / Client Textron

Sunny 75°F

EXP-6B

8.5-15	limestone, gray, hard
15-15.5	Fracture, less than 6"
15.5-16.5	limestone, gray, hard
16.5-17	Fracture, less than 6"
17-19	limestone, gray, hard
19-19.5	Fracture
19.5-23	limestone, gray, hard
23-23.5	Fracture, less than six inches
23.5-25	limestone, gray, hard
25-25.5	Fracture, less than six inches
25.5-37	Limestone, gray, hard
37-37.5	Fracture, less than six inches
37.5-38	Limestone, gray, hard
38-39	Fracture
39-45	Limestone, gray, hard

Location Cedartow, GA Date 5/20/14

Project / Client Textron

Sunny 80°F

EXP-6A

Depth	Description
8-15	limestone, gray, hard
15-15.5	Fracture, less than 6"
15.5-24	limestone, gray, hard
24-24.5	Fracture
24.5-26	limestone, hard, gray
26-27	Fracture, soft zone
27-31	limestone, hard, gray
31-31.5	Fracture, ~~hard, gray~~ less than 6"
31.5-32	limestone, hard, gray
32-32.5	Fracture, less than 6"
32.5-45	limestone, hard, gray

Location Cedartown, GA Date 5/21/14

Project / Client Textron

Sunny 80°F

1500 Decon drill rig.

1530 Finish development of EXP-4A

1550 level out dirt in roll off containers.

1615 All parties offsite.

5-21-14

Location Cedartown, GA Date 5/22/14

Project / Client Textron

Sunny 60°F

0710 CDM Smith (W. Fuller) onsite

0725 Collect Water levels

Well ID	DTW (bgs)	TD
EXP-1	9.03	100.56
EXP-1A	82.24	100.13
EXP-2	13.89	MWP
EXP-2A	10.68	99.90
EXP-3	7.43	99.27
EXP-3A	7.43	99.53
EXP-4	35.03	43.54
EXP-4A	6.78	44.41
EXP-5	6.23	44.27
EXP-5A	41.02	44.69
EXP-6	43.41	44.76
EXP-6A	DRY	44.58
EXP-6B	42.90	44.60
EXP-7	6.81	99.44

0850 CDM Smith offsite.

5-22-14

P. 2

CEDARTOWN 5-27-2014

13:00 RIG & EQ @ EXP-8. DRILL CREW TO LUNCH.
13:30 CREW IS BACK
13:45 CREW DROPPED A ROD ON TEMP FENCE.
14:00 EXP-8 DRILL LOG
0 - 2' REDDISH BROWN CLAYEY SILT, HARD AT 2'. SOME ROCK FRAGMENTS.
2' -15 YELLOWISH BROWN CLAYEY SANDY SILT LIGHT w/ROCK FRAG.
15'-~~16~~19 VOID / VERY SOFT MUD, VERY LITTLE RETURNS
19' — ROCK, WILL DRILL TO 21' & SET CASING. ROCK IS VERY DENSE @ 19.5'. Producing WATER @ 20.75'.
1530 SETTING EXP-8 10" CASING TO 21'.

Location Cedartown, GA Date 5/28/14

Project / Client Textron

Sunny 60°F

0750	CDM Smith onsite (N. Fuller) Tri-State onsite.
0800	start to drill EXP-8
0900	Finish drilling EXP-8
0915	Mobilize to EXP-9
0950	Rig won't start, battery is dead.
1015	Drillers off site to get new batteries.
1235	Drillers return with batteries.
1255	start drilling EXP-9
1415	Finish drilling EXP-9 to 20' bgs to set casing.
1515	Finish grouting casing on EXP-9 and mobilize to EXP-10
1540	Start drilling EXP-10
1640	Finish drilling EXP-10.
1745	Finish setting casing EXP-10 @ 17.5' bgs.
1800	offsite for day.

5-28-14

Location Cedartown, GA Date 5/28/14

Project / Client Textron

Sunny 60°F

EXP-8 Casing 21'

Depth	Description
21-39	Limestone, hard, gray
39-39.5	Fracture
39.5-45	Limestone, hard, gray
45-45.5	Fracture, less than 6"
45.5-65	Limestone, hard, gray
65-65.5	Fracture, less than 6"
65.5-66	Limestone, hard, gray
66-66.5	Fracture, less than 6"
66.5-83	Limestone, hard, gray
83-83.5	Fracture, less than 6"
83.5-100	Limestone, hard, gray

Location Cedartown, GA Date 5/28/14

Project / Client Textron

Sunny 80°F

EXP-9 Casing = 20'

Depth	Description
0-6"	Top soil, grass, clay, silty, sandy, dry
6"-2'	clay, silty, sandy, reddish brown, dry
2'-4'	SAA
4'-8'	SAA
8-10	Clay, very silty, some sand, reddish brown, dry
10-11	SAA
11-16	clay, silty, sandy, orangish brown, dry
16-17.5	clay, silty, sandy, orangish brown, moist
17.5-20	Limestone, hard, gray
20-37	Limestone, hard, gray
37-37.5	Fracture, darker gray silt, H_2O
37.5-100	Limestone, hard, gray

Location Cedartown, GA Date 5/28/14

Project / Client Textron

Sunny 90°F

EXP-10 Casing - 17.50

Depth	Description
0-6"	Topsoil, grass, clay, silt, sand, dry
6"-2'	clay, silty, sandy, dark brown, dry
2'-4'	clay, silty, sandy, brown, dry
4'-6'	SAA
6'-8'	SAA
8'-10'	Clay, silty, some sand, dark brown, dry
10'-12'	SAA
12-14.5'	SAA
14.5-16	Limestone, soft, gray
16-17	Limestone, hard, gray
17.-17.25	Fracture, less than 6", H_2O
17.25-17.50	Limestone, hard, gray
17.50-39	Limestone, hard, gray
39-39.5	Fracture
39.5-44	Limestone, hard, gray
44-44.5	Fracture, less than 6"
44.5-53	Limestone, hard, gray
53 53.5	Fracture, less than 6"
53.5-68	Limestone, hard, gray
68-68.5	Fracture, less than 6"
68.5-83	Limestone, hard, gray
83.0-83.5	Fracture, less than 6"
83.5-100	Limestone

Location Cedartown, GA Date 5/29/14

Project / Client Textron

Sunny 65°F

0715 CDM Smith onsite (N. Fuller)
Tri-State onsite.

0725 Hydraulic leak noticed by driller, will fix.

0820 Hydraulic leak fixed
0830 Start drilling EXP-10
0935 Finish drilling EXP-10
0945 City of Cedartown onsite, tells us to stop all work.
0950 Call to Andrew Remondo and Tom Duffey about situation.
1050 Start developing EXP-3A
1135 Head to Rome plant to meet with Steve Ireland (Rome) and Kelvin Gamon (Cedartown) to discuss drilling.
1150 We have come to an agreement on drilling.
1250 Finish developing EXP-3A.
1310 Start setting up to drill MW-57A.
1340 Finish post holing MW-57A.
1400 Start drilling MW-57A

Location Cedartown, GA Date 5/29/14

Project / Client Textron

Sunny 85°F

MW-57A

Depth	Description
0-6"	Topsoil, grass, clay, silt, sand, dark brown, dry
6"-2'	Clay, silty, sandy, orangish brown, dry
2'-4'	SAA
4'-6'	SAA
6-7	Clay, silty, some sand, dark brown, dry
7-8	SAA
8-10	SAA
10-13	SAA, wet
13-25	Limestone, hard, dry

MW-57A construction

Screen - 15' 25-10
Riser - 10' 10-0
Sand - 17 25-8
Bentonite - 2' 8-6
Grout - 6' 6-0

Location Cedartown, GA Date 5/29/14

Project / Client Textron

Sunny 85°F

1430 Finish drilling MW-57A. Will allow to set before completing well.

1510 Finish construction of MW-57A.

1515 Danny (Tri-state) offsite to get new torch for cutter. Matt (Tri-state) to move 10" casing to Rome Plow for use in well construction.

1630 Matt (Tri-State) finishes moving casing to Rome Plow.

1645 Danny (Tri-state) onsite with new torch.

1650 Start setup on EXP-9.

1705 Start drilling EXP-9.

1815 Finish drilling EXP-9 about 0.5 gpm.

1835 Mobilize to EXP-11 to set 10" casing.

1845 Start drilling EXP-11.

1955 Finally finish drilling @ 32' bgs. Will have to set casing tomorrow since they have no welder.

2010 Offsite for day.

5-29-14

Location Cedartown, GA Date 5/29/14

Project / Client

EXP-11

Depth	Description
0-6"	Topsoil, grass, clay, silty, sandy, dark brown, dry.
6"-2'	clay, silty, some sand, orangish brown, dry
2'-4'	SAA
4'-5'	clay, silty, some sand, dark brown, dry
5-6'	SAA
6-8'	SAA
8-12'	SAA
12'-17'	Clay, silty, trace sand, orangish brown, dry
17'-18.5'	Limestone, hard, gray,
18.5'-19'	Soft rock
19'-21'	Soft rock
21'-21.5'	Mud seam
21.5'-23'	Limestone, hard, gray
23'-25'	Soft rock, mud
25'-26'	Limestone, hard, gray
26'-29'	Soft, rock, mud
29'-32'	Limestone, hard, gray

Location Cedartown, GA Date 5/30/14

Project / Client Textron

Sunny 65°F

0715 CDM Smith onsite (N. Fuller)
Tri-State onsite.

Waiting for welder to arrive so we can set casing @ EXP-11.

0800

Well ID	DTW (bgs)	TD (bgs)
EXP-8	87.46	99.70
EXP-9	16.16	97.31
EXP-10	88.24	99.70
MW-57A	9.21	24.72

0815 Welder onsite.
0915 Casing installed in ground.
0940 Grout casing.
1015 Start deconning rig and equipment.
1200 All parties off site.

5-30-14

Location Cedartown, GA Date 6/2/14

Project / Client Textron

Sunny 75°F

1030 CDM Smith onsite (N. Fuller)

1240 Tri-State onsite. and finish deconning rig.

1350 Mobilize to EXP-11 to drill out.

1410 Do not have correct key for back-hoe. Must go to Rome and get correct key.

1415 Tri-State offsite for key.

1600 Return to site with no key for back-hoe

1605 N. Fuller calls Alex Bittel, no answer to discuss options.

1610 Drillers setting up on EXP-11 to start drill without back hoe.

1620 Alex Bittel returns call, says he will be onsite @ 7am with back hoe key and welder.

1635 Start drilling EXP-11.

1645 EXP-11 has bad grout seal. Driller. Will need to re-grout and hope that it works.

1735 Finish grouting EXP-11, Tri-State to clean grouter.

1830 All parties offsite.

6-2-14

Location Cedartown, GA Date 6/3/14

Project / Client Textron

Sunny 70°F

0720 Com Smith onsite (W Fuller)
Tri-State onsite
Start to drill out EXP-11

0755 Stop drilling, mud seam started @ 37' bgs and goes to at least 57' bgs. Driller worried about binding rods and losing hammer.

0805 Call to Tom Duffey to discuss. Tom suggest reaming hole large enough to set 8" casing and try to get as much depth from hole as possible.

0825 Driller starts to go back into hole to ream out and find bottom of "fracture".

0900 Bottom of "fracture" is 62' bgs.

0905 While tripping out of hole, 20' rod and hammer broke off and were lost. Fishing bit and more casing are being delivered to site.

1115 Break for lunch.

1250 Back onsite

1300 Tri-State shows up with fishing tool.

1340 No luck with tool. Will come back to hole

Location Cedartown, GA Date 6/3/14

Project / Client Textron

Sunny 78°F

EXP 11

Depth	Description
32-37	Lime stone, hard, gray
37-62'	Fracture, Mud Seam, H_2O

1400 Start to mobilize and set-up on EXP-8A

1445 - Start drilling EXP-8A.

1600 - Finish Drilling EXP-8A

1645 - Finish setting casing EXP-8A.

1705 - Start to mobilize to EXP-10A

1735 - Start drilling EXP 10A

1850 - Finish drilling and set casing.

1925 - Finish grouting EXP 10A.

1930 - Offsite for the day.

6-3-14

Location Cedartown, GA Date 6/3/14

Project / Client Textron

Sunny 82°F

Exp-8A

Depth	Description
0-6"	Topsoil, grass, clay, silt, sand, dark brown, dry
6"-2'	Clay, silty, sandy, brown, dry
2'-4'	SAA
4'-6'	Clay, silty, some sand, light brown, dry
6'-8'	SAA
8'-10'	SAA
10'-12'	Clay, silty, some sand, orangish brown, dry
12'-17.5	SAA
17.5-20.5	Limestone, hard, gray, H_2O encountered @ 18' bgs.
20.5-47	Limestone, hard, gray
47-47.5	Fracture, less than 6"
47.5-55	Limestone, hard, gray
55-55.5	Fracture, less than 6"
55.5-76	~~Fracture~~ NF Limestone, hard, gray
76-76.5	Fracture, less than 6"
76.5-100	Limestone, hard, gray

Location Cedartown, GA Date 6/3/14

Project / Client Textron

Sunny 85°F

Exp 10A

Depth	Description
0-6"	Topsoil, grass, clay, silt, sand, dark brown, dry
6"-2'	Clay, silty, sandy, brown, dry
2-4	SAA
4-8	Clay, silty, some sand, orangish brown to light brown, dry
8-11	Clay, silty, some sand, brown, dry
11-13	Clay, silty, some sand, orangish brown, dry
13-15	Limestone, hard, H_2O small fracture @ 14.0'
15-25	Limestone, hard, dry
25-25.5	Fracture, less than 6", H_2O
25.5-51	Limestone, hard, gray
51-51.5	Fracture, less than 6"
51.5-57	Limestone, hard, gray
57-57.5	Fracture, less than 6"
57.5-86	Limestone, hard, gray
86-86.5	Fracture

Location Cedartown, GA Date 6/4/14

Project / Client Textron

Sunny 65°F

0715 CAM Smith (N. Fuller) onsite.
Tri-state onsite
0725 Mobilize to EXP-9A to set casing.
0755 Start drilling EXP-9A.
0900 Finish drilling and start setting casing.
0940 Mobilize to EXP-8A to drill out.
1005 Start drilling EXP-8A.
1120 Finish drilling EXP-8A.
1140 Break for lunch.
1240 Return from lunch.
1255 Todd Neal (Tri-state) onsite.
1310 Rig set-up on EXP-11 to try and retrieve tooling.
1630 Cannot get tooling out of the hole, will have to abandon hole.
1650 Call to Tom Duffey and explain circumstances. He says to put bentonite to 10' bgs and then allow to sit. Afterwards grout to surface.
1835 Finish removing casing and placing bentonite chips. Will grout tomorrow.
1840 All parties offsite.

6-4-14

Location Cedartown, GA Date 6/4/14

Project / Client Textron

Sunny 65°F

EXP-9A

Depth	Description
0-6"	Topsoil, grass, clay, silty, sand, dark brown, dry.
6"-4'	clay, silty, sandy, brown, dry
4'-8'	clay, silty, some sand, light brown, dry.
8'-12'	clay, silty, some sand, brown, dry.
12'-14'	Clay, silty, some sand, orangish brown, dry
14'-16'	Clay, silty, some sand, light brown, dry.
16-19.5	SAA
19.5-22	Limestone, hard, gray
22-28	Fracture - Mud seam
28-45	Limestone, hard, gray
45-45.5	Fracture, silt filled, H_2O
45.5-46	Limestone, hard, gray
46-46.5	fracture, silt filled
46.5-50	Limestone, hard, gray
50-50.5	Fracture, silt filled, H_2O
50.5-55	Limestone, hard, gray
55-55.5	Fracture, silt filled, H_2O

Location Cedartown, GA Date 6/5/14

Project / Client Textron

Cloudy/Rain 70°F

0720 CDM Smith onsite (N. Fuller)
Tri-state onsite and set-up on EXP-9A to drill out.

0750 Start drilling EXP-9A

0805 Stop @ 40' bgs and wait for Tom Duffy.

0820 Tom Duffy says to keep going

0910 Resume drilling EXP-9A

1025 Finish drilling EXP-9A to 100' bgs and start cleaning up area.

1105 Start mobilizing to EXP-2 to set 6" casing.

1135 Break for lunch.

1230 Return from lunch.

1315 Start to ream and clean out EXP-2

1445 After reaming out hole, driller says that he cannot get temporary casing in hole. He says that rock in hole is hanging him up and will prevent advancement of casing.

1640 After 2 HOUR DELAY, they decide to decon rig for EXP-10A drill out.

1755 Start to mobilize to EXP-10A.

1840 Start drilling EXP-10A.

1855 Stop drilling due to weather.

1900 All parties offsite. 6/5/14

Location Cedartown, GA Date 6/5/14

Project / Client Textron

Cloudy 70°F

EXP-9A cont.

55.5-57	Limestone, hard, gray
57-57.5	Fracture, silt filled, H_2O
57.5-71	Limestone, hard, gray
71-71.5	Fracture, silt filled, H_2O
71.5-86	Limestone, hard, gray
86-86.5	Fracture, silt filled
86.5-94	Limestone, hard, gray
94-94.5	Fracture, silt filled, H_2O
94.5-96	Limestone, hard, gray
96-96.5	Fracture
96.5-100	Limestone, hard, gray

6-5-14

Location Cedartown, GA Date 6/6/14

Project / Client Textron

Sunny 65°F

0720 COM Smith onsite (W. Fuller)
Tri-State onsite drilling out EXP-10A.

0805 Finish drilling EXP-10A to 100' bgs

0810 Begin to mobilize to EXP-11A to set casing.

0900 Start drilling EXP-11A

0930 Stop drilling, ground is sinking beneath rig. Must stop work and move rig to prevent loss.

0945 Tom says to stop and set off hole. Drillers are going to clean up site and leave for day.

1015 COM Smith offsite.

6.6.14

Location Cedartown, GA Date 6/6/14

Project / Client Textron

Sunny 70°F

EXP-11A

Depth	Description
0-6"	Topsoil, grass, clay, silt, sand, dark brown
6"-2'	Clay, silty, sandy, brown, dry
2'-6'	Clay, silty, some sand, light brown, dry
6'-10'	SAA
10-12'	Clay, silty, some sand, brown, dry
12'-13'	Clay, silty, some sand, wet
13-26	Mud Seam

6.6.14

Location Cedartown, GA Date 6/9/14

Project / Client Textron

82°F Over cast

1045 - CDM Smith (J. Weeber) on site

1100 - Tristate Drillers arrived on site - having quick lunch

1130 - Begin setup and staging

~~10~~ JW 1205 - Setup on Exp-2 to set as extraction well by first using 6" roller cone to 48'

1500 Complete roller cone - install temporary casing (6")

1545 Temporary Casing Set

EXP-2

~~Screen 47' 12'~~ JW Could not sink screen further due to blockage

Screen 43' - 8'

Placed 19 bags of sand in well, sand only up to 36.8'. (cont)

JW

Location Cedartown, GA Date 6/9/14

Project / Client Textron

88°F Partly Cloudy

1800 - EXP-2 continued

It took 12 bags to go from 38'-36.8'. Called Nick Fuller - recommended waiting over night to see if sand would settle. Will get elevation of sand first thing tommorrow.

1830 - Added bentonite chips to EXP-1A up to casing for abandonment

1845 All parties off site for day

JW

Location Cedartown, GA Date 6/10/14

Project / Client Textron

68°F Partly Cloudy - storms overnight

0650 - CDM Smith (J. Weeber) and Tri State Drilling on site

0700 - 1200 Convert EXP's to monitoring wells

Well	TD	Time	Screen	Sand	Bentonite
EXP-1	100.56	0830	100-85	100-81	81-77.5
EXP-5A	44.69	0910	44.5-29.5	29.5-27	27-24
EXP-6	44.76	1005	44.5-29.5	27.5	27.5-25.5
EXP-8	99.7	1130	100-85	85-83	83-78
EXP-6B	44.6	0948	44.5-29.5	29.5-25	25-23
EXP-10A	100	1155	100-85	85-83	83-78

Abandon EXPs with bentonite chips

Well	TD	Casing Depth	Time	Bentonite
EXP-1A	100.13	70	6/9/14 1800	9
EXP-4	43.54	14		13
EXP-6A	44.88	8		
EXP-8A	100	20		
EXP-10	99.7	17.5		

Location Cedartown, GA Date 6/10/14

Project / Client Textron

88°F Partly Cloudy

0830 Setup to develop EXP-9A
DTW = 14.40'
Pump can't exceed production rate of well. Pump @ ~7gpm

~0930 - After pumping 1 tote from EXP-9A, realize that total depth is incorrect and it's silted up to ~25'. Will attempt to clear by tremie

1000 - Setup @ EXP-2A to test production rate DTW = 6.91

1200 - Stop EXP-2A development/test. Production rate of 0.33 gpm and DTW = 18' and falling

1210 - Sample roll off 274178 (blue on Manchester Tank) for TCLP VOCs

1210 - All parties off site for lunch and supplies

Location Cedartown, GA Date 6/10/14

Project / Client Textron

88°F Partly Cloudy

1330 - All parties back on site from lunch and supply run

1345 - Collect TCLP sample from roll-off R25959RT

1400 - Collect TCLP sample from roll-off 24542

1415 - Drillers unable to tremie EXP-9A clear. Call Nick Fuller and decide to use Sonic rig to set well since TSD is unable to do so (no 8" hammer + not enough 4" screen)

1430-1530 Discussion with Tom Duffey this morning decided to fill EXT-2 annular space with sand or gravel to casing. Will reapply as necessary 12 bags of sand left over from monitoring well installation poured into well annular space only raising it 8" to 35'11"

(continued)

Location Cedartown, GA Date 6/10/14

Project / Client Textron

85°F - Cloudy, rain clouds in distance

-Continued-

TSD could not find gravel locally will attempt to locate in Rome tomorrow morning to use at EXP-2

1530 - Collect TCLP sample from roll-off 25244

1600 - Set up for development test on EXP-9, DTW=14.75'

1630 - Stop EXP-9 test due to severe weather, production was at about 0.5gpm - call Nick Fuller and confirm we have sufficient data

1700 - TSD resumes well completion activities

1800 - J. Weeber off site. Leaving log book with TSD for Alessandra Reed on 6/11/14

JWeeber

Location Cedartown, GA Date 6/11/14

Project / Client Textron

68° Cloudy

08:02 CDM Smith (Alesandra Reed) & Tri-State Drilling on site.

09:55 Contractor was asked to verify placement of order for gravel to be used on EXT-2

10:17 begin grout EXT-1, continued removal of above-grade casing, setting wooden forms around well-heads for

12:20 all left site for lunch. Contractor said he'd return w/ gravel for EXT-2

1:25 CDM Smith returned to site

1:30 Contractor returned to site

1:35 contractor successfully dislodged the drilling rig - additional crew members arrived to assist (2). possibly battery specialists?

3:05 Still working on rig (clearing, repairs)

4:10 discussed EXT-2 with contractor. Last depth tagged @ 35' bgs. needs to be ~10' bgs 5 bags pea-gravel added. raised well 2". Advised contractor (after consulting w/ Nick Fuller & Dan Forbes) to use last bag on-site to fill well EXT-2, tag level once more before leave site today, if tommorow

Location Cedartown, GA Date 6/11/14

Project / Client Textron

cont'd

am the level has held, fill the rest of the way with pea-gravel or pea-gravel/sand mixture. Mud fracture is at 36'-38' bgs sand is preferable

17:34 continuing to pour pads of concrete around monitoring wells @ 811 W. Ave site.

pads complete - 1, 3A,

concrete covered: 4, 6A,

EXT was skipped (needs pad) be excess casing still hasn't been cut

1832 tagged @ 35.5' to top of screen

after 1 more bag, pea gravel still 35'.5

1841 - everyone leaves site

plan to return 7am 6/12/14

Location Cedartown, GA Date 6/12/14

Project / Client Textron

overcast 68°F

08:09 CDMSmith arrives on site (Alesandra Reed)
At ~07:30, 20 bags of peagravel were added to EXT-2, bringing the depth from 35.5' (yesterday's last tag) to 30' 2". at 08:25 the depth was tagged again at 30' 2". Advice from Nick is to begin adding sand. If it holds, we'll continue with sand until we have a depth of 4' bgs (to achieve 5' sand above screen)
The concrete pads dried up nicely overnight. The crew is continuing with pouring pads, covering abandoned wells w/ earth, etc.

08:55 poured 2 bags sand into EXT-2, tagged the depth at 28.8 bgs.
continuing to add bags
added 4 bags- tagged at ~~23.5'~~ 22.5'

09:11 tagged at 17.5'

09:31 tagged 10' 1"

09:39 tagged at 4' 10". ran out of bags

11:06 Bags of bentonite chips delivered - quantity = 1 palet

Location Cedartown, GA Date 6/12/14

Project / Client Textron

Cont'd overcast, slight blue skies

12:18 EXT-2 tagged - level = 5' bgs.

12:20 All left site for lunch

13:04 All returned to site

14:06 two workers preparing grout, refueling backhoe & collecting water for concrete mixing. 1 worker soldering off excess casing from wells at offsite boundary area

15:01 discussion w/ Nick Fuller & Danny about 29-A. decide it needs a pad & cover. Also: 1A: remove wood frame, plastic, and place barrel lid over hole & cover all w/ dirt to conceal. for 11: fill to 2' bgs w/ bentonite & fill rest w/ dirt. 57-4 needs pad & cover

15:31 begin developing well EXT-2.

15:32 prior to starting pump, water level at ~~7.4'~~ bgs 6.4' feet

15:33 begin pumping color of orange mud.

15:35 took 1:56 to fill 5 gal bucket and water is running almost clear, just cloudy (or 2.51 g/min)

15:37 well water level ~~7.65'~~ 6.65'

Location Cedartown, GA Date 6/12/14

Project / Client TEXTRON

Overcast, slightly blue skies 75° F

continuing to develop well EXT-2 (Alesandra & Isaac). Danny & Alex continue @ offsite boundary area to form well pads & grout abandoned wells.

15:50 well water level stayed same 6.65' bgs. 5 gal bucket filled in

time	pumpspeed	vol (g)	duration	water level (ft)	clarity
15:32	225	5	1.93(m)	~~6.65'~~ 6.4'	
15:50	225	5	2.13(m)	6.65'	
16:00	—	—	miss	6.65'	
16:22	125	5	3:17	6.5'	
16:32	205	5	2:11	6.6'	
16:42	205	5	2:08	6.7'	clear
16:56	246	5	1:48	6.7'	clear
17:08	250	5	1:40	6.7'	clear
17:18	254.8	5	1:38	6.75'	clear

16:00 tried to turn up pump to 250 & pump shut off.

time	pumpspeed	vol (g)	duration	level bgs	clarity
17:34	254.8	5	1:33	6.7'	clear

called Nick - cut off pump at ~290 g

18:03 tagged EXT-2 at ~~5.5'~~ 5.1'

Location Cedartown, GA Date 6/12/14

Project / Client Textron

clear skies 74° F

18:10 Added 1 more bag sand - tagged well at 4' bgs (SUCCESS!!)

18:29 EXT-11 previously had a safety cone stuck in it upside-down. Asked contractor to fill it in w/ bentonite chips & dirt. Attempt failed, the cavernous bottom remains.

6 wells need pads, 2 need to be topped off w/ grout, all abandoned wells need earth cover and/or seeding all areas need restoration, concrete pad needs clearing of dirt & gravel

20:09 All departed site

Location Cedartown, GA Date 6/13/14

Project / Client Textron

Overcast ~~75°~~ 66°F

08:35 CDM Smith arrives on site
Ron ____ (owner of Tri-State Drilling) is on site. We all discussed what needs to be completed this morning. EXT-4 was topped off with grout, as requested, though it's spread & still is not to grade. Estimate that it will settle at ~ 8" bgs. Rob assured me that they will come back if need be & top it off. For now, it'll be covered w/ earth & seeded.
EXT-2 & 57-4 require pads.
Restoration & cleaning work yet to be completed.

11:09 Rome plow work area needs trash removal, & restoration

11:57 EXT-2 was poured without a wooden form. Contractor said they weren't prepared to put a pad on EXT-2. In fact, we discussed it multiple times yesterday. Since the ground has been so wet, the cut is pretty good & the dimensions are o.k.

12:06 seeding & trash collection needed around 3A, 6, 5.
Totes that belong to CDM Smith

Location Cedartown, GA Date 6/13/14

Project / Client TEXTRON

continued
need to be replaced to original location
13:45 seed
16:09 Contractor spoke with Nick Fuller & agreed to return Monday to complete site clean up & restoration. CDM Smith (Alexander) left site.

fcn

Location Cedartown, GA Date 6/17/14

Project / Client Textron

Sunny 75°F

0820 N. Fuller (CDM Smith) onsite
0900 T. Duffey (CDM Smith) onsite
Start setting up APT system

1015 Start setting up on EXP-2.
1115 Finish set-up on EXP-2 and break for lunch.
1150 Return from lunch.

1221 collect water levels

Well ID	DTW
EXP-2A	6.48
MW-6A	6.92
EXP-2	7.95
MW-41C	8.39

1315 MW-6A 6.98
1316 EXP-2 8.50

GPM	Total Flow
5.92	190.75

1328 Turned up to 13.87 gpm

1350 Stop pumping @ ~15 gpm

Location Cedartown, GA Date 6/17/14

Project / Client Textron

Sunny 85°F

521.41 total gallons extracted.

1430 CDM offsite to Home Depot to get supplies for APT.

1515 Return to site from Home Depot.

1530 Finish emptying tote of purge water and putting it into Frac Tank.

1645 Finish all onsite activities and offsite for the day.

6-17-14

Location Cedartown, GA Date 6/18/14

Project / Client Textron

Sunny 70°F

0800 N. Fuller (Com Smith) onsite.
0805 pull MW-4/C data logger card
start downloading data.
0814 pull EXP-2 data logger.
0816 pull EXP-2A data logger.
0825 Tom Duffey (Com Smith) onsite.
0840 Start set-up on EXP-2A

0955 collect water levels

Well ID	DTW
EXP-3	7.37
EXP-2A	5.21
MW-6A	—
EXP-2	7.92

0958 Start pump test

1100 Collect Sample EXP-2A (1)

Ferrous Iron = 0.0 mg/L
Temp: 24.76 °C Cond. = 0.568 ms/cm
pH = 6.89 Turb = 127
ORP = 170 mV DO = 3.30 mg/L
TDS = 0.346 g/L

Location Cedartown, GA Date 6/18/14

Project / Client Textron

Sunny 80°F

1135 Water level @ EXP-2A = 79.5'
Total gallons pumped = 53.1
lower flowrate to ~ 0.4 gpm

1147 Water level is @ 87'
Shut down system
Total pumped water = 57.66 gal.

1200 CM Smith offsite. N. Fuller to warehouse to see if large pump will fit in 4" well. Tom Duffey to work from home.

6/18/14

Location Cedartown, GA Date 6/19/14

Project / Client Textron

Sunny 75°F

0800 com Smith onsite (N. Fuller, T. Duffy) start setting up on EXP-5 to test.

0930 Finish set-up on EXP-5 and start collecting water levels

Well ID	DTW
EXP-5	5.89
MW-12C	2.26
EXP-6	26.43
EXP-6B	7.24

0959 Start pump test @ ~0.55 gpm

~~1300~~ NF 1300 Collect sample EXP-5 (1)

Ferrous Iron = 0.14 mg/L

pH = 8.00 DO = 3.30 mg/L

Temp = 24.64 °C TDS = 0.157 g/L

ORP = 40 mV

Cond = 0.241 mS/cm

Turb 67.2 NTU

Location Cedartown, GA Date 6/19/14

Project / Client Textron

Sunny 80°F

1050 well goes dry, shut off pump. Test complete.

1255 Collect water levels

Well ID	DTW
EXP-5	19.22
MW-12C	2.35
~~EXP~~ EXP-6B	6.72

1330 Start to set-up on EXP-2 with larger flow pump.

1430 1.5" PE pipe onsite.

1640 Start pump in EXP-2 to test flow rate. Pump max flow is ~29 gpm. Well is holding steady @ ~10' btoc.

1700 Turn pump off and prepare to leave site.

1710 All parties offsite.

6-19-14

Location Cedartown, GA Date 6/20/14

Project / Client Textron

Sunny 70°F

0710 COM Smith (N. Fuller) onsite

start collecting water levels

WELLID	DTW
EXP-2	8.75
MW-4IC	9.54
EXP-3	8.26
MW-6A	7.96
EXP-2A	14.78

0718 Start EXP-2 pump test @ ~28 gpm

0815 Collect EXP-2 (1)

Ferrous Iron = 0.15 mg/L

Temp = 21.52 °C Gpm = 29

pH = 8.09 DTW = 10.98

ORP = -31 MV

Cond. = 0.421 mS/cm

Turb: 800 NTU

DO = 4.55 mg/L

TDS = 0.274 g/L

Location Cedartown, GA Date 6/20/14

Project / Client Textron

Sunny 75°F

0915 GPM = 29 DTW = 11.48

Total Flow = 3590

1015 GPM = 29 DTW = 11.75

Total Flow = 5189

1115 GPM = 29 DTW = 12.05

Total Flow = 6967

1215 GPM = 29 DTW = 12.17

Total Flow = 8680

Ferrous Iron = 0.13 mg/L

Temp = 24.33 °C DO = ~~60.2~~ 3.27 mg/L

pH = 7.65 Turb = 60.2 NTU

ORP = 8.5 MV TDS = 0.245 g/L

Cond. = 0.376 mS/cm

1215 Shut off pump and complete test.

1235 COM Smith offsite.

6/20/14

Location Cedartown, GA Date 6/23/14

Project / Client Textron

Sunny 70°F

0800 CAM Smith onsite (W. Fuller, T. Duffey)

0810 Start breaking down EXP-2 and downloading data loggers.

0830 Start setting up to pump EXP-3A.

1053 Collect water levels

Well	DTW
EXP-3A	8.04
MW-12C	5.82
EXP-6B	6.54

1100 Start EXP-3A test.

1108 200 gallons 25 gpm → 15 gpm

1113 272 gallons 13.57 gpm

1118 325 gallons 9.75 gpm

1122 360 gallons 8.34 gpm

1131 pump off 404 gallons

Location Cedartown, GA Date 6/23/14

Project / Client Textron

Sunny 80°F

1134 pump back on

1141 451 gallons 12.25 gpm

1200 Collect EXP-3A (1)

GPM = 11.49 DTW = 12.45

Temp = 25.10°C DO = 2.46 mg/L

pH = 5.62 TDS = 0.275 g/L

ORP = 199 mV

Cond. = 0.424 mS/cm

Turb = 1.0 NTU

Ferrous Iron = 0.13 mg/L

1700 Collect EXP-3A (6)

GPM = 11.37 DTW = 12.97 Total gallons 4000

Temp = 26.16°C DO = 3.15 mg/L

pH = 6.44 TDS = 0.258 g/L

ORP = 57 mV Ferrous Iron = 0.0 mg/L

Cond. = 0.395 mS/cm

Turb = 0 NTU

Shut down pump @ 1705

Location Cedartown, GA Date 6/23/14

Project / Client Textron

Sunny 85°F

1710 All parties offsite.

6-23-14

Location Cedartown, GA Date 6/25/14

Project / Client Textron

Sunny 80°F

0800 ADM South onsite (N. Fuller, T. Duffey)

0810 Start pulling equipment from EXP-3A.

0845 Start setting up EXP-4A.

1015 collect water levels

well ID	DTW
EXP-5A	4.05
MW-16A	8.40
EXP-4A	8.28

1030 start EXP-4A Test
GPM = 14

1040 DTW = 8.70 GPM = 13.62 Total = 134 gal

1050 DTW = 8.84 GPM = 12.74 Total = 265 gal

1100 DTW = 8.92 GPM : 12.74 Total : 396 gal
Change gpm 12.74 – 27.92

Location Cedartown, GA Date 6/25/14

Project / Client Textron

Sunny 80°F

1110 DTW = 9.44 GPM = 27.79 Total = 671 gal

1120 DTW = 9.81 GPM = 27.92 Total = 949 gal

1130 DTW = 10.14 GPM = 27.75 total = 1245 gal

collect EXP-4A (1)

Temp = 23.69°C DO = 2.52 mg/L

pH = 5.71 TDS = 0.315 g/L

ORP = 98 MV Ferrous Iron = 0.0 mg/L

Cond = 0.482 ms/cm

Turb = 1.0 NTU

1200 DTW = 10.81 GPM = 27.92 Total = 2069 gal

1230 DTW = 11.33 GPM = 27.92 Total = 2900 gal

1255 Generator shut down on its own, re-started immediately. will collect next water level @ 1330.

1330 DTW = 11.50 GPM = 27.92 Total = 4155 gal

1400 DTW = 12.05 GPM = 27.92 Total = 4990 gal

Location Cedartown, GA Date 6/25/14

Project / Client Textron

Sunny 85°F

1430 DTW = 12.62 GPM = 27.92 Total = 5828

1500 DTW = 31.80 GPM = 22.14 total = 6909

1515 Adjust flow rate 27.92 → 16 gpm

1530 DTW = 24.97 GPM = 16.25 total = 7219 gal

1600 DTW = 18.68 GPM = 16.12 Total = 7684 gal

1645 DTW = 14.50 GPM = 15.87 Total = 8372 gal

1700 DTW = 13.60 GPM = 16.00 Total = 8621

collect EXP-4A (6)

Temp = 24.37°C DO = 2.84 mg/L

pH = 6.29 TDS = 0.248 g/L

ORP = 30 MV Ferrous Iron = 0.0 mg/L

Cond. = 0.351 ms/cm

Turb = 0.0 NTU

1710 All parties offsite for day.

6-25-14

Location Cedartown, GA Date 6/26/14

Project / Client Textron

Sunny 70°F

0745 COM Smith (N. Fuller) onsite.

0750 Start breaking down EXP-4A set-up.

0840 Tom Duffey (COM Smith) onsite.

0850 Start to set-up on EXP-7.

0900 Pump will not go into EXP-7. Tom will have sonic drillers install screened 4" well.

1030 Tom Duffey offsite.

1040 N. Fuller offsite to Home Depot will return to secure site.

1100 N. Fuller returns to site.

1200 N. Fuller offsite.

6-26-14

Location Cedartown, GA Date 8/11/14

Project / Client Textron

Cloudy 75°F

1150 COM Smith onsite (N. Fuller)

1155 Start mobilizing to EXP-7 for APT.

1215 Tom Duffey (COM Smith) onsite

1245 Start placing pump in EXP-7.

1320 Tom Duffey to Home Depot for supplies. ~~Fuel~~

1345 Start pumping EXP-7 to estimate APT flow rate.

1400 Generator keeps blowing circuit breaker. Trying to diagnos issue.

1545 Tom Duffey decides issue lies with generator and suggests we get more powerful generator.

1600 All personis offsite.

8-11-14

Location Cedartown, GA Date 8/12/14

Project / Client Textron

Cloudy 72°F

0800 N. Fuller (CDM Smith) arrives @ Harbor Freight to exchange generator.

0900 N. Fuller leaves Harbor Freight for site.

1035 N. Fuller arrives onsite. T. Duffey already onsite, start cabling wells to generator and putting oil in it.

1200 Ready to start pump test @ EXP-7. Start @ wide open ~30 gpm WL = 10' bgs

1205 Water level drops below pump, slow gpm down to ~4 gpm.

1210 Well still cannot keep up. Adjust gpm ~.5 gpm.

1215 Water level still dropping, but is much slower.

1230 Stop test, Tom Duffey wants to put smaller pump in well for test.

Location Cedartown, GA Date 8/12/14

Project / Client Textron

Sunny 80°F

1240 CDM Smith offsite for lunch.

1330 CDM Smith returns to site and starts removing larger pump.

1400 CDM Smith starts installing smaller pump.

1420 Start-up smaller pump and test ~.5 gpm flowrate. Tom Duffy seems satisfied with that. Will start test tomorrow AM @ ~.5 gpm.

1450 Start moving 1.5" pipe to Rome Plant facility for other APTs.

1615 Finished moving pipe, secured site, CDM Smith offsite.

8-12-14

Location Cedartown, GA Date 8/13/14

Project / Client Textron

Sunny 70°F

0700 N. Fuller (Con Smith) arrives @ office for supplies.

0730 N. Fuller arrives @ Home Depot for supplies.

0900 N. Fuller arrives @ site. Starts setting up level troll.

0924 Start EXP-7 pump test
Flow rate = ~.5 gpm
WL = 10.24

1025 Collect EXP-7 (1)

Ferrous Iron = 12 mg/L
Temp = 22.72 °C
pH = 6.17
ORP = 105 mV
Cond. = 0.457 mS/cm
Turb NTU = 6.3 ntu
DO = 7.27 mg/L
TDS = 0.293 g/L

Location Cedartown, GA Date 8/13/14

Project / Client Textron

Sunny 75°F

1045 WL = 68.21'
Flowrate = ~0.40
Total Flow = 50.30

1123 Stop APT test @ EXP-7, water level is below pump. Start recovery.

1200 Head to Home Depot to get pipe and other supplies.

1245 N. Fuller returns to site and begins to move pipe.

1430 Finished moving pipe and head to EXP-6B to start sampling.

Sample ID	Collection Time
EXP-7 (1)	1025
EXP-6B	1520
EXP-6	1555

1610 Con Smith offsite.

8-13-14

Location Cedartown, GA Date 8/14/14

Project / Client Textron

Sunny 75°F

0800 COM Smith (N. Fuller) onsite.

0805 Start removing level trolls and downloading data.

0815 Tom Duffy (COM Smith) onsite.

0820 start mobilizing to EXP-9A for APT.

0910 Start placing pump in EXP-9A.

0940 Put piping together for water.

1015 start placing level trolls in wells for pump test

water levels

well ID	DTW
EXP-8	16.78
EXP-9	16.54
EXP-9A	17.35

1056 start pump test @ ~5gpm

Location Cedartown, GA Date 8/14/14

Project / Client Textron

Sunny 80°F

1114 Stop test, well dry.
Total Flow = 81.8 gallons

1145 Restart APT @ ~1gpm
WL = 25.45

1200 Collect EXP-9A(1)

1211 Stop pump test, water level below pump.

Total Flow = 20.26 gallons

EXP-9A Water Quality

Ferrous Iron = 0 mg/L
Temp = 25.96 °C
pH = 6.26
ORP = 58 mV
Cond. = 0.288 mS/cm
Turb = 600 ntu
DO = 8.24 mg/L
TDS = 0.186 g/L

1215 Start to clean up area and prep for sampling.

Location Cedartown, GA Date 8/14/14

Project / Client Textron

Sunny 80°F

1340 Start sampling set-up @ EXP-5A

Sample ID	Collection Time
EXP-9A(1)	1200
EXP-5A	1430
EXP-3	1520
EXP-1	1605
MW-57A	1645
EXP-10A	1715

1730 CDM Smith offsite.

8-14-14

Location Cedartown, GA Date 8/15/14

Project / Client Textron

Sunny 70°F

0800 CDM Smith (W. Fuller, T. Duffey) onsite.

0810 Start downloading data from loggers.

0845 Data will not download from EXP-9 data logger.

0945 Talk with Tom Duffey and he says to finish collecting samples and get a new logger from Pine.

1000 Call Pine and have new logger brought to office. Will redo EXP-9A test on Monday AM.

1030 Start GW sampling

Sample ID	Collection Time
EXP-8	1100
EXP-9	1140
MW-58A	1215

DUP-1 0800

Location Cedartown, GA Date 8/15/14

Project / Client Textron

Sunny 80°F

1230 CDM Smith offsite to lab and office.

8.15.14

Location Cedartown, GA Date 8/18

Project / Client Textron

Sunny 75°F

0800 CDM Smith onsite (W. Fuller)

0810 Start setup of data loggers

0850 Collect water levels

well ID	DTW
EXP-9A	17.57
EXP-9	16.65
MW-35C	14.75

0855 Start EXP-9A pump test

0955 WL = 37.35
Flow = 0.47 gpm
Total Flow = 27.75 gallons

1010 collect EXP9A(2)

1015 stop pump test water level below pump
Total Flow = 47.46 gallons

Location Cedartown, GA Date 8/18/14

Project / Client Textron

Cloudy 75°F

EXP-9A(2) water Quality

Ferrous Iron = 0.15 mg/L

Temp = 23.34 °C

pH = 6.81

ORP = 81 mV

Cond = 0.388 mS/cm

Turb = 13.5 NTU

DO = 7.27 mg/L

TDS = 0.249 g/L

1130 Equipment loaded into truck. N. Fuller offsite for ice and clay.

8-18-14

Location Cedartown, GA Date 8/19/14

Project / Client Textron

Cloudy 70°F

0730 Com Smith (w. Fuller) onsite. Start collecting level tracks.

0800 Tom Duffy (Com Smith) onsite

0820 Start removing pump from EXP-9A

0900 Mob to EXP-10A to start APT test.

0930 Collect water levels

Well ID	DTW
EXP-11A	10.34
MW-37C	13.86
EXP-10A	19.57

0945 start test @ 5 gpm

0947 change pumping rate to ~3 gpm

1000 Stop pump test, well is dry

1045 Start removing high flow pump.

Location Cedartown, GA Date 8/19/14

Project / Client Textron

Cloudy 80°F

1115 Install Lower flow pump

1145 N. Fuller offsite to Home Depot for Supplies.

1210 N. Fuller returns with supplies to develop well.

1215 Start well development.

1230 Finish well development.

1305 EXP-11A Total Flow = 75.61 gallons

1309 WL = 34.65 EXP-11A. Start test @ .5gpm

1340 Collect EXP-11A (i)

1353 Stop test.
Total Flow = 8.80 gallons

1415 Remove pump from EXP-11A and move to EXP-11.

Location Cedartown, GA Date 8/19/14

Project / Client Textron

Cloudy 85°F

EXP-11A Water Quality
Ferrous Iron = 0.73 mg/L
Temp = 26.54 °C
pH = 7.47
ORP = 51 mV
Cond = 0.361 mS/cm
Turb = 566 ntu
DO = 6.73 mg/L
TDS = 0.235 g/L

1510 Finish pump set-up @ EXP-11

1511 WL = 11.34 @ EXP-11

1512 Start pump test/development.
- 2.50 gpm

1540 Stop test/development

1600 Start site cleanup.

1615 CAM Smith offsite.

8-19-14

Location Cedartown, GA Date 8/20/14

Project / Client Textron

Sunny 75°F

0800 CDM Smith onsite (N. Fuller)

0805 Start downloading data.

0840 Collect water levels

Well ID	DTW
EXP-11	12.02
MW-37C	13.97
EXP-11A	10.17

0905 Start EXP-11 pump test @ 0.5 gpm

1005 Collect readings and ~~EXP-11(1)~~ NF

Flow rate = 0.00 Pump stopped.
Total flow = 22.60
LOL = 45.61

1020 Call to Tom Doffey, he says to pack it all in.

1230 Start collecting FDW samples.

Location Cedartown, GA Date 8/20/14

Project / Client Textron

Sunny 90°F

Sample ID	Collection Time
CHRT 26474	1230
SV 30535	1240
EXP-11(1)	1300
SFVP 4353L	1325

EXP-11(1) water Quality

Ferrous = 0.43 mg/L
Temp = 20.51 °C
pH = 8.24
ORP = -48
Cond. = 0.258
Turb = 256
DO = 4.50
TDS = 0.168

SV30535 Total H_2O = 2,000 gallons approx.

SFVP 4353L Total H_2O = 8,200 gallons approx.

1340 CDM Smith offsite.

8-20-14

Location Cedartown, GA Date 1/20/15

Project / Client Textron

60°F Sunny

1230 CDM Smith (J. Weeber + N. Fuller) arrive on site after picking up totes from WF Taylor site in Dalton, GA

1330 CDM Smith offsite for lunch and supplies

1415 CDM Smith returns to site

1615 Completed installation of pump in MW-37C, ran water pipe to totes, and pump test ready to be started tomorrow CDM Smith offsite for day

Jeff Walker

Location Cedartown, GA Date 1/21/15

Project / Client Textron

Sunny 35°F

0745 - CDM Smith on site (J. Weeber + N Fuller)

0800 - Collect water levels

~~EXP-1~~ fw

Location	DTW
EXP-11	9.10
EXP-11A	7.82
MW-37C	8.59

0930 Start pumping test on MW-37C @ 1.0 gpm flow

0937 DTW drops ~10'

	Flow	DTW	Total
1000	0.87	51.40	27.99
1015	0.00	67	38.04

- dry allow to recover

1035 Call to update Tom Dutley - says to break everything down - test is done - no samples

1200 CDM Smith offsite for lunch after disassembling most of the system

Jeff Walker

Location Cedartown, GA Date 1/21/15

Project / Client Textron

55°F Sunny

1230 - CDM Smith returns from lunch

1330 - Complete pump pull, removing trolls and downloading data. MW-37C only recovered a couple of feet since shutdown @ 1015

CDM Smith off site for event

Jeff Walker

Location Cedartown, GA Date 2/23/15

Project / Client Textron

36°F Cloudy

0815 CDM Smith onsite (N. Foller, C. Choi)

0940 Clean Harbors onsite to deliver roll-off containers.

0950 Tom Duffey onsite.

1025 Tom Duffey offsite.

1105 Clean Harbors offsite.

1120 United Rentals onsite to deliver equipment for Tri-state.

1140 Tri-State onsite and United Rentals offsite.

1340 Start to drill Exp-12

1510 Finish setting casing @ Exp-12

1515 Head to Exp-13

1525 Start to drill Exp-13. Tri-state needs supplies

Location Cedartown, GA Date 2/23/15

Project / Client Textron

40°F sunny

EXP-12 Casing = 0-15'

Depth	Description
0-6"	Topsoil, clay, silty, sandy, dark brown, dry
6"-2'	clay, silty, some sand, brown, dry
2'-8'	clay, silty, some sand, light brown to brown, dry.
8'-12'	clay, silty, brown to light brown, moist.
12-13'	clay, silty, light brown, wet
13'-15'	Limestone, hard, grey.
15'-30	Limestone, hard, grey.
30'-30.5'	Fracture, H_2O
30.5'-33'	Limestone, Hard, grey
33'-33.5'	Fracture
33.5-36'	Limestone, hard, grey
36'-56.5'	Fracture
56.5'-75'	Limestone, hard, grey

Location Cedartown, GA Date 2/23/15

Project / Client Textron

41°F Sunny

~~EXP-13~~ ~~Depth~~ ~~Description~~

1535 Tri-state offsite for supplies.

1610 Tri-state calls and says truck is broken down. Won't finish setting casings today.

1630 Talk with Tom Duffey and he is ok with plan.

1635 con Smith offsite.

2.23.15

Location: Cedartown, GA Date: 2/24/15

Project / Client: Textron

Cloudy / snow 30°F

0800 CDM Smith onsite (N. Fuller)
Tri-State onsite.
HTS meeting.

0815 start drilling EXP-13

EXP-13 casing - 15' bgs

Depth	Description
0 - 6"	Topsoil, grass, clay, silty, sandy, dark brown, dry.
6" - 6'	clay, silty, sandy, brown to light brown, dry.
6' - 13'	clay, silty, light brown, moist
13' - 15'	Limestone, grey, hard.
15' - 23'	Limestone, grey, hard
23' - 24'	Fracture, ~~clay~~, silt filled, wet, H_2O
24 - 40'	Limestone, grey, hard
40 - 53'	Limestone, grey, hard
53' - 53.5'	Fracture,
53.5' - 75'	Limestone, grey, hard

Location: Cedartown, GA Date: 2/24/15

Project / Client: Textron

cloudy / rain 32°F

1015 Tristate to get water to grout casings.

1150 Start grouting EXP-12 + EXP-13.

1230 Finish grouting and start site clean-up for the day.

1250 All parties offsite for the day.

2-24-15

Location Cedartown, GA Date 2/25/15

Project / Client Textron

Sunny 30°F

0730 CDM Smith onsite (N. Fuller, C. Cui)
Tri-State onsite

0735 HTS Meeting

0745 start to drill out EXP-13.

0830 Talk with Tom Duffey. Tom asks to drill the hole out to 75' as long as drilling is easy.

1015 finish drilling EXP-13 to 75' bgs will leave open bore.

1200 Mob to EXP-12.

1215 Start to drill EXP-12.

1310 Air Compressor quits, Tri-State makes calls to figure out problem.

1350 N Fuller departs site due to winter weather.

2-25-15

Location Cedartown, GA Date 2/26/15

Project / Client Textron

Sunny / 33°F

0845 CDM Smith onsite (N. Fuller)
Tri-State already onsite building pad for EXP-13.

0910 Tri-State offsite to get supplies.

1010 Tri-State back to finish building pad.

1015 Tom Duffey calls to say a new air rig will be onsite in the morning to finish EXP-12.

1130 Finish pad @ EXP-13 and head to EXP-12 to remove rods from hole and get equipment ready for de-mob.

1230 All parties offsite.

2-26-15

Location Cedartown, GA Date 2/27/15

Project / Client Textron

Sunny 35°F

0945 CDM Smith onsite (W. Fuller) waiting for Tri-State.

1125 Tri-State arrives onsite with new rig.

1220 Start drilling EXP-12.

1245 Finish drilling EXP-12 to 75' bgs.

1310 Tri-State offsite for supplies to build EXP12 pad and for restoration work.

1350 Tri-State back to start building pad.

1530 Tri-State finishes pad construction. Start site clean-up and restoration work.

1800 All restoration work complete. All parties offsite for event.

2-27-15

Location Cedartown, GA Date 3/17/15

Project / Client Textron

Sunny 55°F

0800 CDM Smith onsite (W. Fuller, C. Choi) Clean Harbors onsite with Tank #1, place it near EXP-12.

0820 Clean Harbors offsite.

0825 Start to set-up on EXP-12.

0850 Head to Home Depot for supplies.

0925 Return to site.

0935 Tag TD on EXP-12. TD = 35.60' btoc. Well is 75' btoc, looks like ~80' silt mud in hole.

1000 Use 1" PVC to determine actual thickness of silt. Pipe will go to ~55' btoc. ~20' of silt/mud.

1010 Call to Tom Duffey to discuss options. Tom suggests jetting water down hole to push silt to surface.

Location Cedartown, GA Date 3/17/15

Project / Client Textron

Sunny 65°F

1025 CDM Smith offsite to Home Depot to get supplies.

1105 Return to site to get 250 gal tote to fill with water.

1115 Start filling tote with water.

1205 Finish filling tote and head to EXP-12 to jet.

1220 Start jetting silt/mud.

1340 Finish jetting 250 gallons of water down hole. No material came to surface. Call to Tom Duffey. Tom says pump will be placed ~40 LOTC for testing.

1350 Head to EXP-13 to set-up for test.

1600 Pump, loggers, and piping set up for test tomorrow. CDM Smith offsite.

[signature] 3-17-15

Location Date

Project / Client

Intentionally Left Blank

Location _____ Date _____

Project / Client _____

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3-17-15

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Common Field Data Error Codes

Error codes are used to explain common mistakes and are written above or close to the mistake. Commonly used error codes include:

RE	Recording Error
CE	Calculation Error
TE	Transcription Error
SE	Spelling Error
CL	Changed for Clarity
DC	Original Sample Description Changed After Further Evaluation
WO	Write Over
NI	Not Initialed and Dated at Time of Entry
OB	Not Recorded at the Time of Initial Observation

Note: Error code should be circled, dated, and initialed when recorded.

Hazard Classifications

Class 1 Explosives
Class 2 Gas
Class 3 Flammable Liquid
Class 4 Flammable Solids (Potential spontaneous combustion, or emission of flammable gases when in contact with water)
Class 5 Oxidizing Substances and Organic Peroxides
Class 6 Toxic (poisonous) and infectious substances
Class 7 Radioactive material
Class 8 Corrosives
Class 9 Miscellaneous dangerous goods

Container type abbreviations (for sampling guidelines)

BR - Boston Round • ABR - Amber Boston Round • AJ - Amber Jug • AWM - Amber Wide Mouth • Poly - Polyethylene Bottles • BOD - Bottle • CWM - Clear Wide Mouth

CONTENTS

PAGE	REFERENCE	DATE

Location Cedartown, GA Date 3/18/15

Project / Client Teton

Sunny 50°F

0730 CPM Smith onsite (N. Fville, C. Choi)

0745 Collect water levels

Well ID	DTW
Exp-13	14.45
Exp-8	13.04
Exp-9	13.23

Exp-13 TANK ID
24-5/12

0815 Start pump test @ ~1 gpm

0845 Total Flow = 25.32
GPM = 0.75
DTW = 20.75

0846 GPM 0.75 → 1.50

0915 Total Flow = 78.24 *Exp-13 (1)
GPM = 1.31
DTW = 36.45

Temp	pH	Cond	ORP	DO	TDS	Turb
15.35	7.15	0.395	212.0	7.30	0.255	366

Ferrous Iron = 0.08 mg/L

Location Cedartown, GA Date 3/18/15

Project / Client Textron

Sunny 65°F

1042 Total Flow = 180.50
GPM = 1.27
DTW = 50.65

1130 Total Flow = 236.71
GPM = 1.07
DTW = 62.50

1210 TOTAL FLOW = 282.86
GPM = 1.08
DTW = 64.15

1240 Total Flow = 315.39
GPM = 1.03
DTW = ~68

1310 Total Flow = 345.60
GPM = 1.08
DTW = ~68.50

1315 5 gallon bucket check = 2.50 gpm

1350 TOTAL FLOW = 389.11
GPM 1.07
DTW = 68.70

Location Cedartown, GA Date 3/18/15

Project / Client Textron

Sunny 70°F

1420 Total Flow = 420.48
GPM = 1.06
DTW = ~68.70

1450 Total Flow = 454.84
GPM = 1.06
DTW = ~68.05

1540 TOTAL FLOW = 506.29
GPM = 1.06
DTW = 68.65

~~1545~~ 1550 Turn pump off

Temp	pH	cond	ORP	DO	TDS	Turb
21.52	7.48	0.376	-5.0	11.67	0.244	3.72

Ferrous iron = 0.00 mg/L

1555
total depth of tank = 7.55'
DTW of tank = 4.27
Total gallons = ~1,034.16

1605 CDM Smith off site.

3-18-15

Location Cedartown, GA Date 3/19/15

Project / Client Teatron

Cloudy 50°F

0730 Jim Smith onsite (W. Fuller, C. Choi) Break down EXP-13 setup and download data from data loggers

0740 Pumping well data logger not responding. Will try to dry out to get data.

0815 Head to EXP-12 to setup pump for test.

0900 Collect water levels

Well	TOC DTW	EXP-12 TANK# 244524
EXP-12	8.50	0945 Start pump test
EXP-11	8.42	
EXP-11A	7.32	

1015 EXP-11A 7.32

1020 Pump starts to slow down.

1027 Shut pump down. Pump is stuck in mud.

Location Cedartown, GA Date 3/19/15

Project / Client Teatron

Rain 60°F

1043 Raised pump up ~5' and try again. Pump still won't run well. Will remove 20' of pipe and try again.

1055 Try restarting pump, but pump seems like it is hot. Will break for lunch and allow pump to cool down. Will try again @ 1130.

1135 Try restarting pump, but still no flow. Remove pump and check to make sure screen is clean.

1145 Call to Tom Duffy to discuss options going forward. He seems to like option where we move pump to ~20' bgs and try pump test there.

1200 Restart pump test ~20' bgs. ~2.2 gpm

1230 Flow Rate = 1.66

EXP-12 = 15.80

EXP-11A = 7.32

Location Cedartown, GA Date 3/19/15

Project / Client Textron

Rain 60°F

1300 Flow Rate = 1 gpm
Exp-12 = ~~16.27~~ NF 17.29
Exp-11A = 7.32

Temp	pH	Cond.	ORP	DO	TDS	Turb
19.08	7.00	0.362	52.7	10.25	0.235	800

1330 Exp-12 = ~~16.30~~ NF 17.30
Exp-11A = 7.35

1400 Flow Rate = 1.04 gpm
Exp-12 = ~~16.30~~ NF 17.30
Exp-11A = 7.32

1430 Exp-12 = 17.25
Exp-11A = 7.32

1500 Flow rate = 0.75 gpm
Exp-12 = 17.00
Exp-11A = 7.32

1530 Exp-12 = 17.05
Exp-11A = 7.32

Location Cedartown, GA Date 3/19/15

Project / Client Textron

Rain 60°F

1600 Flow rate = 0.76
Exp-12 = 17.05
Exp-11A = 7.37

Tank Volume
300 gallon

Temp	pH	Cond.	ORP	DO	TDS	Turb
20.51	7.30	0.358	57.5	7.86	0.233	800

Total depth of tank = 5.91
DTW of tank = 5.81

1610 Shut down pump. Finish cleaning up site.

1625 COM Smith office.

3-19-15

Location Cedartown, GA Date 3/20/15

Project / Client Textron

Clouds 50°F

0730 Com Smith onsite (N. Fuller, C. Choi)

0735 Start pulling pump and gathering equipment.

0815 Download data from data loggers

0915 Finish securing wells and loading equipment.

0925 Com Smith offsite to warehouse to store equipment.

3-20-15

Location Date

Project / Client

Location Cedartown Date 8-4-14

Project / Client Textron

910 Sunny

0950 - Forbes onsite. Review scope of work and boring locations adjacent to Rome Plan.

1305 - Terra Sonic on-site. Tony, driller, called at 1150 and said they be later than noon due to traffic.

1315 - Begin filling drill rig with H_2O.

- Review boring locations / scope with driller.

1405 - Hand auger ~3 feet at EXP-11.

1450 - Mob to EXP-11. Filled drill rig water tank 3/4 full. Water tank = 700 gallons.

- Refer to field book with drilling activities in May / June 2014 for residuum lithology at EXP-11.

1515 - Begin drilling EXP-11 with 10.25" OD casing.

~~EXP-11~~

- Hard at 12
- Soft 12.5 - 13
- Hard 13 - 13.5

1553 - Prepare to cleanout EXP-11 with ~~6.75"~~ 6" casing

- Weight of rods pushed through to 15.5 feet.
- Hard at 15.5. Drilled to 16.5 Feet to set casing

1606 - Offsite with Ike to get Portland.

1640 - Return. Casing in the ground but not to depth due to heave in the hole.

- Flush hole but heave still present

Location Cedartown Date 8-4-14

Project / Client Textron

910 Sunny

Drilling Specs

Helper - Chris Espy Driller - Tony Hansen

Helper - Ike Young

Rig - T-150 (Hydro)

Outer Casing diameter - 10.25" } Used for setting

Inner Casing diameter - 9.75" } 8" PVC casing

8" PVC casing

Override Casing - Outer

- Inner

1730 - Casing down to 16.5 Feet but riding with the outer casing when attempting to remove outer casing. Likely some mud/rock stuck between PVC/Outer casing.

- Flush casings and attempt to pull outer casing but PVC still riding.

1810 - Attempt to pull PVC out but unsuccessful.

1825 - Clean work area. Will attempt to set casing tomorrow.

1835 - Forbes/Drill crew off site.

David Forbes

8-4-14

Location Cedartown Date 8-5-14

Project / Client Textron

64° Sunny

0725- Forbes onsite. Drill crew already onsite transferring H_2O from 275 gal. IBC to drill rig.

0732- Take helper to plant to reload with H_2O while driller attempts to reset casing.

0816- Complete refilling IBC with H_2O.

0825- Return to driller. PVC has been removed and annulus cleaned out.

0943- Prepare to grout casing for EXP-11.

1010- Complete grouting casing and rinsing out tremie pipe

- Prepare to mob to EXP-11A.

1040- Begin drilling EXP-11A with 10" casing. Lithology logged in field book with drilling activities from May/June 2014.

-Offset from initial boring.

EXP-11A

0-12.5- Residuum

12.5-14 - Limestone

- Set 8" PVC casing to 14 Feet.

1045- Helper mobs to water source to refill IBC

1130- Begin overdrilling EXP-11A with 10" casing

1138- Helper returns with H_2O.

1150- Pull inner/outer casing. Offsite to refill with H_2O.

Location Cedartown Date 8-5-14

Project / Client Textron

87° Sunny

1230- Helper returns with water. Prepare to set casing

1255- Break for lunch. Drill crew will set Portland cement at lunch and grout casing after

1330- Return from lunch.

1350- Drill crew returns with Portland cement.

- Begin grouting casing

1420- Complete grouting. Prepare to mob to EXP-9A.

1436- Helper to refill with H_2O.

1510- Prepare to drill with 6" casing

1524- Helper returns with H_2O.

1530- Helper leaves for more H_2O.

1618- Helper returns. Currently at 90 feet.

1625- Helper to get more H_2O.

1658- Complete getting 6" casing to 100 feet.

1710- Helper returns with H_2O. Transfer to rig.

1730- Forbes/Drill crew offsite.

Daniel Faber

8-5-14

Location Cedartown Date 8-6-14

Project / Client Taylor

610 Sunny

0725- Forbes onsite. Drill crew already onsite preparing to construct EXP-9A and refilling with H_2O

0810- Helper returns with H_2O

0815- Stop constructing EXP-9A. Drill rig upper clamp is not functioning

0818- Helper to refill with H_2O.

0835- Continue ~~drilling~~ constructing EXP9A. Driller had to adjust hydraulic pressure for upper clamp.

0905- Helper returns with H_2O.

0912- Helper to get more H_2O.

1000- Helper returns with H_2O.

- Driller toss inside of 4" PVC to 87 Feet total depth. Screen is broken and was verified with tremie pipe. Will remove casing/screen and redrill. Broken at 70 Feet (±) 2 Feet above joint.

1008- Helper to refill with H_2O.

1055- Helper returns.

1105- City of Cedartown onsite to discuss hydrant connection. Helper has to go to City Hall to complete application/provide down payment. Will be able to use hydrant this afternoon.

1120- Driller has spoken with multiple people at the office to determine how to remove screen/sand

Location Cedartown Date 8-6-14

Project / Client Taylor

820 Sunny

left in casing.

1125- Begin drilling with 6" casing to 100 feet. Will set casing at 100 feet, flush out sand, and use 4" casing with a tap to retrieve broken screen.

- Helper offsite to City Hall.

1140- Offsite for lunch.

1205- Return. Drill crew has flushed out most of the sand in EXP-9A.

- Helper returns from City Hall. Drill crew refills with H_2O and breaks for lunch. City will stop by after they have installed a flow meter/backflow preventer on the hydrant.

1255- Drill crew returns with H_2O and continues removing PVC from EXP-9A.

1305- Helper to refill with H_2O

1325- Terry Barnett with Trinity onsite.

1400- Driller has removed all but 20 Feet of screen. Will continue running 4" core barrel down annulus to capture broken screen

1405- Helper returns with H_2O.

1415- Helper offsite to get hydrant connections.

1540- Helper returns and was unable to get connections for hydrant.

Location: Cedartown Date: 8-6-14

Project / Client: Textron

92° Sunny

- City will be by in the morning and will likely allow drill crew to use special fitting for hydrant.

1600 - Helper to refill with H_2O.
- Continue removing screen.

1715 - All damaged screen has been removed with the exception of 1 foot. Will complete cleaning out the annulus tomorrow and reconstruct. Drill crew has additional supplies ordered and will be delivered tomorrow or Friday.

1735 - Forbes / Barrett / Drill crew offsite

8-6-14

Location: Cedartown Date: 8-7-14

Project / Client: Textron

64° Sunny

0725 - Forbes onsite. Drill crew already has 6" rods in the ground and is attempting to retrieve the remaining screen.

0740 - Helper returns with H_2O.

0750 - Helper to refill with H_2O.

0830 - Terry Barrett with Trinity onsite.

0840 - Helper returns with H_2O.
- Prepare to flush annulus.

0850 - Helper offsite to reload with H_2O.

0922 - Completed flushing annulus and prepare to install riser/screen.

0957 - Helper returns with H_2O.

1055 - Finally have a hydrant connection

1120 - Complete installing sand pack at EXP-9A
- Clean work area.

1200 - Offsite for lunch. Drill crew will mob to EXP-11 while I am gone

1230 - Return. Prepare to drill EXP-11. Drill crew will break for lunch before drilling.

1320 - Begin drilling EXP-11

1550 - Complete EXP-11 to 70 feet.

1550 - 1630 - Clean out limestone cuttings from annulus.

1640 - Begin constructing EXP-11.

Location Cedartown Date 8-7-14

Project / Client Textron

930 Sunny

EXP-11

16.5-17 - Limestone, light to dark gray

17 - ~~16.5~~ 40 (OF) Silt bearing fracture, clay and sand, light brown, limestone frass in matrix, H_2O

40-42 Limestone

42-44.5 Soft drilling / Silt filled and Limestone

44.5-46.5 Limestone

46.5-47 Fracture

47-49 Limestone

49-51 Soft drillings / silt filled

51-52 Limestone

52-55 Soft

55-70 Limestone

- Terminate boring at 70 feet.

1715- Thunder / Lightning. Drill crew has begun installing the sand pack and will finish construction tomorrow.

1730- Forbes / Barrett / Drill Crew offsite

Dal Falz

8-7-14

Location Cedartown Date 8-8-14

Project / Client Textron

720 Sunny

0730- Forbes onsite. Drill crew onsite constructing EXP-11. Fourth helper, Gerald Cecily, onsite.

0815- Complete constructing EXP-11.

0840- Mob to EXP-11A.

0855- Begin drilling EXP-11A

EXP-11A

14-15 - Limestone

15-43 - Silt filled fracture, sand and clay, light brown

43-59 - Limestone

59-61 - Silt-bearing fracture

61-63 - Limestone

63-64 - Fracture

64-70 - Limestone

- Terminate EXP-11A at 70 feet

1030- Prepare to construct EXP-11A

1232- Complete constructing EXP-11A. Prepare to mob to MW-58A.

1240- Hand auger MW-58A ~3 feet

EXP-11

4" Screen - 14-69 - 0.01 SLOT

4" Riser - 0-14 - 0.01 SLOT

#2 Sand - 0-69

Flush-mount (3'x3' pad)

8" PVC casing to 16.5 feet

Location Cedartown Date 8-8-14

Project / Client Textron

74° Sunny

EXP-9A

4" Screen - 99-24 - 0.01 SLOT
4" Riser - 24-0
Sand - 99-0 - #2

EXP-11A

4" Screen - 69-14 - 0.01 SLOT
4" Riser - 14-0
Sand - 69-0 - #2
Flush-Mount Completion (3'x3' pad)
8" PVC Casing to 14.0 feet

MW-58A

2" Screen 5-15 → 0.010 SLOT
#2 Sand 3-15 → #2
Bentonite 1-3 → Chips
Grout 0-1
Above-Grade Completion

Location Cedartown Date 8-8-14

Project / Client Textron

74° Sunny / Overcast

1252- Begin drilling MW-58A.

MW-58A

Depth	Description
0-1	Silt, sandy, organics, light brown, and dark brown, moist
1-9.5	CLAY, silty, sandy, trace weathered rock (limestone), light and yellowish brown, and orangish brown, fine-grained, dry to moist
9.5-13	Limestone, light and dark gray, soft
13-13.5	Fracture, H_2O
13.5-15	Same as 9.5-13

Terminate boring at 15 feet

1315- Heavy rain / Thunder storm. Drill crew will construct MW-58A after the storm event. Drill crew will also ream EXP-7 this afternoon or tomorrow. Terra-Sonic will either demob tomorrow after completing EXP-7, developing MW-58A, and cleaning staging area or Sunday morning.

1340- Forbes offsite.

[signature]
8-8-14

Appendix D

Laboratory Reports

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

May 13, 2014

Andrew Romanek
CDM Smith Inc.
3715 Northside Parkway, Northcreek 30
Atlanta GA 30327

TEL: (404) 720-1400
FAX: (404) 467-4130

RE: Cedartwon

Dear Andrew Romanek: Order No: 1405804

Analytical Environmental Services, Inc. received 2 samples on 5/8/2014 2:15:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

James Forrest
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1405804

Date: 5-8-14 Page 1 of 1

COMPANY: CDM Smith Inc.

ADDRESS: 3715 Northside Pkwy Bldg 300, Suite 400 Atlanta, GA 30327

PHONE: 919-943-2346

FAX:

SAMPLED BY: Daniel Forbes

SIGNATURE:

ANALYSIS REQUESTED: 8260B

PRESERVATION (See codes): HCl

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B	REMARKS	No # of Containers
1	MW-56C	5-8-14	1015	✓		GW	✓		2
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	5/8/14 1145	1:	5/8/14 1145
2:	5/8/14 1355	2:	5-8-14 1355
3:	5-8-14 14:15	3:	5/8/14 14.15

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER Delivered to lab

PROJECT INFORMATION
PROJECT NAME: Ceductown
PROJECT #:
SITE ADDRESS:
SEND REPORT TO: Andrew Romanek
INVOICE TO:
(IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers 2

Turnaround Time Request
- ● Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ○ Other

STATE PROGRAM (if any): No
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: CDM Smith Inc.
Project: Cedartwon
Lab ID: 1405804

Case Narrative

Sample Receiving Nonconformance:

A Trip Blank was provided but not listed on the Chain of Custody. Trip blank analyzed at no cost to the client.

Analytical Environmental Services, Inc

Date: 13-May-14

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-56C
Project Name:	Cedartwon	**Collection Date:**	5/8/2014 10:15:00 AM
Lab ID:	1405804-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
1,1-Dichloroethane	7.2	5.0		ug/L	190924	1	05/10/2014 18:56	GK
1,1-Dichloroethene	11	5.0		ug/L	190924	1	05/10/2014 18:56	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
1,2-Dibromoethane	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
1,2-Dichloroethane	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
1,2-Dichloropropane	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
2-Butanone	BRL	50		ug/L	190924	1	05/10/2014 18:56	GK
2-Hexanone	BRL	10		ug/L	190924	1	05/10/2014 18:56	GK
4-Methyl-2-pentanone	BRL	10		ug/L	190924	1	05/10/2014 18:56	GK
Acetone	BRL	50		ug/L	190924	1	05/10/2014 18:56	GK
Benzene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Bromodichloromethane	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Bromoform	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Bromomethane	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Carbon disulfide	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Carbon tetrachloride	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Chlorobenzene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Chloroethane	BRL	10		ug/L	190924	1	05/10/2014 18:56	GK
Chloroform	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Chloromethane	BRL	10		ug/L	190924	1	05/10/2014 18:56	GK
cis-1,2-Dichloroethene	590	500		ug/L	190924	100	05/12/2014 11:53	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Cyclohexane	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Dibromochloromethane	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Dichlorodifluoromethane	BRL	10		ug/L	190924	1	05/10/2014 18:56	GK
Ethylbenzene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Freon-113	BRL	10		ug/L	190924	1	05/10/2014 18:56	GK
Isopropylbenzene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
m,p-Xylene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Methyl acetate	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Methylcyclohexane	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Methylene chloride	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
o-Xylene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-May-14

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-56C
Project Name:	Cedartwon	**Collection Date:**	5/8/2014 10:15:00 AM
Lab ID:	1405804-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Tetrachloroethene	6.5	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Toluene	30	5.0		ug/L	190924	1	05/10/2014 18:56	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Trichloroethene	14000	500		ug/L	190924	100	05/12/2014 11:53	GK
Trichlorofluoromethane	BRL	5.0		ug/L	190924	1	05/10/2014 18:56	GK
Vinyl chloride	27	2.0		ug/L	190924	1	05/10/2014 18:56	GK
Surr: 4-Bromofluorobenzene	89.8	66.2-120		%REC	190924	100	05/12/2014 11:53	GK
Surr: 4-Bromofluorobenzene	92.8	66.2-120		%REC	190924	1	05/10/2014 18:56	GK
Surr: Dibromofluoromethane	93.3	79.5-121		%REC	190924	1	05/10/2014 18:56	GK
Surr: Dibromofluoromethane	94.1	79.5-121		%REC	190924	100	05/12/2014 11:53	GK
Surr: Toluene-d8	95.7	77-117		%REC	190924	1	05/10/2014 18:56	GK
Surr: Toluene-d8	97.6	77-117		%REC	190924	100	05/12/2014 11:53	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-May-14

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Cedartwon	**Collection Date:**	5/8/2014
Lab ID:	1405804-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
1,1-Dichloroethane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
1,1-Dichloroethene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
1,2-Dibromoethane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
1,2-Dichloroethane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
1,2-Dichloropropane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
2-Butanone	BRL	50		ug/L	190924	1	05/10/2014 14:28	GK
2-Hexanone	BRL	10		ug/L	190924	1	05/10/2014 14:28	GK
4-Methyl-2-pentanone	BRL	10		ug/L	190924	1	05/10/2014 14:28	GK
Acetone	BRL	50		ug/L	190924	1	05/10/2014 14:28	GK
Benzene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Bromodichloromethane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Bromoform	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Bromomethane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Carbon disulfide	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Carbon tetrachloride	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Chlorobenzene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Chloroethane	BRL	10		ug/L	190924	1	05/10/2014 14:28	GK
Chloroform	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Chloromethane	BRL	10		ug/L	190924	1	05/10/2014 14:28	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Cyclohexane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Dibromochloromethane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Dichlorodifluoromethane	BRL	10		ug/L	190924	1	05/10/2014 14:28	GK
Ethylbenzene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Freon-113	BRL	10		ug/L	190924	1	05/10/2014 14:28	GK
Isopropylbenzene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
m,p-Xylene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Methyl acetate	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Methylcyclohexane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Methylene chloride	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
o-Xylene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 13-May-14

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Cedartwon	**Collection Date:**	5/8/2014
Lab ID:	1405804-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Tetrachloroethene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Toluene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Trichloroethene	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Trichlorofluoromethane	BRL	5.0		ug/L	190924	1	05/10/2014 14:28	GK
Vinyl chloride	BRL	2.0		ug/L	190924	1	05/10/2014 14:28	GK
Surr: 4-Bromofluorobenzene	90.7	66.2-120		%REC	190924	1	05/10/2014 14:28	GK
Surr: Dibromofluoromethane	93.6	79.5-121		%REC	190924	1	05/10/2014 14:28	GK
Surr: Toluene-d8	96.8	77-117		%REC	190924	1	05/10/2014 14:28	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client CDM Work Order Number 1405804

Checklist completed by Jan B 5/8/14
Signature Date

Carrier name: FedEx __ UPS __ Courier ✓ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.1 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Analytical Environmental Services, Inc

Date: 13-May-14

Client: CDM Smith Inc.
Project Name: Cedartwon
Workorder: 1405804

ANALYTICAL QC SUMMARY REPORT

BatchID: **190924**

Sample ID: **MB-190924** Client ID: Units: **ug/L** Prep Date: **05/10/2014** Run No: **267367**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **190924** Analysis Date: **05/10/2014** Seq No: **5637329**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cedartwon
Workorder: 1405804

ANALYTICAL QC SUMMARY REPORT

BatchID: **190924**

Sample ID: **MB-190924** Client ID: Units: **ug/L** Prep Date: **05/10/2014** Run No: **267367**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **190924** Analysis Date: **05/10/2014** Seq No: **5637329**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	44.95	0	50.00		89.9	66.2	120				
Surr: Dibromofluoromethane	46.90	0	50.00		93.8	79.5	121				
Surr: Toluene-d8	48.17	0	50.00		96.3	77	117				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Cedartwon
Workorder: 1405804

ANALYTICAL QC SUMMARY REPORT

BatchID: 190924

Sample ID: **LCS-190924** Client ID: Units: **ug/L** Prep Date: **05/10/2014** Run No: **267367**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **190924** Analysis Date: **05/10/2014** Seq No: **5637319**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	56.58	5.0	50.00		113	63.1	140				
Benzene	51.42	5.0	50.00		103	74.2	129				
Chlorobenzene	51.04	5.0	50.00		102	70	129				
Toluene	51.53	5.0	50.00		103	74.2	129				
Trichloroethene	54.43	5.0	50.00		109	71.2	135				
Surr: 4-Bromofluorobenzene	46.34	0	50.00		92.7	66.2	120				
Surr: Dibromofluoromethane	48.31	0	50.00		96.6	79.5	121				
Surr: Toluene-d8	48.33	0	50.00		96.7	77	117				

Sample ID: **1405671-001AMS** Client ID: Units: **ug/L** Prep Date: **05/10/2014** Run No: **267367**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **190924** Analysis Date: **05/10/2014** Seq No: **5637324**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	42.25	5.0	50.00		84.5	60.2	159				
Benzene	51.18	5.0	50.00		102	70.2	138				
Chlorobenzene	51.47	5.0	50.00		103	70.1	133				
Toluene	53.20	5.0	50.00		106	70	139				
Trichloroethene	54.96	5.0	50.00		110	70.1	144				
Surr: 4-Bromofluorobenzene	46.30	0	50.00		92.6	66.2	120				
Surr: Dibromofluoromethane	48.23	0	50.00		96.5	79.5	121				
Surr: Toluene-d8	48.57	0	50.00		97.1	77	117				

Sample ID: **1405671-001AMSD** Client ID: Units: **ug/L** Prep Date: **05/10/2014** Run No: **267367**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **190924** Analysis Date: **05/10/2014** Seq No: **5637326**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	41.67	5.0	50.00		83.3	60.2	159	42.25	1.38	19.2	
Benzene	50.90	5.0	50.00		102	70.2	138	51.18	0.549	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Analytical Environmental Services, Inc

Date: 13-May-14

Client: CDM Smith Inc.
Project Name: Cedartwon
Workorder: 1405804

ANALYTICAL QC SUMMARY REPORT

BatchID: **190924**

Sample ID: **1405671-001AMSD** Client ID: Units: **ug/L** Prep Date: **05/10/2014** Run No: **267367**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **190924** Analysis Date: **05/10/2014** Seq No: **5637326**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	51.50	5.0	50.00		103	70.1	133	51.47	0.058	20	
Toluene	53.16	5.0	50.00		106	70	139	53.20	0.075	20	
Trichloroethene	55.60	5.0	50.00		111	70.1	144	54.96	1.16	20	
Surr: 4-Bromofluorobenzene	46.63	0	50.00		93.3	66.2	120	46.30	0	0	
Surr: Dibromofluoromethane	47.55	0	50.00		95.1	79.5	121	48.23	0	0	
Surr: Toluene-d8	48.68	0	50.00		97.4	77	117	48.57	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

June 30, 2014

Andrew Romanek
CDM Smith Inc.
3715 Northside Parkway, Northcreek 30
Atlanta GA 30327

TEL: (404) 720-1400
FAX: (404) 467-4130

RE: FMTS-Cedartown, GA

Dear Andrew Romanek: Order No: 1406J22

Analytical Environmental Services, Inc. received 5 samples on 6/20/2014 3:10:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

James Forrest
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1406J22

Date: 6/18/14 Page 1 of 1

COMPANY: CDM Smith

ADDRESS: 3715 Northside Parkway NW B.300 S.400 Atlanta, GA 30327

PHONE: (404) 720-1400

FAX:

SAMPLED BY: Nick Fuller

SIGNATURE:

ANALYSIS REQUESTED: VOCs, Total Iron, Calcium, Manganese, Alkalinity, Hardness, TOC, TDS, TSS

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs (HCl)	Total Iron (HNO3)	Calcium (HNO3)	Manganese (HNO3)	Alkalinity (None)	Hardness (HNO3)	TOC (H2SO4)	TDS (None)	TSS (None)	REMARKS	No # of Containers
1	EXP-2A (1)	6/18/14	1100	X		GW	X	X	X	X	X	X	X	X	X		5
2	EXP-5 (1)	6/19/14	1300	X		GW	X	X	X	X	X	X	X	X	X		5
3	EXP-2 (1)	6/20/14	0815	X		GW	X	X	X	X	X	X	X	X	X		5
4	EXP-2 (5)	6/20/14	1215	X		GW	X	X	X	X	X	X	X	X	X		5
5	TRIP Blank	6/20/14		X		W	X										2
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	6/20/14 1510	1:	6/20/14 3:10
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER_____

PROJECT INFORMATION
PROJECT NAME: FMTS - Cedartown, GA
PROJECT #:
SITE ADDRESS: Cedartown, GA
SEND REPORT TO: Andrew Romanek
INVOICE TO: (IF DIFFERENT FROM ABOVE) RomanekAP@CDMSmith.com
QUOTE #:_____ PO#:_____

RECEIPT
Total # of Containers 22

Turnaround Time Request
- (●) Standard 5 Business Days
- ( ) 2 Business Day Rush
- ( ) Next Business Day Rush
- ( ) Same Day Rush (auth req.)
- ( ) Other _____

STATE PROGRAM (if any): _____
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 30-Jun-14

Client: CDM Smith Inc.
Project: FMTS-Cedartown, GA
Lab ID: 1406J22

Case Narrative

Volatile Organic Compounds Analysis by Method 8260B:

1,1,1-Trichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethene, & Trichloroethene values for sample 1406J22-003A are "E" qualified indicating estimated values over linear calibration range. Sample could not be diluted and reanalyzed due to the second vial being broken at lab.

Metals Analysis by Method 6010C:

Iron was detected in Method Blank 192756 at 0.129 mg/L which was above reporting limit of 0.1 mg/L resulting in "B" qualified data for all samples with final Reporting Limits less than the value detected in the Method Blank. Associated sample values were greater than approximately 10X the blank value and data was not affected.

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP. 2A (1)
Project Name:	FMTS-Cedartown, GA	**Collection Date:**	6/18/2014 11:00:00 AM
Lab ID:	1406J22-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	17.7	1.00		mg/L	R270502	1	06/24/2014 17:23	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	5400	250		ug/L	192703	50	06/24/2014 12:47	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
1,1,2-Trichloroethane	57	5.0		ug/L	192703	1	06/23/2014 20:50	GK
1,1-Dichloroethane	920	250		ug/L	192703	50	06/24/2014 12:47	GK
1,1-Dichloroethene	3100	250		ug/L	192703	50	06/24/2014 12:47	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
1,2-Dibromoethane	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
1,2-Dichloroethane	43	5.0		ug/L	192703	1	06/23/2014 20:50	GK
1,2-Dichloropropane	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
2-Butanone	BRL	50		ug/L	192703	1	06/23/2014 20:50	GK
2-Hexanone	BRL	10		ug/L	192703	1	06/23/2014 20:50	GK
4-Methyl-2-pentanone	BRL	10		ug/L	192703	1	06/23/2014 20:50	GK
Acetone	340	50		ug/L	192703	1	06/23/2014 20:50	GK
Benzene	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Bromodichloromethane	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Bromoform	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Bromomethane	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Carbon disulfide	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Carbon tetrachloride	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Chlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Chloroethane	BRL	10		ug/L	192703	1	06/23/2014 20:50	GK
Chloroform	6.3	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Chloromethane	BRL	10		ug/L	192703	1	06/23/2014 20:50	GK
cis-1,2-Dichloroethene	100000	5000		ug/L	192703	1000	06/24/2014 13:15	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Cyclohexane	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Dibromochloromethane	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Dichlorodifluoromethane	BRL	10		ug/L	192703	1	06/23/2014 20:50	GK
Ethylbenzene	76	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Freon-113	11	10		ug/L	192703	1	06/23/2014 20:50	GK
Isopropylbenzene	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
m,p-Xylene	190	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Methyl acetate	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP. 2A (1)
Project Name:	FMTS-Cedartown, GA	**Collection Date:**	6/18/2014 11:00:00 AM
Lab ID:	1406J22-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Methylene chloride	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
o-Xylene	71	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Styrene	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Tetrachloroethene	45	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Toluene	120	5.0		ug/L	192703	1	06/23/2014 20:50	GK
trans-1,2-Dichloroethene	1500	250		ug/L	192703	50	06/24/2014 12:47	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Trichloroethene	80000	2500		ug/L	192703	500	06/24/2014 12:20	GK
Trichlorofluoromethane	BRL	5.0		ug/L	192703	1	06/23/2014 20:50	GK
Vinyl chloride	1100	100		ug/L	192703	50	06/24/2014 12:47	GK
Surr: 4-Bromofluorobenzene	92.6	66.2-120		%REC	192703	50	06/24/2014 12:47	GK
Surr: 4-Bromofluorobenzene	93.2	66.2-120		%REC	192703	500	06/24/2014 12:20	GK
Surr: 4-Bromofluorobenzene	93.2	66.2-120		%REC	192703	1	06/23/2014 20:50	GK
Surr: 4-Bromofluorobenzene	92.1	66.2-120		%REC	192703	1000	06/24/2014 13:15	GK
Surr: Dibromofluoromethane	99.8	79.5-121		%REC	192703	500	06/24/2014 12:20	GK
Surr: Dibromofluoromethane	100	79.5-121		%REC	192703	50	06/24/2014 12:47	GK
Surr: Dibromofluoromethane	98.8	79.5-121		%REC	192703	1000	06/24/2014 13:15	GK
Surr: Dibromofluoromethane	117	79.5-121		%REC	192703	1	06/23/2014 20:50	GK
Surr: Toluene-d8	100	77-117		%REC	192703	500	06/24/2014 12:20	GK
Surr: Toluene-d8	103	77-117		%REC	192703	50	06/24/2014 12:47	GK
Surr: Toluene-d8	95.4	77-117		%REC	192703	1	06/23/2014 20:50	GK
Surr: Toluene-d8	103	77-117		%REC	192703	1000	06/24/2014 13:15	GK
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	146	5.0		mg/L	192753	1	06/23/2014 16:15	OM
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	331	10		mg/L	192755	1	06/23/2014 12:20	OM
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	453	1.00		mg/L CaCO3	192756	1	06/24/2014 00:00	JL
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	295	15.0		mg/L	R270780	5	06/27/2014 14:20	EH
METALS, TOTAL SW6010C				**(SW3010A)**				
Calcium	100	0.100		mg/L	192756	1	06/24/2014 21:22	JL
Iron	1.58	0.100	B	mg/L	192756	1	06/24/2014 21:22	JL
Manganese	0.0643	0.0150		mg/L	192756	1	06/24/2014 21:22	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP. 5 (1)
Project Name:	FMTS-Cedartown, GA	**Collection Date:**	6/19/2014 1:00:00 PM
Lab ID:	1406J22-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	2.03	1.00		mg/L	R270502	1	06/24/2014 17:51	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	16	5.0		ug/L	192703	1	06/24/2014 14:37	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
1,1-Dichloroethane	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
1,1-Dichloroethene	14	5.0		ug/L	192703	1	06/24/2014 14:37	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
1,2-Dibromoethane	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
1,2-Dichloroethane	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
1,2-Dichloropropane	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
2-Butanone	210	50		ug/L	192703	1	06/24/2014 14:37	GK
2-Hexanone	BRL	10		ug/L	192703	1	06/24/2014 14:37	GK
4-Methyl-2-pentanone	BRL	10		ug/L	192703	1	06/24/2014 14:37	GK
Acetone	240	50		ug/L	192703	1	06/24/2014 14:37	GK
Benzene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Bromodichloromethane	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Bromoform	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Bromomethane	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Carbon disulfide	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Carbon tetrachloride	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Chlorobenzene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Chloroethane	BRL	10		ug/L	192703	1	06/24/2014 14:37	GK
Chloroform	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Chloromethane	BRL	10		ug/L	192703	1	06/24/2014 14:37	GK
cis-1,2-Dichloroethene	510	50		ug/L	192703	10	06/24/2014 14:09	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Cyclohexane	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Dibromochloromethane	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Dichlorodifluoromethane	BRL	10		ug/L	192703	1	06/24/2014 14:37	GK
Ethylbenzene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Freon-113	BRL	10		ug/L	192703	1	06/24/2014 14:37	GK
Isopropylbenzene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
m,p-Xylene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Methyl acetate	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP. 5 (1)
Project Name:	FMTS-Cedartown, GA	**Collection Date:**	6/19/2014 1:00:00 PM
Lab ID:	1406J22-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Methylene chloride	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
o-Xylene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Styrene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Tetrachloroethene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Toluene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
trans-1,2-Dichloroethene	7.5	5.0		ug/L	192703	1	06/24/2014 14:37	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Trichloroethene	530	50		ug/L	192703	10	06/24/2014 14:09	GK
Trichlorofluoromethane	BRL	5.0		ug/L	192703	1	06/24/2014 14:37	GK
Vinyl chloride	2.7	2.0		ug/L	192703	1	06/24/2014 14:37	GK
Surr: 4-Bromofluorobenzene	92.8	66.2-120		%REC	192703	10	06/24/2014 14:09	GK
Surr: 4-Bromofluorobenzene	98.4	66.2-120		%REC	192703	1	06/24/2014 14:37	GK
Surr: Dibromofluoromethane	95.6	79.5-121		%REC	192703	10	06/24/2014 14:09	GK
Surr: Dibromofluoromethane	100	79.5-121		%REC	192703	1	06/24/2014 14:37	GK
Surr: Toluene-d8	102	77-117		%REC	192703	1	06/24/2014 14:37	GK
Surr: Toluene-d8	101	77-117		%REC	192703	10	06/24/2014 14:09	GK
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	588	9.1		mg/L	192842	1	06/25/2014 16:13	OM
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	195	10		mg/L	192818	1	06/24/2014 12:35	OM
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	237	1.00		mg/L CaCO3	192756	1	06/24/2014 00:00	JL
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	280	15.0		mg/L	R270780	5	06/27/2014 14:20	EH
METALS, TOTAL SW6010C				**(SW3010A)**				
Calcium	56.7	0.100		mg/L	192756	1	06/24/2014 21:26	JL
Iron	2.84	0.100	B	mg/L	192756	1	06/24/2014 21:26	JL
Manganese	0.103	0.0150		mg/L	192756	1	06/24/2014 21:26	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP. 2 (1)
Project Name:	FMTS-Cedartown, GA	**Collection Date:**	6/20/2014 8:15:00 AM
Lab ID:	1406J22-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	5.26	1.00		mg/L	R270502	1	06/24/2014 18:16	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	210	5.0	E	ug/L	192703	1	06/23/2014 21:46	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
1,1,2-Trichloroethane	12	5.0		ug/L	192703	1	06/23/2014 21:46	GK
1,1-Dichloroethane	110	5.0		ug/L	192703	1	06/23/2014 21:46	GK
1,1-Dichloroethene	320	5.0	E	ug/L	192703	1	06/23/2014 21:46	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
1,2-Dibromoethane	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
1,2-Dichloroethane	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
1,2-Dichloropropane	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
2-Butanone	BRL	50		ug/L	192703	1	06/23/2014 21:46	GK
2-Hexanone	BRL	10		ug/L	192703	1	06/23/2014 21:46	GK
4-Methyl-2-pentanone	BRL	10		ug/L	192703	1	06/23/2014 21:46	GK
Acetone	BRL	50		ug/L	192703	1	06/23/2014 21:46	GK
Benzene	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Bromodichloromethane	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Bromoform	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Bromomethane	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Carbon disulfide	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Carbon tetrachloride	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Chlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Chloroethane	BRL	10		ug/L	192703	1	06/23/2014 21:46	GK
Chloroform	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Chloromethane	BRL	10		ug/L	192703	1	06/23/2014 21:46	GK
cis-1,2-Dichloroethene	12000	5.0	E	ug/L	192703	1	06/23/2014 21:46	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Cyclohexane	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Dibromochloromethane	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Dichlorodifluoromethane	BRL	10		ug/L	192703	1	06/23/2014 21:46	GK
Ethylbenzene	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Freon-113	BRL	10		ug/L	192703	1	06/23/2014 21:46	GK
Isopropylbenzene	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
m,p-Xylene	11	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Methyl acetate	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP. 2 (1)
Project Name:	FMTS-Cedartown, GA	**Collection Date:**	6/20/2014 8:15:00 AM
Lab ID:	1406J22-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Methylene chloride	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
o-Xylene	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Styrene	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Tetrachloroethene	26	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Toluene	10	5.0		ug/L	192703	1	06/23/2014 21:46	GK
trans-1,2-Dichloroethene	190	5.0		ug/L	192703	1	06/23/2014 21:46	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Trichloroethene	12000	5.0	E	ug/L	192703	1	06/23/2014 21:46	GK
Trichlorofluoromethane	BRL	5.0		ug/L	192703	1	06/23/2014 21:46	GK
Vinyl chloride	160	2.0		ug/L	192703	1	06/23/2014 21:46	GK
Surr: 4-Bromofluorobenzene	94.2	66.2-120		%REC	192703	1	06/23/2014 21:46	GK
Surr: Dibromofluoromethane	99.9	79.5-121		%REC	192703	1	06/23/2014 21:46	GK
Surr: Toluene-d8	101	77-117		%REC	192703	1	06/23/2014 21:46	GK
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	1120	20.0		mg/L	192842	1	06/25/2014 16:14	OM
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	480	10		mg/L	192818	1	06/24/2014 12:35	OM
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	309	1.00		mg/L CaCO3	192756	1	06/24/2014 00:00	JL
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	245	15.0		mg/L	R270780	5	06/27/2014 14:20	EH
METALS, TOTAL SW6010C				**(SW3010A)**				
Calcium	78.9	0.100		mg/L	192756	1	06/24/2014 21:30	JL
Iron	54.6	0.100	B	mg/L	192756	1	06/24/2014 21:30	JL
Manganese	1.09	0.0150		mg/L	192756	1	06/24/2014 21:30	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP. 2 (5)
Project Name:	FMTS-Cedartown, GA	**Collection Date:**	6/20/2014 12:15:00 PM
Lab ID:	1406J22-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	1.00		mg/L	R270502	1	06/24/2014 18:43	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	92	5.0		ug/L	192703	1	06/23/2014 22:13	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
1,1-Dichloroethane	19	5.0		ug/L	192703	1	06/23/2014 22:13	GK
1,1-Dichloroethene	42	5.0		ug/L	192703	1	06/23/2014 22:13	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
1,2-Dibromoethane	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
1,2-Dichloroethane	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
1,2-Dichloropropane	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
2-Butanone	BRL	50		ug/L	192703	1	06/23/2014 22:13	GK
2-Hexanone	BRL	10		ug/L	192703	1	06/23/2014 22:13	GK
4-Methyl-2-pentanone	BRL	10		ug/L	192703	1	06/23/2014 22:13	GK
Acetone	BRL	50		ug/L	192703	1	06/23/2014 22:13	GK
Benzene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Bromodichloromethane	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Bromoform	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Bromomethane	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Carbon disulfide	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Carbon tetrachloride	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Chlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Chloroethane	BRL	10		ug/L	192703	1	06/23/2014 22:13	GK
Chloroform	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Chloromethane	BRL	10		ug/L	192703	1	06/23/2014 22:13	GK
cis-1,2-Dichloroethene	2700	100		ug/L	192703	20	06/24/2014 13:42	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Cyclohexane	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Dibromochloromethane	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Dichlorodifluoromethane	BRL	10		ug/L	192703	1	06/23/2014 22:13	GK
Ethylbenzene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Freon-113	BRL	10		ug/L	192703	1	06/23/2014 22:13	GK
Isopropylbenzene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
m,p-Xylene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Methyl acetate	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP. 2 (5)
Project Name:	FMTS-Cedartown, GA	**Collection Date:**	6/20/2014 12:15:00 PM
Lab ID:	1406J22-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Methylene chloride	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
o-Xylene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Styrene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Tetrachloroethene	11	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Toluene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
trans-1,2-Dichloroethene	37	5.0		ug/L	192703	1	06/23/2014 22:13	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Trichloroethene	1100	100		ug/L	192703	20	06/24/2014 13:42	GK
Trichlorofluoromethane	BRL	5.0		ug/L	192703	1	06/23/2014 22:13	GK
Vinyl chloride	19	2.0		ug/L	192703	1	06/23/2014 22:13	GK
Surr: 4-Bromofluorobenzene	96.9	66.2-120		%REC	192703	1	06/23/2014 22:13	GK
Surr: 4-Bromofluorobenzene	94.7	66.2-120		%REC	192703	20	06/24/2014 13:42	GK
Surr: Dibromofluoromethane	101	79.5-121		%REC	192703	1	06/23/2014 22:13	GK
Surr: Dibromofluoromethane	97.8	79.5-121		%REC	192703	20	06/24/2014 13:42	GK
Surr: Toluene-d8	100	77-117		%REC	192703	20	06/24/2014 13:42	GK
Surr: Toluene-d8	100	77-117		%REC	192703	1	06/23/2014 22:13	GK
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	49.0	5.0		mg/L	192842	1	06/25/2014 16:15	OM
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	298	10		mg/L	192818	1	06/24/2014 12:35	OM
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	228	1.00		mg/L CaCO3	192756	1	06/24/2014 00:00	JL
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	210	6.00		mg/L	R270780	2	06/27/2014 14:20	EH
METALS, TOTAL SW6010C				**(SW3010A)**				
Calcium	60.9	0.100		mg/L	192756	1	06/24/2014 21:33	JL
Iron	2.95	0.100	B	mg/L	192756	1	06/24/2014 21:33	JL
Manganese	0.0844	0.0150		mg/L	192756	1	06/24/2014 21:33	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
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H	Holding times for preparation or analysis exceeded	Narr	See case narrative
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>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	FMTS-Cedartown, GA	**Collection Date:**	6/20/2014
Lab ID:	1406J22-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
1,1-Dichloroethane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
1,1-Dichloroethene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
1,2-Dibromoethane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
1,2-Dichloroethane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
1,2-Dichloropropane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
2-Butanone	BRL	50		ug/L	192703	1	06/23/2014 18:34	GK
2-Hexanone	BRL	10		ug/L	192703	1	06/23/2014 18:34	GK
4-Methyl-2-pentanone	BRL	10		ug/L	192703	1	06/23/2014 18:34	GK
Acetone	BRL	50		ug/L	192703	1	06/23/2014 18:34	GK
Benzene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Bromodichloromethane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Bromoform	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Bromomethane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Carbon disulfide	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Carbon tetrachloride	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Chlorobenzene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Chloroethane	BRL	10		ug/L	192703	1	06/23/2014 18:34	GK
Chloroform	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Chloromethane	BRL	10		ug/L	192703	1	06/23/2014 18:34	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Cyclohexane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Dibromochloromethane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Dichlorodifluoromethane	BRL	10		ug/L	192703	1	06/23/2014 18:34	GK
Ethylbenzene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Freon-113	BRL	10		ug/L	192703	1	06/23/2014 18:34	GK
Isopropylbenzene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
m,p-Xylene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Methyl acetate	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Methylcyclohexane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Methylene chloride	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
o-Xylene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	FMTS-Cedartown, GA	**Collection Date:**	6/20/2014
Lab ID:	1406J22-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Tetrachloroethene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Toluene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Trichloroethene	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Trichlorofluoromethane	BRL	5.0		ug/L	192703	1	06/23/2014 18:34	GK
Vinyl chloride	BRL	2.0		ug/L	192703	1	06/23/2014 18:34	GK
Surr: 4-Bromofluorobenzene	97.1	66.2-120		%REC	192703	1	06/23/2014 18:34	GK
Surr: Dibromofluoromethane	96	79.5-121		%REC	192703	1	06/23/2014 18:34	GK
Surr: Toluene-d8	97.8	77-117		%REC	192703	1	06/23/2014 18:34	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client CDM Smith Work Order Number 1406J22

Checklist completed by [signature] 6/20/14
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.2°C Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by [signature]

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: CDM Smith Inc.
Project: FMTS-Cedartown, GA
Lab Order: 1406J22

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1406J22-001A	EXP. 2A (1)	6/18/2014 11:00:00AM	Groundwater	TCL VOLATILE ORGANICS		06/20/2014	06/23/2014
1406J22-001A	EXP. 2A (1)	6/18/2014 11:00:00AM	Groundwater	TCL VOLATILE ORGANICS		06/20/2014	06/24/2014
1406J22-001B	EXP. 2A (1)	6/18/2014 11:00:00AM	Groundwater	TOTAL METALS BY ICP		06/24/2014	06/24/2014
1406J22-001B	EXP. 2A (1)	6/18/2014 11:00:00AM	Groundwater	Hardness		06/24/2014	06/24/2014
1406J22-001C	EXP. 2A (1)	6/18/2014 11:00:00AM	Groundwater	Alkalinity by SM2320B			06/27/2014
1406J22-001C	EXP. 2A (1)	6/18/2014 11:00:00AM	Groundwater	Residue, Dissolved (TDS) by SM2540C		06/23/2014	06/23/2014
1406J22-001C	EXP. 2A (1)	6/18/2014 11:00:00AM	Groundwater	Residue, Suspended (TSS) by SM2540D		06/23/2014	06/23/2014
1406J22-001D	EXP. 2A (1)	6/18/2014 11:00:00AM	Groundwater	Total Organic Carbon (TOC)			06/24/2014
1406J22-002A	EXP. 5 (1)	6/19/2014 1:00:00PM	Groundwater	TCL VOLATILE ORGANICS		06/20/2014	06/24/2014
1406J22-002B	EXP. 5 (1)	6/19/2014 1:00:00PM	Groundwater	TOTAL METALS BY ICP		06/24/2014	06/24/2014
1406J22-002B	EXP. 5 (1)	6/19/2014 1:00:00PM	Groundwater	Hardness		06/24/2014	06/24/2014
1406J22-002C	EXP. 5 (1)	6/19/2014 1:00:00PM	Groundwater	Alkalinity by SM2320B			06/27/2014
1406J22-002C	EXP. 5 (1)	6/19/2014 1:00:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		06/24/2014	06/24/2014
1406J22-002C	EXP. 5 (1)	6/19/2014 1:00:00PM	Groundwater	Residue, Suspended (TSS) by SM2540D		06/24/2014	06/25/2014
1406J22-002D	EXP. 5 (1)	6/19/2014 1:00:00PM	Groundwater	Total Organic Carbon (TOC)			06/24/2014
1406J22-003A	EXP. 2 (1)	6/20/2014 8:15:00AM	Groundwater	TCL VOLATILE ORGANICS		06/20/2014	06/23/2014
1406J22-003B	EXP. 2 (1)	6/20/2014 8:15:00AM	Groundwater	TOTAL METALS BY ICP		06/24/2014	06/24/2014
1406J22-003B	EXP. 2 (1)	6/20/2014 8:15:00AM	Groundwater	Hardness		06/24/2014	06/24/2014
1406J22-003C	EXP. 2 (1)	6/20/2014 8:15:00AM	Groundwater	Alkalinity by SM2320B			06/27/2014
1406J22-003C	EXP. 2 (1)	6/20/2014 8:15:00AM	Groundwater	Residue, Dissolved (TDS) by SM2540C		06/24/2014	06/24/2014
1406J22-003C	EXP. 2 (1)	6/20/2014 8:15:00AM	Groundwater	Residue, Suspended (TSS) by SM2540D		06/24/2014	06/25/2014
1406J22-003D	EXP. 2 (1)	6/20/2014 8:15:00AM	Groundwater	Total Organic Carbon (TOC)			06/24/2014
1406J22-004A	EXP. 2 (5)	6/20/2014 12:15:00PM	Groundwater	TCL VOLATILE ORGANICS		06/20/2014	06/23/2014
1406J22-004A	EXP. 2 (5)	6/20/2014 12:15:00PM	Groundwater	TCL VOLATILE ORGANICS		06/20/2014	06/24/2014
1406J22-004B	EXP. 2 (5)	6/20/2014 12:15:00PM	Groundwater	TOTAL METALS BY ICP		06/24/2014	06/24/2014
1406J22-004B	EXP. 2 (5)	6/20/2014 12:15:00PM	Groundwater	Hardness		06/24/2014	06/24/2014
1406J22-004C	EXP. 2 (5)	6/20/2014 12:15:00PM	Groundwater	Alkalinity by SM2320B			06/27/2014
1406J22-004C	EXP. 2 (5)	6/20/2014 12:15:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		06/24/2014	06/24/2014
1406J22-004C	EXP. 2 (5)	6/20/2014 12:15:00PM	Groundwater	Residue, Suspended (TSS) by SM2540D		06/24/2014	06/25/2014

Analytical Environmental Services, Inc

Date: 30-Jun-14

Client: CDM Smith Inc.
Project: FMTS-Cedartown, GA
Lab Order: 1406J22

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1406J22-004D	EXP. 2 (5)	6/20/2014 12:15:00PM	Groundwater	Total Organic Carbon (TOC)			06/24/2014
1406J22-005A	TRIP BLANK	6/20/2014 12:00:00AM	Aqueous	TCL VOLATILE ORGANICS		06/20/2014	06/23/2014

Analytical Environmental Services, Inc

Date: 30-Jun-14

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown, GA
Workorder: 1406J22

ANALYTICAL QC SUMMARY REPORT

BatchID: 192703

Sample ID: **MB-192703** Client ID: Units: **ug/L** Prep Date: **06/20/2014** Run No: **270288**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192703** Analysis Date: **06/20/2014** Seq No: **5702712**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown, GA
Workorder: 1406J22

ANALYTICAL QC SUMMARY REPORT

BatchID: 192703

Sample ID: **MB-192703** Client ID: Units: **ug/L** Prep Date: **06/20/2014** Run No: **270288**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192703** Analysis Date: **06/20/2014** Seq No: **5702712**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	48.54	0	50.00		97.1	66.2	120				
Surr: Dibromofluoromethane	51.21	0	50.00		102	79.5	121				
Surr: Toluene-d8	49.72	0	50.00		99.4	77	117				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown, GA
Workorder: 1406J22

ANALYTICAL QC SUMMARY REPORT

BatchID: 192703

Sample ID: **LCS-192703** Client ID: Units: **ug/L** Prep Date: **06/20/2014** Run No: **270288**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192703** Analysis Date: **06/20/2014** Seq No: **5702666**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	48.86	5.0	50.00		97.7	63.1	140				
Benzene	47.89	5.0	50.00		95.8	74.2	129				
Chlorobenzene	46.81	5.0	50.00		93.6	70	129				
Toluene	47.76	5.0	50.00		95.5	74.2	129				
Trichloroethene	48.86	5.0	50.00		97.7	71.2	135				
Surr: 4-Bromofluorobenzene	48.26	0	50.00		96.5	66.2	120				
Surr: Dibromofluoromethane	49.40	0	50.00		98.8	79.5	121				
Surr: Toluene-d8	49.05	0	50.00		98.1	77	117				

Sample ID: **1406F28-009AMS** Client ID: Units: **ug/L** Prep Date: **06/20/2014** Run No: **270288**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192703** Analysis Date: **06/21/2014** Seq No: **5703243**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	50.44	5.0	50.00		101	60.2	159				
Benzene	48.33	5.0	50.00		96.7	70.2	138				
Chlorobenzene	48.01	5.0	50.00		96.0	70.1	133				
Toluene	49.42	5.0	50.00		98.8	70	139				
Trichloroethene	50.32	5.0	50.00		101	70.1	144				
Surr: 4-Bromofluorobenzene	48.22	0	50.00		96.4	66.2	120				
Surr: Dibromofluoromethane	49.42	0	50.00		98.8	79.5	121				
Surr: Toluene-d8	49.42	0	50.00		98.8	77	117				

Sample ID: **1406F28-009AMSD** Client ID: Units: **ug/L** Prep Date: **06/20/2014** Run No: **270288**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192703** Analysis Date: **06/21/2014** Seq No: **5703244**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	49.96	5.0	50.00		99.9	60.2	159	50.44	0.956	19.2	
Benzene	48.98	5.0	50.00		98.0	70.2	138	48.33	1.34	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown, GA
Workorder: 1406J22

ANALYTICAL QC SUMMARY REPORT

BatchID: **192703**

Sample ID: **1406F28-009AMSD** Client ID: Units: **ug/L** Prep Date: **06/20/2014** Run No: **270288**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192703** Analysis Date: **06/21/2014** Seq No: **5703244**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	47.68	5.0	50.00		95.4	70.1	133	48.01	0.690	20	
Toluene	49.35	5.0	50.00		98.7	70	139	49.42	0.142	20	
Trichloroethene	50.65	5.0	50.00		101	70.1	144	50.32	0.654	20	
Surr: 4-Bromofluorobenzene	48.22	0	50.00		96.4	66.2	120	48.22	0	0	
Surr: Dibromofluoromethane	50.48	0	50.00		101	79.5	121	49.42	0	0	
Surr: Toluene-d8	50.15	0	50.00		100	77	117	49.42	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown, GA
Workorder: 1406J22

ANALYTICAL QC SUMMARY REPORT

BatchID: **192753**

Sample ID: **MB-192753** Client ID: Units: **mg/L** Prep Date: **06/23/2014** Run No: **270374**
SampleType: **MBLK** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **192753** Analysis Date: **06/23/2014** Seq No: **5704308**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	BRL	5.0									

Sample ID: **1406G92-001ADUP** Client ID: Units: **mg/L** Prep Date: **06/23/2014** Run No: **270374**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **192753** Analysis Date: **06/23/2014** Seq No: **5704422**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	17.50	5.0						17.50	0	5	

Sample ID: **1406J45-001ADUP** Client ID: Units: **mg/L** Prep Date: **06/23/2014** Run No: **270374**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **192753** Analysis Date: **06/23/2014** Seq No: **5704320**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	72.00	20.0						74.00	2.74	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown, GA
Workorder: 1406J22

ANALYTICAL QC SUMMARY REPORT

BatchID: **192755**

Sample ID: **MB-192755** Client ID: Units: **mg/L** Prep Date: **06/23/2014** Run No: **270446**
SampleType: **MBLK** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **192755** Analysis Date: **06/23/2014** Seq No: **5706013**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	BRL	10									

Sample ID: **1406J22-001CDUP** Client ID: **EXP. 2A (1)** Units: **mg/L** Prep Date: **06/23/2014** Run No: **270446**
SampleType: **DUP** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **192755** Analysis Date: **06/23/2014** Seq No: **5706021**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	327.0	10						331.0	1.22	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown, GA
Workorder: 1406J22

ANALYTICAL QC SUMMARY REPORT

BatchID: **192756**

Sample ID: **MB-192756** Client ID: Units: **mg/L** Prep Date: **06/24/2014** Run No: **270557**
SampleType: **MBLK** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **192756** Analysis Date: **06/24/2014** Seq No: **5708259**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	BRL	0.100									
Iron	0.1286	0.100									B
Magnesium	BRL	0.100									
Manganese	BRL	0.0150									

Sample ID: **LCS-192756** Client ID: Units: **mg/L** Prep Date: **06/24/2014** Run No: **270557**
SampleType: **LCS** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **192756** Analysis Date: **06/24/2014** Seq No: **5708257**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	10.73	0.100	10.00		107	80	120				
Iron	10.44	0.100	10.00	0.1286	103	80	120				B
Magnesium	10.64	0.100	10.00		106	80	120				
Manganese	1.081	0.0150	1.000	0.001095	108	80	120				

Sample ID: **1406J24-015AMS** Client ID: Units: **mg/L** Prep Date: **06/24/2014** Run No: **270557**
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **192756** Analysis Date: **06/24/2014** Seq No: **5708264**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	22.36	0.100	10.00	11.64	107	75	125				
Iron	10.71	0.100	10.00	0.5860	101	75	125				B
Magnesium	12.79	0.100	10.00	2.555	102	75	125				
Manganese	1.116	0.0150	1.000	0.1051	101	75	125				

Sample ID: **1406J24-015AMSD** Client ID: Units: **mg/L** Prep Date: **06/24/2014** Run No: **270557**
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **192756** Analysis Date: **06/24/2014** Seq No: **5708266**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	22.30	0.100	10.00	11.64	107	75	125	22.36	0.284	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown, GA
Workorder: 1406J22

ANALYTICAL QC SUMMARY REPORT

BatchID: **192756**

Sample ID: **1406J24-015AMSD** Client ID: Units: **mg/L** Prep Date: **06/24/2014** Run No: **270557**
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **192756** Analysis Date: **06/24/2014** Seq No: **5708266**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron	10.79	0.100	10.00	0.5860	102	75	125	10.71	0.800	20	B
Magnesium	12.80	0.100	10.00	2.555	102	75	125	12.79	0.092	20	
Manganese	1.118	0.0150	1.000	0.1051	101	75	125	1.116	0.260	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown, GA
Workorder: 1406J22

ANALYTICAL QC SUMMARY REPORT

BatchID: **192818**

Sample ID: **MB-192818** Client ID: Units: **mg/L** Prep Date: **06/24/2014** Run No: **270552**
SampleType: **MBLK** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **192818** Analysis Date: **06/24/2014** Seq No: **5708067**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	BRL	10									

Sample ID: **1406J22-002CDUP** Client ID: **EXP. 5 (1)** Units: **mg/L** Prep Date: **06/24/2014** Run No: **270552**
SampleType: **DUP** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **192818** Analysis Date: **06/24/2014** Seq No: **5708077**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	193.0	10						195.0	1.03	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown, GA
Workorder: 1406J22

ANALYTICAL QC SUMMARY REPORT

BatchID: **192842**

Sample ID: **MB-192842** Client ID: Units: **mg/L** Prep Date: **06/24/2014** Run No: **270584**
SampleType: **MBLK** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **192842** Analysis Date: **06/25/2014** Seq No: **5708957**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	BRL	10.0									

Sample ID: **1406L03-005ADUP** Client ID: Units: **mg/L** Prep Date: **06/24/2014** Run No: **270584**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **192842** Analysis Date: **06/25/2014** Seq No: **5709002**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	82.00	10.0						79.00	3.73	5	

Sample ID: **1406L19-001ADUP** Client ID: Units: **mg/L** Prep Date: **06/24/2014** Run No: **270584**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **192842** Analysis Date: **06/25/2014** Seq No: **5708986**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	338.0	10.0						340.0	0.590	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown, GA
Workorder: 1406J22

ANALYTICAL QC SUMMARY REPORT

BatchID: R270502

Sample ID: **MB-R270502** Client ID: Units: **mg/L** Prep Date: Run No: **270502**
SampleType: **MBLK** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R270502** Analysis Date: **06/24/2014** Seq No: **5707186**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	BRL	1.00									

Sample ID: **LCS-R270502** Client ID: Units: **mg/L** Prep Date: Run No: **270502**
SampleType: **LCS** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R270502** Analysis Date: **06/24/2014** Seq No: **5707185**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	23.39	1.00	25.00		93.6	90	110				

Sample ID: **1406J55-001BMS** Client ID: Units: **mg/L** Prep Date: Run No: **270502**
SampleType: **MS** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R270502** Analysis Date: **06/24/2014** Seq No: **5707195**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	28.75	1.00	25.00	5.478	93.1	80	120				

Sample ID: **1406J55-001BMSD** Client ID: Units: **mg/L** Prep Date: Run No: **270502**
SampleType: **MSD** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R270502** Analysis Date: **06/24/2014** Seq No: **5707196**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	29.42	1.00	25.00	5.478	95.8	80	120	28.75	2.30	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Analytical Environmental Services, Inc

Date: 30-Jun-14

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown, GA
Workorder: 1406J22

ANALYTICAL QC SUMMARY REPORT

BatchID: R270780

Sample ID: **MB-R270780** Client ID: Units: **mg/L** Prep Date: Run No: **270780**
SampleType: **MBLK** TestCode: **Alkalinity by SM2320B** BatchID: **R270780** Analysis Date: **06/27/2014** Seq No: **5713610**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	BRL	3.00									

Sample ID: **LCS-R270780** Client ID: Units: **mg/L** Prep Date: Run No: **270780**
SampleType: **LCS** TestCode: **Alkalinity by SM2320B** BatchID: **R270780** Analysis Date: **06/27/2014** Seq No: **5713611**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	127.0	3.00	125.0	2.000	100	75	125				

Sample ID: **1406N44-002CDUP** Client ID: Units: **mg/L** Prep Date: Run No: **270780**
SampleType: **DUP** TestCode: **Alkalinity by SM2320B** BatchID: **R270780** Analysis Date: **06/27/2014** Seq No: **5713618**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	123.0	3.00						126.0	2.41	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

June 30, 2014

Andrew Romanek
CDM Smith Inc.
3715 Northside Parkway, Northcreek 30
Atlanta GA 30327

TEL: (404) 720-1400
FAX: (404) 467-4130

RE: FMTS-Cedartwon, GA

Dear Andrew Romanek: Order No: 1406L61

Analytical Environmental Services, Inc. received 4 samples on 6/24/2014 2:55:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

James Forrest
Project Manager

AL ENVIRONMENTAL SERVICES, INC
Residential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1406L61

Date: 6/23/14 Page 1 of 1

COMPANY: CDM Smith

ADDRESS: 3715 Northside Parkway NW B. 300 S. 400 Atlanta, GA ~~30080~~ 30327

PHONE: (404) 720-1400

FAX:

SAMPLED BY: Nick Fuller

SIGNATURE:

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs	Total Iron	Calcium	Manganese	Alkalinity	Hardness	TOC	TDS	TSS					No # of Containers	REMARKS
							PRESERVATION (See codes)														
							HCl	HNO3	HNO3	HNO3	None	HNO3	H2SO4	None	None						
1	EXP-3A (1)	6/23/14	1200	X		GW	X	X	X	X	X	X	X	X	X					5	
2	EXP-3A (6)	6/23/14	1700	X		GW	X	X	X	X	X	X	X	X	X					5	
3	SV2-7406LM	6/23/14	1700		X	GW	X													2	
4	TRIP Blank	6/23/14		X		W	X													2	
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	6/24/14 1344	1:	6-24-14 13:44
2:	6-24-14 14:55	2:	6/24/14 2:55
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

PROJECT INFORMATION
PROJECT NAME: FMTS-Cedartown
PROJECT #:
SITE ADDRESS: Cedartown, GA
SEND REPORT TO: Andrew Romanek
INVOICE TO: (IF DIFFERENT FROM ABOVE) romanekAP@CDMsmith.com
QUOTE #: PO#:

RECEIPT
Total # of Containers 14

Turnaround Time Request
- (●) Standard 5 Business Days
- ( ) 2 Business Day Rush
- ( ) Next Business Day Rush
- ( ) Same Day Rush (auth req.)
- ( ) Other

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: CDM Smith Inc.
Project: FMTS-Cedartwon, GA
Lab ID: 1406L61

Case Narrative

Volatile Organic Compounds Analysis by Method 8260B:

cis-1,2-Dichloroethene, & Trichloroethene values for sample 1406L61-001A are "E" qualified indicating estimated values over linear calibration range. Sample could not be diluted and reanalyzed as the second vial was used for matrix spike, and matrix spike duplicate.

Trichloroethene value for the QC sample 1406L61-001AMS/MSD is "E" qualified indicating estimated value over linear calibration range due to the level of target analyte present in the unspiked sample.

Total Organic Carbon Analysis by Method 9060:

Due to sample matrix, sample 1406L61-001D required dilution during preparation and/or analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-3A (1)
Project Name:	FMTS-Cedartwon, GA	**Collection Date:**	6/23/2014 12:00:00 PM
Lab ID:	1406L61-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	5.00		mg/L	R270749	5	06/27/2014 09:46	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	64	5.0		ug/L	192877	1	06/25/2014 14:56	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
1,1-Dichloroethane	11	5.0		ug/L	192877	1	06/25/2014 14:56	GK
1,1-Dichloroethene	45	5.0		ug/L	192877	1	06/25/2014 14:56	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
1,2-Dibromoethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
1,2-Dichloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
1,2-Dichloropropane	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
2-Butanone	BRL	50		ug/L	192877	1	06/25/2014 14:56	GK
2-Hexanone	BRL	10		ug/L	192877	1	06/25/2014 14:56	GK
4-Methyl-2-pentanone	BRL	10		ug/L	192877	1	06/25/2014 14:56	GK
Acetone	BRL	50		ug/L	192877	1	06/25/2014 14:56	GK
Benzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Bromodichloromethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Bromoform	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Bromomethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Carbon disulfide	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Carbon tetrachloride	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Chlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Chloroethane	BRL	10		ug/L	192877	1	06/25/2014 14:56	GK
Chloroform	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Chloromethane	BRL	10		ug/L	192877	1	06/25/2014 14:56	GK
cis-1,2-Dichloroethene	2000	5.0	E	ug/L	192877	1	06/25/2014 14:56	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Cyclohexane	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Dibromochloromethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Dichlorodifluoromethane	BRL	10		ug/L	192877	1	06/25/2014 14:56	GK
Ethylbenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Freon-113	BRL	10		ug/L	192877	1	06/25/2014 14:56	GK
Isopropylbenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
m,p-Xylene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Methyl acetate	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-3A (1)
Project Name:	FMTS-Cedartwon, GA	**Collection Date:**	6/23/2014 12:00:00 PM
Lab ID:	1406L61-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Methylene chloride	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
o-Xylene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Styrene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Tetrachloroethene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Toluene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
trans-1,2-Dichloroethene	25	5.0		ug/L	192877	1	06/25/2014 14:56	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Trichloroethene	1200	5.0	E	ug/L	192877	1	06/25/2014 14:56	GK
Trichlorofluoromethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:56	GK
Vinyl chloride	BRL	2.0		ug/L	192877	1	06/25/2014 14:56	GK
Surr: 4-Bromofluorobenzene	95.5	66.2-120		%REC	192877	1	06/25/2014 14:56	GK
Surr: Dibromofluoromethane	99.3	79.5-121		%REC	192877	1	06/25/2014 14:56	GK
Surr: Toluene-d8	100	77-117		%REC	192877	1	06/25/2014 14:56	GK
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	255	6.7		mg/L	192980	1	06/27/2014 14:46	OM
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	546	10		mg/L	192983	1	06/27/2014 10:50	OM
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	212	1.00		mg/L CaCO3	192937	1	06/27/2014 00:00	JL
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	225	15.0		mg/L	R270780	5	06/27/2014 14:20	EH
METALS, TOTAL SW6010C				**(SW3010A)**				
Calcium	59.0	0.100		mg/L	192937	1	06/27/2014 14:18	JL
Iron	BRL	0.100		mg/L	192937	1	06/27/2014 14:18	JL
Manganese	BRL	0.0150		mg/L	192937	1	06/27/2014 14:18	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-3A (6)
Project Name:	FMTS-Cedartwon, GA	**Collection Date:**	6/23/2014 5:00:00 PM
Lab ID:	1406L61-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	1.00		mg/L	R270749	1	06/26/2014 17:14	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	72	5.0		ug/L	192877	1	06/25/2014 16:18	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
1,1-Dichloroethane	13	5.0		ug/L	192877	1	06/25/2014 16:18	GK
1,1-Dichloroethene	45	5.0		ug/L	192877	1	06/25/2014 16:18	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
1,2-Dibromoethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
1,2-Dichloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
1,2-Dichloropropane	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
2-Butanone	BRL	50		ug/L	192877	1	06/25/2014 16:18	GK
2-Hexanone	BRL	10		ug/L	192877	1	06/25/2014 16:18	GK
4-Methyl-2-pentanone	BRL	10		ug/L	192877	1	06/25/2014 16:18	GK
Acetone	BRL	50		ug/L	192877	1	06/25/2014 16:18	GK
Benzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Bromodichloromethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Bromoform	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Bromomethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Carbon disulfide	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Carbon tetrachloride	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Chlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Chloroethane	BRL	10		ug/L	192877	1	06/25/2014 16:18	GK
Chloroform	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Chloromethane	BRL	10		ug/L	192877	1	06/25/2014 16:18	GK
cis-1,2-Dichloroethene	1800	100		ug/L	192877	20	06/25/2014 17:12	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Cyclohexane	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Dibromochloromethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Dichlorodifluoromethane	BRL	10		ug/L	192877	1	06/25/2014 16:18	GK
Ethylbenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Freon-113	BRL	10		ug/L	192877	1	06/25/2014 16:18	GK
Isopropylbenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
m,p-Xylene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Methyl acetate	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-3A (6)
Project Name:	FMTS-Cedartwon, GA	**Collection Date:**	6/23/2014 5:00:00 PM
Lab ID:	1406L61-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Methylene chloride	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
o-Xylene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Styrene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Tetrachloroethene	5.5	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Toluene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
trans-1,2-Dichloroethene	28	5.0		ug/L	192877	1	06/25/2014 16:18	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Trichloroethene	990	100		ug/L	192877	20	06/25/2014 17:12	GK
Trichlorofluoromethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:18	GK
Vinyl chloride	BRL	2.0		ug/L	192877	1	06/25/2014 16:18	GK
Surr: 4-Bromofluorobenzene	92	66.2-120		%REC	192877	1	06/25/2014 16:18	GK
Surr: 4-Bromofluorobenzene	92.6	66.2-120		%REC	192877	20	06/25/2014 17:12	GK
Surr: Dibromofluoromethane	102	79.5-121		%REC	192877	1	06/25/2014 16:18	GK
Surr: Dibromofluoromethane	99.7	79.5-121		%REC	192877	20	06/25/2014 17:12	GK
Surr: Toluene-d8	104	77-117		%REC	192877	1	06/25/2014 16:18	GK
Surr: Toluene-d8	99.5	77-117		%REC	192877	20	06/25/2014 17:12	GK
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	BRL	5.0		mg/L	192980	1	06/27/2014 14:47	OM
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	269	10		mg/L	192983	1	06/27/2014 10:50	OM
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	207	1.00		mg/L CaCO3	192937	1	06/27/2014 00:00	JL
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	380	15.0		mg/L	R270780	5	06/27/2014 14:20	EH
METALS, TOTAL SW6010C				**(SW3010A)**				
Calcium	57.4	0.100		mg/L	192937	1	06/27/2014 14:21	JL
Iron	BRL	0.100		mg/L	192937	1	06/27/2014 14:21	JL
Manganese	BRL	0.0150		mg/L	192937	1	06/27/2014 14:21	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	SV2-7406LM
Project Name:	FMTS-Cedartwon, GA	**Collection Date:**	6/23/2014 5:00:00 PM
Lab ID:	1406L61-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	52	5.0		ug/L	192877	1	06/25/2014 16:45	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
1,1-Dichloroethane	18	5.0		ug/L	192877	1	06/25/2014 16:45	GK
1,1-Dichloroethene	37	5.0		ug/L	192877	1	06/25/2014 16:45	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
1,2-Dibromoethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
1,2-Dichloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
1,2-Dichloropropane	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
2-Butanone	BRL	50		ug/L	192877	1	06/25/2014 16:45	GK
2-Hexanone	BRL	10		ug/L	192877	1	06/25/2014 16:45	GK
4-Methyl-2-pentanone	BRL	10		ug/L	192877	1	06/25/2014 16:45	GK
Acetone	BRL	50		ug/L	192877	1	06/25/2014 16:45	GK
Benzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Bromodichloromethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Bromoform	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Bromomethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Carbon disulfide	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Carbon tetrachloride	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Chlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Chloroethane	BRL	10		ug/L	192877	1	06/25/2014 16:45	GK
Chloroform	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Chloromethane	BRL	10		ug/L	192877	1	06/25/2014 16:45	GK
cis-1,2-Dichloroethene	2300	100		ug/L	192877	20	06/25/2014 17:40	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Cyclohexane	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Dibromochloromethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Dichlorodifluoromethane	BRL	10		ug/L	192877	1	06/25/2014 16:45	GK
Ethylbenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Freon-113	BRL	10		ug/L	192877	1	06/25/2014 16:45	GK
Isopropylbenzene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
m,p-Xylene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Methyl acetate	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Methylcyclohexane	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Methylene chloride	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
o-Xylene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	SV2-7406LM
Project Name:	FMTS-Cedartwon, GA	**Collection Date:**	6/23/2014 5:00:00 PM
Lab ID:	1406L61-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Tetrachloroethene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Toluene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
trans-1,2-Dichloroethene	29	5.0		ug/L	192877	1	06/25/2014 16:45	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Trichloroethene	1200	100		ug/L	192877	20	06/25/2014 17:40	GK
Trichlorofluoromethane	BRL	5.0		ug/L	192877	1	06/25/2014 16:45	GK
Vinyl chloride	16	2.0		ug/L	192877	1	06/25/2014 16:45	GK
Surr: 4-Bromofluorobenzene	90.7	66.2-120		%REC	192877	1	06/25/2014 16:45	GK
Surr: 4-Bromofluorobenzene	93.2	66.2-120		%REC	192877	20	06/25/2014 17:40	GK
Surr: Dibromofluoromethane	100	79.5-121		%REC	192877	20	06/25/2014 17:40	GK
Surr: Dibromofluoromethane	101	79.5-121		%REC	192877	1	06/25/2014 16:45	GK
Surr: Toluene-d8	101	77-117		%REC	192877	20	06/25/2014 17:40	GK
Surr: Toluene-d8	104	77-117		%REC	192877	1	06/25/2014 16:45	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	FMTS-Cedartwon, GA	**Collection Date:**	6/23/2014
Lab ID:	1406L61-004	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
1,1-Dichloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
1,1-Dichloroethene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
1,2-Dibromoethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
1,2-Dichloroethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
1,2-Dichloropropane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
2-Butanone	BRL	50		ug/L	192877	1	06/25/2014 14:29	GK
2-Hexanone	BRL	10		ug/L	192877	1	06/25/2014 14:29	GK
4-Methyl-2-pentanone	BRL	10		ug/L	192877	1	06/25/2014 14:29	GK
Acetone	BRL	50		ug/L	192877	1	06/25/2014 14:29	GK
Benzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Bromodichloromethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Bromoform	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Bromomethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Carbon disulfide	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Carbon tetrachloride	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Chlorobenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Chloroethane	BRL	10		ug/L	192877	1	06/25/2014 14:29	GK
Chloroform	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Chloromethane	BRL	10		ug/L	192877	1	06/25/2014 14:29	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Cyclohexane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Dibromochloromethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Dichlorodifluoromethane	BRL	10		ug/L	192877	1	06/25/2014 14:29	GK
Ethylbenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Freon-113	BRL	10		ug/L	192877	1	06/25/2014 14:29	GK
Isopropylbenzene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
m,p-Xylene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Methyl acetate	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Methylcyclohexane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Methylene chloride	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
o-Xylene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Jun-14

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	FMTS-Cedartwon, GA	**Collection Date:**	6/23/2014
Lab ID:	1406L61-004	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Tetrachloroethene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Toluene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Trichloroethene	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Trichlorofluoromethane	BRL	5.0		ug/L	192877	1	06/25/2014 14:29	GK
Vinyl chloride	BRL	2.0		ug/L	192877	1	06/25/2014 14:29	GK
Surr: 4-Bromofluorobenzene	90.2	66.2-120		%REC	192877	1	06/25/2014 14:29	GK
Surr: Dibromofluoromethane	98.5	79.5-121		%REC	192877	1	06/25/2014 14:29	GK
Surr: Toluene-d8	102	77-117		%REC	192877	1	06/25/2014 14:29	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client COM Work Order Number 1406L61

Checklist completed by [signature] 6/29/14
Signature Date

Carrier name: FedEx __ UPS __ Courier ✓ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes ✓ No __ Not Present __

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.1 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by MS

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Analytical Environmental Services, Inc

Date: 30-Jun-14

Client: CDM Smith Inc.
Project Name: FMTS-Cedartwon, GA
Workorder: 1406L61

ANALYTICAL QC SUMMARY REPORT

BatchID: 192877

Sample ID: **MB-192877**	Client ID:	Units: **ug/L**	Prep Date: **06/25/2014**	Run No: **270509**
SampleType: **MBLK**	TestCode: **TCL VOLATILE ORGANICS SW8260B**	BatchID: **192877**	Analysis Date: **06/25/2014**	Seq No: **5707564**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartwon, GA
Workorder: 1406L61

ANALYTICAL QC SUMMARY REPORT

BatchID: 192877

Sample ID: **MB-192877** Client ID: Units: **ug/L** Prep Date: **06/25/2014** Run No: **270509**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192877** Analysis Date: **06/25/2014** Seq No: **5707564**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	46.47	0	50.00		92.9	66.2	120				
Surr: Dibromofluoromethane	48.34	0	50.00		96.7	79.5	121				
Surr: Toluene-d8	50.21	0	50.00		100	77	117				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartwon, GA
Workorder: 1406L61

ANALYTICAL QC SUMMARY REPORT

BatchID: 192877

Sample ID: **LCS-192877** Client ID: Units: **ug/L** Prep Date: **06/25/2014** Run No: **270509**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192877** Analysis Date: **06/25/2014** Seq No: **5708103**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	44.39	5.0	50.00		88.8	63.1	140				
Benzene	44.01	5.0	50.00		88.0	74.2	129				
Chlorobenzene	42.74	5.0	50.00		85.5	70	129				
Toluene	45.37	5.0	50.00		90.7	74.2	129				
Trichloroethene	45.71	5.0	50.00		91.4	71.2	135				
Surr: 4-Bromofluorobenzene	46.84	0	50.00		93.7	66.2	120				
Surr: Dibromofluoromethane	48.97	0	50.00		97.9	79.5	121				
Surr: Toluene-d8	50.52	0	50.00		101	77	117				

Sample ID: **1406L61-001AMS** Client ID: **EXP-3A (1)** Units: **ug/L** Prep Date: **06/25/2014** Run No: **270509**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192877** Analysis Date: **06/25/2014** Seq No: **5708682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	94.95	5.0	50.00	45.06	99.8	60.2	159				
Benzene	48.63	5.0	50.00		97.3	70.2	138				
Chlorobenzene	47.02	5.0	50.00		94.0	70.1	133				
Toluene	49.45	5.0	50.00		98.9	70	139				
Trichloroethene	1258	5.0	50.00	1175	165	70.1	144				SE
Surr: 4-Bromofluorobenzene	47.28	0	50.00		94.6	66.2	120				
Surr: Dibromofluoromethane	50.64	0	50.00		101	79.5	121				
Surr: Toluene-d8	49.63	0	50.00		99.3	77	117				

Sample ID: **1406L61-001AMSD** Client ID: **EXP-3A (1)** Units: **ug/L** Prep Date: **06/25/2014** Run No: **270509**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192877** Analysis Date: **06/25/2014** Seq No: **5708831**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	96.28	5.0	50.00	45.06	102	60.2	159	94.95	1.39	19.2	
Benzene	48.13	5.0	50.00		96.3	70.2	138	48.63	1.03	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartwon, GA
Workorder: 1406L61

ANALYTICAL QC SUMMARY REPORT

BatchID: **192877**

Sample ID: **1406L61-001AMSD** Client ID: **EXP-3A (1)** Units: **ug/L** Prep Date: **06/25/2014** Run No: **270509**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192877** Analysis Date: **06/25/2014** Seq No: **5708831**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	47.10	5.0	50.00		94.2	70.1	133	47.02	0.170	20	
Toluene	49.97	5.0	50.00		99.9	70	139	49.45	1.05	20	
Trichloroethene	1254	5.0	50.00	1175	157	70.1	144	1258	0.322	20	SE
Surr: 4-Bromofluorobenzene	46.22	0	50.00		92.4	66.2	120	47.28	0	0	
Surr: Dibromofluoromethane	49.57	0	50.00		99.1	79.5	121	50.64	0	0	
Surr: Toluene-d8	49.61	0	50.00		99.2	77	117	49.63	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartwon, GA
Workorder: 1406L61

ANALYTICAL QC SUMMARY REPORT

BatchID: **192937**

Sample ID: **MB-192937** Client ID: Units: **mg/L** Prep Date: **06/26/2014** Run No: **270815**
SampleType: **MBLK** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **192937** Analysis Date: **06/27/2014** Seq No: **5714515**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	BRL	0.100									
Iron	BRL	0.100									
Manganese	BRL	0.0150									

Sample ID: **LCS-192937** Client ID: Units: **mg/L** Prep Date: **06/26/2014** Run No: **270815**
SampleType: **LCS** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **192937** Analysis Date: **06/27/2014** Seq No: **5714512**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	10.03	0.100	10.00		100	80	120				
Iron	10.14	0.100	10.00		101	80	120				
Manganese	1.027	0.0150	1.000		103	80	120				

Sample ID: **1406M28-001BMS** Client ID: Units: **mg/L** Prep Date: **06/26/2014** Run No: **270815**
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **192937** Analysis Date: **06/27/2014** Seq No: **5714520**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	17.59	0.100	10.00	7.640	99.5	75	125				
Iron	15.03	0.100	10.00	5.295	97.3	75	125				
Manganese	3.356	0.0150	1.000	2.438	91.8	75	125				

Sample ID: **1406M28-001BMSD** Client ID: Units: **mg/L** Prep Date: **06/26/2014** Run No: **270815**
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **192937** Analysis Date: **06/27/2014** Seq No: **5714522**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	16.81	0.100	10.00	7.640	91.7	75	125	17.59	4.58	20	
Iron	14.38	0.100	10.00	5.295	90.8	75	125	15.03	4.42	20	
Manganese	3.160	0.0150	1.000	2.438	72.2	75	125	3.356	6.02	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartwon, GA
Workorder: 1406L61

ANALYTICAL QC SUMMARY REPORT

BatchID: **192980**

Sample ID: **MB-192980** Client ID: Units: **mg/L** Prep Date: **06/27/2014** Run No: **270756**
SampleType: **MBLK** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **192980** Analysis Date: **06/27/2014** Seq No: **5713020**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	BRL	5.0									

Sample ID: **1406L61-002CDUP** Client ID: **EXP-3A (6)** Units: **mg/L** Prep Date: **06/27/2014** Run No: **270756**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **192980** Analysis Date: **06/27/2014** Seq No: **5713063**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	BRL	5.0						3.000	0	5	

Sample ID: **1406N61-001ADUP** Client ID: Units: **mg/L** Prep Date: **06/27/2014** Run No: **270756**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **192980** Analysis Date: **06/27/2014** Seq No: **5713025**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	58.00	5.0						57.00	1.74	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartwon, GA
Workorder: 1406L61

ANALYTICAL QC SUMMARY REPORT

BatchID: **192983**

Sample ID: **MB-192983** Client ID: Units: **mg/L** Prep Date: **06/27/2014** Run No: **270827**
SampleType: **MBLK** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **192983** Analysis Date: **06/27/2014** Seq No: **5714934**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	BRL	10									

Sample ID: **1406L61-002CDUP** Client ID: **EXP-3A (6)** Units: **mg/L** Prep Date: **06/27/2014** Run No: **270827**
SampleType: **DUP** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **192983** Analysis Date: **06/27/2014** Seq No: **5714938**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	266.0	10						269.0	1.12	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartwon, GA
Workorder: 1406L61

ANALYTICAL QC SUMMARY REPORT

BatchID: R270749

Sample ID: **MB-R270749** Client ID: Units: **mg/L** Prep Date: Run No: **270749**
SampleType: **MBLK** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R270749** Analysis Date: **06/26/2014** Seq No: **5712806**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	BRL	1.00									

Sample ID: **LCS-R270749** Client ID: Units: **mg/L** Prep Date: Run No: **270749**
SampleType: **LCS** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R270749** Analysis Date: **06/26/2014** Seq No: **5712805**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	24.31	1.00	25.00		97.2	90	110				

Sample ID: **1406M87-002EMS** Client ID: Units: **mg/L** Prep Date: Run No: **270749**
SampleType: **MS** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R270749** Analysis Date: **06/27/2014** Seq No: **5712843**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	24.93	1.00	25.00	2.251	90.7	80	120				

Sample ID: **1406M87-002EMSD** Client ID: Units: **mg/L** Prep Date: Run No: **270749**
SampleType: **MSD** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R270749** Analysis Date: **06/27/2014** Seq No: **5712844**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	25.45	1.00	25.00	2.251	92.8	80	120	24.93	2.06	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartwon, GA
Workorder: 1406L61

ANALYTICAL QC SUMMARY REPORT

BatchID: R270780

Sample ID: **MB-R270780** Client ID: Units: **mg/L** Prep Date: Run No: **270780**
SampleType: **MBLK** TestCode: **Alkalinity by SM2320B** BatchID: **R270780** Analysis Date: **06/27/2014** Seq No: **5713610**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	BRL	3.00									

Sample ID: **LCS-R270780** Client ID: Units: **mg/L** Prep Date: Run No: **270780**
SampleType: **LCS** TestCode: **Alkalinity by SM2320B** BatchID: **R270780** Analysis Date: **06/27/2014** Seq No: **5713611**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	127.0	3.00	125.0	2.000	100	75	125				

Sample ID: **1406N44-002CDUP** Client ID: Units: **mg/L** Prep Date: Run No: **270780**
SampleType: **DUP** TestCode: **Alkalinity by SM2320B** BatchID: **R270780** Analysis Date: **06/27/2014** Seq No: **5713618**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	123.0	3.00						126.0	2.41	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

July 03, 2014

Andrew Romanek
CDM Smith Inc.
3715 Northside Parkway, Northcreek 30
Atlanta GA 30327

TEL: (404) 720-1400
FAX: (404) 467-4130

RE: FMTS-Cedartown

Dear Andrew Romanek: Order No: 1406O43

Analytical Environmental Services, Inc. received 3 samples on June 26, 2014 4:00 pm for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

James Forrest
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1426043

Date: 6/25/14 Page 1 of 1

COMPANY: CDM Smith

ADDRESS: 3715 Northside Parkway NW B.300 S.400 Atlanta, GA 30327

PHONE: (404) 720-1400

FAX:

SAMPLED BY: Nick Fuller

SIGNATURE:

ANALYSIS REQUESTED: VOCs 8260, Total Iron, Calcium, Manganese, Alkalinity, Hardness, TOC, TDS, TSS

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs 8260 (HCl)	Total Iron (HNO3)	Calcium (HNO3)	Manganese (HNO3)	Alkalinity (None)	Hardness (HNO3)	TOC (H2SO4)	TDS (None)	TSS (None)	REMARKS	No # of Containers
1	EXP-4A (1)	6/25/14	1130	X		GW	X	X	X	X	X	X	X	X	X		5
2	EXP-4A (6)	6/25/14	1700	X		GW	X	X	X	X	X	X	X	X	X		5
3	TRIP Blank	6/26/14		X		W	X										2
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	6/26/14 1600	1: Calay R	6/26/14 4:00p
2:		2:	
3:		3:	

PROJECT INFORMATION
PROJECT NAME: FMTS- Cedartown
PROJECT #:
SITE ADDRESS: Cedartown, GA
SEND REPORT TO: Andrew Romanek
INVOICE TO: (IF DIFFERENT FROM ABOVE) romanekAP@cdmsmith.com
QUOTE #: PO#:

RECEIPT
Total # of Containers: 12

Turnaround Time Request
- (●) Standard 5 Business Days
- ( ) 2 Business Day Rush
- ( ) Next Business Day Rush
- ( ) Same Day Rush (auth req.)
- ( ) Other

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 3-Jul-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-4A (1)
Project Name:	FMTS-Cedartown	**Collection Date:**	6/25/2014 11:30:00 AM
Lab ID:	1406O43-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	6.12	5.00		mg/L	R270938	5	06/30/2014 19:50	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	60	5.0		ug/L	192989	1	06/30/2014 14:13	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
1,1-Dichloroethane	11	5.0		ug/L	192989	1	06/30/2014 14:13	GK
1,1-Dichloroethene	120	5.0		ug/L	192989	1	06/30/2014 14:13	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
1,2-Dibromoethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
1,2-Dichloroethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
1,2-Dichloropropane	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
2-Butanone	BRL	50		ug/L	192989	1	06/30/2014 14:13	GK
2-Hexanone	BRL	10		ug/L	192989	1	06/30/2014 14:13	GK
4-Methyl-2-pentanone	BRL	10		ug/L	192989	1	06/30/2014 14:13	GK
Acetone	BRL	50		ug/L	192989	1	06/30/2014 14:13	GK
Benzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Bromodichloromethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Bromoform	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Bromomethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Carbon disulfide	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Carbon tetrachloride	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Chlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Chloroethane	BRL	10		ug/L	192989	1	06/30/2014 14:13	GK
Chloroform	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Chloromethane	BRL	10		ug/L	192989	1	06/30/2014 14:13	GK
cis-1,2-Dichloroethene	2000	100		ug/L	192989	20	06/30/2014 20:09	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Cyclohexane	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Dibromochloromethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Dichlorodifluoromethane	BRL	10		ug/L	192989	1	06/30/2014 14:13	GK
Ethylbenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Freon-113	BRL	10		ug/L	192989	1	06/30/2014 14:13	GK
Isopropylbenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
m,p-Xylene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Methyl acetate	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-Jul-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-4A (1)
Project Name:	FMTS-Cedartown	**Collection Date:**	6/25/2014 11:30:00 AM
Lab ID:	1406O43-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Methylene chloride	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
o-Xylene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Styrene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Tetrachloroethene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Toluene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
trans-1,2-Dichloroethene	36	5.0		ug/L	192989	1	06/30/2014 14:13	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Trichloroethene	990	100		ug/L	192989	20	06/30/2014 20:09	GK
Trichlorofluoromethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:13	GK
Vinyl chloride	8.3	2.0		ug/L	192989	1	06/30/2014 14:13	GK
Surr: 4-Bromofluorobenzene	89.9	66.2-120		%REC	192989	1	06/30/2014 14:13	GK
Surr: 4-Bromofluorobenzene	87.6	66.2-120		%REC	192989	20	06/30/2014 20:09	GK
Surr: Dibromofluoromethane	100	79.5-121		%REC	192989	1	06/30/2014 14:13	GK
Surr: Dibromofluoromethane	97.6	79.5-121		%REC	192989	20	06/30/2014 20:09	GK
Surr: Toluene-d8	101	77-117		%REC	192989	1	06/30/2014 14:13	GK
Surr: Toluene-d8	99.7	77-117		%REC	192989	20	06/30/2014 20:09	GK
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	BRL	5.0		mg/L	193126	1	07/01/2014 09:20	OM
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	267	10		mg/L	193081	1	06/30/2014 16:15	OM
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	214	1.00		mg/L CaCO3	193005	1	06/30/2014 00:00	JL
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	225	15.0		mg/L	R271139	5	07/03/2014 13:47	EH
METALS, TOTAL SW6010C				**(SW3010A)**				
Calcium	57.6	0.100		mg/L	193005	1	06/30/2014 19:46	JL
Iron	BRL	0.100		mg/L	193005	1	06/30/2014 19:46	JL
Manganese	0.0167	0.0150		mg/L	193005	1	06/30/2014 19:46	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 3-Jul-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-41 (6)
Project Name:	FMTS-Cedartown	**Collection Date:**	6/25/2014 5:00:00 PM
Lab ID:	1406O43-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	2.82	1.00		mg/L	R270938	1	06/30/2014 17:31	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	45	5.0		ug/L	192989	1	06/30/2014 14:41	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
1,1-Dichloroethane	7.7	5.0		ug/L	192989	1	06/30/2014 14:41	GK
1,1-Dichloroethene	71	5.0		ug/L	192989	1	06/30/2014 14:41	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
1,2-Dibromoethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
1,2-Dichloroethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
1,2-Dichloropropane	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
2-Butanone	BRL	50		ug/L	192989	1	06/30/2014 14:41	GK
2-Hexanone	BRL	10		ug/L	192989	1	06/30/2014 14:41	GK
4-Methyl-2-pentanone	BRL	10		ug/L	192989	1	06/30/2014 14:41	GK
Acetone	BRL	50		ug/L	192989	1	06/30/2014 14:41	GK
Benzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Bromodichloromethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Bromoform	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Bromomethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Carbon disulfide	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Carbon tetrachloride	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Chlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Chloroethane	BRL	10		ug/L	192989	1	06/30/2014 14:41	GK
Chloroform	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Chloromethane	BRL	10		ug/L	192989	1	06/30/2014 14:41	GK
cis-1,2-Dichloroethene	1300	100		ug/L	192989	20	06/30/2014 20:37	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Cyclohexane	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Dibromochloromethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Dichlorodifluoromethane	BRL	10		ug/L	192989	1	06/30/2014 14:41	GK
Ethylbenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Freon-113	BRL	10		ug/L	192989	1	06/30/2014 14:41	GK
Isopropylbenzene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
m,p-Xylene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Methyl acetate	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-Jul-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-41 (6)
Project Name:	FMTS-Cedartown	**Collection Date:**	6/25/2014 5:00:00 PM
Lab ID:	1406O43-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Methylene chloride	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
o-Xylene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Styrene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Tetrachloroethene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Toluene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
trans-1,2-Dichloroethene	22	5.0		ug/L	192989	1	06/30/2014 14:41	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Trichloroethene	770	100		ug/L	192989	20	06/30/2014 20:37	GK
Trichlorofluoromethane	BRL	5.0		ug/L	192989	1	06/30/2014 14:41	GK
Vinyl chloride	5.2	2.0		ug/L	192989	1	06/30/2014 14:41	GK
Surr: 4-Bromofluorobenzene	89.1	66.2-120		%REC	192989	1	06/30/2014 14:41	GK
Surr: 4-Bromofluorobenzene	88.1	66.2-120		%REC	192989	20	06/30/2014 20:37	GK
Surr: Dibromofluoromethane	98.4	79.5-121		%REC	192989	1	06/30/2014 14:41	GK
Surr: Dibromofluoromethane	97.9	79.5-121		%REC	192989	20	06/30/2014 20:37	GK
Surr: Toluene-d8	102	77-117		%REC	192989	20	06/30/2014 20:37	GK
Surr: Toluene-d8	100	77-117		%REC	192989	1	06/30/2014 14:41	GK
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	BRL	5.0		mg/L	193126	1	07/01/2014 09:20	OM
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	246	10		mg/L	193081	1	06/30/2014 16:15	OM
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	213	1.00		mg/L CaCO3	193005	1	06/30/2014 00:00	JL
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	190	15.0		mg/L	R271139	5	07/03/2014 13:47	EH
METALS, TOTAL SW6010C				**(SW3010A)**				
Calcium	55.2	0.100		mg/L	193005	1	06/30/2014 19:50	JL
Iron	BRL	0.100		mg/L	193005	1	06/30/2014 19:50	JL
Manganese	0.0251	0.0150		mg/L	193005	1	06/30/2014 19:50	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-Jul-14

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	FMTS-Cedartown	**Collection Date:**	6/26/2014
Lab ID:	1406O43-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
1,1-Dichloroethane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
1,1-Dichloroethene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
1,2-Dibromoethane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
1,2-Dichloroethane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
1,2-Dichloropropane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
2-Butanone	BRL	50		ug/L	192989	1	06/30/2014 13:46	GK
2-Hexanone	BRL	10		ug/L	192989	1	06/30/2014 13:46	GK
4-Methyl-2-pentanone	BRL	10		ug/L	192989	1	06/30/2014 13:46	GK
Acetone	BRL	50		ug/L	192989	1	06/30/2014 13:46	GK
Benzene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Bromodichloromethane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Bromoform	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Bromomethane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Carbon disulfide	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Carbon tetrachloride	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Chlorobenzene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Chloroethane	BRL	10		ug/L	192989	1	06/30/2014 13:46	GK
Chloroform	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Chloromethane	BRL	10		ug/L	192989	1	06/30/2014 13:46	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Cyclohexane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Dibromochloromethane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Dichlorodifluoromethane	BRL	10		ug/L	192989	1	06/30/2014 13:46	GK
Ethylbenzene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Freon-113	BRL	10		ug/L	192989	1	06/30/2014 13:46	GK
Isopropylbenzene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
m,p-Xylene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Methyl acetate	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Methylcyclohexane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Methylene chloride	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
o-Xylene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 3-Jul-14

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	FMTS-Cedartown	**Collection Date:**	6/26/2014
Lab ID:	1406O43-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Tetrachloroethene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Toluene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Trichloroethene	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Trichlorofluoromethane	BRL	5.0		ug/L	192989	1	06/30/2014 13:46	GK
Vinyl chloride	BRL	2.0		ug/L	192989	1	06/30/2014 13:46	GK
Surr: 4-Bromofluorobenzene	89.6	66.2-120		%REC	192989	1	06/30/2014 13:46	GK
Surr: Dibromofluoromethane	93.7	79.5-121		%REC	192989	1	06/30/2014 13:46	GK
Surr: Toluene-d8	98.6	77-117		%REC	192989	1	06/30/2014 13:46	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client CDM Work Order Number 1406043

Checklist completed by Jan B 01/26/14
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.2 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by SB

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Analytical Environmental Services, Inc

Date: 3-Jul-14

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown
Workorder: 1406O43

ANALYTICAL QC SUMMARY REPORT

BatchID: 192989

Sample ID: **MB-192989** Client ID: Units: **ug/L** Prep Date: **06/27/2014** Run No: **270712**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192989** Analysis Date: **06/27/2014** Seq No: **5712077**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown
Workorder: 1406O43

ANALYTICAL QC SUMMARY REPORT

BatchID: 192989

Sample ID: **MB-192989** Client ID: Units: **ug/L** Prep Date: **06/27/2014** Run No: **270712**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192989** Analysis Date: **06/27/2014** Seq No: **5712077**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	45.38	0	50.00		90.8	66.2	120				
Surr: Dibromofluoromethane	49.42	0	50.00		98.8	79.5	121				
Surr: Toluene-d8	51.35	0	50.00		103	77	117				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown
Workorder: 1406O43

ANALYTICAL QC SUMMARY REPORT

BatchID: 192989

Sample ID: **LCS-192989** Client ID: Units: **ug/L** Prep Date: **06/27/2014** Run No: **270712**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192989** Analysis Date: **06/27/2014** Seq No: **5712356**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	43.71	5.0	50.00		87.4	63.1	140				
Benzene	45.14	5.0	50.00		90.3	74.2	129				
Chlorobenzene	46.86	5.0	50.00		93.7	70	129				
Toluene	47.53	5.0	50.00		95.1	74.2	129				
Trichloroethene	47.36	5.0	50.00		94.7	71.2	135				
Surr: 4-Bromofluorobenzene	46.05	0	50.00		92.1	66.2	120				
Surr: Dibromofluoromethane	47.84	0	50.00		95.7	79.5	121				
Surr: Toluene-d8	49.87	0	50.00		99.7	77	117				

Sample ID: **1406O45-005AMS** Client ID: Units: **ug/L** Prep Date: **06/27/2014** Run No: **270712**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192989** Analysis Date: **06/27/2014** Seq No: **5712983**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	37.21	5.0	50.00		74.4	60.2	159				
Benzene	105.1	5.0	50.00	59.67	90.8	70.2	138				
Chlorobenzene	45.67	5.0	50.00		91.3	70.1	133				
Toluene	88.07	5.0	50.00	39.95	96.2	70	139				
Trichloroethene	46.19	5.0	50.00		92.4	70.1	144				
Surr: 4-Bromofluorobenzene	51.29	0	50.00		103	66.2	120				
Surr: Dibromofluoromethane	45.56	0	50.00		91.1	79.5	121				
Surr: Toluene-d8	50.96	0	50.00		102	77	117				

Sample ID: **1406O45-005AMSD** Client ID: Units: **ug/L** Prep Date: **06/27/2014** Run No: **270712**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192989** Analysis Date: **06/27/2014** Seq No: **5712986**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	35.84	5.0	50.00		71.7	60.2	159	37.21	3.75	19.2	
Benzene	100.7	5.0	50.00	59.67	82.1	70.2	138	105.1	4.26	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Analytical Environmental Services, Inc

Date: 3-Jul-14

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown
Workorder: 1406O43

ANALYTICAL QC SUMMARY REPORT

BatchID: **192989**

Sample ID: **1406O45-005AMSD** Client ID: Units: **ug/L** Prep Date: **06/27/2014** Run No: **270712**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **192989** Analysis Date: **06/27/2014** Seq No: **5712986**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	43.56	5.0	50.00		87.1	70.1	133	45.67	4.73	20	
Toluene	84.40	5.0	50.00	39.95	88.9	70	139	88.07	4.26	20	
Trichloroethene	44.83	5.0	50.00		89.7	70.1	144	46.19	2.99	20	
Surr: 4-Bromofluorobenzene	50.38	0	50.00		101	66.2	120	51.29	0	0	
Surr: Dibromofluoromethane	46.31	0	50.00		92.6	79.5	121	45.56	0	0	
Surr: Toluene-d8	50.25	0	50.00		100	77	117	50.96	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown
Workorder: 1406O43

ANALYTICAL QC SUMMARY REPORT

BatchID: 193005

Sample ID: **MB-193005** Client ID: Units: **mg/L** Prep Date: **06/30/2014** Run No: **270875**
SampleType: **MBLK** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **193005** Analysis Date: **06/30/2014** Seq No: **5715891**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	BRL	0.100									
Iron	BRL	0.100									
Manganese	BRL	0.0150									

Sample ID: **LCS-193005** Client ID: Units: **mg/L** Prep Date: **06/30/2014** Run No: **270875**
SampleType: **LCS** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **193005** Analysis Date: **06/30/2014** Seq No: **5715890**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	10.35	0.100	10.00		103	80	120				
Iron	9.955	0.100	10.00		99.5	80	120				
Manganese	1.008	0.0150	1.000		101	80	120				

Sample ID: **1406P48-031CMS** Client ID: Units: **mg/L** Prep Date: **06/30/2014** Run No: **270875**
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **193005** Analysis Date: **06/30/2014** Seq No: **5715893**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	16.72	0.100	10.00	6.628	101	75	125				
Iron	11.25	0.100	10.00	1.435	98.2	75	125				
Manganese	2.095	0.0150	1.000	1.139	95.5	75	125				

Sample ID: **1406P48-031CMSD** Client ID: Units: **mg/L** Prep Date: **06/30/2014** Run No: **270875**
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **193005** Analysis Date: **06/30/2014** Seq No: **5715921**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	16.73	0.100	10.00	6.628	101	75	125	16.72	0.057	20	
Iron	11.28	0.100	10.00	1.435	98.4	75	125	11.25	0.251	20	
Manganese	2.077	0.0150	1.000	1.139	93.8	75	125	2.095	0.845	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown
Workorder: 1406O43

ANALYTICAL QC SUMMARY REPORT

BatchID: **193081**

Sample ID: **MB-193081** Client ID: Units: **mg/L** Prep Date: **06/30/2014** Run No: **270967**
SampleType: **MBLK** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **193081** Analysis Date: **06/30/2014** Seq No: **5717877**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	BRL	10									

Sample ID: **1406N24-001BDUP** Client ID: Units: **mg/L** Prep Date: **06/30/2014** Run No: **270967**
SampleType: **DUP** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **193081** Analysis Date: **06/30/2014** Seq No: **5717886**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	105.0	10						102.0	2.90	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown
Workorder: 1406O43

ANALYTICAL QC SUMMARY REPORT

BatchID: 193126

Sample ID: **MB-193126** Client ID: Units: **mg/L** Prep Date: **07/01/2014** Run No: **270962**
SampleType: **MBLK** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **193126** Analysis Date: **07/01/2014** Seq No: **5717789**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	BRL	5.0									

Sample ID: **1406N90-004BDUP** Client ID: Units: **mg/L** Prep Date: **07/01/2014** Run No: **270962**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **193126** Analysis Date: **07/01/2014** Seq No: **5717827**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	12.50	5.0						12.50	0	5	

Sample ID: **1406Q74-001ADUP** Client ID: Units: **mg/L** Prep Date: **07/01/2014** Run No: **270962**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **193126** Analysis Date: **07/01/2014** Seq No: **5717794**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	70.00	5.0						68.50	2.17	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown
Workorder: 1406O43

ANALYTICAL QC SUMMARY REPORT

BatchID: R270938

Sample ID: **MB-R270938** Client ID: Units: **mg/L** Prep Date: Run No: **270938**
SampleType: **MBLK** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R270938** Analysis Date: **06/30/2014** Seq No: **5717267**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	BRL	1.00									

Sample ID: **LCS-R270938** Client ID: Units: **mg/L** Prep Date: Run No: **270938**
SampleType: **LCS** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R270938** Analysis Date: **06/30/2014** Seq No: **5717263**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	22.85	1.00	25.00		91.4	90	110				

Sample ID: **1406O43-002CMS** Client ID: **EXP-41 (6)** Units: **mg/L** Prep Date: Run No: **270938**
SampleType: **MS** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R270938** Analysis Date: **07/01/2014** Seq No: **5717294**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	22.11	1.00	25.00	2.816	77.2	80	120				S

Sample ID: **1406O43-002CMSD** Client ID: **EXP-41 (6)** Units: **mg/L** Prep Date: Run No: **270938**
SampleType: **MSD** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R270938** Analysis Date: **07/01/2014** Seq No: **5717297**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	22.85	1.00	25.00	2.816	80.1	80	120	22.11	3.29	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Analytical Environmental Services, Inc

Date: 3-Jul-14

Client: CDM Smith Inc.
Project Name: FMTS-Cedartown
Workorder: 1406O43

ANALYTICAL QC SUMMARY REPORT

BatchID: R271139

Sample ID: **MB-R271139** Client ID: Units: **mg/L** Prep Date: Run No: **271139**
SampleType: **MBLK** TestCode: **Alkalinity by SM2320B** BatchID: **R271139** Analysis Date: **07/03/2014** Seq No: **5721250**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	BRL	3.00									

Sample ID: **LCS-R271139** Client ID: Units: **mg/L** Prep Date: Run No: **271139**
SampleType: **LCS** TestCode: **Alkalinity by SM2320B** BatchID: **R271139** Analysis Date: **07/03/2014** Seq No: **5721251**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	127.0	3.00	125.0	1.000	101	75	125				

Sample ID: **1406O43-001DDUP** Client ID: **EXP-4A (1)** Units: **mg/L** Prep Date: Run No: **271139**
SampleType: **DUP** TestCode: **Alkalinity by SM2320B** BatchID: **R271139** Analysis Date: **07/03/2014** Seq No: **5721253**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	235.0	15.0						225.0	4.35	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

August 25, 2014

Andrew Romanek
CDM Smith Inc.
3715 Northside Parkway, Northcreek 30
Atlanta GA 30327

TEL: (404) 720-1400
FAX: (404) 467-4130

RE: Former Manchester Tank

Dear Andrew Romanek: Order No: 1408E81

Analytical Environmental Services, Inc. received 14 samples on August 15, 2014 3:50 pm for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

James Forrest
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1408E81

Date: 8/15/14 Page 1 of 1

COMPANY: CDM Smith

ADDRESS: 3715 Northside Parkway NW B. 300 S. 400 Atlanta, GA 30327

PHONE: (404) 720-1400

FAX:

SAMPLED BY: Nick Fuller

SIGNATURE:

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs	Iron (Total)	Calcium	Manganese	Alkalinity	Hardness	TOC	TDS	TSS					REMARKS	No # of Containers
							PRESERVATION (See codes)														
							H+I	N	N	N	NA	N	S+I	NA	NA						
1	EXP-7 (1)	8/13/14	1025	X		GW	X	X	X	X	X	X	X	X	X						5
2	EXP-6B	8/13/14	1520	X		GW	X														2
3	EXP-6	8/13/14	1555	X		GW	X														2
4	EXP-9A (1)	8/14/14	1200	X		GW	X	X	X	X	X	X	X	X	X						5
5	EXP-5A	8/14/14	1430	X		GW	X														2
6	EXP-3	8/14/14	1520	X		GW	X														2
7	EXP-1	8/14/14	1605	X		GW	X														2
8	MW-57A	8/14/14	1645	X		GW	X														2
9	EXP-10A	8/14/14	1715	X		GW	X														2
10	EXP-8	8/15/14	1100	X		GW	X														2
11	EXP-9	8/15/14	1140	X		GW	X														2
12	MW-58A	8/15/14	1215	X		GW	X														2
13	DUP-1	8/15/14	0800	X		GW	X														2
14	TRIP Blank	—	—	X		W	X														2

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	8/15/14 1550	1: Cataya Reeves	8/15/14 3:50p
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER_____

PROJECT INFORMATION
PROJECT NAME: FMTS
PROJECT #:
SITE ADDRESS: Cedartown, GA
SEND REPORT TO: Andrew Romanek
INVOICE TO:
(IF DIFFERENT FROM ABOVE)
romanekAP@CDMSmith.com
duffeyJT@CDMSmith.com
QUOTE #: PO#:

RECEIPT
Total # of Containers 34

Turnaround Time Request
- ● Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ○ Other _____

STATE PROGRAM (if any): _____
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 25-Aug-14

Client: CDM Smith Inc.
Project: Former Manchester Tank
Lab ID: 1408E81

Case Narrative

Volatiles Organic Compounds Analysis by Method 8260B:

Due to sample matrix, sample 1408E81-007A required dilution during preparation and/or analysis resulting in elevated reporting limits.

Trichloroethene value for the QC sample 1408E81-007AMS/MSD is "E" qualified indicating estimated value over linear calibration range due to the level of target analyte present in the unspiked sample.

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-7 (1)
Project Name:	Former Manchester Tank	**Collection Date:**	8/13/2014 10:25:00 AM
Lab ID:	1408E81-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	1.86	1.00		mg/L	R274203	1	08/20/2014 21:43	ME
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	8.6	5.0		ug/L	195082	1	08/19/2014 14:08	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
1,1-Dichloroethane	10	5.0		ug/L	195082	1	08/19/2014 14:08	NP
1,1-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
1,2-Dibromoethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
1,2-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
1,2-Dichloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
2-Butanone	BRL	50		ug/L	195082	1	08/19/2014 14:08	NP
2-Hexanone	BRL	10		ug/L	195082	1	08/19/2014 14:08	NP
4-Methyl-2-pentanone	BRL	10		ug/L	195082	1	08/19/2014 14:08	NP
Acetone	BRL	50		ug/L	195082	1	08/19/2014 14:08	NP
Benzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Bromodichloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Bromoform	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Bromomethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Carbon disulfide	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Carbon tetrachloride	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Chlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Chloroethane	BRL	10		ug/L	195082	1	08/19/2014 14:08	NP
Chloroform	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Chloromethane	BRL	10		ug/L	195082	1	08/19/2014 14:08	NP
cis-1,2-Dichloroethene	79	5.0		ug/L	195082	1	08/19/2014 14:08	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Cyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Dibromochloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Dichlorodifluoromethane	BRL	10		ug/L	195082	1	08/19/2014 14:08	NP
Ethylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Freon-113	BRL	10		ug/L	195082	1	08/19/2014 14:08	NP
Isopropylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
m,p-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Methyl acetate	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-7 (1)
Project Name:	Former Manchester Tank	**Collection Date:**	8/13/2014 10:25:00 AM
Lab ID:	1408E81-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Methylene chloride	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
o-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Styrene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Tetrachloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Toluene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Trichloroethene	230	50		ug/L	195082	10	08/20/2014 13:00	NP
Trichlorofluoromethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:08	NP
Vinyl chloride	16	2.0		ug/L	195082	1	08/19/2014 14:08	NP
Surr: 4-Bromofluorobenzene	86.6	66.2-120		%REC	195082	10	08/20/2014 13:00	NP
Surr: 4-Bromofluorobenzene	89.2	66.2-120		%REC	195082	1	08/19/2014 14:08	NP
Surr: Dibromofluoromethane	99.1	79.5-121		%REC	195082	10	08/20/2014 13:00	NP
Surr: Dibromofluoromethane	103	79.5-121		%REC	195082	1	08/19/2014 14:08	NP
Surr: Toluene-d8	99.4	77-117		%REC	195082	10	08/20/2014 13:00	NP
Surr: Toluene-d8	100	77-117		%REC	195082	1	08/19/2014 14:08	NP
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	14.0	5.0		mg/L	195025	1	08/18/2014 15:54	OM
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	239	10		mg/L	195033	1	08/18/2014 15:20	OM
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	178	1.00		mg/L CaCO3	195076	1	08/20/2014 00:00	JL
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	181	3.00		mg/L	R273899	1	08/18/2014 08:45	AB
METALS, TOTAL SW6010C				**(SW3010A)**				
Calcium	47.3	0.100		mg/L	195076	1	08/20/2014 18:18	JL
Iron	0.833	0.100		mg/L	195076	1	08/20/2014 18:18	JL
Manganese	0.999	0.0150		mg/L	195076	1	08/20/2014 18:18	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-6B
Project Name:	Former Manchester Tank	**Collection Date:**	8/13/2014 3:20:00 PM
Lab ID:	1408E81-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	7.1	5.0		ug/L	195082	1	08/19/2014 14:34	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
1,1-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
1,1-Dichloroethene	6.6	5.0		ug/L	195082	1	08/19/2014 14:34	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
1,2-Dibromoethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
1,2-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
1,2-Dichloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
2-Butanone	BRL	50		ug/L	195082	1	08/19/2014 14:34	NP
2-Hexanone	BRL	10		ug/L	195082	1	08/19/2014 14:34	NP
4-Methyl-2-pentanone	BRL	10		ug/L	195082	1	08/19/2014 14:34	NP
Acetone	BRL	50		ug/L	195082	1	08/19/2014 14:34	NP
Benzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Bromodichloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Bromoform	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Bromomethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Carbon disulfide	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Carbon tetrachloride	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Chlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Chloroethane	BRL	10		ug/L	195082	1	08/19/2014 14:34	NP
Chloroform	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Chloromethane	BRL	10		ug/L	195082	1	08/19/2014 14:34	NP
cis-1,2-Dichloroethene	310	50		ug/L	195082	10	08/20/2014 13:25	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Cyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Dibromochloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Dichlorodifluoromethane	BRL	10		ug/L	195082	1	08/19/2014 14:34	NP
Ethylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Freon-113	BRL	10		ug/L	195082	1	08/19/2014 14:34	NP
Isopropylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
m,p-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Methyl acetate	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Methylcyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Methylene chloride	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
o-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-6B
Project Name:	Former Manchester Tank	**Collection Date:**	8/13/2014 3:20:00 PM
Lab ID:	1408E81-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Tetrachloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Toluene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Trichloroethene	220	50		ug/L	195082	10	08/20/2014 13:25	NP
Trichlorofluoromethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:34	NP
Vinyl chloride	BRL	2.0		ug/L	195082	1	08/19/2014 14:34	NP
Surr: 4-Bromofluorobenzene	84.1	66.2-120		%REC	195082	1	08/19/2014 14:34	NP
Surr: 4-Bromofluorobenzene	85.7	66.2-120		%REC	195082	10	08/20/2014 13:25	NP
Surr: Dibromofluoromethane	99.6	79.5-121		%REC	195082	10	08/20/2014 13:25	NP
Surr: Dibromofluoromethane	106	79.5-121		%REC	195082	1	08/19/2014 14:34	NP
Surr: Toluene-d8	100	77-117		%REC	195082	10	08/20/2014 13:25	NP
Surr: Toluene-d8	102	77-117		%REC	195082	1	08/19/2014 14:34	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-6
Project Name:	Former Manchester Tank	**Collection Date:**	8/13/2014 3:55:00 PM
Lab ID:	1408E81-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
1,1-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
1,1-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
1,2-Dibromoethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
1,2-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
1,2-Dichloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
2-Butanone	BRL	50		ug/L	195082	1	08/19/2014 14:58	NP
2-Hexanone	BRL	10		ug/L	195082	1	08/19/2014 14:58	NP
4-Methyl-2-pentanone	BRL	10		ug/L	195082	1	08/19/2014 14:58	NP
Acetone	BRL	50		ug/L	195082	1	08/19/2014 14:58	NP
Benzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Bromodichloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Bromoform	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Bromomethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Carbon disulfide	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Carbon tetrachloride	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Chlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Chloroethane	BRL	10		ug/L	195082	1	08/19/2014 14:58	NP
Chloroform	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Chloromethane	BRL	10		ug/L	195082	1	08/19/2014 14:58	NP
cis-1,2-Dichloroethene	8.5	5.0		ug/L	195082	1	08/19/2014 14:58	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Cyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Dibromochloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Dichlorodifluoromethane	BRL	10		ug/L	195082	1	08/19/2014 14:58	NP
Ethylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Freon-113	BRL	10		ug/L	195082	1	08/19/2014 14:58	NP
Isopropylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
m,p-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Methyl acetate	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Methylcyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Methylene chloride	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
o-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-6
Project Name:	Former Manchester Tank	**Collection Date:**	8/13/2014 3:55:00 PM
Lab ID:	1408E81-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Tetrachloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Toluene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Trichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Trichlorofluoromethane	BRL	5.0		ug/L	195082	1	08/19/2014 14:58	NP
Vinyl chloride	BRL	2.0		ug/L	195082	1	08/19/2014 14:58	NP
Surr: 4-Bromofluorobenzene	86.3	66.2-120		%REC	195082	1	08/19/2014 14:58	NP
Surr: Dibromofluoromethane	103	79.5-121		%REC	195082	1	08/19/2014 14:58	NP
Surr: Toluene-d8	101	77-117		%REC	195082	1	08/19/2014 14:58	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-9A(1)
Project Name:	Former Manchester Tank	**Collection Date:**	8/14/2014 12:00:00 PM
Lab ID:	1408E81-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	1.74	1.00		mg/L	R274203	1	08/20/2014 22:06	ME
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
1,1-Dichloroethane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
1,1-Dichloroethene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
1,2-Dibromoethane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
1,2-Dichloroethane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
1,2-Dichloropropane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
2-Butanone	120	50		ug/L	195082	1	08/20/2014 11:47	NP
2-Hexanone	BRL	10		ug/L	195082	1	08/20/2014 11:47	NP
4-Methyl-2-pentanone	BRL	10		ug/L	195082	1	08/20/2014 11:47	NP
Acetone	110	50		ug/L	195082	1	08/20/2014 11:47	NP
Benzene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Bromodichloromethane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Bromoform	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Bromomethane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Carbon disulfide	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Carbon tetrachloride	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Chlorobenzene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Chloroethane	BRL	10		ug/L	195082	1	08/20/2014 11:47	NP
Chloroform	5.0	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Chloromethane	BRL	10		ug/L	195082	1	08/20/2014 11:47	NP
cis-1,2-Dichloroethene	35	5.0		ug/L	195082	1	08/20/2014 11:47	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Cyclohexane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Dibromochloromethane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Dichlorodifluoromethane	BRL	10		ug/L	195082	1	08/20/2014 11:47	NP
Ethylbenzene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Freon-113	BRL	10		ug/L	195082	1	08/20/2014 11:47	NP
Isopropylbenzene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
m,p-Xylene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Methyl acetate	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-9A(1)
Project Name:	Former Manchester Tank	**Collection Date:**	8/14/2014 12:00:00 PM
Lab ID:	1408E81-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Methylene chloride	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
o-Xylene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Styrene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Tetrachloroethene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Toluene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Trichloroethene	130	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Trichlorofluoromethane	BRL	5.0		ug/L	195082	1	08/20/2014 11:47	NP
Vinyl chloride	BRL	2.0		ug/L	195082	1	08/20/2014 11:47	NP
Surr: 4-Bromofluorobenzene	88.9	66.2-120		%REC	195082	1	08/20/2014 11:47	NP
Surr: Dibromofluoromethane	101	79.5-121		%REC	195082	1	08/20/2014 11:47	NP
Surr: Toluene-d8	98.4	77-117		%REC	195082	1	08/20/2014 11:47	NP
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	407	10.0		mg/L	195025	1	08/18/2014 15:54	OM
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	223	10		mg/L	195033	1	08/18/2014 15:20	OM
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	148	1.00		mg/L CaCO3	195076	1	08/20/2014 00:00	JL
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	127	3.00		mg/L	R273899	1	08/18/2014 08:45	AB
METALS, TOTAL SW6010C				**(SW3010A)**				
Calcium	37.4	0.100		mg/L	195076	1	08/20/2014 18:21	JL
Iron	17.0	0.100		mg/L	195076	1	08/20/2014 18:21	JL
Manganese	0.247	0.0150		mg/L	195076	1	08/20/2014 18:21	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-5A
Project Name:	Former Manchester Tank	**Collection Date:**	8/14/2014 2:30:00 PM
Lab ID:	1408E81-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	12	5.0		ug/L	195082	1	08/19/2014 17:03	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
1,1-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
1,1-Dichloroethene	14	5.0		ug/L	195082	1	08/19/2014 17:03	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
1,2-Dibromoethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
1,2-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
1,2-Dichloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
2-Butanone	BRL	50		ug/L	195082	1	08/19/2014 17:03	NP
2-Hexanone	BRL	10		ug/L	195082	1	08/19/2014 17:03	NP
4-Methyl-2-pentanone	BRL	10		ug/L	195082	1	08/19/2014 17:03	NP
Acetone	BRL	50		ug/L	195082	1	08/19/2014 17:03	NP
Benzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Bromodichloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Bromoform	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Bromomethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Carbon disulfide	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Carbon tetrachloride	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Chlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Chloroethane	BRL	10		ug/L	195082	1	08/19/2014 17:03	NP
Chloroform	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Chloromethane	BRL	10		ug/L	195082	1	08/19/2014 17:03	NP
cis-1,2-Dichloroethene	520	50		ug/L	195082	10	08/20/2014 14:24	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Cyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Dibromochloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Dichlorodifluoromethane	BRL	10		ug/L	195082	1	08/19/2014 17:03	NP
Ethylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Freon-113	BRL	10		ug/L	195082	1	08/19/2014 17:03	NP
Isopropylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
m,p-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Methyl acetate	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Methylcyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Methylene chloride	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
o-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-5A
Project Name:	Former Manchester Tank	**Collection Date:**	8/14/2014 2:30:00 PM
Lab ID:	1408E81-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Tetrachloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Toluene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
trans-1,2-Dichloroethene	5.6	5.0		ug/L	195082	1	08/19/2014 17:03	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Trichloroethene	230	50		ug/L	195082	10	08/20/2014 14:24	NP
Trichlorofluoromethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:03	NP
Vinyl chloride	BRL	2.0		ug/L	195082	1	08/19/2014 17:03	NP
Surr: 4-Bromofluorobenzene	84.6	66.2-120		%REC	195082	1	08/19/2014 17:03	NP
Surr: 4-Bromofluorobenzene	84.4	66.2-120		%REC	195082	10	08/20/2014 14:24	NP
Surr: Dibromofluoromethane	100	79.5-121		%REC	195082	10	08/20/2014 14:24	NP
Surr: Dibromofluoromethane	105	79.5-121		%REC	195082	1	08/19/2014 17:03	NP
Surr: Toluene-d8	98.9	77-117		%REC	195082	10	08/20/2014 14:24	NP
Surr: Toluene-d8	101	77-117		%REC	195082	1	08/19/2014 17:03	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-3
Project Name:	Former Manchester Tank	**Collection Date:**	8/14/2014 3:20:00 PM
Lab ID:	1408E81-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	84	5.0		ug/L	195082	1	08/19/2014 17:28	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
1,1-Dichloroethane	54	5.0		ug/L	195082	1	08/19/2014 17:28	NP
1,1-Dichloroethene	160	5.0		ug/L	195082	1	08/19/2014 17:28	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
1,2-Dibromoethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
1,2-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
1,2-Dichloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
2-Butanone	BRL	50		ug/L	195082	1	08/19/2014 17:28	NP
2-Hexanone	BRL	10		ug/L	195082	1	08/19/2014 17:28	NP
4-Methyl-2-pentanone	BRL	10		ug/L	195082	1	08/19/2014 17:28	NP
Acetone	BRL	50		ug/L	195082	1	08/19/2014 17:28	NP
Benzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Bromodichloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Bromoform	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Bromomethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Carbon disulfide	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Carbon tetrachloride	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Chlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Chloroethane	BRL	10		ug/L	195082	1	08/19/2014 17:28	NP
Chloroform	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Chloromethane	BRL	10		ug/L	195082	1	08/19/2014 17:28	NP
cis-1,2-Dichloroethene	7600	250		ug/L	195082	50	08/21/2014 09:47	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Cyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Dibromochloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Dichlorodifluoromethane	BRL	10		ug/L	195082	1	08/19/2014 17:28	NP
Ethylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Freon-113	BRL	10		ug/L	195082	1	08/19/2014 17:28	NP
Isopropylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
m,p-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Methyl acetate	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Methylcyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Methylene chloride	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
o-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-3
Project Name:	Former Manchester Tank	**Collection Date:**	8/14/2014 3:20:00 PM
Lab ID:	1408E81-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Tetrachloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Toluene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
trans-1,2-Dichloroethene	120	5.0		ug/L	195082	1	08/19/2014 17:28	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Trichloroethene	2800	250		ug/L	195082	50	08/21/2014 09:47	NP
Trichlorofluoromethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:28	NP
Vinyl chloride	7.7	2.0		ug/L	195082	1	08/19/2014 17:28	NP
Surr: 4-Bromofluorobenzene	87.5	66.2-120		%REC	195082	50	08/21/2014 09:47	NP
Surr: 4-Bromofluorobenzene	84.6	66.2-120		%REC	195082	1	08/19/2014 17:28	NP
Surr: Dibromofluoromethane	102	79.5-121		%REC	195082	50	08/21/2014 09:47	NP
Surr: Dibromofluoromethane	106	79.5-121		%REC	195082	1	08/19/2014 17:28	NP
Surr: Toluene-d8	99.7	77-117		%REC	195082	50	08/21/2014 09:47	NP
Surr: Toluene-d8	102	77-117		%REC	195082	1	08/19/2014 17:28	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-1
Project Name:	Former Manchester Tank	**Collection Date:**	8/14/2014 4:05:00 PM
Lab ID:	1408E81-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	2300	250		ug/L	195082	50	08/19/2014 15:49	NP
1,1,2,2-Tetrachloroethane	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
1,1,2-Trichloroethane	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
1,1-Dichloroethane	350	250		ug/L	195082	50	08/19/2014 15:49	NP
1,1-Dichloroethene	530	250		ug/L	195082	50	08/19/2014 15:49	NP
1,2,4-Trichlorobenzene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
1,2-Dibromo-3-chloropropane	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
1,2-Dibromoethane	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
1,2-Dichlorobenzene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
1,2-Dichloroethane	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
1,2-Dichloropropane	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
1,3-Dichlorobenzene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
1,4-Dichlorobenzene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
2-Butanone	BRL	2500		ug/L	195082	50	08/19/2014 15:49	NP
2-Hexanone	BRL	500		ug/L	195082	50	08/19/2014 15:49	NP
4-Methyl-2-pentanone	BRL	500		ug/L	195082	50	08/19/2014 15:49	NP
Acetone	BRL	2500		ug/L	195082	50	08/19/2014 15:49	NP
Benzene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Bromodichloromethane	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Bromoform	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Bromomethane	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Carbon disulfide	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Carbon tetrachloride	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Chlorobenzene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Chloroethane	BRL	500		ug/L	195082	50	08/19/2014 15:49	NP
Chloroform	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Chloromethane	BRL	500		ug/L	195082	50	08/19/2014 15:49	NP
cis-1,2-Dichloroethene	9200	250		ug/L	195082	50	08/19/2014 15:49	NP
cis-1,3-Dichloropropene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Cyclohexane	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Dibromochloromethane	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Dichlorodifluoromethane	BRL	500		ug/L	195082	50	08/19/2014 15:49	NP
Ethylbenzene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Freon-113	BRL	500		ug/L	195082	50	08/19/2014 15:49	NP
Isopropylbenzene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
m,p-Xylene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Methyl acetate	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Methyl tert-butyl ether	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Methylcyclohexane	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Methylene chloride	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
o-Xylene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-1
Project Name:	Former Manchester Tank	**Collection Date:**	8/14/2014 4:05:00 PM
Lab ID:	1408E81-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Tetrachloroethene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Toluene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
trans-1,2-Dichloroethene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
trans-1,3-Dichloropropene	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Trichloroethene	15000	2500		ug/L	195082	500	08/20/2014 10:27	NP
Trichlorofluoromethane	BRL	250		ug/L	195082	50	08/19/2014 15:49	NP
Vinyl chloride	160	100		ug/L	195082	50	08/19/2014 15:49	NP
Surr: 4-Bromofluorobenzene	82.9	66.2-120		%REC	195082	500	08/20/2014 10:27	NP
Surr: 4-Bromofluorobenzene	85.7	66.2-120		%REC	195082	50	08/19/2014 15:49	NP
Surr: Dibromofluoromethane	102	79.5-121		%REC	195082	500	08/20/2014 10:27	NP
Surr: Dibromofluoromethane	106	79.5-121		%REC	195082	50	08/19/2014 15:49	NP
Surr: Toluene-d8	100	77-117		%REC	195082	500	08/20/2014 10:27	NP
Surr: Toluene-d8	101	77-117		%REC	195082	50	08/19/2014 15:49	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-57A
Project Name:	Former Manchester Tank	**Collection Date:**	8/14/2014 4:45:00 PM
Lab ID:	1408E81-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	34	5.0		ug/L	195082	1	08/19/2014 17:53	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
1,1-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
1,1-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
1,2-Dibromoethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
1,2-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
1,2-Dichloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
2-Butanone	BRL	50		ug/L	195082	1	08/19/2014 17:53	NP
2-Hexanone	BRL	10		ug/L	195082	1	08/19/2014 17:53	NP
4-Methyl-2-pentanone	BRL	10		ug/L	195082	1	08/19/2014 17:53	NP
Acetone	BRL	50		ug/L	195082	1	08/19/2014 17:53	NP
Benzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Bromodichloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Bromoform	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Bromomethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Carbon disulfide	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Carbon tetrachloride	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Chlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Chloroethane	BRL	10		ug/L	195082	1	08/19/2014 17:53	NP
Chloroform	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Chloromethane	BRL	10		ug/L	195082	1	08/19/2014 17:53	NP
cis-1,2-Dichloroethene	110	50		ug/L	195082	10	08/20/2014 15:13	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Cyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Dibromochloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Dichlorodifluoromethane	BRL	10		ug/L	195082	1	08/19/2014 17:53	NP
Ethylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Freon-113	BRL	10		ug/L	195082	1	08/19/2014 17:53	NP
Isopropylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
m,p-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Methyl acetate	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Methylcyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Methylene chloride	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
o-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-57A
Project Name:	Former Manchester Tank	**Collection Date:**	8/14/2014 4:45:00 PM
Lab ID:	1408E81-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Tetrachloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Toluene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Trichloroethene	200	50		ug/L	195082	10	08/20/2014 15:13	NP
Trichlorofluoromethane	BRL	5.0		ug/L	195082	1	08/19/2014 17:53	NP
Vinyl chloride	BRL	2.0		ug/L	195082	1	08/19/2014 17:53	NP
Surr: 4-Bromofluorobenzene	84.5	66.2-120		%REC	195082	1	08/19/2014 17:53	NP
Surr: 4-Bromofluorobenzene	85.6	66.2-120		%REC	195082	10	08/20/2014 15:13	NP
Surr: Dibromofluoromethane	97.8	79.5-121		%REC	195082	10	08/20/2014 15:13	NP
Surr: Dibromofluoromethane	106	79.5-121		%REC	195082	1	08/19/2014 17:53	NP
Surr: Toluene-d8	99	77-117		%REC	195082	10	08/20/2014 15:13	NP
Surr: Toluene-d8	102	77-117		%REC	195082	1	08/19/2014 17:53	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-10A
Project Name:	Former Manchester Tank	**Collection Date:**	8/14/2014 5:15:00 PM
Lab ID:	1408E81-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	17	5.0		ug/L	195082	1	08/19/2014 18:18	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
1,1-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
1,1-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
1,2-Dibromoethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
1,2-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
1,2-Dichloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
2-Butanone	BRL	50		ug/L	195082	1	08/19/2014 18:18	NP
2-Hexanone	BRL	10		ug/L	195082	1	08/19/2014 18:18	NP
4-Methyl-2-pentanone	BRL	10		ug/L	195082	1	08/19/2014 18:18	NP
Acetone	BRL	50		ug/L	195082	1	08/19/2014 18:18	NP
Benzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Bromodichloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Bromoform	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Bromomethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Carbon disulfide	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Carbon tetrachloride	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Chlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Chloroethane	BRL	10		ug/L	195082	1	08/19/2014 18:18	NP
Chloroform	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Chloromethane	BRL	10		ug/L	195082	1	08/19/2014 18:18	NP
cis-1,2-Dichloroethene	110	5.0		ug/L	195082	1	08/19/2014 18:18	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Cyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Dibromochloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Dichlorodifluoromethane	BRL	10		ug/L	195082	1	08/19/2014 18:18	NP
Ethylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Freon-113	BRL	10		ug/L	195082	1	08/19/2014 18:18	NP
Isopropylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
m,p-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Methyl acetate	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Methylcyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Methylene chloride	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
o-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-10A
Project Name:	Former Manchester Tank	**Collection Date:**	8/14/2014 5:15:00 PM
Lab ID:	1408E81-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Tetrachloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Toluene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Trichloroethene	210	50		ug/L	195082	10	08/20/2014 16:02	NP
Trichlorofluoromethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:18	NP
Vinyl chloride	BRL	2.0		ug/L	195082	1	08/19/2014 18:18	NP
Surr: 4-Bromofluorobenzene	83.6	66.2-120		%REC	195082	1	08/19/2014 18:18	NP
Surr: 4-Bromofluorobenzene	86.6	66.2-120		%REC	195082	10	08/20/2014 16:02	NP
Surr: Dibromofluoromethane	98	79.5-121		%REC	195082	10	08/20/2014 16:02	NP
Surr: Dibromofluoromethane	104	79.5-121		%REC	195082	1	08/19/2014 18:18	NP
Surr: Toluene-d8	99.7	77-117		%REC	195082	10	08/20/2014 16:02	NP
Surr: Toluene-d8	102	77-117		%REC	195082	1	08/19/2014 18:18	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-8
Project Name:	Former Manchester Tank	**Collection Date:**	8/15/2014 11:00:00 AM
Lab ID:	1408E81-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
1,1-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
1,1-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
1,2-Dibromoethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
1,2-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
1,2-Dichloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
2-Butanone	BRL	50		ug/L	195082	1	08/19/2014 18:42	NP
2-Hexanone	BRL	10		ug/L	195082	1	08/19/2014 18:42	NP
4-Methyl-2-pentanone	BRL	10		ug/L	195082	1	08/19/2014 18:42	NP
Acetone	BRL	50		ug/L	195082	1	08/19/2014 18:42	NP
Benzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Bromodichloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Bromoform	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Bromomethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Carbon disulfide	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Carbon tetrachloride	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Chlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Chloroethane	BRL	10		ug/L	195082	1	08/19/2014 18:42	NP
Chloroform	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Chloromethane	BRL	10		ug/L	195082	1	08/19/2014 18:42	NP
cis-1,2-Dichloroethene	37	5.0		ug/L	195082	1	08/19/2014 18:42	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Cyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Dibromochloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Dichlorodifluoromethane	BRL	10		ug/L	195082	1	08/19/2014 18:42	NP
Ethylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Freon-113	BRL	10		ug/L	195082	1	08/19/2014 18:42	NP
Isopropylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
m,p-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Methyl acetate	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Methylcyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Methylene chloride	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
o-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-8
Project Name:	Former Manchester Tank	**Collection Date:**	8/15/2014 11:00:00 AM
Lab ID:	1408E81-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Tetrachloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Toluene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Trichloroethene	88	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Trichlorofluoromethane	BRL	5.0		ug/L	195082	1	08/19/2014 18:42	NP
Vinyl chloride	BRL	2.0		ug/L	195082	1	08/19/2014 18:42	NP
Surr: 4-Bromofluorobenzene	85	66.2-120		%REC	195082	1	08/19/2014 18:42	NP
Surr: Dibromofluoromethane	104	79.5-121		%REC	195082	1	08/19/2014 18:42	NP
Surr: Toluene-d8	103	77-117		%REC	195082	1	08/19/2014 18:42	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-9
Project Name:	Former Manchester Tank	**Collection Date:**	8/15/2014 11:40:00 AM
Lab ID:	1408E81-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	39	5.0		ug/L	195082	1	08/19/2014 19:06	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
1,1-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
1,1-Dichloroethene	15	5.0		ug/L	195082	1	08/19/2014 19:06	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
1,2-Dibromoethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
1,2-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
1,2-Dichloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
2-Butanone	BRL	50		ug/L	195082	1	08/19/2014 19:06	NP
2-Hexanone	BRL	10		ug/L	195082	1	08/19/2014 19:06	NP
4-Methyl-2-pentanone	BRL	10		ug/L	195082	1	08/19/2014 19:06	NP
Acetone	BRL	50		ug/L	195082	1	08/19/2014 19:06	NP
Benzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Bromodichloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Bromoform	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Bromomethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Carbon disulfide	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Carbon tetrachloride	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Chlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Chloroethane	BRL	10		ug/L	195082	1	08/19/2014 19:06	NP
Chloroform	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Chloromethane	BRL	10		ug/L	195082	1	08/19/2014 19:06	NP
cis-1,2-Dichloroethene	190	5.0		ug/L	195082	1	08/19/2014 19:06	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Cyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Dibromochloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Dichlorodifluoromethane	BRL	10		ug/L	195082	1	08/19/2014 19:06	NP
Ethylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Freon-113	BRL	10		ug/L	195082	1	08/19/2014 19:06	NP
Isopropylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
m,p-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Methyl acetate	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Methylcyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Methylene chloride	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
o-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-9
Project Name:	Former Manchester Tank	**Collection Date:**	8/15/2014 11:40:00 AM
Lab ID:	1408E81-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Tetrachloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Toluene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Trichloroethene	470	50		ug/L	195082	10	08/20/2014 16:53	NP
Trichlorofluoromethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:06	NP
Vinyl chloride	BRL	2.0		ug/L	195082	1	08/19/2014 19:06	NP
Surr: 4-Bromofluorobenzene	82.5	66.2-120		%REC	195082	1	08/19/2014 19:06	NP
Surr: 4-Bromofluorobenzene	85.5	66.2-120		%REC	195082	10	08/20/2014 16:53	NP
Surr: Dibromofluoromethane	99.3	79.5-121		%REC	195082	10	08/20/2014 16:53	NP
Surr: Dibromofluoromethane	107	79.5-121		%REC	195082	1	08/19/2014 19:06	NP
Surr: Toluene-d8	98.8	77-117		%REC	195082	10	08/20/2014 16:53	NP
Surr: Toluene-d8	102	77-117		%REC	195082	1	08/19/2014 19:06	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-58A
Project Name:	Former Manchester Tank	**Collection Date:**	8/15/2014 12:15:00 PM
Lab ID:	1408E81-012	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
1,1-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
1,1-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
1,2-Dibromoethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
1,2-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
1,2-Dichloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
2-Butanone	BRL	50		ug/L	195082	1	08/19/2014 19:31	NP
2-Hexanone	BRL	10		ug/L	195082	1	08/19/2014 19:31	NP
4-Methyl-2-pentanone	BRL	10		ug/L	195082	1	08/19/2014 19:31	NP
Acetone	BRL	50		ug/L	195082	1	08/19/2014 19:31	NP
Benzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Bromodichloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Bromoform	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Bromomethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Carbon disulfide	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Carbon tetrachloride	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Chlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Chloroethane	BRL	10		ug/L	195082	1	08/19/2014 19:31	NP
Chloroform	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Chloromethane	BRL	10		ug/L	195082	1	08/19/2014 19:31	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Cyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Dibromochloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Dichlorodifluoromethane	BRL	10		ug/L	195082	1	08/19/2014 19:31	NP
Ethylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Freon-113	BRL	10		ug/L	195082	1	08/19/2014 19:31	NP
Isopropylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
m,p-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Methyl acetate	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Methylcyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Methylene chloride	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
o-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	MW-58A
Project Name:	Former Manchester Tank	**Collection Date:**	8/15/2014 12:15:00 PM
Lab ID:	1408E81-012	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Tetrachloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Toluene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Trichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Trichlorofluoromethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:31	NP
Vinyl chloride	BRL	2.0		ug/L	195082	1	08/19/2014 19:31	NP
Surr: 4-Bromofluorobenzene	83.2	66.2-120		%REC	195082	1	08/19/2014 19:31	NP
Surr: Dibromofluoromethane	106	79.5-121		%REC	195082	1	08/19/2014 19:31	NP
Surr: Toluene-d8	102	77-117		%REC	195082	1	08/19/2014 19:31	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	DUP-1
Project Name:	Former Manchester Tank	**Collection Date:**	8/15/2014 8:00:00 AM
Lab ID:	1408E81-013	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
1,1-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
1,1-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
1,2-Dibromoethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
1,2-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
1,2-Dichloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
2-Butanone	BRL	50		ug/L	195082	1	08/19/2014 19:55	NP
2-Hexanone	BRL	10		ug/L	195082	1	08/19/2014 19:55	NP
4-Methyl-2-pentanone	BRL	10		ug/L	195082	1	08/19/2014 19:55	NP
Acetone	BRL	50		ug/L	195082	1	08/19/2014 19:55	NP
Benzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Bromodichloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Bromoform	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Bromomethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Carbon disulfide	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Carbon tetrachloride	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Chlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Chloroethane	BRL	10		ug/L	195082	1	08/19/2014 19:55	NP
Chloroform	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Chloromethane	BRL	10		ug/L	195082	1	08/19/2014 19:55	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Cyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Dibromochloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Dichlorodifluoromethane	BRL	10		ug/L	195082	1	08/19/2014 19:55	NP
Ethylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Freon-113	BRL	10		ug/L	195082	1	08/19/2014 19:55	NP
Isopropylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
m,p-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Methyl acetate	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Methylcyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Methylene chloride	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
o-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	DUP-1
Project Name:	Former Manchester Tank	**Collection Date:**	8/15/2014 8:00:00 AM
Lab ID:	1408E81-013	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Tetrachloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Toluene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Trichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Trichlorofluoromethane	BRL	5.0		ug/L	195082	1	08/19/2014 19:55	NP
Vinyl chloride	BRL	2.0		ug/L	195082	1	08/19/2014 19:55	NP
Surr: 4-Bromofluorobenzene	83.1	66.2-120		%REC	195082	1	08/19/2014 19:55	NP
Surr: Dibromofluoromethane	105	79.5-121		%REC	195082	1	08/19/2014 19:55	NP
Surr: Toluene-d8	102	77-117		%REC	195082	1	08/19/2014 19:55	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Former Manchester Tank	**Collection Date:**	8/15/2014
Lab ID:	1408E81-014	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
1,1-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
1,1-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
1,2-Dibromoethane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
1,2-Dichloroethane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
1,2-Dichloropropane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
2-Butanone	BRL	50		ug/L	195082	1	08/19/2014 13:43	NP
2-Hexanone	BRL	10		ug/L	195082	1	08/19/2014 13:43	NP
4-Methyl-2-pentanone	BRL	10		ug/L	195082	1	08/19/2014 13:43	NP
Acetone	BRL	50		ug/L	195082	1	08/19/2014 13:43	NP
Benzene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Bromodichloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Bromoform	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Bromomethane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Carbon disulfide	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Carbon tetrachloride	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Chlorobenzene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Chloroethane	BRL	10		ug/L	195082	1	08/19/2014 13:43	NP
Chloroform	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Chloromethane	BRL	10		ug/L	195082	1	08/19/2014 13:43	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Cyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Dibromochloromethane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Dichlorodifluoromethane	BRL	10		ug/L	195082	1	08/19/2014 13:43	NP
Ethylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Freon-113	BRL	10		ug/L	195082	1	08/19/2014 13:43	NP
Isopropylbenzene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
m,p-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Methyl acetate	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Methylcyclohexane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Methylene chloride	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
o-Xylene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 25-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Former Manchester Tank	**Collection Date:**	8/15/2014
Lab ID:	1408E81-014	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Tetrachloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Toluene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Trichloroethene	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Trichlorofluoromethane	BRL	5.0		ug/L	195082	1	08/19/2014 13:43	NP
Vinyl chloride	BRL	2.0		ug/L	195082	1	08/19/2014 13:43	NP
Surr: 4-Bromofluorobenzene	84.9	66.2-120		%REC	195082	1	08/19/2014 13:43	NP
Surr: Dibromofluoromethane	103	79.5-121		%REC	195082	1	08/19/2014 13:43	NP
Surr: Toluene-d8	101	77-117		%REC	195082	1	08/19/2014 13:43	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client CDM Work Order Number 1408E81

Checklist completed by [signature] 8/16/14
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.4 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by [initials]

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: CDM Smith Inc.
Project: Former Manchester Tank
Lab Order: 1408E81

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1408E81-001A	EXP-7 (1)	8/13/2014 10:25:00AM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/19/2014
1408E81-001A	EXP-7 (1)	8/13/2014 10:25:00AM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/20/2014
1408E81-001B	EXP-7 (1)	8/13/2014 10:25:00AM	Groundwater	TOTAL METALS BY ICP		08/19/2014	08/20/2014
1408E81-001B	EXP-7 (1)	8/13/2014 10:25:00AM	Groundwater	Hardness		08/19/2014	08/20/2014
1408E81-001C	EXP-7 (1)	8/13/2014 10:25:00AM	Groundwater	Alkalinity by SM2320B			08/18/2014
1408E81-001C	EXP-7 (1)	8/13/2014 10:25:00AM	Groundwater	Residue, Dissolved (TDS) by SM2540C		08/18/2014	08/18/2014
1408E81-001C	EXP-7 (1)	8/13/2014 10:25:00AM	Groundwater	Residue, Suspended (TSS) by SM2540D		08/18/2014	08/18/2014
1408E81-001D	EXP-7 (1)	8/13/2014 10:25:00AM	Groundwater	Total Organic Carbon (TOC)			08/20/2014
1408E81-002A	EXP-6B	8/13/2014 3:20:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/19/2014
1408E81-002A	EXP-6B	8/13/2014 3:20:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/20/2014
1408E81-003A	EXP-6	8/13/2014 3:55:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/19/2014
1408E81-004A	EXP-9A(1)	8/14/2014 12:00:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/20/2014
1408E81-004B	EXP-9A(1)	8/14/2014 12:00:00PM	Groundwater	TOTAL METALS BY ICP		08/19/2014	08/20/2014
1408E81-004B	EXP-9A(1)	8/14/2014 12:00:00PM	Groundwater	Hardness		08/19/2014	08/20/2014
1408E81-004C	EXP-9A(1)	8/14/2014 12:00:00PM	Groundwater	Alkalinity by SM2320B			08/18/2014
1408E81-004C	EXP-9A(1)	8/14/2014 12:00:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		08/18/2014	08/18/2014
1408E81-004C	EXP-9A(1)	8/14/2014 12:00:00PM	Groundwater	Residue, Suspended (TSS) by SM2540D		08/18/2014	08/18/2014
1408E81-004D	EXP-9A(1)	8/14/2014 12:00:00PM	Groundwater	Total Organic Carbon (TOC)			08/20/2014
1408E81-005A	EXP-5A	8/14/2014 2:30:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/19/2014
1408E81-005A	EXP-5A	8/14/2014 2:30:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/20/2014
1408E81-006A	EXP-3	8/14/2014 3:20:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/19/2014
1408E81-006A	EXP-3	8/14/2014 3:20:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/21/2014
1408E81-007A	EXP-1	8/14/2014 4:05:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/19/2014
1408E81-007A	EXP-1	8/14/2014 4:05:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/20/2014
1408E81-008A	MW-57A	8/14/2014 4:45:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/19/2014
1408E81-008A	MW-57A	8/14/2014 4:45:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/20/2014
1408E81-009A	EXP-10A	8/14/2014 5:15:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/19/2014
1408E81-009A	EXP-10A	8/14/2014 5:15:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/20/2014
1408E81-010A	EXP-8	8/15/2014 11:00:00AM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/19/2014

Analytical Environmental Services, Inc

Date: 25-Aug-14

Client: CDM Smith Inc.
Project: Former Manchester Tank
Lab Order: 1408E81

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1408E81-011A	EXP-9	8/15/2014 11:40:00AM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/19/2014
1408E81-011A	EXP-9	8/15/2014 11:40:00AM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/20/2014
1408E81-012A	MW-58A	8/15/2014 12:15:00PM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/19/2014
1408E81-013A	DUP-1	8/15/2014 8:00:00AM	Groundwater	TCL VOLATILE ORGANICS		08/19/2014	08/19/2014
1408E81-014A	TRIP BLANK	8/15/2014 12:00:00AM	Aqueous	TCL VOLATILE ORGANICS		08/19/2014	08/19/2014

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408E81

ANALYTICAL QC SUMMARY REPORT

BatchID: **195025**

Sample ID: **MB-195025** Client ID: Units: **mg/L** Prep Date: **08/18/2014** Run No: **273954**
SampleType: **MBLK** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **195025** Analysis Date: **08/18/2014** Seq No: **5781320**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	BRL	10.0									

Sample ID: **1408F25-001ADUP** Client ID: Units: **mg/L** Prep Date: **08/18/2014** Run No: **273954**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **195025** Analysis Date: **08/18/2014** Seq No: **5781324**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	480.0	10.0						484.0	0.830	5	

Sample ID: **1408F27-001ADUP** Client ID: Units: **mg/L** Prep Date: **08/18/2014** Run No: **273954**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **195025** Analysis Date: **08/18/2014** Seq No: **5781349**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	146.0	10.0						149.0	2.03	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408E81

ANALYTICAL QC SUMMARY REPORT

BatchID: **195033**

Sample ID: **MB-195033** Client ID: Units: **mg/L** Prep Date: **08/18/2014** Run No: **273991**
SampleType: **MBLK** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **195033** Analysis Date: **08/18/2014** Seq No: **5782058**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	BRL	10									

Sample ID: **1408E81-001CDUP** Client ID: **EXP-7 (1)** Units: **mg/L** Prep Date: **08/18/2014** Run No: **273991**
SampleType: **DUP** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **195033** Analysis Date: **08/18/2014** Seq No: **5782063**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	238.0	10						239.0	0.419	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408E81

ANALYTICAL QC SUMMARY REPORT

BatchID: 195076

Sample ID: **MB-195076** Client ID: Units: **mg/L** Prep Date: **08/19/2014** Run No: **274112**
SampleType: **MBLK** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **195076** Analysis Date: **08/20/2014** Seq No: **5784639**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	BRL	0.100									
Iron	BRL	0.100									
Manganese	BRL	0.0150									

Sample ID: **LCS-195076** Client ID: Units: **mg/L** Prep Date: **08/19/2014** Run No: **274112**
SampleType: **LCS** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **195076** Analysis Date: **08/20/2014** Seq No: **5784636**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	10.10	0.100	10.00		101	80	120				
Iron	10.09	0.100	10.00		101	80	120				
Manganese	1.013	0.0150	1.000		101	80	120				

Sample ID: **1408D28-002AMS** Client ID: Units: **mg/L** Prep Date: **08/19/2014** Run No: **274112**
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **195076** Analysis Date: **08/20/2014** Seq No: **5784641**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	114.3	0.100	10.00	107.3	70.5	75	125				S
Iron	9.407	0.100	10.00	0.1055	93.0	75	125				
Manganese	0.9712	0.0150	1.000	0.03642	93.5	75	125				

Sample ID: **1408D28-002AMSD** Client ID: Units: **mg/L** Prep Date: **08/19/2014** Run No: **274112**
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **195076** Analysis Date: **08/20/2014** Seq No: **5784642**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	114.5	0.100	10.00	107.3	72.1	75	125	114.3	0.138	20	S
Iron	9.490	0.100	10.00	0.1055	93.8	75	125	9.407	0.885	20	
Manganese	0.9813	0.0150	1.000	0.03642	94.5	75	125	0.9712	1.03	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408E81

ANALYTICAL QC SUMMARY REPORT

BatchID: **195082**

Sample ID: **MB-195082** Client ID: Units: **ug/L** Prep Date: **08/19/2014** Run No: **274021**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **195082** Analysis Date: **08/19/2014** Seq No: **5782613**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408E81

ANALYTICAL QC SUMMARY REPORT

BatchID: **195082**

Sample ID: **MB-195082** Client ID: Units: **ug/L** Prep Date: **08/19/2014** Run No: **274021**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **195082** Analysis Date: **08/19/2014** Seq No: **5782613**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	43.46	0	50.00		86.9	66.2	120				
Surr: Dibromofluoromethane	49.86	0	50.00		99.7	79.5	121				
Surr: Toluene-d8	50.36	0	50.00		101	77	117				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408E81

ANALYTICAL QC SUMMARY REPORT

BatchID: 195082

Sample ID: **LCS-195082** Client ID: Units: **ug/L** Prep Date: **08/19/2014** Run No: **274021**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **195082** Analysis Date: **08/19/2014** Seq No: **5782615**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	58.75	5.0	50.00		118	63.1	140				
Benzene	54.32	5.0	50.00		109	74.2	129				
Chlorobenzene	49.46	5.0	50.00		98.9	70	129				
Toluene	54.96	5.0	50.00		110	74.2	129				
Trichloroethene	53.36	5.0	50.00		107	71.2	135				
Surr: 4-Bromofluorobenzene	43.79	0	50.00		87.6	66.2	120				
Surr: Dibromofluoromethane	45.43	0	50.00		90.9	79.5	121				
Surr: Toluene-d8	49.20	0	50.00		98.4	77	117				

Sample ID: **1408E81-007AMS** Client ID: **EXP-1** Units: **ug/L** Prep Date: **08/19/2014** Run No: **274021**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **195082** Analysis Date: **08/19/2014** Seq No: **5783505**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	3415	250	2500	530.5	115	60.2	159				
Benzene	2702	250	2500		108	70.2	138				
Chlorobenzene	2420	250	2500		96.8	70.1	133				
Toluene	2760	250	2500		110	70	139				
Trichloroethene	22430	250	2500	19150	131	70.1	144				E
Surr: 4-Bromofluorobenzene	2135	0	2500		85.4	66.2	120				
Surr: Dibromofluoromethane	2568	0	2500		103	79.5	121				
Surr: Toluene-d8	2502	0	2500		100	77	117				

Sample ID: **1408E81-007AMSD** Client ID: **EXP-1** Units: **ug/L** Prep Date: **08/19/2014** Run No: **274021**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **195082** Analysis Date: **08/19/2014** Seq No: **5783506**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	3430	250	2500	530.5	116	60.2	159	3415	0.424	19.2	
Benzene	2708	250	2500		108	70.2	138	2702	0.222	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408E81

ANALYTICAL QC SUMMARY REPORT

BatchID: **195082**

Sample ID: **1408E81-007AMSD** Client ID: **EXP-1** Units: **ug/L** Prep Date: **08/19/2014** Run No: **274021**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **195082** Analysis Date: **08/19/2014** Seq No: **5783506**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	2414	250	2500		96.6	70.1	133	2420	0.248	20	
Toluene	2723	250	2500		109	70	139	2760	1.35	20	
Trichloroethene	22390	250	2500	19150	129	70.1	144	22430	0.210	20	E
Surr: 4-Bromofluorobenzene	2135	0	2500		85.4	66.2	120	2135	0	0	
Surr: Dibromofluoromethane	2619	0	2500		105	79.5	121	2568	0	0	
Surr: Toluene-d8	2554	0	2500		102	77	117	2502	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408E81

ANALYTICAL QC SUMMARY REPORT

BatchID: R273899

Sample ID: **MB-R273899** Client ID: Units: **mg/L** Prep Date: Run No: **273899**
SampleType: **MBLK** TestCode: **Alkalinity by SM2320B** BatchID: **R273899** Analysis Date: **08/18/2014** Seq No: **5780135**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	BRL	3.00									

Sample ID: **LCS-R273899** Client ID: Units: **mg/L** Prep Date: Run No: **273899**
SampleType: **LCS** TestCode: **Alkalinity by SM2320B** BatchID: **R273899** Analysis Date: **08/18/2014** Seq No: **5780136**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	121.0	3.00	125.0	1.000	96.0	75	125				

Sample ID: **1408C13-001FDUP** Client ID: Units: **mg/L** Prep Date: Run No: **273899**
SampleType: **DUP** TestCode: **Alkalinity by SM2320B** BatchID: **R273899** Analysis Date: **08/18/2014** Seq No: **5780142**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	43.00	3.00						44.00	2.30	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408E81

ANALYTICAL QC SUMMARY REPORT

BatchID: R274203

Sample ID: **MB-R274203** Client ID: Units: **mg/L** Prep Date: Run No: **274203**
SampleType: **MBLK** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R274203** Analysis Date: **08/20/2014** Seq No: **5786510**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	BRL	1.00									

Sample ID: **LCS-R274203** Client ID: Units: **mg/L** Prep Date: Run No: **274203**
SampleType: **LCS** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R274203** Analysis Date: **08/20/2014** Seq No: **5786503**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	25.32	1.00	25.00		101	90	110				

Sample ID: **1408E10-003AMS** Client ID: Units: **mg/L** Prep Date: Run No: **274203**
SampleType: **MS** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R274203** Analysis Date: **08/20/2014** Seq No: **5786625**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	26.54	1.00	25.00	1.237	101	80	120				

Sample ID: **1408E10-003AMSD** Client ID: Units: **mg/L** Prep Date: Run No: **274203**
SampleType: **MSD** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R274203** Analysis Date: **08/21/2014** Seq No: **5786672**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	23.09	1.00	25.00	1.237	87.4	80	120	26.54	13.9	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

August 28, 2014

Andrew Romanek
CDM Smith Inc.
3715 Northside Parkway, Northcreek 30
Atlanta GA 30327

TEL: (404) 720-1400
FAX: (404) 467-4130

RE: Former Manchester Tank

Dear Andrew Romanek: Order No: 1408I14

Analytical Environmental Services, Inc. received 7 samples on 8/20/2014 3:48:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

James Forrest
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 140814

Date: 8/18/14 Page 1 of 1

COMPANY: CDM Smith

ADDRESS: 3715 Northside Parkway NW B. 300 S. 400 Atlanta, GA 30327

PHONE: (404) 720-1400

FAX:

SAMPLED BY: Nick Fuller

SIGNATURE:

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs	Total Iron	Manganese	Hardness	Calcium	TSS	TDS	TOC	Alkalinity	TCLP VOCs				REMARKS	No # of Containers
PRESERVATION (See codes)							H+I	N	N	N	N	NA	NA	S+I	NA						
1	EXP-9A(2)	8/18/14	1040	X		GW	X	X	X	X	X	X	X	X	X						5
2	EXP-11A(1)	8/19/14	1340	X		GW	X	X	X	X	X	X	X	X	X						5
3	CHRT 26474	8/20/14	1230	X	X	SO										X					1
4	SV 30585	8/20/14	1240		X	GW	X														2
5	EXP-11(1)	8/20/14	1300	X		GW	X	X	X	X	X	X	X	X	X						5
6	SEUP 4353L	8/20/14	1325	X	X	GW	X														2
7	Trip Blank			X		W	X														2
8																					
9																					
10																					
11																					
12																					
13																					
14																					

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	8/20/14 1548	1: Lataya Reeves	8/20/14 3:48p
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER_____

PROJECT INFORMATION
PROJECT NAME: FMTS
PROJECT #:
SITE ADDRESS: Cedartown, GA
SEND REPORT TO: Andrew Romanek
INVOICE TO: (IF DIFFERENT FROM ABOVE)
romanekA@CDMSmith.com
duffayJT@CDMSmith.com
QUOTE #:_____ PO#:_____

RECEIPT
Total # of Containers 22

Turnaround Time Request
- Standard 5 Business Days
- 2 Business Day Rush
- Next Business Day Rush
- Same Day Rush (auth req.)
- Other _____

STATE PROGRAM (if any): _____
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 28-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-9A(2)
Project Name:	Former Manchester Tank	**Collection Date:**	8/18/2014 10:40:00 AM
Lab ID:	1408I14-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	BRL	1.00		mg/L	R274320	1	08/22/2014 17:59	ME
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
1,1,2-Trichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
1,1-Dichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
1,1-Dichloroethene	23	5.0		ug/L	195168	1	08/21/2014 18:17	GC
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
1,2-Dibromoethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
1,2-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
1,2-Dichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
1,2-Dichloropropane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
1,3-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
1,4-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
2-Butanone	BRL	50		ug/L	195168	1	08/21/2014 18:17	GC
2-Hexanone	BRL	10		ug/L	195168	1	08/21/2014 18:17	GC
4-Methyl-2-pentanone	BRL	10		ug/L	195168	1	08/21/2014 18:17	GC
Acetone	BRL	50		ug/L	195168	1	08/21/2014 18:17	GC
Benzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Bromodichloromethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Bromoform	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Bromomethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Carbon disulfide	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Carbon tetrachloride	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Chlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Chloroethane	BRL	10		ug/L	195168	1	08/21/2014 18:17	GC
Chloroform	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Chloromethane	BRL	10		ug/L	195168	1	08/21/2014 18:17	GC
cis-1,2-Dichloroethene	170	5.0		ug/L	195168	1	08/21/2014 18:17	GC
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Cyclohexane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Dibromochloromethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Dichlorodifluoromethane	BRL	10		ug/L	195168	1	08/21/2014 18:17	GC
Ethylbenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Freon-113	BRL	10		ug/L	195168	1	08/21/2014 18:17	GC
Isopropylbenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
m,p-Xylene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Methyl acetate	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Methyl tert-butyl ether	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-9A(2)
Project Name:	Former Manchester Tank	**Collection Date:**	8/18/2014 10:40:00 AM
Lab ID:	1408I14-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Methylene chloride	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
o-Xylene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Styrene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Tetrachloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Toluene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Trichloroethene	640	50		ug/L	195168	10	08/22/2014 12:59	AR
Trichlorofluoromethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:17	GC
Vinyl chloride	BRL	2.0		ug/L	195168	1	08/21/2014 18:17	GC
Surr: 4-Bromofluorobenzene	93.1	66.2-120		%REC	195168	1	08/21/2014 18:17	GC
Surr: 4-Bromofluorobenzene	94.2	66.2-120		%REC	195168	10	08/22/2014 12:59	AR
Surr: Dibromofluoromethane	107	79.5-121		%REC	195168	1	08/21/2014 18:17	GC
Surr: Dibromofluoromethane	108	79.5-121		%REC	195168	10	08/22/2014 12:59	AR
Surr: Toluene-d8	101	77-117		%REC	195168	10	08/22/2014 12:59	AR
Surr: Toluene-d8	102	77-117		%REC	195168	1	08/21/2014 18:17	GC
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	34.0	5.0		mg/L	195186	1	08/22/2014 10:14	OM
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	235	10		mg/L	195191	1	08/21/2014 11:45	OM
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	128	1.00		mg/L CaCO3	195337	1	08/26/2014 00:00	JL
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	144	3.00		mg/L	R274611	1	08/27/2014 09:30	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Calcium	34.8	0.100		mg/L	195337	1	08/26/2014 20:24	JL
Iron	2.41	0.100		mg/L	195337	1	08/26/2014 20:24	JL
Manganese	0.184	0.0150		mg/L	195337	1	08/26/2014 20:24	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 28-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-11A(1)
Project Name:	Former Manchester Tank	**Collection Date:**	8/19/2014 1:40:00 PM
Lab ID:	1408I14-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	BRL	1.00		mg/L	R274320	1	08/22/2014 18:15	ME
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	13	5.0		ug/L	195168	1	08/21/2014 18:45	GC
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
1,1,2-Trichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
1,1-Dichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
1,1-Dichloroethene	22	5.0		ug/L	195168	1	08/21/2014 18:45	GC
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
1,2-Dibromoethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
1,2-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
1,2-Dichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
1,2-Dichloropropane	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
1,3-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
1,4-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
2-Butanone	BRL	50		ug/L	195168	1	08/21/2014 18:45	GC
2-Hexanone	BRL	10		ug/L	195168	1	08/21/2014 18:45	GC
4-Methyl-2-pentanone	BRL	10		ug/L	195168	1	08/21/2014 18:45	GC
Acetone	BRL	50		ug/L	195168	1	08/21/2014 18:45	GC
Benzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Bromodichloromethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Bromoform	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Bromomethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Carbon disulfide	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Carbon tetrachloride	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Chlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Chloroethane	BRL	10		ug/L	195168	1	08/21/2014 18:45	GC
Chloroform	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Chloromethane	BRL	10		ug/L	195168	1	08/21/2014 18:45	GC
cis-1,2-Dichloroethene	140	5.0		ug/L	195168	1	08/21/2014 18:45	GC
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Cyclohexane	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Dibromochloromethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Dichlorodifluoromethane	BRL	10		ug/L	195168	1	08/21/2014 18:45	GC
Ethylbenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Freon-113	BRL	10		ug/L	195168	1	08/21/2014 18:45	GC
Isopropylbenzene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
m,p-Xylene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Methyl acetate	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Methyl tert-butyl ether	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-11A(1)
Project Name:	Former Manchester Tank	**Collection Date:**	8/19/2014 1:40:00 PM
Lab ID:	1408I14-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Methylene chloride	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
o-Xylene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Styrene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Tetrachloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Toluene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Trichloroethene	1000	50		ug/L	195168	10	08/22/2014 13:27	AR
Trichlorofluoromethane	BRL	5.0		ug/L	195168	1	08/21/2014 18:45	GC
Vinyl chloride	BRL	2.0		ug/L	195168	1	08/21/2014 18:45	GC
Surr: 4-Bromofluorobenzene	92.7	66.2-120		%REC	195168	10	08/22/2014 13:27	AR
Surr: 4-Bromofluorobenzene	94.2	66.2-120		%REC	195168	1	08/21/2014 18:45	GC
Surr: Dibromofluoromethane	101	79.5-121		%REC	195168	10	08/22/2014 13:27	AR
Surr: Dibromofluoromethane	105	79.5-121		%REC	195168	1	08/21/2014 18:45	GC
Surr: Toluene-d8	100	77-117		%REC	195168	1	08/21/2014 18:45	GC
Surr: Toluene-d8	101	77-117		%REC	195168	10	08/22/2014 13:27	AR
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	192	5.0		mg/L	195186	1	08/22/2014 10:15	OM
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	293	10		mg/L	195191	1	08/21/2014 11:45	OM
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	170	1.00		mg/L CaCO3	195337	1	08/26/2014 00:00	JL
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	139	3.00		mg/L	R274611	1	08/27/2014 09:30	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Calcium	42.1	0.100		mg/L	195337	1	08/26/2014 20:59	JL
Iron	9.98	0.100		mg/L	195337	1	08/26/2014 20:59	JL
Manganese	0.294	0.0150		mg/L	195337	1	08/26/2014 20:59	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	CHRT 26474
Project Name:	Former Manchester Tank	**Collection Date:**	8/20/2014 12:30:00 PM
Lab ID:	1408I14-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOLATILES, TCLP SW1311/8260B				**(SW1311)**				
1,1-Dichloroethene	BRL	0.10		mg/L	195330	20	08/25/2014 14:59	NP
1,2-Dichloroethane	BRL	0.10		mg/L	195330	20	08/25/2014 14:59	NP
2-Butanone	BRL	0.20		mg/L	195330	20	08/25/2014 14:59	NP
Benzene	BRL	0.10		mg/L	195330	20	08/25/2014 14:59	NP
Carbon tetrachloride	BRL	0.10		mg/L	195330	20	08/25/2014 14:59	NP
Chlorobenzene	BRL	0.10		mg/L	195330	20	08/25/2014 14:59	NP
Chloroform	BRL	0.10		mg/L	195330	20	08/25/2014 14:59	NP
Tetrachloroethene	BRL	0.10		mg/L	195330	20	08/25/2014 14:59	NP
Trichloroethene	BRL	0.10		mg/L	195330	20	08/25/2014 14:59	NP
Vinyl chloride	BRL	0.040		mg/L	195330	20	08/25/2014 14:59	NP
Surr: 4-Bromofluorobenzene	74.2	67.9-128		%REC	195330	20	08/25/2014 14:59	NP
Surr: Dibromofluoromethane	96.7	77.2-124		%REC	195330	20	08/25/2014 14:59	NP
Surr: Toluene-d8	92.3	71.6-127		%REC	195330	20	08/25/2014 14:59	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	SV 30535
Project Name:	Former Manchester Tank	**Collection Date:**	8/20/2014 2:40:00 PM
Lab ID:	1408I14-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
1,1,2-Trichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
1,1-Dichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
1,1-Dichloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
1,2-Dibromoethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
1,2-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
1,2-Dichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
1,2-Dichloropropane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
1,3-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
1,4-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
2-Butanone	BRL	50		ug/L	195168	1	08/21/2014 19:13	GC
2-Hexanone	BRL	10		ug/L	195168	1	08/21/2014 19:13	GC
4-Methyl-2-pentanone	BRL	10		ug/L	195168	1	08/21/2014 19:13	GC
Acetone	BRL	50		ug/L	195168	1	08/21/2014 19:13	GC
Benzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Bromodichloromethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Bromoform	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Bromomethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Carbon disulfide	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Carbon tetrachloride	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Chlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Chloroethane	BRL	10		ug/L	195168	1	08/21/2014 19:13	GC
Chloroform	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Chloromethane	BRL	10		ug/L	195168	1	08/21/2014 19:13	GC
cis-1,2-Dichloroethene	9.5	5.0		ug/L	195168	1	08/21/2014 19:13	GC
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Cyclohexane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Dibromochloromethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Dichlorodifluoromethane	BRL	10		ug/L	195168	1	08/21/2014 19:13	GC
Ethylbenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Freon-113	BRL	10		ug/L	195168	1	08/21/2014 19:13	GC
Isopropylbenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
m,p-Xylene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Methyl acetate	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Methyl tert-butyl ether	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Methylcyclohexane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Methylene chloride	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
o-Xylene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	SV 30535
Project Name:	Former Manchester Tank	**Collection Date:**	8/20/2014 2:40:00 PM
Lab ID:	1408I14-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Tetrachloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Toluene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Trichloroethene	66	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Trichlorofluoromethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:13	GC
Vinyl chloride	BRL	2.0		ug/L	195168	1	08/21/2014 19:13	GC
Surr: 4-Bromofluorobenzene	95.3	66.2-120		%REC	195168	1	08/21/2014 19:13	GC
Surr: Dibromofluoromethane	108	79.5-121		%REC	195168	1	08/21/2014 19:13	GC
Surr: Toluene-d8	102	77-117		%REC	195168	1	08/21/2014 19:13	GC

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-11(1)
Project Name:	Former Manchester Tank	**Collection Date:**	8/20/2014 1:00:00 PM
Lab ID:	1408I14-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	BRL	1.00		mg/L	R274320	1	08/22/2014 18:32	ME
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
1,1,2-Trichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
1,1-Dichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
1,1-Dichloroethene	20	5.0		ug/L	195168	1	08/21/2014 19:41	GC
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
1,2-Dibromoethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
1,2-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
1,2-Dichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
1,2-Dichloropropane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
1,3-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
1,4-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
2-Butanone	BRL	50		ug/L	195168	1	08/21/2014 19:41	GC
2-Hexanone	BRL	10		ug/L	195168	1	08/21/2014 19:41	GC
4-Methyl-2-pentanone	BRL	10		ug/L	195168	1	08/21/2014 19:41	GC
Acetone	BRL	50		ug/L	195168	1	08/21/2014 19:41	GC
Benzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Bromodichloromethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Bromoform	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Bromomethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Carbon disulfide	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Carbon tetrachloride	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Chlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Chloroethane	BRL	10		ug/L	195168	1	08/21/2014 19:41	GC
Chloroform	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Chloromethane	BRL	10		ug/L	195168	1	08/21/2014 19:41	GC
cis-1,2-Dichloroethene	84	5.0		ug/L	195168	1	08/21/2014 19:41	GC
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Cyclohexane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Dibromochloromethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Dichlorodifluoromethane	BRL	10		ug/L	195168	1	08/21/2014 19:41	GC
Ethylbenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Freon-113	BRL	10		ug/L	195168	1	08/21/2014 19:41	GC
Isopropylbenzene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
m,p-Xylene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Methyl acetate	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Methyl tert-butyl ether	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-11(1)
Project Name:	Former Manchester Tank	**Collection Date:**	8/20/2014 1:00:00 PM
Lab ID:	1408I14-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Methylene chloride	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
o-Xylene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Styrene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Tetrachloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Toluene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Trichloroethene	820	50		ug/L	195168	10	08/22/2014 12:31	AR
Trichlorofluoromethane	BRL	5.0		ug/L	195168	1	08/21/2014 19:41	GC
Vinyl chloride	BRL	2.0		ug/L	195168	1	08/21/2014 19:41	GC
Surr: 4-Bromofluorobenzene	92.5	66.2-120		%REC	195168	1	08/21/2014 19:41	GC
Surr: 4-Bromofluorobenzene	92.6	66.2-120		%REC	195168	10	08/22/2014 12:31	AR
Surr: Dibromofluoromethane	106	79.5-121		%REC	195168	10	08/22/2014 12:31	AR
Surr: Dibromofluoromethane	108	79.5-121		%REC	195168	1	08/21/2014 19:41	GC
Surr: Toluene-d8	102	77-117		%REC	195168	1	08/21/2014 19:41	GC
Surr: Toluene-d8	102	77-117		%REC	195168	10	08/22/2014 12:31	AR
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	3280	40.0		mg/L	195186	1	08/22/2014 10:15	OM
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	443	10		mg/L	195191	1	08/21/2014 11:45	OM
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	536	1.00		mg/L CaCO3	195337	1	08/26/2014 00:00	JL
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	414	3.00		mg/L	R274611	1	08/27/2014 09:30	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Calcium	175	0.100		mg/L	195337	1	08/26/2014 21:03	JL
Iron	156	1.00		mg/L	195337	10	08/26/2014 21:07	JL
Manganese	4.08	0.0150		mg/L	195337	1	08/26/2014 21:03	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	SEVP 4353L
Project Name:	Former Manchester Tank	**Collection Date:**	8/20/2014 1:25:00 PM
Lab ID:	1408I14-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
1,1,2-Trichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
1,1-Dichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
1,1-Dichloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
1,2-Dibromoethane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
1,2-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
1,2-Dichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
1,2-Dichloropropane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
1,3-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
1,4-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
2-Butanone	BRL	50		ug/L	195168	1	08/21/2014 20:09	GC
2-Hexanone	BRL	10		ug/L	195168	1	08/21/2014 20:09	GC
4-Methyl-2-pentanone	BRL	10		ug/L	195168	1	08/21/2014 20:09	GC
Acetone	BRL	50		ug/L	195168	1	08/21/2014 20:09	GC
Benzene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Bromodichloromethane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Bromoform	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Bromomethane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Carbon disulfide	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Carbon tetrachloride	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Chlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Chloroethane	BRL	10		ug/L	195168	1	08/21/2014 20:09	GC
Chloroform	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Chloromethane	BRL	10		ug/L	195168	1	08/21/2014 20:09	GC
cis-1,2-Dichloroethene	90	5.0		ug/L	195168	1	08/21/2014 20:09	GC
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Cyclohexane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Dibromochloromethane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Dichlorodifluoromethane	BRL	10		ug/L	195168	1	08/21/2014 20:09	GC
Ethylbenzene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Freon-113	BRL	10		ug/L	195168	1	08/21/2014 20:09	GC
Isopropylbenzene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
m,p-Xylene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Methyl acetate	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Methyl tert-butyl ether	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Methylcyclohexane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Methylene chloride	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
o-Xylene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	SEVP 4353L
Project Name:	Former Manchester Tank	**Collection Date:**	8/20/2014 1:25:00 PM
Lab ID:	1408I14-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Tetrachloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Toluene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Trichloroethene	28	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Trichlorofluoromethane	BRL	5.0		ug/L	195168	1	08/21/2014 20:09	GC
Vinyl chloride	BRL	2.0		ug/L	195168	1	08/21/2014 20:09	GC
Surr: 4-Bromofluorobenzene	95.1	66.2-120		%REC	195168	1	08/21/2014 20:09	GC
Surr: Dibromofluoromethane	107	79.5-121		%REC	195168	1	08/21/2014 20:09	GC
Surr: Toluene-d8	99.6	77-117		%REC	195168	1	08/21/2014 20:09	GC

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 28-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Former Manchester Tank	**Collection Date:**	8/20/2014
Lab ID:	1408I14-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
1,1,2-Trichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
1,1-Dichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
1,1-Dichloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
1,2-Dibromoethane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
1,2-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
1,2-Dichloroethane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
1,2-Dichloropropane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
1,3-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
1,4-Dichlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
2-Butanone	BRL	50		ug/L	195168	1	08/21/2014 17:48	GC
2-Hexanone	BRL	10		ug/L	195168	1	08/21/2014 17:48	GC
4-Methyl-2-pentanone	BRL	10		ug/L	195168	1	08/21/2014 17:48	GC
Acetone	BRL	50		ug/L	195168	1	08/21/2014 17:48	GC
Benzene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Bromodichloromethane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Bromoform	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Bromomethane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Carbon disulfide	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Carbon tetrachloride	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Chlorobenzene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Chloroethane	BRL	10		ug/L	195168	1	08/21/2014 17:48	GC
Chloroform	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Chloromethane	BRL	10		ug/L	195168	1	08/21/2014 17:48	GC
cis-1,2-Dichloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
cis-1,3-Dichloropropene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Cyclohexane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Dibromochloromethane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Dichlorodifluoromethane	BRL	10		ug/L	195168	1	08/21/2014 17:48	GC
Ethylbenzene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Freon-113	BRL	10		ug/L	195168	1	08/21/2014 17:48	GC
Isopropylbenzene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
m,p-Xylene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Methyl acetate	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Methyl tert-butyl ether	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Methylcyclohexane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Methylene chloride	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
o-Xylene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Aug-14

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Former Manchester Tank	**Collection Date:**	8/20/2014
Lab ID:	1408I14-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Tetrachloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Toluene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
trans-1,2-Dichloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
trans-1,3-Dichloropropene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Trichloroethene	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Trichlorofluoromethane	BRL	5.0		ug/L	195168	1	08/21/2014 17:48	GC
Vinyl chloride	BRL	2.0		ug/L	195168	1	08/21/2014 17:48	GC
Surr: 4-Bromofluorobenzene	93.7	66.2-120		%REC	195168	1	08/21/2014 17:48	GC
Surr: Dibromofluoromethane	105	79.5-121		%REC	195168	1	08/21/2014 17:48	GC
Surr: Toluene-d8	100	77-117		%REC	195168	1	08/21/2014 17:48	GC

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client CDM Smith Work Order Number 1408I14

Checklist completed by Joana Pacurar 8/20/14
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.4 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by IP

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes ✓ No __

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: CDM Smith Inc.
Project: Former Manchester Tank
Lab Order: 1408I14

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1408I14-001A	EXP-9A(2)	8/18/2014 10:40:00AM	Groundwater	TCL VOLATILE ORGANICS		08/20/2014	08/21/2014
1408I14-001A	EXP-9A(2)	8/18/2014 10:40:00AM	Groundwater	TCL VOLATILE ORGANICS		08/20/2014	08/22/2014
1408I14-001B	EXP-9A(2)	8/18/2014 10:40:00AM	Groundwater	Alkalinity by SM2320B			08/27/2014
1408I14-001B	EXP-9A(2)	8/18/2014 10:40:00AM	Groundwater	Residue, Dissolved (TDS) by SM2540C		08/21/2014	08/21/2014
1408I14-001B	EXP-9A(2)	8/18/2014 10:40:00AM	Groundwater	Residue, Suspended (TSS) by SM2540D		08/21/2014	08/22/2014
1408I14-001C	EXP-9A(2)	8/18/2014 10:40:00AM	Groundwater	TOTAL METALS BY ICP		08/25/2014	08/26/2014
1408I14-001C	EXP-9A(2)	8/18/2014 10:40:00AM	Groundwater	Hardness		08/25/2014	08/26/2014
1408I14-001D	EXP-9A(2)	8/18/2014 10:40:00AM	Groundwater	Total Organic Carbon by SM5310B			08/22/2014
1408I14-002A	EXP-11A(1)	8/19/2014 1:40:00PM	Groundwater	TCL VOLATILE ORGANICS		08/20/2014	08/21/2014
1408I14-002A	EXP-11A(1)	8/19/2014 1:40:00PM	Groundwater	TCL VOLATILE ORGANICS		08/20/2014	08/22/2014
1408I14-002B	EXP-11A(1)	8/19/2014 1:40:00PM	Groundwater	Alkalinity by SM2320B			08/27/2014
1408I14-002B	EXP-11A(1)	8/19/2014 1:40:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		08/21/2014	08/21/2014
1408I14-002B	EXP-11A(1)	8/19/2014 1:40:00PM	Groundwater	Residue, Suspended (TSS) by SM2540D		08/21/2014	08/22/2014
1408I14-002C	EXP-11A(1)	8/19/2014 1:40:00PM	Groundwater	TOTAL METALS BY ICP		08/25/2014	08/26/2014
1408I14-002C	EXP-11A(1)	8/19/2014 1:40:00PM	Groundwater	Hardness		08/25/2014	08/26/2014
1408I14-002D	EXP-11A(1)	8/19/2014 1:40:00PM	Groundwater	Total Organic Carbon by SM5310B			08/22/2014
1408I14-003A	CHRT 26474	8/20/2014 12:30:00PM	Soil	VOLATILES, TCLP Leached	08/21/2014	08/25/2014	08/25/2014
1408I14-004A	SV 30535	8/20/2014 2:40:00PM	Groundwater	TCL VOLATILE ORGANICS		08/20/2014	08/21/2014
1408I14-005A	EXP-11(1)	8/20/2014 1:00:00PM	Groundwater	TCL VOLATILE ORGANICS		08/20/2014	08/21/2014
1408I14-005A	EXP-11(1)	8/20/2014 1:00:00PM	Groundwater	TCL VOLATILE ORGANICS		08/20/2014	08/22/2014
1408I14-005B	EXP-11(1)	8/20/2014 1:00:00PM	Groundwater	Alkalinity by SM2320B			08/27/2014
1408I14-005B	EXP-11(1)	8/20/2014 1:00:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		08/21/2014	08/21/2014
1408I14-005B	EXP-11(1)	8/20/2014 1:00:00PM	Groundwater	Residue, Suspended (TSS) by SM2540D		08/21/2014	08/22/2014
1408I14-005C	EXP-11(1)	8/20/2014 1:00:00PM	Groundwater	TOTAL METALS BY ICP		08/25/2014	08/26/2014
1408I14-005C	EXP-11(1)	8/20/2014 1:00:00PM	Groundwater	Hardness		08/25/2014	08/26/2014
1408I14-005D	EXP-11(1)	8/20/2014 1:00:00PM	Groundwater	Total Organic Carbon by SM5310B			08/22/2014
1408I14-006A	SEVP 4353L	8/20/2014 1:25:00PM	Groundwater	TCL VOLATILE ORGANICS		08/20/2014	08/21/2014
1408I14-007A	TRIP BLANK	8/20/2014 12:00:00AM	Aqueous	TCL VOLATILE ORGANICS		08/20/2014	08/21/2014

Analytical Environmental Services, Inc

Date: 28-Aug-14

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408I14

ANALYTICAL QC SUMMARY REPORT

BatchID: 195168

Sample ID: **MB-195168** Client ID: Units: **ug/L** Prep Date: **08/20/2014** Run No: **274082**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **195168** Analysis Date: **08/20/2014** Seq No: **5785675**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408I14

ANALYTICAL QC SUMMARY REPORT

BatchID: 195168

Sample ID: **MB-195168** Client ID: Units: **ug/L** Prep Date: **08/20/2014** Run No: **274082**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **195168** Analysis Date: **08/20/2014** Seq No: **5785675**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	42.93	0	50.00		85.9	66.2	120				
Surr: Dibromofluoromethane	51.13	0	50.00		102	79.5	121				
Surr: Toluene-d8	50.94	0	50.00		102	77	117				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408I14

ANALYTICAL QC SUMMARY REPORT

BatchID: 195168

Sample ID: **LCS-195168** Client ID: Units: **ug/L** Prep Date: **08/20/2014** Run No: **274082**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **195168** Analysis Date: **08/20/2014** Seq No: **5785674**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	58.08	5.0	50.00		116	63.1	140				
Benzene	52.94	5.0	50.00		106	74.2	129				
Chlorobenzene	47.97	5.0	50.00		95.9	70	129				
Toluene	54.28	5.0	50.00		109	74.2	129				
Trichloroethene	52.97	5.0	50.00		106	71.2	135				
Surr: 4-Bromofluorobenzene	42.50	0	50.00		85.0	66.2	120				
Surr: Dibromofluoromethane	50.05	0	50.00		100	79.5	121				
Surr: Toluene-d8	49.85	0	50.00		99.7	77	117				

Sample ID: **1408F76-001AMS** Client ID: Units: **ug/L** Prep Date: **08/20/2014** Run No: **274082**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **195168** Analysis Date: **08/20/2014** Seq No: **5785681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	5879	500	5000		118	60.2	159				
Benzene	5844	500	5000		117	70.2	138				
Chlorobenzene	5156	500	5000		103	70.1	133				
Toluene	5862	500	5000		117	70	139				
Trichloroethene	13410	500	5000	7337	121	70.1	144				
Surr: 4-Bromofluorobenzene	4679	0	5000		93.6	66.2	120				
Surr: Dibromofluoromethane	5059	0	5000		101	79.5	121				
Surr: Toluene-d8	5145	0	5000		103	77	117				

Sample ID: **1408F76-001AMSD** Client ID: Units: **ug/L** Prep Date: **08/20/2014** Run No: **274082**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **195168** Analysis Date: **08/20/2014** Seq No: **5785682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	5884	500	5000		118	60.2	159	5879	0.085	19.2	
Benzene	5671	500	5000		113	70.2	138	5844	3.00	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408I14

ANALYTICAL QC SUMMARY REPORT

BatchID: **195168**

Sample ID: **1408F76-001AMSD** Client ID: Units: **ug/L** Prep Date: **08/20/2014** Run No: **274082**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **195168** Analysis Date: **08/20/2014** Seq No: **5785682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	5076	500	5000		102	70.1	133	5156	1.56	20	
Toluene	5774	500	5000		115	70	139	5862	1.51	20	
Trichloroethene	13120	500	5000	7337	116	70.1	144	13410	2.18	20	
Surr: 4-Bromofluorobenzene	4631	0	5000		92.6	66.2	120	4679	0	0	
Surr: Dibromofluoromethane	5135	0	5000		103	79.5	121	5059	0	0	
Surr: Toluene-d8	5064	0	5000		101	77	117	5145	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408I14

ANALYTICAL QC SUMMARY REPORT

BatchID: **195186**

Sample ID: **MB-195186** Client ID: Units: **mg/L** Prep Date: **08/21/2014** Run No: **274257**
SampleType: **MBLK** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **195186** Analysis Date: **08/22/2014** Seq No: **5787452**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	BRL	10.0									

Sample ID: **1408J20-001ADUP** Client ID: Units: **mg/L** Prep Date: **08/21/2014** Run No: **274257**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **195186** Analysis Date: **08/22/2014** Seq No: **5787467**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	5.500	5.0						5.500	0	5	

Sample ID: **1408J43-001ADUP** Client ID: Units: **mg/L** Prep Date: **08/21/2014** Run No: **274257**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **195186** Analysis Date: **08/22/2014** Seq No: **5787454**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	157.0	10.0						155.0	1.28	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408I14

ANALYTICAL QC SUMMARY REPORT

BatchID: **195191**

Sample ID: **MB-195191** Client ID: Units: **mg/L** Prep Date: **08/21/2014** Run No: **274278**
SampleType: **MBLK** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **195191** Analysis Date: **08/21/2014** Seq No: **5787970**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	BRL	10									

Sample ID: **1408I14-001BDUP** Client ID: **EXP-9A(2)** Units: **mg/L** Prep Date: **08/21/2014** Run No: **274278**
SampleType: **DUP** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **195191** Analysis Date: **08/21/2014** Seq No: **5787975**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	231.0	10						235.0	1.72	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408I14

ANALYTICAL QC SUMMARY REPORT

BatchID: 195330

Sample ID: **MB-195330** Client ID: Units: **mg/L** Prep Date: **08/25/2014** Run No: **274396**
SampleType: **MBLK** TestCode: **VOLATILES, TCLP SW1311/8260B** BatchID: **195330** Analysis Date: **08/25/2014** Seq No: **5790558**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	BRL	0.10									
1,2-Dichloroethane	BRL	0.10									
2-Butanone	BRL	0.20									
Benzene	BRL	0.10									
Carbon tetrachloride	BRL	0.10									
Chlorobenzene	BRL	0.10									
Chloroform	BRL	0.10									
Tetrachloroethene	BRL	0.10									
Trichloroethene	BRL	0.10									
Vinyl chloride	BRL	0.040									
Surr: 4-Bromofluorobenzene	0.8956	0	1.000		89.6	67.9	128				
Surr: Dibromofluoromethane	0.9738	0	1.000		97.4	77.2	124				
Surr: Toluene-d8	0.9590	0	1.000		95.9	71.6	127				

Sample ID: **LCS-195330** Client ID: Units: **mg/L** Prep Date: **08/25/2014** Run No: **274396**
SampleType: **LCS** TestCode: **VOLATILES, TCLP SW1311/8260B** BatchID: **195330** Analysis Date: **08/25/2014** Seq No: **5790553**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	0.7848	0.10	1.000		78.5	62.3	141				
1,2-Dichloroethane	1.006	0.10	1.000		101	74.1	127				
2-Butanone	2.628	0.20	2.000		131	45.5	137				
Benzene	0.9254	0.10	1.000		92.5	73.5	125				
Carbon tetrachloride	0.7400	0.10	1.000		74.0	55.1	144				
Chlorobenzene	0.9690	0.10	1.000		96.9	75.4	122				
Chloroform	1.012	0.10	1.000		101	68.2	127				
Tetrachloroethene	0.7770	0.10	1.000		77.7	70.3	132				
Trichloroethene	0.8212	0.10	1.000		82.1	70.5	128				
Vinyl chloride	1.116	0.040	1.000		112	54.9	143				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408I14

ANALYTICAL QC SUMMARY REPORT

BatchID: 195330

Sample ID: **LCS-195330** Client ID: Units: **mg/L** Prep Date: **08/25/2014** Run No: **274396**
SampleType: **LCS** TestCode: **VOLATILES, TCLP SW1311/8260B** BatchID: **195330** Analysis Date: **08/25/2014** Seq No: **5790553**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 4-Bromofluorobenzene	0.9634	0	1.000		96.3	67.9	128				
Surr: Dibromofluoromethane	0.9898	0	1.000		99.0	77.2	124				
Surr: Toluene-d8	1.033	0	1.000		103	71.6	127				

Sample ID: **1408K36-001AMS** Client ID: Units: **mg/L** Prep Date: **08/25/2014** Run No: **274396**
SampleType: **MS** TestCode: **VOLATILES, TCLP SW1311/8260B** BatchID: **195330** Analysis Date: **08/25/2014** Seq No: **5790566**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	1.066	0.10	1.000		107	62.3	154				
1,2-Dichloroethane	1.040	0.10	1.000		104	65.8	132				
2-Butanone	2.808	0.20	2.000		140	44.2	148				
Benzene	1.065	0.10	1.000		106	72.6	133				
Carbon tetrachloride	1.064	0.10	1.000		106	53.7	151				
Chlorobenzene	1.021	0.10	1.000		102	72	130				
Chloroform	1.110	0.10	1.000		111	63.2	137				
Tetrachloroethene	0.9760	0.10	1.000		97.6	71.9	140				
Trichloroethene	0.9946	0.10	1.000		99.5	68.3	146				
Vinyl chloride	1.380	0.040	1.000		138	54.5	151				
Surr: 4-Bromofluorobenzene	0.9962	0	1.000		99.6	67.9	128				
Surr: Dibromofluoromethane	1.010	0	1.000		101	77.2	124				
Surr: Toluene-d8	1.047	0	1.000		105	71.6	127				

Sample ID: **1408K36-001ADUP** Client ID: Units: **mg/L** Prep Date: **08/25/2014** Run No: **274396**
SampleType: **DUP** TestCode: **VOLATILES, TCLP SW1311/8260B** BatchID: **195330** Analysis Date: **08/25/2014** Seq No: **5790568**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	BRL	0.10						0	0	30	
1,2-Dichloroethane	BRL	0.10						0	0	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408I14

ANALYTICAL QC SUMMARY REPORT

BatchID: 195330

Sample ID: **1408K36-001ADUP** Client ID: Units: **mg/L** Prep Date: **08/25/2014** Run No: **274396**
SampleType: **DUP** TestCode: **VOLATILES, TCLP SW1311/8260B** BatchID: **195330** Analysis Date: **08/25/2014** Seq No: **5790568**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2-Butanone	BRL	0.20						0	0	30	
Benzene	BRL	0.10						0	0	30	
Carbon tetrachloride	BRL	0.10						0	0	30	
Chlorobenzene	BRL	0.10						0	0	30	
Chloroform	BRL	0.10						0	0	30	
Tetrachloroethene	BRL	0.10						0	0	30	
Trichloroethene	BRL	0.10						0	0	30	
Vinyl chloride	BRL	0.040						0	0	30	
Surr: 4-Bromofluorobenzene	0.8180	0	1.000		81.8	67.9	128	0.8636	0	0	
Surr: Dibromofluoromethane	0.9888	0	1.000		98.9	77.2	124	0.9860	0	0	
Surr: Toluene-d8	0.9660	0	1.000		96.6	71.6	127	0.9538	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408I14

ANALYTICAL QC SUMMARY REPORT

BatchID: 195337

Sample ID: **MB-195337** Client ID: Units: **mg/L** Prep Date: **08/25/2014** Run No: **274556**
SampleType: **MBLK** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **195337** Analysis Date: **08/26/2014** Seq No: **5793967**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	BRL	0.100									
Iron	BRL	0.100									
Manganese	BRL	0.0150									

Sample ID: **LCS-195337** Client ID: Units: **mg/L** Prep Date: **08/25/2014** Run No: **274556**
SampleType: **LCS** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **195337** Analysis Date: **08/26/2014** Seq No: **5793972**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	9.782	0.100	10.00		97.8	80	120				
Iron	10.08	0.100	10.00		101	80	120				
Manganese	1.015	0.0150	1.000		102	80	120				

Sample ID: **1408I14-001CMS** Client ID: **EXP-9A(2)** Units: **mg/L** Prep Date: **08/25/2014** Run No: **274556**
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **195337** Analysis Date: **08/26/2014** Seq No: **5793977**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	43.69	0.100	10.00	34.83	88.6	75	125				
Iron	11.58	0.100	10.00	2.409	91.7	75	125				
Manganese	1.159	0.0150	1.000	0.1839	97.5	75	125				

Sample ID: **1408I14-001CMSD** Client ID: **EXP-9A(2)** Units: **mg/L** Prep Date: **08/25/2014** Run No: **274556**
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **195337** Analysis Date: **08/26/2014** Seq No: **5793985**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	43.51	0.100	10.00	34.83	86.9	75	125	43.69	0.396	20	
Iron	11.47	0.100	10.00	2.409	90.6	75	125	11.58	0.941	20	
Manganese	1.155	0.0150	1.000	0.1839	97.1	75	125	1.159	0.352	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408I14

ANALYTICAL QC SUMMARY REPORT

BatchID: R274320

Sample ID: **MB-R274320** Client ID: Units: **mg/L** Prep Date: Run No: **274320**
SampleType: **MBLK** TestCode: **Total Organic Carbon (TOC) by SM5310B** BatchID: **R274320** Analysis Date: **08/22/2014** Seq No: **5788900**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	BRL	1.00									

Sample ID: **LCS-R274320** Client ID: Units: **mg/L** Prep Date: Run No: **274320**
SampleType: **LCS** TestCode: **Total Organic Carbon (TOC) by SM5310B** BatchID: **R274320** Analysis Date: **08/22/2014** Seq No: **5788893**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	25.50	1.00	25.00		102	90	110				

Sample ID: **1408G29-001AMS** Client ID: Units: **mg/L** Prep Date: Run No: **274320**
SampleType: **MS** TestCode: **Total Organic Carbon (TOC) by SM5310B** BatchID: **R274320** Analysis Date: **08/23/2014** Seq No: **5789375**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	26.37	1.00	25.00		105	80	120				

Sample ID: **1408G29-001AMSD** Client ID: Units: **mg/L** Prep Date: Run No: **274320**
SampleType: **MSD** TestCode: **Total Organic Carbon (TOC) by SM5310B** BatchID: **R274320** Analysis Date: **08/23/2014** Seq No: **5789380**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	24.76	1.00	25.00		99.0	80	120	26.37	6.30	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: Former Manchester Tank
Workorder: 1408I14

ANALYTICAL QC SUMMARY REPORT

BatchID: R274611

Sample ID: **MB-R274611** Client ID: Units: **mg/L** Prep Date: Run No: **274611**
SampleType: **MBLK** TestCode: **Alkalinity by SM2320B** BatchID: **R274611** Analysis Date: **08/27/2014** Seq No: **5795238**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	BRL	3.00									

Sample ID: **LCS-R274611** Client ID: Units: **mg/L** Prep Date: Run No: **274611**
SampleType: **LCS** TestCode: **Alkalinity by SM2320B** BatchID: **R274611** Analysis Date: **08/27/2014** Seq No: **5795239**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	118.0	3.00	125.0		94.4	75	125				

Sample ID: **1408I14-001BDUP** Client ID: **EXP-9A(2)** Units: **mg/L** Prep Date: Run No: **274611**
SampleType: **DUP** TestCode: **Alkalinity by SM2320B** BatchID: **R274611** Analysis Date: **08/27/2014** Seq No: **5795292**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	140.0	3.00						144.0	2.82	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

March 30, 2015

Andrew Romanek
CDM Smith Inc.
3715 Northside Parkway
Atlanta GA 30327

TEL: (404) 720-1400
FAX: (404) 467-4130

RE: FMTS Cedartown

Dear Andrew Romanek: Order No: 1503J18

Analytical Environmental Services, Inc. received 7 samples on 3/20/2015 11:00:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Nicole Jessup
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1503118

Date: 3/18/15 Page 1 of 1

COMPANY: CDM Smith

ADDRESS: 3715 Northside Parkway NW B. 300 S-400 Atlanta, GA 30327

PHONE: (404) 720-1400

FAX:

SAMPLED BY: Nick Fuller

SIGNATURE:

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

ANALYSIS REQUESTED

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs	TOC	TSS	TDS	Total Iron	Manganese	Calcium	Hardness	Alkalinity	TCLP VOCs				REMARKS	No # of Containers
PRESERVATION (See codes)							HCl	H2SO4	None	None	HNO3	HNO3	HNO3	HNO3	None	None					
1	EXP-13 (1)	3/18/15	0915	X		GW	X	X	X	X	X	X	X	X	X						5
2	IDW 279722	3/18/15	1020		X	SO										X					1
3	IDW CHRT 248998	3/18/15	1040		X	SO										X					1
4	EXP-13 (8)	3/18/15	1550	X		GW	X	X	X	X	X	X	X	X	X						5
5	EXP-12 (1)	3/19/15	1300	X		GW	X	X	X	X	X	X	X	X	X						5
6	EXP-12 (4)	3/19/15	1600	X		GW	X	X	X	X	X	X	X	X	X						5
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Clara Choi	3/20/15 11:00	1: Tanya Delices	3/20/15 11:00
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER_____

PROJECT INFORMATION
PROJECT NAME: FMTS-Cedartown
PROJECT #:
SITE ADDRESS: Cedartown, GA
SEND REPORT TO: Andrew Romanek
INVOICE TO: (IF DIFFERENT FROM ABOVE)
romanekAP@CDMSmith.com
duffeyJT@CDMSmith.com
QUOTE #:_____ PO#:_____

RECEIPT
Total # of Containers 22

Turnaround Time Request
- (●) Standard 5 Business Days
- ( ) 2 Business Day Rush
- ( ) Next Business Day Rush
- ( ) Same Day Rush (auth req.)
- ( ) Other _____

STATE PROGRAM (if any): _____
E-mail? Y / N: Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 30-Mar-15

Client: CDM Smith Inc.
Project: FMTS Cedartown
Lab ID: 1503J18

Case Narrative

Sample Receiving Nonconformance:

A Trip Blank was provided but not listed on the Chain of Custody. Trip blank analyzed at no cost to the client.

Volatile Organic Compounds Analysis by Method 8260B:

Trichloroethene value for sample 1302599-025A is "E" qualified indicating an estimated value over linear calibration range. Sample could not be diluted and reanalyzed as the senond vial was used to make matrix spike and matrix spike duplicate.

Trichloroethene value for the QC sample 1503J18-004AMS/MSD is "E" qualified indicating estimated value over linear calibration range due to the level of target analyte present in the unspiked sample.

Analytical Environmental Services, Inc **Date:** 30-Mar-15

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-13 (1)
Project Name:	FMTS Cedartown	**Collection Date:**	3/18/2015 9:15:00 AM
Lab ID:	1503J18-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	1.00		mg/L	R288607	1	03/26/2015 13:46	YS
Total Metals by ICP/MS SW6020A					**(SW3005A)**			
Calcium	60600	100		ug/L	204973	1	03/25/2015 22:46	JS
Iron	295	100		ug/L	204973	1	03/25/2015 22:46	JS
Manganese	103	5.00		ug/L	204973	1	03/25/2015 22:46	JS
TCL VOLATILE ORGANICS SW8260B					**(SW5030B)**			
1,1,1-Trichloroethane	5.7	5.0		ug/L	205004	1	03/25/2015 19:32	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
1,1-Dichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
1,1-Dichloroethene	5.6	5.0		ug/L	205004	1	03/25/2015 19:32	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
1,2-Dibromoethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
1,2-Dichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
1,2-Dichloropropane	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
2-Butanone	BRL	50		ug/L	205004	1	03/25/2015 19:32	NP
2-Hexanone	BRL	10		ug/L	205004	1	03/25/2015 19:32	NP
4-Methyl-2-pentanone	BRL	10		ug/L	205004	1	03/25/2015 19:32	NP
Acetone	BRL	50		ug/L	205004	1	03/25/2015 19:32	NP
Benzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Bromodichloromethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Bromoform	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Bromomethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Carbon disulfide	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Carbon tetrachloride	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Chlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Chloroethane	BRL	10		ug/L	205004	1	03/25/2015 19:32	NP
Chloroform	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Chloromethane	BRL	10		ug/L	205004	1	03/25/2015 19:32	NP
cis-1,2-Dichloroethene	130	5.0		ug/L	205004	1	03/25/2015 19:32	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Cyclohexane	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Dibromochloromethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Dichlorodifluoromethane	BRL	10		ug/L	205004	1	03/25/2015 19:32	NP
Ethylbenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Mar-15

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-13 (1)
Project Name:	FMTS Cedartown	**Collection Date:**	3/18/2015 9:15:00 AM
Lab ID:	1503J18-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Freon-113	BRL	10		ug/L	205004	1	03/25/2015 19:32	NP
Isopropylbenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
m,p-Xylene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Methyl acetate	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Methylcyclohexane	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Methylene chloride	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
o-Xylene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Styrene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Tetrachloroethene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Toluene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Trichloroethene	210	50		ug/L	205004	10	03/26/2015 11:02	NP
Trichlorofluoromethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:32	NP
Vinyl chloride	BRL	2.0		ug/L	205004	1	03/25/2015 19:32	NP
Surr: 4-Bromofluorobenzene	99.9	70.6-123		%REC	205004	1	03/25/2015 19:32	NP
Surr: 4-Bromofluorobenzene	99.8	70.6-123		%REC	205004	10	03/26/2015 11:02	NP
Surr: Dibromofluoromethane	110	78.7-124		%REC	205004	1	03/25/2015 19:32	NP
Surr: Dibromofluoromethane	110	78.7-124		%REC	205004	10	03/26/2015 11:02	NP
Surr: Toluene-d8	99.3	81.3-120		%REC	205004	1	03/25/2015 19:32	NP
Surr: Toluene-d8	100	81.3-120		%REC	205004	10	03/26/2015 11:02	NP
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	155	6.2		mg/L	204944	1	03/24/2015 17:51	JS
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	312	10		mg/L	204911	1	03/24/2015 14:30	JS
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	208	1.00		mg/L CaCO3	204973	1	03/25/2015 22:46	JS
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	370	30.0		mg/L	R288510	10	03/25/2015 15:57	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Mar-15

Client:	CDM Smith Inc.	**Client Sample ID:**	IDW 279722
Project Name:	FMTS Cedartown	**Collection Date:**	3/18/2015 10:20:00 AM
Lab ID:	1503J18-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOLATILES, TCLP SW1311/8260B				**(SW5030B)**				
1,1-Dichloroethene	BRL	0.10		mg/L	204899	20	03/25/2015 05:53	CH
1,2-Dichloroethane	BRL	0.10		mg/L	204899	20	03/25/2015 05:53	CH
2-Butanone	BRL	0.20		mg/L	204899	20	03/25/2015 05:53	CH
Benzene	BRL	0.10		mg/L	204899	20	03/25/2015 05:53	CH
Carbon tetrachloride	BRL	0.10		mg/L	204899	20	03/25/2015 05:53	CH
Chlorobenzene	BRL	0.10		mg/L	204899	20	03/25/2015 05:53	CH
Chloroform	BRL	0.10		mg/L	204899	20	03/25/2015 05:53	CH
Tetrachloroethene	BRL	0.10		mg/L	204899	20	03/25/2015 05:53	CH
Trichloroethene	BRL	0.10		mg/L	204899	20	03/25/2015 05:53	CH
Vinyl chloride	BRL	0.040		mg/L	204899	20	03/25/2015 05:53	CH
Surr: 4-Bromofluorobenzene	85.3	68.7-127		%REC	204899	20	03/25/2015 05:53	CH
Surr: Dibromofluoromethane	91.3	77.4-121		%REC	204899	20	03/25/2015 05:53	CH
Surr: Toluene-d8	89.3	79.2-120		%REC	204899	20	03/25/2015 05:53	CH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Mar-15

Client:	CDM Smith Inc.	**Client Sample ID:**	IDW CHRT 24898
Project Name:	FMTS Cedartown	**Collection Date:**	3/18/2015 10:40:00 AM
Lab ID:	1503J18-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
VOLATILES, TCLP SW1311/8260B				**(SW5030B)**				
1,1-Dichloroethene	BRL	0.10		mg/L	204899	20	03/25/2015 06:16	CH
1,2-Dichloroethane	BRL	0.10		mg/L	204899	20	03/25/2015 06:16	CH
2-Butanone	BRL	0.20		mg/L	204899	20	03/25/2015 06:16	CH
Benzene	BRL	0.10		mg/L	204899	20	03/25/2015 06:16	CH
Carbon tetrachloride	BRL	0.10		mg/L	204899	20	03/25/2015 06:16	CH
Chlorobenzene	BRL	0.10		mg/L	204899	20	03/25/2015 06:16	CH
Chloroform	BRL	0.10		mg/L	204899	20	03/25/2015 06:16	CH
Tetrachloroethene	BRL	0.10		mg/L	204899	20	03/25/2015 06:16	CH
Trichloroethene	BRL	0.10		mg/L	204899	20	03/25/2015 06:16	CH
Vinyl chloride	BRL	0.040		mg/L	204899	20	03/25/2015 06:16	CH
Surr: 4-Bromofluorobenzene	78.5	68.7-127		%REC	204899	20	03/25/2015 06:16	CH
Surr: Dibromofluoromethane	88.4	77.4-121		%REC	204899	20	03/25/2015 06:16	CH
Surr: Toluene-d8	89.1	79.2-120		%REC	204899	20	03/25/2015 06:16	CH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Mar-15

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-13 (8)
Project Name:	FMTS Cedartown	**Collection Date:**	3/18/2015 3:50:00 PM
Lab ID:	1503J18-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	1.00		mg/L	R288607	1	03/26/2015 14:10	YS
Total Metals by ICP/MS SW6020A					**(SW3005A)**			
Calcium	59100	100		ug/L	204973	1	03/25/2015 22:20	JS
Iron	BRL	100		ug/L	204973	1	03/25/2015 22:20	JS
Manganese	BRL	5.00		ug/L	204973	1	03/25/2015 22:20	JS
TCL VOLATILE ORGANICS SW8260B					**(SW5030B)**			
1,1,1-Trichloroethane	15	5.0		ug/L	205004	1	03/25/2015 20:43	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
1,1-Dichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
1,1-Dichloroethene	8.4	5.0		ug/L	205004	1	03/25/2015 20:43	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
1,2-Dibromoethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
1,2-Dichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
1,2-Dichloropropane	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
2-Butanone	BRL	50		ug/L	205004	1	03/25/2015 20:43	NP
2-Hexanone	BRL	10		ug/L	205004	1	03/25/2015 20:43	NP
4-Methyl-2-pentanone	BRL	10		ug/L	205004	1	03/25/2015 20:43	NP
Acetone	BRL	50		ug/L	205004	1	03/25/2015 20:43	NP
Benzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Bromodichloromethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Bromoform	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Bromomethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Carbon disulfide	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Carbon tetrachloride	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Chlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Chloroethane	BRL	10		ug/L	205004	1	03/25/2015 20:43	NP
Chloroform	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Chloromethane	BRL	10		ug/L	205004	1	03/25/2015 20:43	NP
cis-1,2-Dichloroethene	120	5.0		ug/L	205004	1	03/25/2015 20:43	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Cyclohexane	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Dibromochloromethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Dichlorodifluoromethane	BRL	10		ug/L	205004	1	03/25/2015 20:43	NP
Ethylbenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Mar-15

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-13 (8)
Project Name:	FMTS Cedartown	**Collection Date:**	3/18/2015 3:50:00 PM
Lab ID:	1503J18-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Freon-113	BRL	10		ug/L	205004	1	03/25/2015 20:43	NP
Isopropylbenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
m,p-Xylene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Methyl acetate	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Methylcyclohexane	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Methylene chloride	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
o-Xylene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Styrene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Tetrachloroethene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Toluene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Trichloroethene	300	5.0	E	ug/L	205004	1	03/25/2015 20:43	NP
Trichlorofluoromethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:43	NP
Vinyl chloride	BRL	2.0		ug/L	205004	1	03/25/2015 20:43	NP
Surr: 4-Bromofluorobenzene	99.5	70.6-123		%REC	205004	1	03/25/2015 20:43	NP
Surr: Dibromofluoromethane	113	78.7-124		%REC	205004	1	03/25/2015 20:43	NP
Surr: Toluene-d8	102	81.3-120		%REC	205004	1	03/25/2015 20:43	NP
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	BRL	5.0		mg/L	204944	1	03/24/2015 17:51	JS
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	254	10		mg/L	204911	1	03/24/2015 14:30	JS
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	203	1.00		mg/L CaCO3	204973	1	03/25/2015 22:20	JS
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	200	30.0		mg/L	R288511	10	03/26/2015 12:50	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Mar-15

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-12 (1)
Project Name:	FMTS Cedartown	**Collection Date:**	3/19/2015 1:00:00 PM
Lab ID:	1503J18-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	1.00		mg/L	R288607	1	03/26/2015 14:33	YS
Total Metals by ICP/MS SW6020A					**(SW3005A)**			
Calcium	138000	100		ug/L	204973	1	03/25/2015 22:51	JS
Iron	187	100		ug/L	204973	1	03/25/2015 22:51	JS
Manganese	1170	5.00		ug/L	204973	1	03/25/2015 22:51	JS
TCL VOLATILE ORGANICS SW8260B					**(SW5030B)**			
1,1,1-Trichloroethane	53	5.0		ug/L	205004	1	03/25/2015 19:56	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
1,1-Dichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
1,1-Dichloroethene	6.2	5.0		ug/L	205004	1	03/25/2015 19:56	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
1,2-Dibromoethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
1,2-Dichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
1,2-Dichloropropane	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
2-Butanone	BRL	50		ug/L	205004	1	03/25/2015 19:56	NP
2-Hexanone	BRL	10		ug/L	205004	1	03/25/2015 19:56	NP
4-Methyl-2-pentanone	BRL	10		ug/L	205004	1	03/25/2015 19:56	NP
Acetone	BRL	50		ug/L	205004	1	03/25/2015 19:56	NP
Benzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Bromodichloromethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Bromoform	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Bromomethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Carbon disulfide	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Carbon tetrachloride	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Chlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Chloroethane	BRL	10		ug/L	205004	1	03/25/2015 19:56	NP
Chloroform	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Chloromethane	BRL	10		ug/L	205004	1	03/25/2015 19:56	NP
cis-1,2-Dichloroethene	130	5.0		ug/L	205004	1	03/25/2015 19:56	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Cyclohexane	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Dibromochloromethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Dichlorodifluoromethane	BRL	10		ug/L	205004	1	03/25/2015 19:56	NP
Ethylbenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Mar-15

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-12 (1)
Project Name:	FMTS Cedartown	**Collection Date:**	3/19/2015 1:00:00 PM
Lab ID:	1503J18-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Freon-113	BRL	10		ug/L	205004	1	03/25/2015 19:56	NP
Isopropylbenzene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
m,p-Xylene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Methyl acetate	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Methylcyclohexane	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Methylene chloride	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
o-Xylene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Styrene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Tetrachloroethene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Toluene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Trichloroethene	410	50		ug/L	205004	10	03/26/2015 11:25	NP
Trichlorofluoromethane	BRL	5.0		ug/L	205004	1	03/25/2015 19:56	NP
Vinyl chloride	BRL	2.0		ug/L	205004	1	03/25/2015 19:56	NP
Surr: 4-Bromofluorobenzene	99.6	70.6-123		%REC	205004	10	03/26/2015 11:25	NP
Surr: 4-Bromofluorobenzene	101	70.6-123		%REC	205004	1	03/25/2015 19:56	NP
Surr: Dibromofluoromethane	112	78.7-124		%REC	205004	1	03/25/2015 19:56	NP
Surr: Dibromofluoromethane	113	78.7-124		%REC	205004	10	03/26/2015 11:25	NP
Surr: Toluene-d8	99.6	81.3-120		%REC	205004	10	03/26/2015 11:25	NP
Surr: Toluene-d8	100	81.3-120		%REC	205004	1	03/25/2015 19:56	NP
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	9420	100		mg/L	204994	1	03/25/2015 16:02	JS
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	1110	100		mg/L	204911	1	03/24/2015 14:30	JS
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	402	1.00		mg/L CaCO3	204973	1	03/25/2015 22:51	JS
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	370	30.0		mg/L	R288511	10	03/26/2015 12:50	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Mar-15

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-12 (4)
Project Name:	FMTS Cedartown	**Collection Date:**	3/19/2015 4:00:00 PM
Lab ID:	1503J18-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	1.00		mg/L	R288607	1	03/26/2015 14:57	YS
Total Metals by ICP/MS SW6020A					**(SW3005A)**			
Calcium	94400	100		ug/L	204973	1	03/25/2015 22:57	JS
Iron	377	100		ug/L	204973	1	03/25/2015 22:57	JS
Manganese	524	5.00		ug/L	204973	1	03/25/2015 22:57	JS
TCL VOLATILE ORGANICS SW8260B					**(SW5030B)**			
1,1,1-Trichloroethane	59	5.0		ug/L	205004	1	03/25/2015 20:19	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
1,1-Dichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
1,1-Dichloroethene	7.1	5.0		ug/L	205004	1	03/25/2015 20:19	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
1,2-Dibromoethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
1,2-Dichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
1,2-Dichloropropane	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
2-Butanone	BRL	50		ug/L	205004	1	03/25/2015 20:19	NP
2-Hexanone	BRL	10		ug/L	205004	1	03/25/2015 20:19	NP
4-Methyl-2-pentanone	BRL	10		ug/L	205004	1	03/25/2015 20:19	NP
Acetone	BRL	50		ug/L	205004	1	03/25/2015 20:19	NP
Benzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Bromodichloromethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Bromoform	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Bromomethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Carbon disulfide	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Carbon tetrachloride	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Chlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Chloroethane	BRL	10		ug/L	205004	1	03/25/2015 20:19	NP
Chloroform	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Chloromethane	BRL	10		ug/L	205004	1	03/25/2015 20:19	NP
cis-1,2-Dichloroethene	150	5.0		ug/L	205004	1	03/25/2015 20:19	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Cyclohexane	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Dibromochloromethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Dichlorodifluoromethane	BRL	10		ug/L	205004	1	03/25/2015 20:19	NP
Ethylbenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Mar-15

Client:	CDM Smith Inc.	**Client Sample ID:**	EXP-12 (4)
Project Name:	FMTS Cedartown	**Collection Date:**	3/19/2015 4:00:00 PM
Lab ID:	1503J18-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Freon-113	BRL	10		ug/L	205004	1	03/25/2015 20:19	NP
Isopropylbenzene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
m,p-Xylene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Methyl acetate	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Methylcyclohexane	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Methylene chloride	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
o-Xylene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Styrene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Tetrachloroethene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Toluene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Trichloroethene	420	50		ug/L	205004	10	03/26/2015 11:49	NP
Trichlorofluoromethane	BRL	5.0		ug/L	205004	1	03/25/2015 20:19	NP
Vinyl chloride	BRL	2.0		ug/L	205004	1	03/25/2015 20:19	NP
Surr: 4-Bromofluorobenzene	100	70.6-123		%REC	205004	1	03/25/2015 20:19	NP
Surr: 4-Bromofluorobenzene	100	70.6-123		%REC	205004	10	03/26/2015 11:49	NP
Surr: Dibromofluoromethane	110	78.7-124		%REC	205004	10	03/26/2015 11:49	NP
Surr: Dibromofluoromethane	115	78.7-124		%REC	205004	1	03/25/2015 20:19	NP
Surr: Toluene-d8	98.8	81.3-120		%REC	205004	10	03/26/2015 11:49	NP
Surr: Toluene-d8	100	81.3-120		%REC	205004	1	03/25/2015 20:19	NP
Residue, Suspended (TSS) by SM2540D								
Residue, Suspended (TSS)	3120	50.0		mg/L	204994	1	03/25/2015 16:02	JS
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	624	40		mg/L	204911	1	03/24/2015 14:30	JS
HARDNESS SM2340 B				**(SM2340B)**				
Hardness, Calcium/Magnesium (As CaCO3)	280	1.00		mg/L CaCO3	204973	1	03/25/2015 22:57	JS
Alkalinity by SM2320B								
Alkalinity, Total (As CaCO3)	370	30.0		mg/L	R288511	10	03/26/2015 12:50	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Mar-15

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	FMTS Cedartown	**Collection Date:**	3/18/2015
Lab ID:	1503J18-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
1,1-Dichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
1,1-Dichloroethene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
1,2-Dibromoethane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
1,2-Dichloroethane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
1,2-Dichloropropane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
2-Butanone	BRL	50		ug/L	205004	1	03/25/2015 17:34	NP
2-Hexanone	BRL	10		ug/L	205004	1	03/25/2015 17:34	NP
4-Methyl-2-pentanone	BRL	10		ug/L	205004	1	03/25/2015 17:34	NP
Acetone	BRL	50		ug/L	205004	1	03/25/2015 17:34	NP
Benzene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Bromodichloromethane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Bromoform	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Bromomethane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Carbon disulfide	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Carbon tetrachloride	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Chlorobenzene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Chloroethane	BRL	10		ug/L	205004	1	03/25/2015 17:34	NP
Chloroform	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Chloromethane	BRL	10		ug/L	205004	1	03/25/2015 17:34	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Cyclohexane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Dibromochloromethane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Dichlorodifluoromethane	BRL	10		ug/L	205004	1	03/25/2015 17:34	NP
Ethylbenzene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Freon-113	BRL	10		ug/L	205004	1	03/25/2015 17:34	NP
Isopropylbenzene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
m,p-Xylene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Methyl acetate	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Methylcyclohexane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Methylene chloride	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
o-Xylene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 30-Mar-15

Client:	CDM Smith Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	FMTS Cedartown	**Collection Date:**	3/18/2015
Lab ID:	1503J18-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Tetrachloroethene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Toluene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Trichloroethene	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Trichlorofluoromethane	BRL	5.0		ug/L	205004	1	03/25/2015 17:34	NP
Vinyl chloride	BRL	2.0		ug/L	205004	1	03/25/2015 17:34	NP
Surr: 4-Bromofluorobenzene	98.2	70.6-123		%REC	205004	1	03/25/2015 17:34	NP
Surr: Dibromofluoromethane	106	78.7-124		%REC	205004	1	03/25/2015 17:34	NP
Surr: Toluene-d8	97.8	81.3-120		%REC	205004	1	03/25/2015 17:34	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client CDM Smith Work Order Number 1503118

Checklist completed by Jason B 3/20/15
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.2° Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by JB

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: **204899**

Sample ID: **MB-204899** Client ID: Units: **mg/L** Prep Date: **03/23/2015** Run No: **288216**
SampleType: **MBLK** TestCode: **VOLATILES, TCLP SW1311/8260B** BatchID: **204899** Analysis Date: **03/23/2015** Seq No: **6123345**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	BRL	0.10									
1,2-Dichloroethane	BRL	0.10									
2-Butanone	BRL	0.20									
Benzene	BRL	0.10									
Carbon tetrachloride	BRL	0.10									
Chlorobenzene	BRL	0.10									
Chloroform	BRL	0.10									
Tetrachloroethene	BRL	0.10									
Trichloroethene	BRL	0.10									
Vinyl chloride	BRL	0.040									
Surr: 4-Bromofluorobenzene	0.8318	0	1.000		83.2	68.7	127				
Surr: Dibromofluoromethane	0.8666	0	1.000		86.7	77.4	121				
Surr: Toluene-d8	0.8626	0	1.000		86.3	79.2	120				

Sample ID: **LCS-204899** Client ID: Units: **mg/L** Prep Date: **03/23/2015** Run No: **288216**
SampleType: **LCS** TestCode: **VOLATILES, TCLP SW1311/8260B** BatchID: **204899** Analysis Date: **03/23/2015** Seq No: **6123339**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	0.9828	0.10	1.000		98.3	56.5	137				
1,2-Dichloroethane	0.9808	0.10	1.000		98.1	64.2	137				
2-Butanone	2.330	0.20	2.000		117	50.2	144				
Benzene	1.048	0.10	1.000		105	70.3	128				
Carbon tetrachloride	1.094	0.10	1.000		109	57.2	148				
Chlorobenzene	1.052	0.10	1.000		105	71.6	122				
Chloroform	0.8852	0.10	1.000		88.5	67.9	130				
Tetrachloroethene	1.258	0.10	1.000		126	64.9	135				
Trichloroethene	1.068	0.10	1.000		107	69.8	133				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: 204899

Sample ID: **LCS-204899** Client ID: Units: **mg/L** Prep Date: **03/23/2015** Run No: **288216**
SampleType: **LCS** TestCode: **VOLATILES, TCLP SW1311/8260B** BatchID: **204899** Analysis Date: **03/23/2015** Seq No: **6123339**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Vinyl chloride	0.9112	0.040	1.000		91.1	48.6	139				
Surr: 4-Bromofluorobenzene	0.9784	0	1.000		97.8	68.7	127				
Surr: Dibromofluoromethane	0.9394	0	1.000		93.9	77.4	121				
Surr: Toluene-d8	0.9962	0	1.000		99.6	79.2	120				

Sample ID: **1503J84-001AMS** Client ID: Units: **mg/L** Prep Date: **03/23/2015** Run No: **288216**
SampleType: **MS** TestCode: **VOLATILES, TCLP SW1311/8260B** BatchID: **204899** Analysis Date: **03/23/2015** Seq No: **6123341**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	2.318	0.25	2.500		92.7	60.5	144				
1,2-Dichloroethane	2.312	0.25	2.500		92.5	66.2	133				
2-Butanone	6.485	0.50	5.000		130	47.7	148				
Benzene	2.428	0.25	2.500		97.1	70.6	135				
Carbon tetrachloride	2.466	0.25	2.500		98.7	61.4	146				
Chlorobenzene	2.374	0.25	2.500		94.9	71	126				
Chloroform	2.531	0.25	2.500	0.4010	85.2	64.2	138				
Tetrachloroethene	3.047	0.25	2.500		122	66.6	138				
Trichloroethene	4.606	0.25	2.500		184	72.3	139				S
Vinyl chloride	2.342	0.10	2.500		93.7	50.2	147				
Surr: 4-Bromofluorobenzene	2.779	0	2.500		111	68.7	127				
Surr: Dibromofluoromethane	2.226	0	2.500		89.0	77.4	121				
Surr: Toluene-d8	2.402	0	2.500		96.1	79.2	120				

Sample ID: **1503J84-001ADUP** Client ID: Units: **mg/L** Prep Date: **03/23/2015** Run No: **288216**
SampleType: **DUP** TestCode: **VOLATILES, TCLP SW1311/8260B** BatchID: **204899** Analysis Date: **03/23/2015** Seq No: **6123346**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	BRL	0.25						0	0	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: **204899**

Sample ID: **1503J84-001ADUP** Client ID: Units: **mg/L** Prep Date: **03/23/2015** Run No: **288216**
SampleType: **DUP** TestCode: **VOLATILES, TCLP SW1311/8260B** BatchID: **204899** Analysis Date: **03/23/2015** Seq No: **6123346**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2-Dichloroethane	BRL	0.25						0	0	30	
2-Butanone	BRL	0.50						0	0	30	
Benzene	BRL	0.25						0	0	30	
Carbon tetrachloride	BRL	0.25						0	0	30	
Chlorobenzene	BRL	0.25						0	0	30	
Chloroform	0.3570	0.25						0.4010	11.6	30	
Tetrachloroethene	BRL	0.25						0	0	30	
Trichloroethene	BRL	0.25						0	0	30	
Vinyl chloride	BRL	0.10						0	0	30	
Surr: 4-Bromofluorobenzene	2.790	0	2.500		112	68.7	127	2.792	0	0	
Surr: Dibromofluoromethane	2.160	0	2.500		86.4	77.4	121	2.266	0	0	
Surr: Toluene-d8	2.194	0	2.500		87.8	79.2	120	2.242	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: 204911

Sample ID: **MB-204911** Client ID: Units: **mg/L** Prep Date: **03/24/2015** Run No: **288507**
SampleType: **MBLK** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **204911** Analysis Date: **03/24/2015** Seq No: **6129972**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	BRL	10									

Sample ID: **1503J18-001DDUP** Client ID: **EXP-13 (1)** Units: **mg/L** Prep Date: **03/24/2015** Run No: **288507**
SampleType: **DUP** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **204911** Analysis Date: **03/24/2015** Seq No: **6129989**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	309.0	10						312.0	0.966	5	

Sample ID: **1503L07-007CDUP** Client ID: Units: **mg/L** Prep Date: **03/24/2015** Run No: **288507**
SampleType: **DUP** TestCode: **Residue, Dissolved (TDS) by SM2540C** BatchID: **204911** Analysis Date: **03/24/2015** Seq No: **6129990**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Dissolved (TDS)	55.00	10						54.00	1.83	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: 204944

Sample ID: **MB-204944** Client ID: Units: **mg/L** Prep Date: **03/24/2015** Run No: **288347**
SampleType: **MBLK** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **204944** Analysis Date: **03/24/2015** Seq No: **6126105**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	BRL	5.0									

Sample ID: **1503J18-004DDUP** Client ID: **EXP-13 (8)** Units: **mg/L** Prep Date: **03/24/2015** Run No: **288347**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **204944** Analysis Date: **03/24/2015** Seq No: **6126118**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	BRL	5.0						3.000	0	5	

Sample ID: **1503J20-002ADUP** Client ID: Units: **mg/L** Prep Date: **03/24/2015** Run No: **288347**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **204944** Analysis Date: **03/24/2015** Seq No: **6126107**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	5.000	5.0						5.000	0	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: 204973

Sample ID: **MB-204973** Client ID: Units: **ug/L** Prep Date: **03/25/2015** Run No: **288553**
SampleType: **MBLK** TestCode: **Total Metals by ICP/MS SW6020A** BatchID: **204973** Analysis Date: **03/25/2015** Seq No: **6131036**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	BRL	100									
Iron	BRL	100									
Manganese	BRL	5.00									

Sample ID: **LCS-204973** Client ID: Units: **ug/L** Prep Date: **03/25/2015** Run No: **288553**
SampleType: **LCS** TestCode: **Total Metals by ICP/MS SW6020A** BatchID: **204973** Analysis Date: **03/25/2015** Seq No: **6131035**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	1106	100	1000		111	80	120				
Iron	1009	100	1000		101	80	120				
Manganese	101.7	5.00	100.0		102	80	120				

Sample ID: **1503J18-004BMS** Client ID: **EXP-13 (8)** Units: **ug/L** Prep Date: **03/25/2015** Run No: **288553**
SampleType: **MS** TestCode: **Total Metals by ICP/MS SW6020A** BatchID: **204973** Analysis Date: **03/25/2015** Seq No: **6131038**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	61880	100	1000	59090	279	75	125				S
Iron	1095	100	1000	57.31	104	75	125				
Manganese	111.1	5.00	100.0	3.062	108	75	125				

Sample ID: **1503J18-004BMSD** Client ID: **EXP-13 (8)** Units: **ug/L** Prep Date: **03/25/2015** Run No: **288553**
SampleType: **MSD** TestCode: **Total Metals by ICP/MS SW6020A** BatchID: **204973** Analysis Date: **03/25/2015** Seq No: **6131039**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Calcium	58840	100	1000	59090	-24.7	75	125	61880	5.04	20	S
Iron	1033	100	1000	57.31	97.6	75	125	1095	5.78	20	
Manganese	105.1	5.00	100.0	3.062	102	75	125	111.1	5.48	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: 204994

Sample ID: **MB-204994** Client ID: Units: **mg/L** Prep Date: **03/24/2015** Run No: **288446**
SampleType: **MBLK** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **204994** Analysis Date: **03/25/2015** Seq No: **6128252**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	BRL	10.0									

Sample ID: **1503K22-001BDUP** Client ID: Units: **mg/L** Prep Date: **03/24/2015** Run No: **288446**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **204994** Analysis Date: **03/25/2015** Seq No: **6128271**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	11.50	5.0						11.50	0	5	

Sample ID: **1503M72-001ADUP** Client ID: Units: **mg/L** Prep Date: **03/24/2015** Run No: **288446**
SampleType: **DUP** TestCode: **Residue, Suspended (TSS) by SM2540D** BatchID: **204994** Analysis Date: **03/25/2015** Seq No: **6128257**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	101.0	10.0						101.0	0	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Analytical Environmental Services, Inc

Date: 30-Mar-15

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: **205004**

Sample ID: **MB-205004** Client ID: Units: **ug/L** Prep Date: **03/25/2015** Run No: **288417**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **205004** Analysis Date: **03/25/2015** Seq No: **6127758**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: **205004**

Sample ID: **MB-205004** Client ID: Units: **ug/L** Prep Date: **03/25/2015** Run No: **288417**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **205004** Analysis Date: **03/25/2015** Seq No: **6127758**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	50.07	0	50.00		100	70.6	123				
Surr: Dibromofluoromethane	58.21	0	50.00		116	78.7	124				
Surr: Toluene-d8	48.89	0	50.00		97.8	81.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: 205004

Sample ID: **LCS-205004** Client ID: Units: **ug/L** Prep Date: **03/25/2015** Run No: **288417**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **205004** Analysis Date: **03/25/2015** Seq No: **6127756**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	39.21	5.0	50.00		78.4	64.2	137				
Benzene	43.34	5.0	50.00		86.7	72.8	128				
Chlorobenzene	48.12	5.0	50.00		96.2	72.3	126				
Toluene	45.85	5.0	50.00		91.7	74.9	127				
Trichloroethene	44.69	5.0	50.00		89.4	70.5	134				
Surr: 4-Bromofluorobenzene	49.84	0	50.00		99.7	70.6	123				
Surr: Dibromofluoromethane	54.79	0	50.00		110	78.7	124				
Surr: Toluene-d8	48.55	0	50.00		97.1	81.3	120				

Sample ID: **1503J18-004AMS** Client ID: **EXP-13 (8)** Units: **ug/L** Prep Date: **03/25/2015** Run No: **288417**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **205004** Analysis Date: **03/25/2015** Seq No: **6128789**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	54.33	5.0	50.00	8.380	91.9	60.5	156				
Benzene	45.72	5.0	50.00		91.4	70	135				
Chlorobenzene	50.14	5.0	50.00		100	70.5	132				
Toluene	48.98	5.0	50.00		98.0	70.5	137				
Trichloroethene	344.1	5.0	50.00	295.5	97.2	71.8	139				E
Surr: 4-Bromofluorobenzene	50.91	0	50.00		102	70.6	123				
Surr: Dibromofluoromethane	53.43	0	50.00		107	78.7	124				
Surr: Toluene-d8	48.10	0	50.00		96.2	81.3	120				

Sample ID: **1503J18-004AMSD** Client ID: **EXP-13 (8)** Units: **ug/L** Prep Date: **03/25/2015** Run No: **288417**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **205004** Analysis Date: **03/25/2015** Seq No: **6128790**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	53.03	5.0	50.00	8.380	89.3	60.5	156	54.33	2.42	20	
Benzene	45.43	5.0	50.00		90.9	70	135	45.72	0.636	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: **205004**

Sample ID: **1503J18-004AMSD** Client ID: **EXP-13 (8)** Units: **ug/L** Prep Date: **03/25/2015** Run No: **288417**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **205004** Analysis Date: **03/25/2015** Seq No: **6128790**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	49.15	5.0	50.00		98.3	70.5	132	50.14	1.99	20	
Toluene	48.40	5.0	50.00		96.8	70.5	137	48.98	1.19	20	
Trichloroethene	346.2	5.0	50.00	295.5	102	71.8	139	344.1	0.629	20	E
Surr: 4-Bromofluorobenzene	50.48	0	50.00		101	70.6	123	50.91	0	0	
Surr: Dibromofluoromethane	54.44	0	50.00		109	78.7	124	53.43	0	0	
Surr: Toluene-d8	48.68	0	50.00		97.4	81.3	120	48.10	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: R288510

Sample ID: **MB-R288510** Client ID: Units: **mg/L** Prep Date: Run No: **288510**
SampleType: **MBLK** TestCode: **Alkalinity by SM2320B** BatchID: **R288510** Analysis Date: **03/25/2015** Seq No: **6130033**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	BRL	3.00									

Sample ID: **LCS-R288510** Client ID: Units: **mg/L** Prep Date: Run No: **288510**
SampleType: **LCS** TestCode: **Alkalinity by SM2320B** BatchID: **R288510** Analysis Date: **03/25/2015** Seq No: **6130034**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	123.0	3.00	125.0		98.4	75	125				

Sample ID: **1503I16-005FDUP** Client ID: Units: **mg/L** Prep Date: Run No: **288510**
SampleType: **DUP** TestCode: **Alkalinity by SM2320B** BatchID: **R288510** Analysis Date: **03/25/2015** Seq No: **6130032**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	230.0	30.0						230.0	0	30	

Sample ID: **1503I26-001GDUP** Client ID: Units: **mg/L** Prep Date: Run No: **288510**
SampleType: **DUP** TestCode: **Alkalinity by SM2320B** BatchID: **R288510** Analysis Date: **03/25/2015** Seq No: **6131112**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	9.000	3.00						9.000	0	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: R288511

Sample ID: **MB-R288511** Client ID: Units: **mg/L** Prep Date: Run No: **288511**
SampleType: **MBLK** TestCode: **Alkalinity by SM2320B** BatchID: **R288511** Analysis Date: **03/26/2015** Seq No: **6130051**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	BRL	3.00									

Sample ID: **LCS-R288511** Client ID: Units: **mg/L** Prep Date: Run No: **288511**
SampleType: **LCS** TestCode: **Alkalinity by SM2320B** BatchID: **R288511** Analysis Date: **03/26/2015** Seq No: **6130052**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	125.0	3.00	125.0		100	75	125				

Sample ID: **1503J18-004DDUP** Client ID: **EXP-13 (8)** Units: **mg/L** Prep Date: Run No: **288511**
SampleType: **DUP** TestCode: **Alkalinity by SM2320B** BatchID: **R288511** Analysis Date: **03/26/2015** Seq No: **6130067**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	200.0	30.0						200.0	0	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: CDM Smith Inc.
Project Name: FMTS Cedartown
Workorder: 1503J18

ANALYTICAL QC SUMMARY REPORT

BatchID: R288607

Sample ID: **MB-R288607** Client ID: Units: **mg/L** Prep Date: Run No: **288607**
SampleType: **MBLK** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R288607** Analysis Date: **03/26/2015** Seq No: **6132207**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	BRL	1.00									

Sample ID: **LCS-R288607** Client ID: Units: **mg/L** Prep Date: Run No: **288607**
SampleType: **LCS** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R288607** Analysis Date: **03/26/2015** Seq No: **6132206**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	25.26	1.00	25.00		101	90	110				

Sample ID: **1503J18-005CMS** Client ID: **EXP-12 (1)** Units: **mg/L** Prep Date: Run No: **288607**
SampleType: **MS** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R288607** Analysis Date: **03/26/2015** Seq No: **6132218**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	25.77	1.00	25.00		103	80	120				

Sample ID: **1503J18-005CMSD** Client ID: **EXP-12 (1)** Units: **mg/L** Prep Date: Run No: **288607**
SampleType: **MSD** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R288607** Analysis Date: **03/26/2015** Seq No: **6132219**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	24.37	1.00	25.00		97.5	80	120	25.77	5.58	20	

Qualifiers:

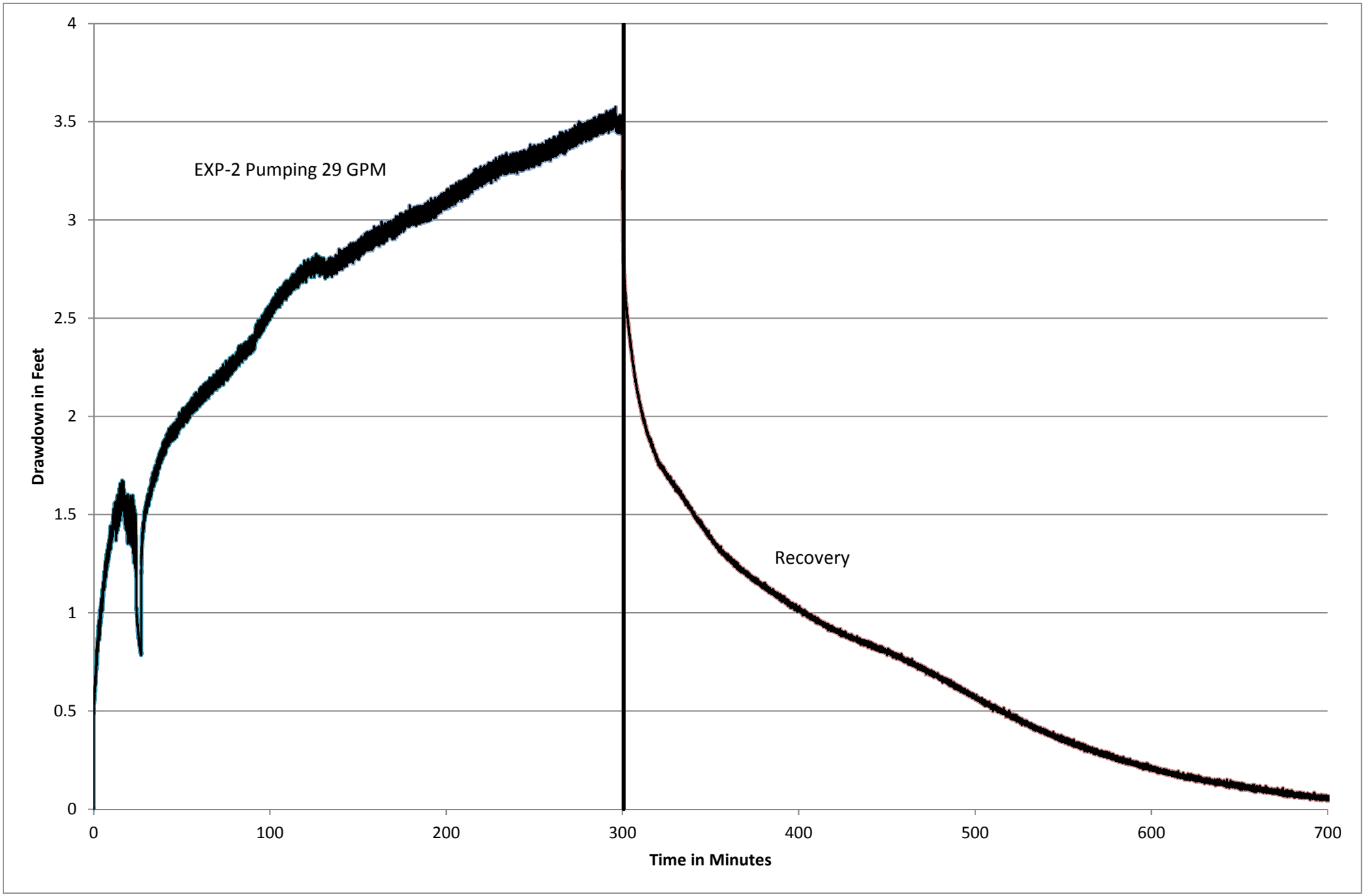
>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Appendix E

APT Results

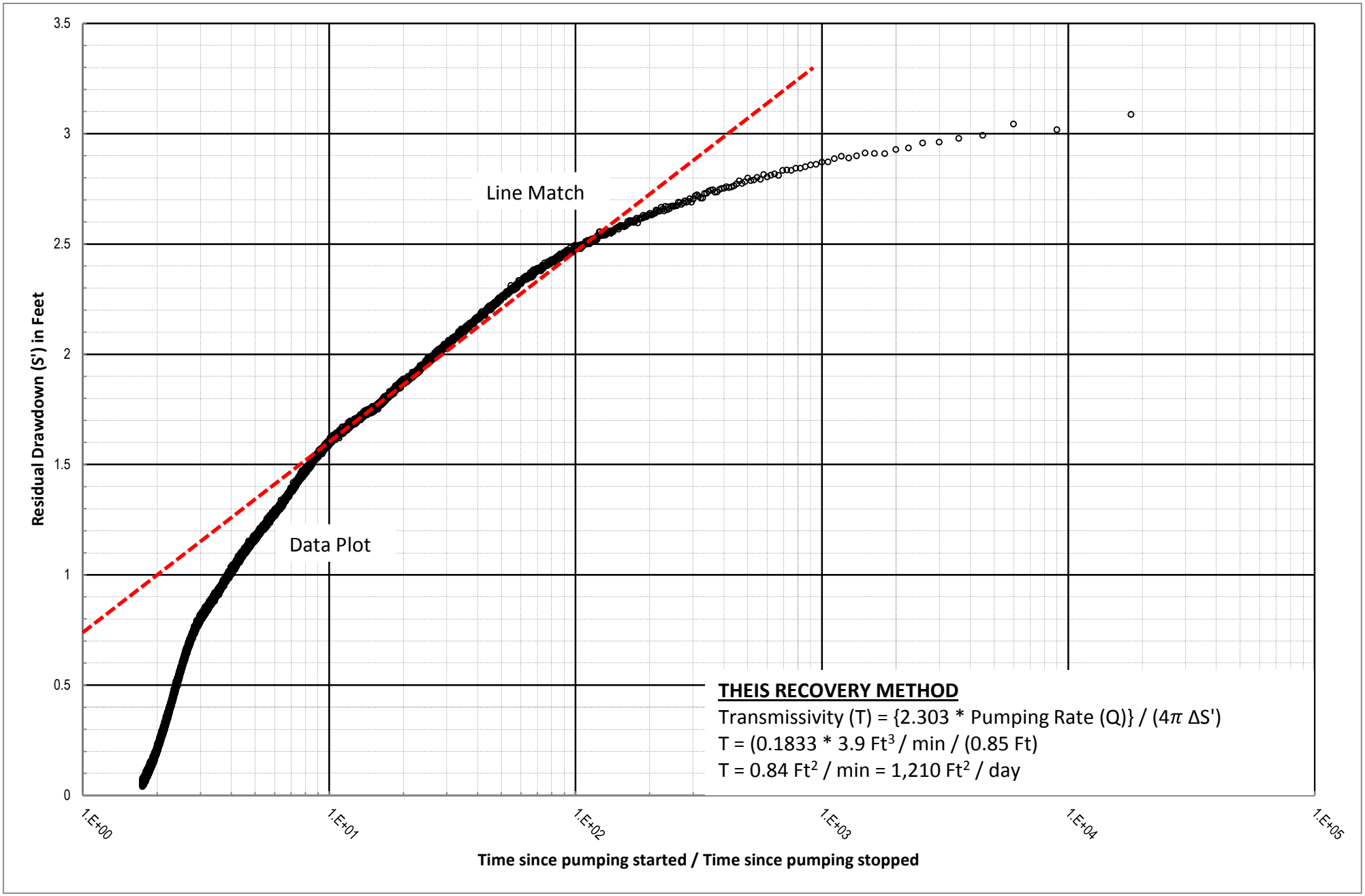
EXP-2 Test Results

EXP-2 Hydrograph
EXP-2 Recovery Plot
EXP-2 Aquifer Performance Test Simulation
EXP-2 Capture Zone Simulation
EXP-3 Hydrograph
EXP-3 Recovery Plot
EXP-3 Theis Plot
MW-41C Hydrograph
MW-41C Theis Plot



CDM Smith

EXP-2 Hydrograph



CDM Smith

EXP-2 Recovery Plot

Aquifer Characteristics		
12,717	GPD / Ft^2	Transmissivity (best fit within range of calculated values)
30	Ft	Aquifer Saturated Thickness
0.009	Decimal	Storativity (best fit based on transmissivity)
57	Ft / D	Calculated Average Hydraulic Conductivity

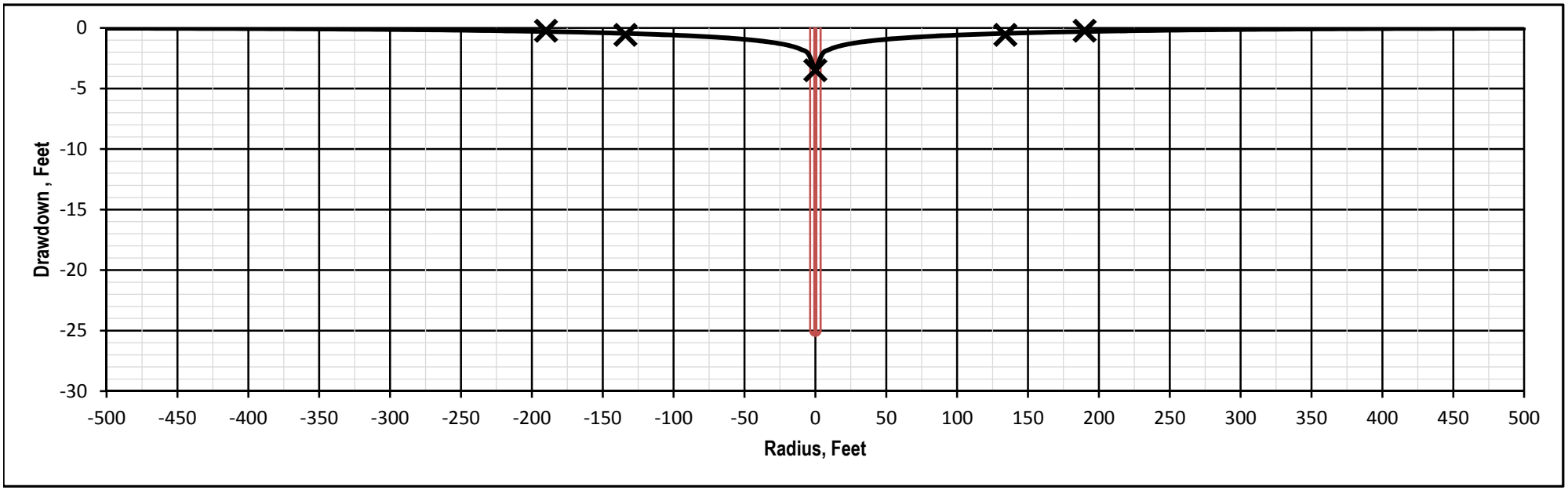
Extraction Well Characteristics		
5	In	Borehole Radius
29	Gal / Min	Pumping Rate
5.0	Hrs	Pumping Duration
-3.5	Ft	Observed Extraction Well Drawdown
98%	%	Calculated Extraction Well Efficiency

APT Observation Well Data		
500	Ft	Radius of Interest
Radius	**Draw-down**	**Well Code**
190	**-0.23**	MW-41C
134	**-0.57**	EXP-3
0	**0.00**	

Available Drawdown

X Observed Potentiometric Surface

Simulated Potentiometric Surface



CDM Smith

EXP-2 Aquifer Performance Test Simulation

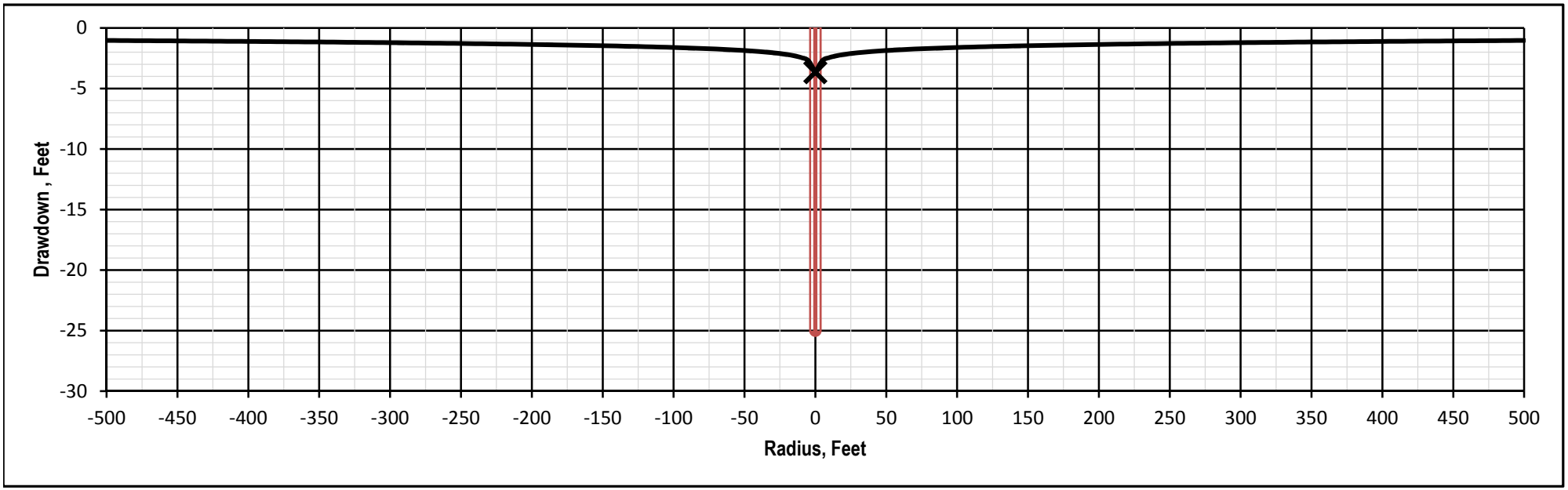
Aquifer Characteristics		
12,717	GPD / Ft^2	Transmissivity
30	Ft	Aquifer Saturated Thickness
0.009	Decimal	Storativity
57	Ft / D	Calculated Average Hydraulic Conductivity

Extraction Well Characteristics		
5	In	Borehole Radius
20	Gal / Min	Pumping Rate
4,320	Hrs	Pumping Duration
-3.7	Ft	Simulated Extraction Well Drawdown
98%	%	Calculated Extraction Well Efficiency
500	Ft	Radius of Interest

Available Drawdown

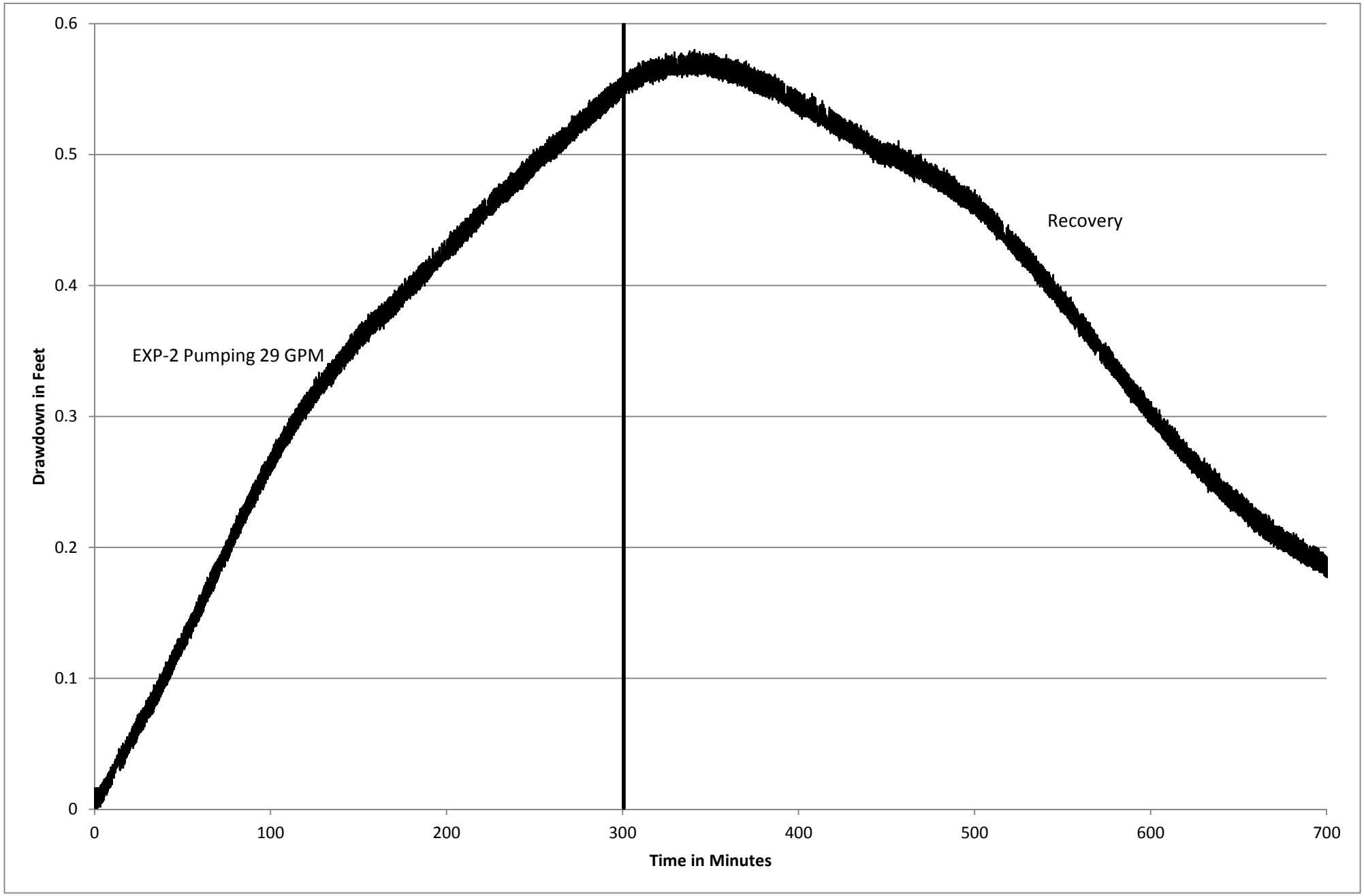
X Simulated Extraction Well Drawdown

Simulated Potentiometric Surface



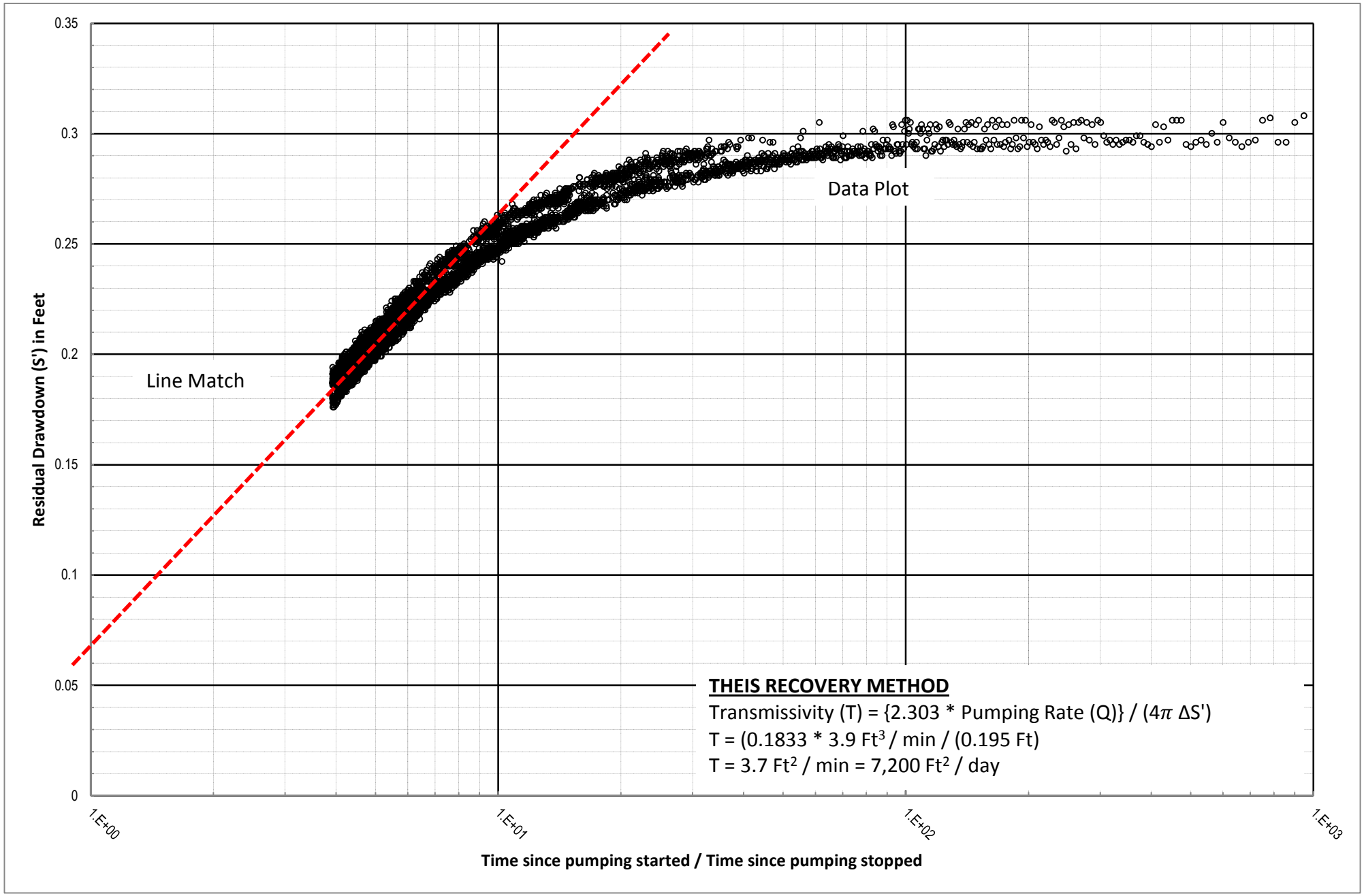
CDM Smith

EXP-2 Capture Zone Simulation



CDM Smith

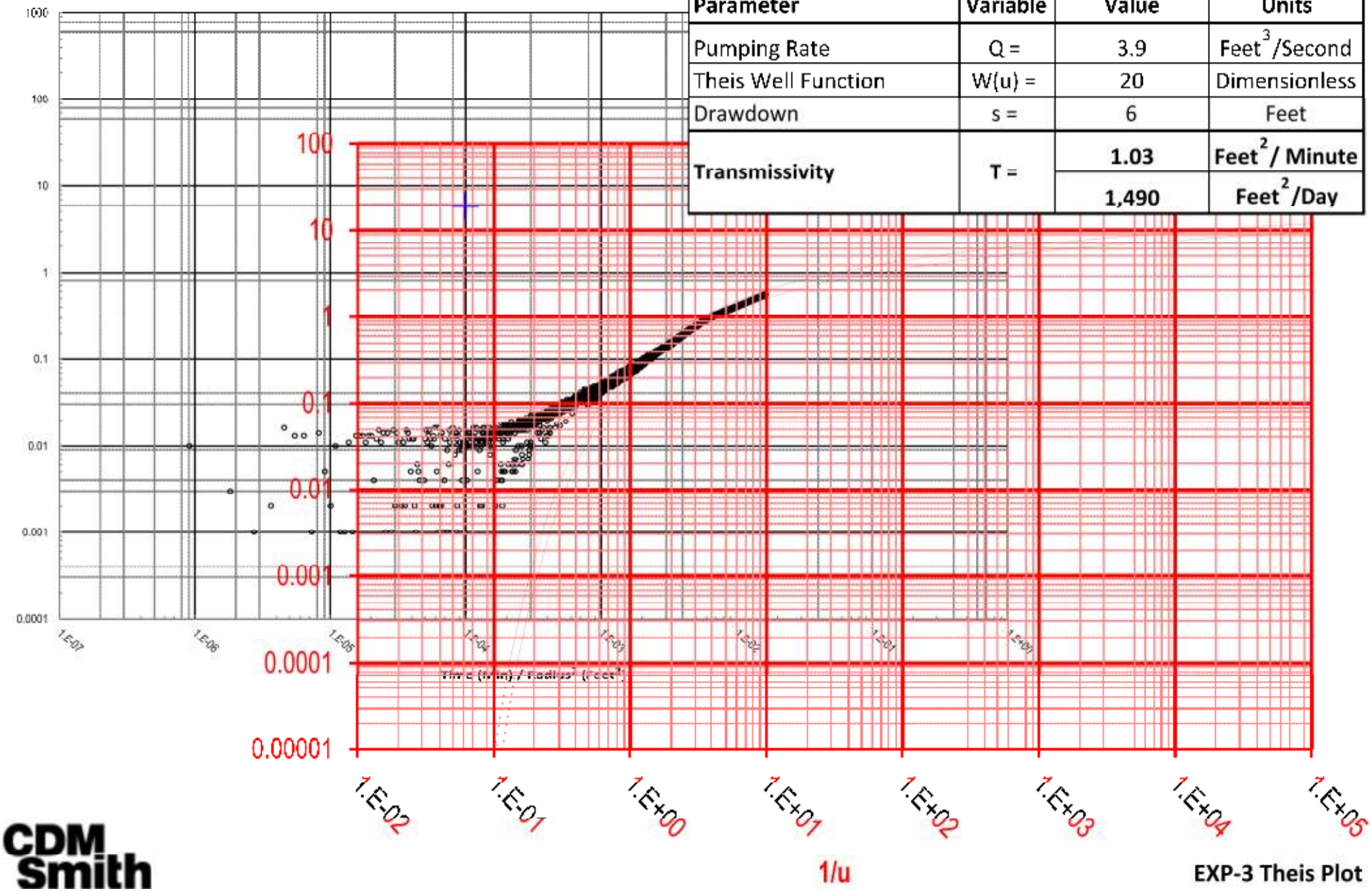
EXP-3 Hydrograph



CDM Smith

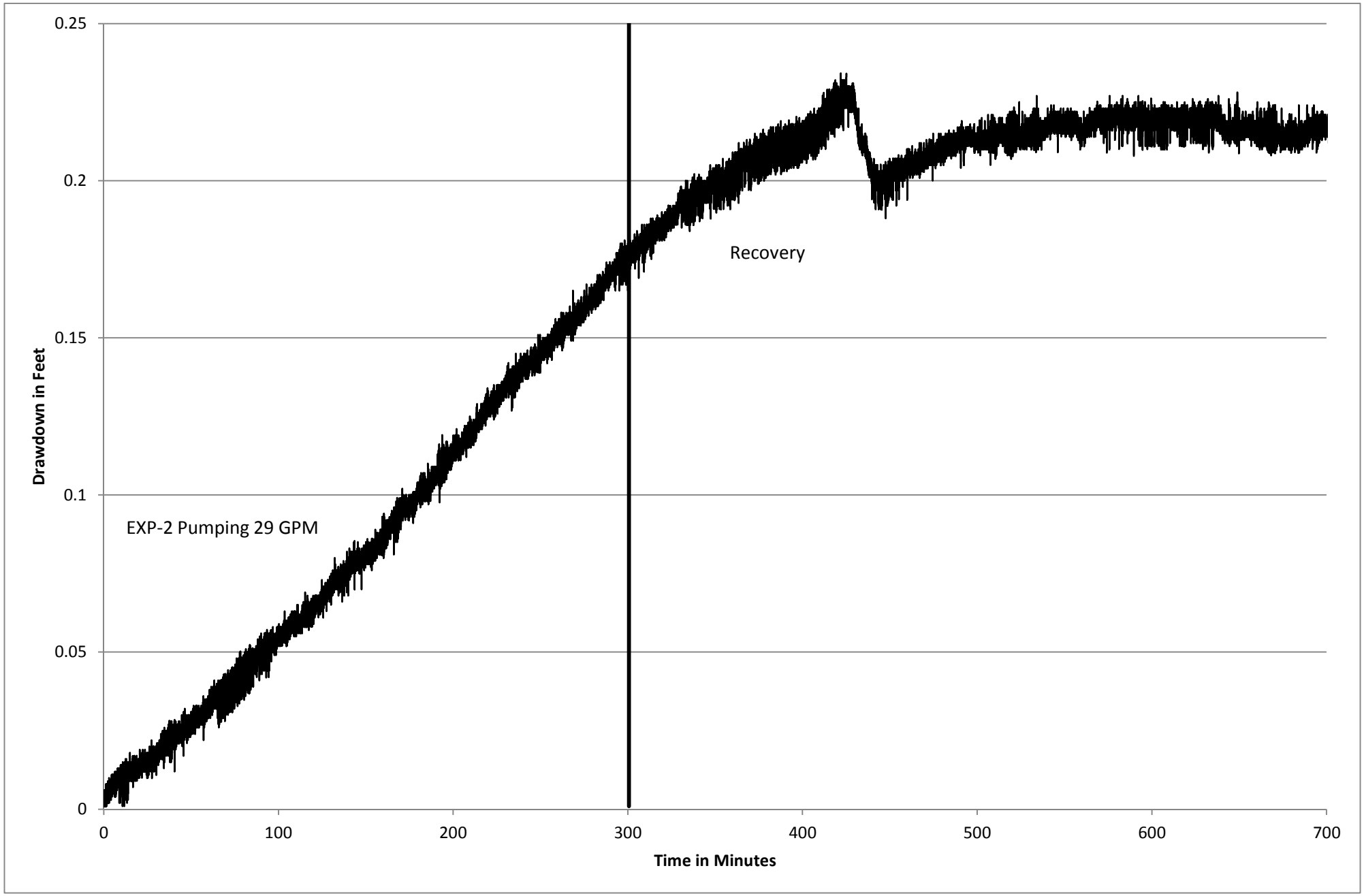
EXP-3 Recovery Plot

THEIS RECOVERY METHOD T = (Q * W(u)} / {4 pi * s}			
Parameter	**Variable**	**Value**	**Units**
Pumping Rate	Q =	3.9	Feet^3/Second
Theis Well Function	W(u) =	20	Dimensionless
Drawdown	s =	6	Feet
Transmissivity	**T =**	**1.03**	**Feet^2/ Minute**
		1,490	**Feet^2/Day**



CDM Smith

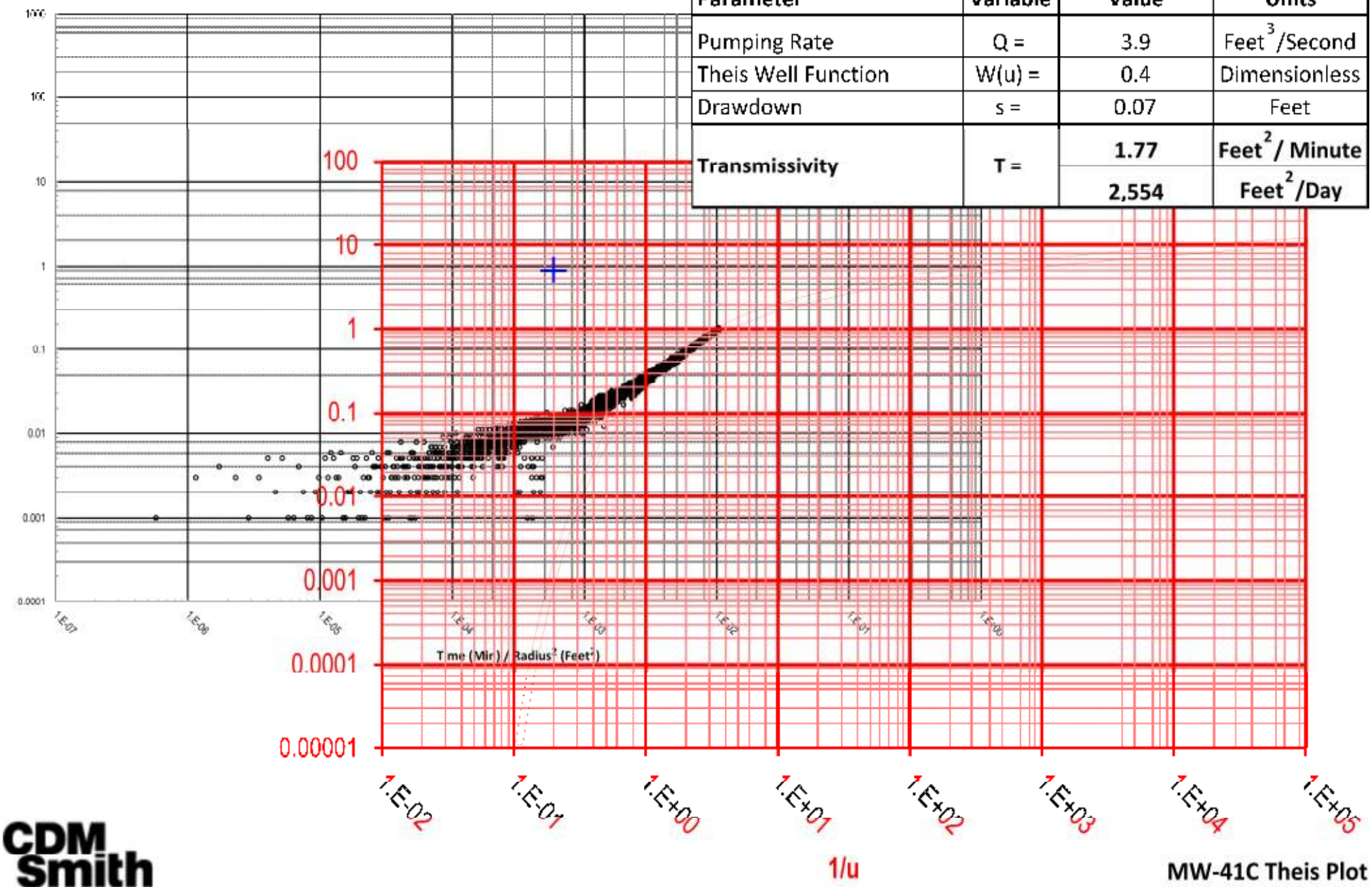
EXP-3 Theis Plot



CDM Smith

MW-41C Hydrograph

THEIS RECOVERY METHOD T = (Q * W(u)} / {4 pi * s}			
Parameter	**Variable**	**Value**	**Units**
Pumping Rate	Q =	3.9	Feet^3/Second
Theis Well Function	W(u) =	0.4	Dimensionless
Drawdown	s =	0.07	Feet
Transmissivity	**T =**	**1.77**	**Feet^2 / Minute**
		2,554	**Feet^2/Day**

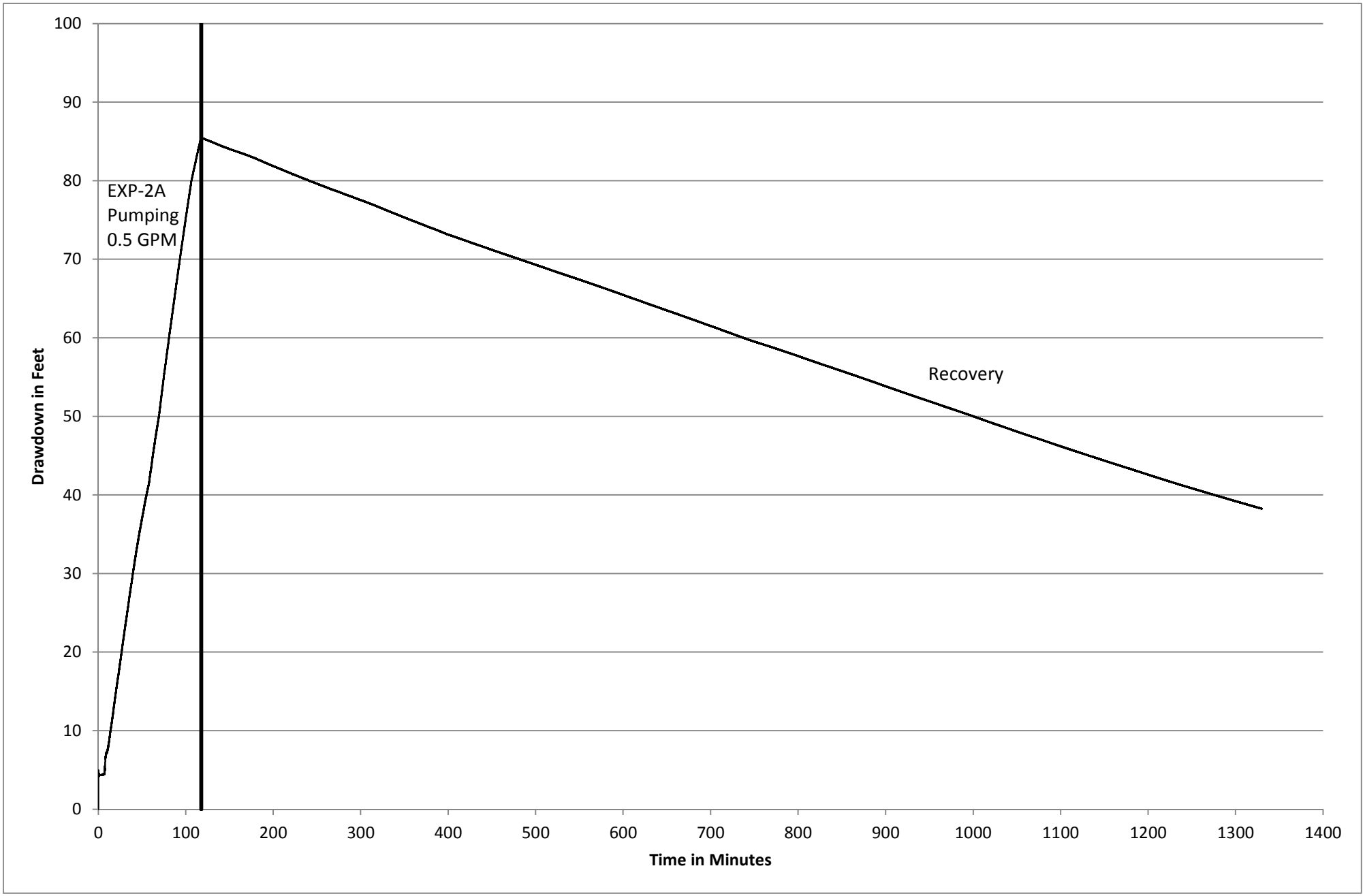


CDM Smith

MW-41C Theis Plot

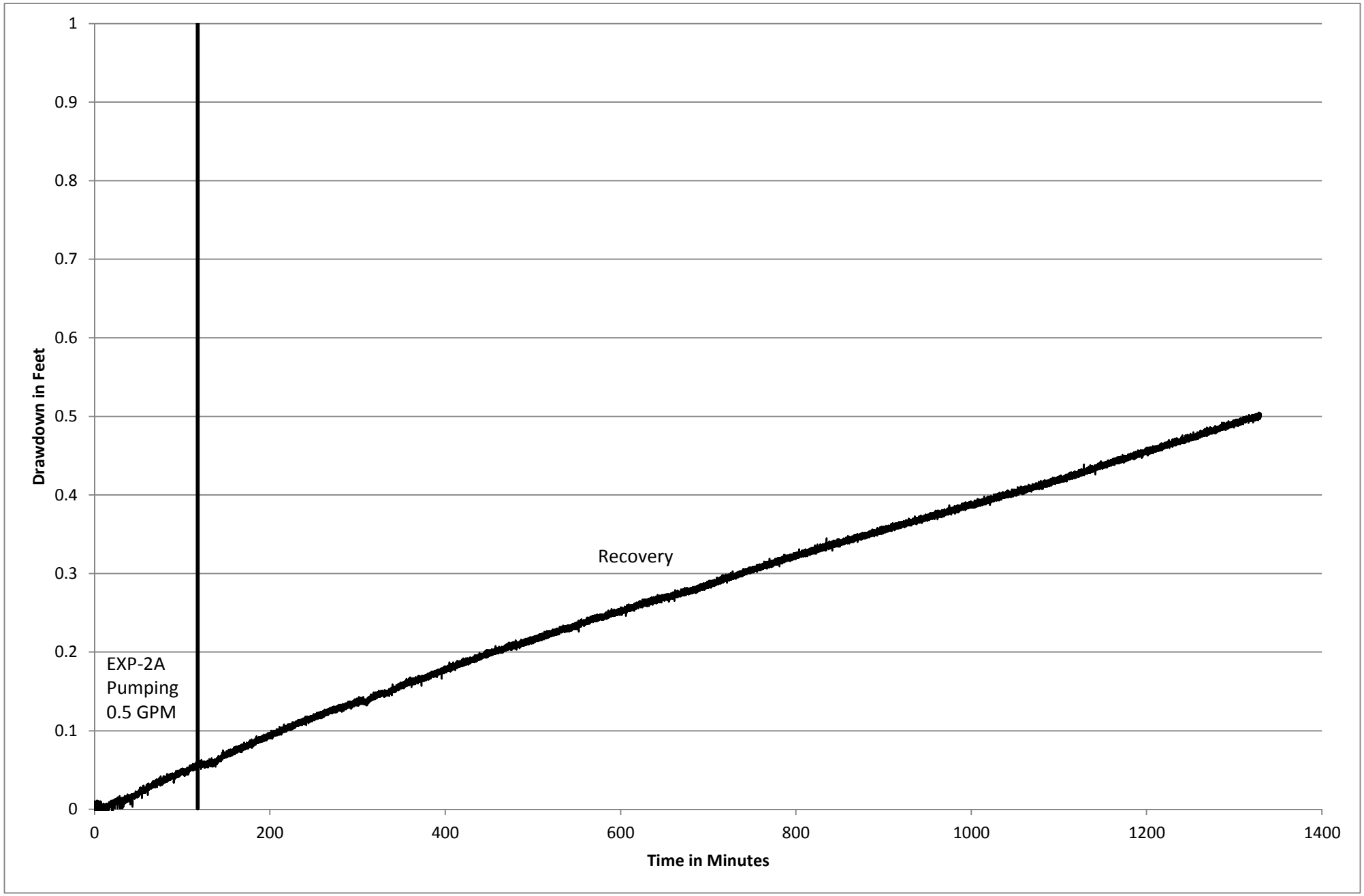
EXP-2A Test Results

EXP-2A Hydrograph
EXP-2 Hydrograph
EXP-3 Hydrograph



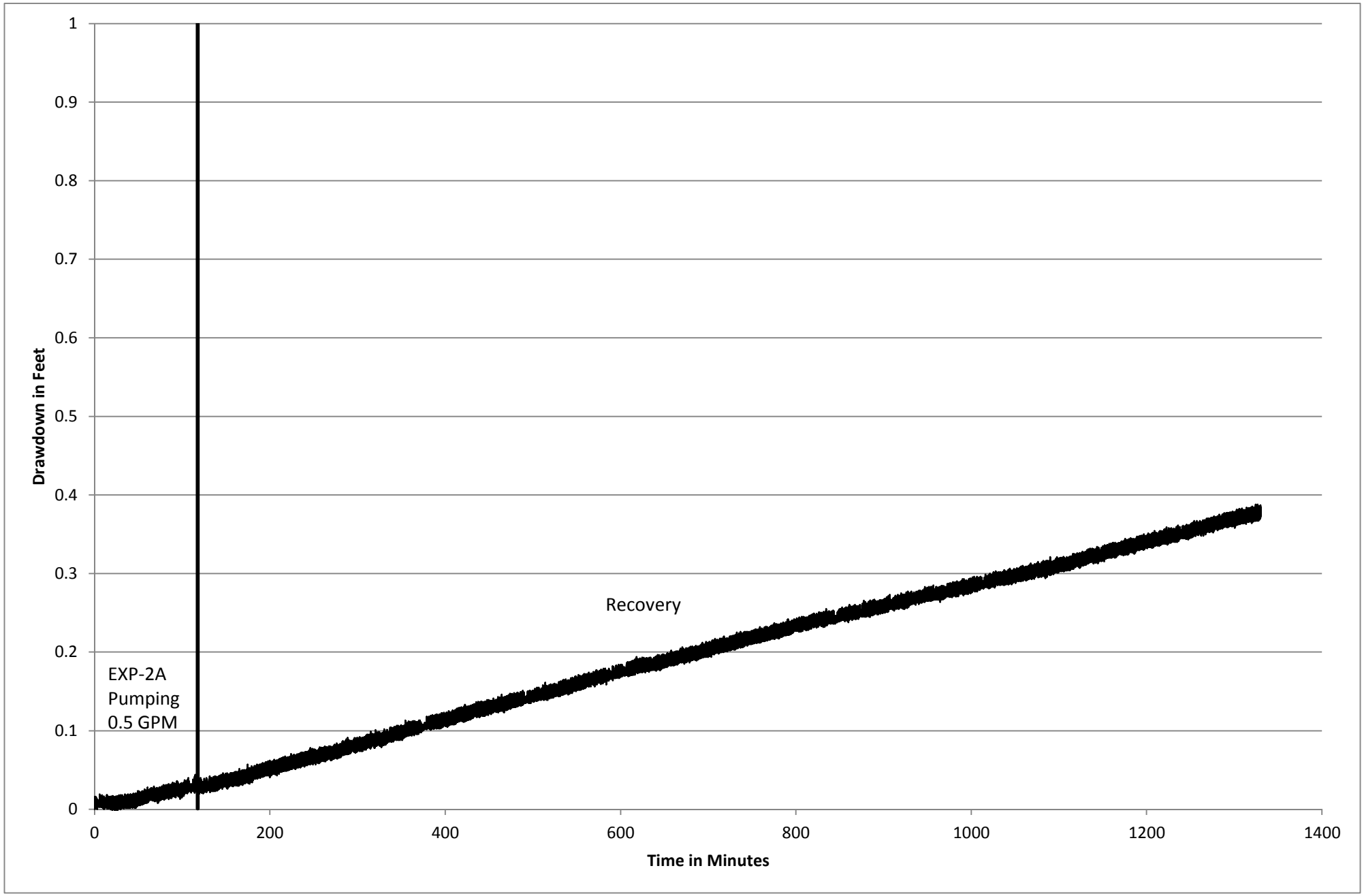
CDM Smith

MW-41C Hydrograph



CDM Smith

EXP-2 Hydrograph



CDM Smith

EXP-3 Hydrograph

EXP-3A Test Results

EXP-3A Aquifer Performance Test Simulation

EXP-3A Capture Zone Simulation

Aquifer Characteristics		
606	GPD / Ft^2	Transmissivity (best fit)
91	Ft	Aquifer Saturated Thickness
0.009	Decimal	Storativity (from EXP-2)
0.9	Ft / D	Calculated Average Hydraulic Conductivity

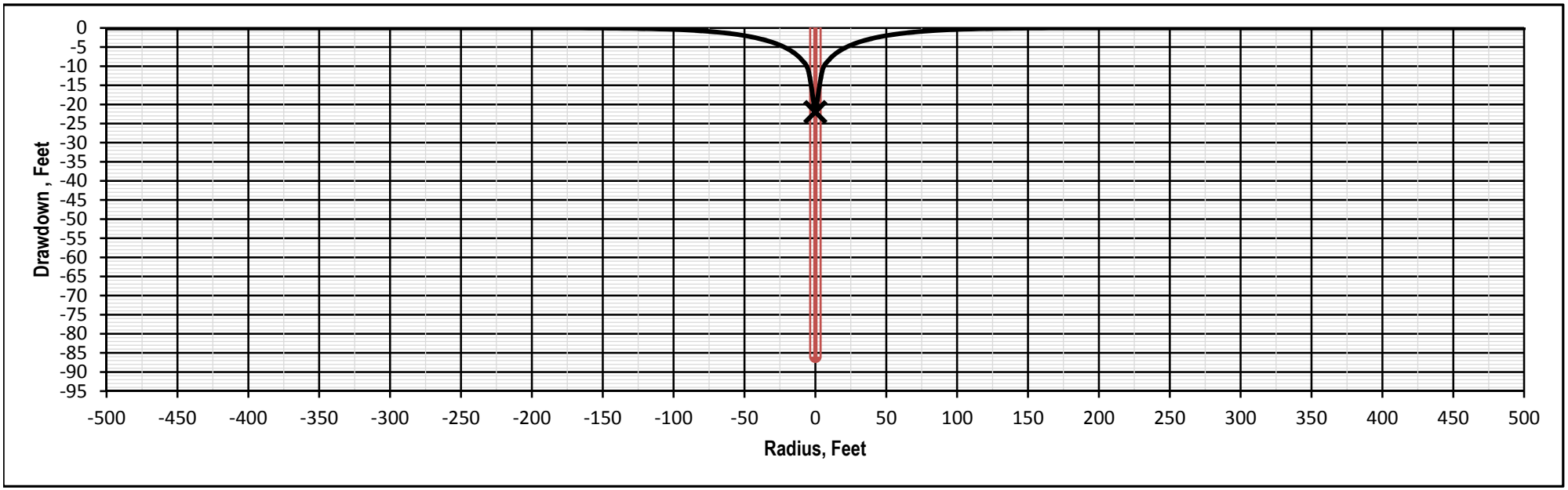
Extraction Well Characteristics		
5	In	Borehole Radius
11	Gal / Min	Pumping Rate
6.0	Hrs	Pumping Duration
-22	Ft	Observed Extraction Well Drawdown
97%	%	Calculated Extraction Well Efficiency

APT Observation Well Data		
500	Ft	Radius of Interest
Radius	**Draw-down**	**Well Code**

Available Drawdown

X Observed Potentiometric Surface

Simulated Potentiometric Surface



CDM Smith

EXP-3A Aquifer Performance Test Simulation

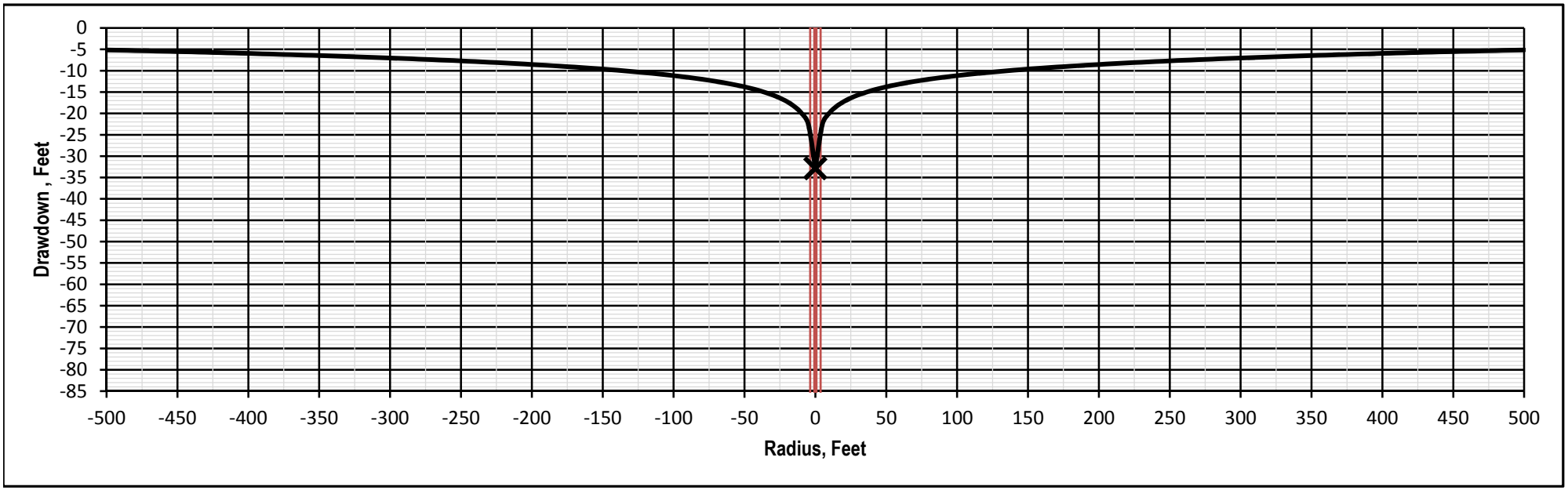
Aquifer Characteristics		
606	GPD / Ft^2	Transmissivity
91	Ft	Aquifer Saturated Thickness
0.009	Decimal	Storativity
0.9	Ft / D	Calculated Average Hydraulic Conductivity

Extraction Well Characteristics		
5	In	Borehole Radius
10	Gal / Min	Pumping Rate
4,320	Hrs	Pumping Duration
-32.9	Ft	Simulated Extraction Well Drawdown
97%	%	Calculated Extraction Well Efficiency
500	Ft	Radius of Interest

Available Drawdown

X Simulated Extraction Well Drawdown

Simulated Potentiometric Surface

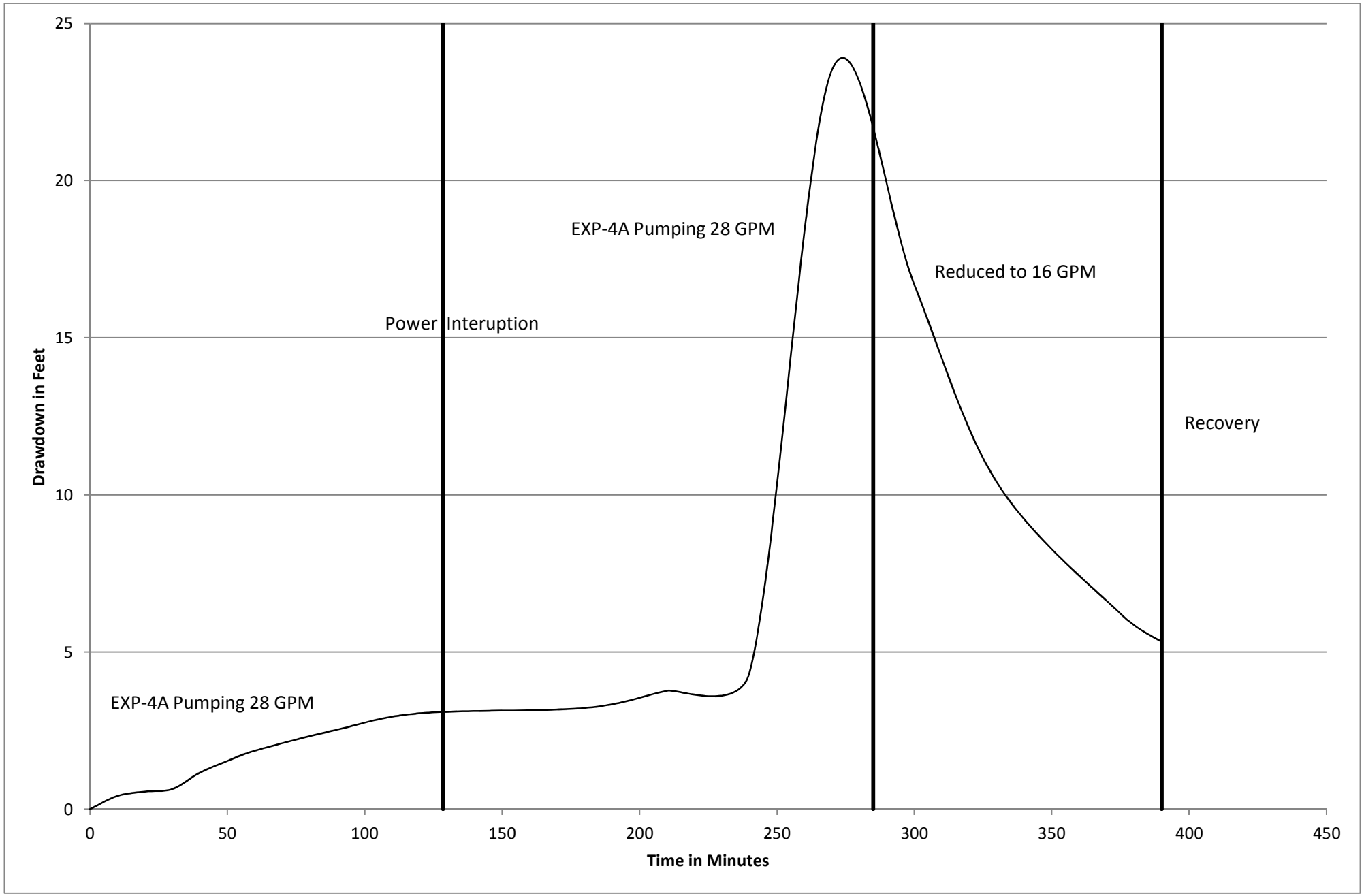


CDM Smith

EXP-3A Capture Zone Simulation

EXP-4A Test Results

EXP-4A Hydrograph
EXP-4A Aquifer Performance Test Simulation
EXP-4A Capture Zone Simulation
EXP-5A Hydrograph
MW-16A Hydrograph
MW-16A Recovery Plot
MW-16A Theis Plot



CDM Smith

EXP-4A Hydrograph

Aquifer Characteristics		
10,099	GPD / Ft^2	Transmissivity
18.2	Ft	Aquifer Saturated Thickness
0.14	Decimal	Storativity
74.2	Ft / D	Calculated Average Hydraulic Conductivity

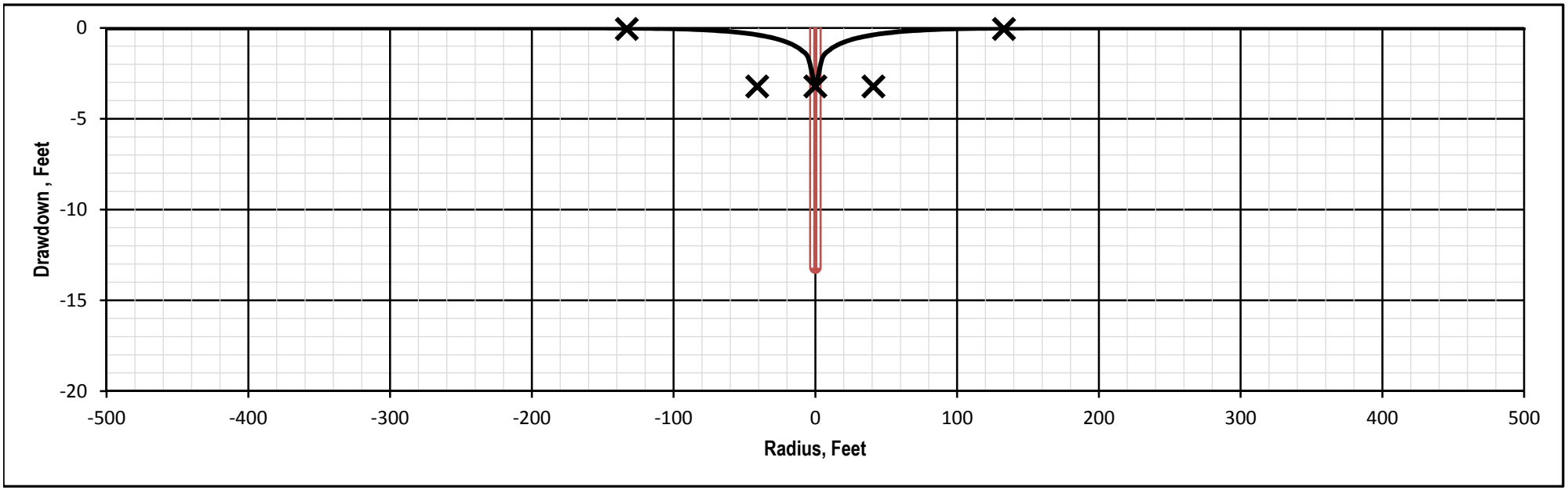
Extraction Well Characteristics		
5.00	In	Borehole Radius
28	Gal / Min	Pumping Rate
5.0	Hrs	Pumping Duration
-3.22	Ft	Observed Extraction Well Drawdown
100%	%	Calculated Extraction Well Efficiency

APT Observation Well Data		
500	Ft	Radius of Interest
Radius	**Draw-down**	**Well Code**
41	**-3.22**	MW-16A
133	**-0.06**	EXP-5A

Available Drawdown

X Observed Potentiometric Surface

Simulated Potentiometric Surface



CDM Smith

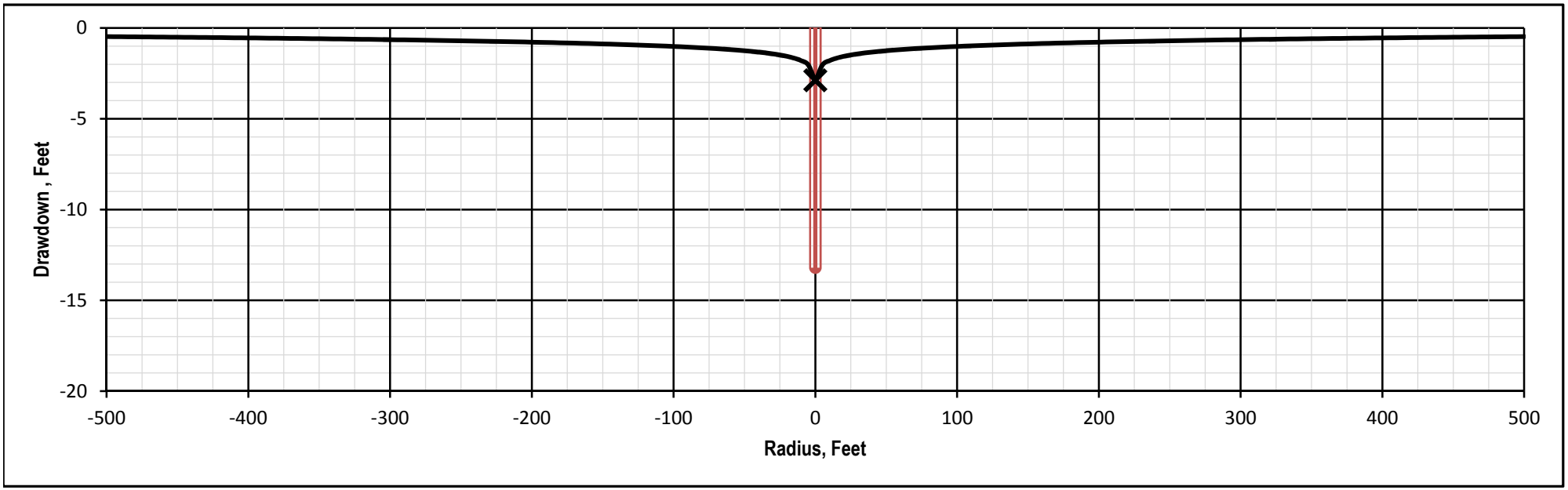
EXP-4A Aquifer Performance Test Simulation

Aquifer Characteristics		
10,099	GPD / Ft^2	Transmissivity
18.2	Ft	Aquifer Saturated Thickness
0.14	Decimal	Storativity
74.2	Ft / D	Calculated Average Hydraulic Conductivity

Extraction Well Characteristics		
5.00	In	Borehole Radius
15	Gal / Min	Pumping Rate
4,320.0	Hrs	Pumping Duration
-2.9	Ft	Simulated Extraction Well Drawdown
100%	%	Calculated Extraction Well Efficiency
500	Ft	Radius of Interest

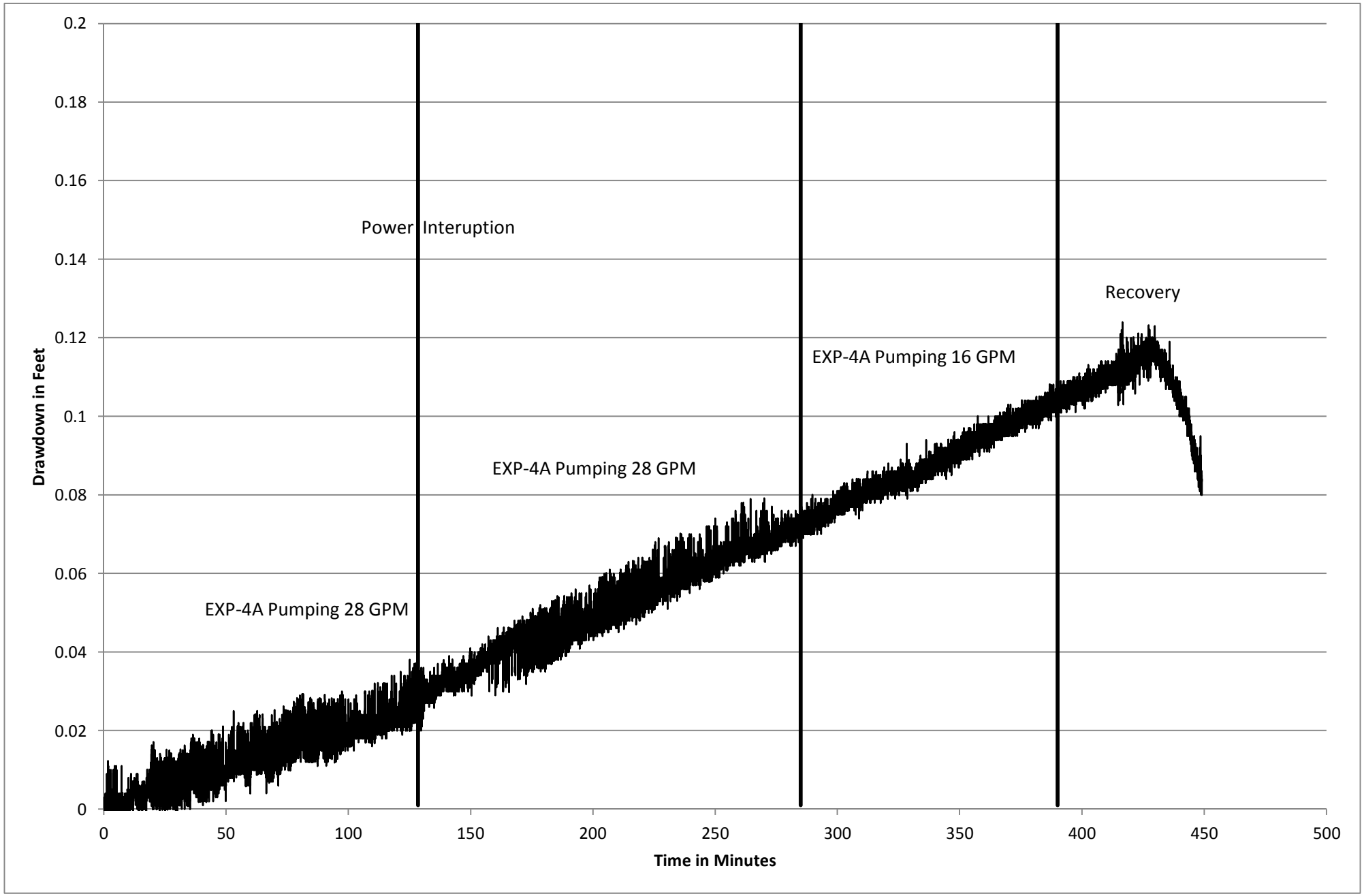
Available Drawdown

Simulated Potentiometric Surface



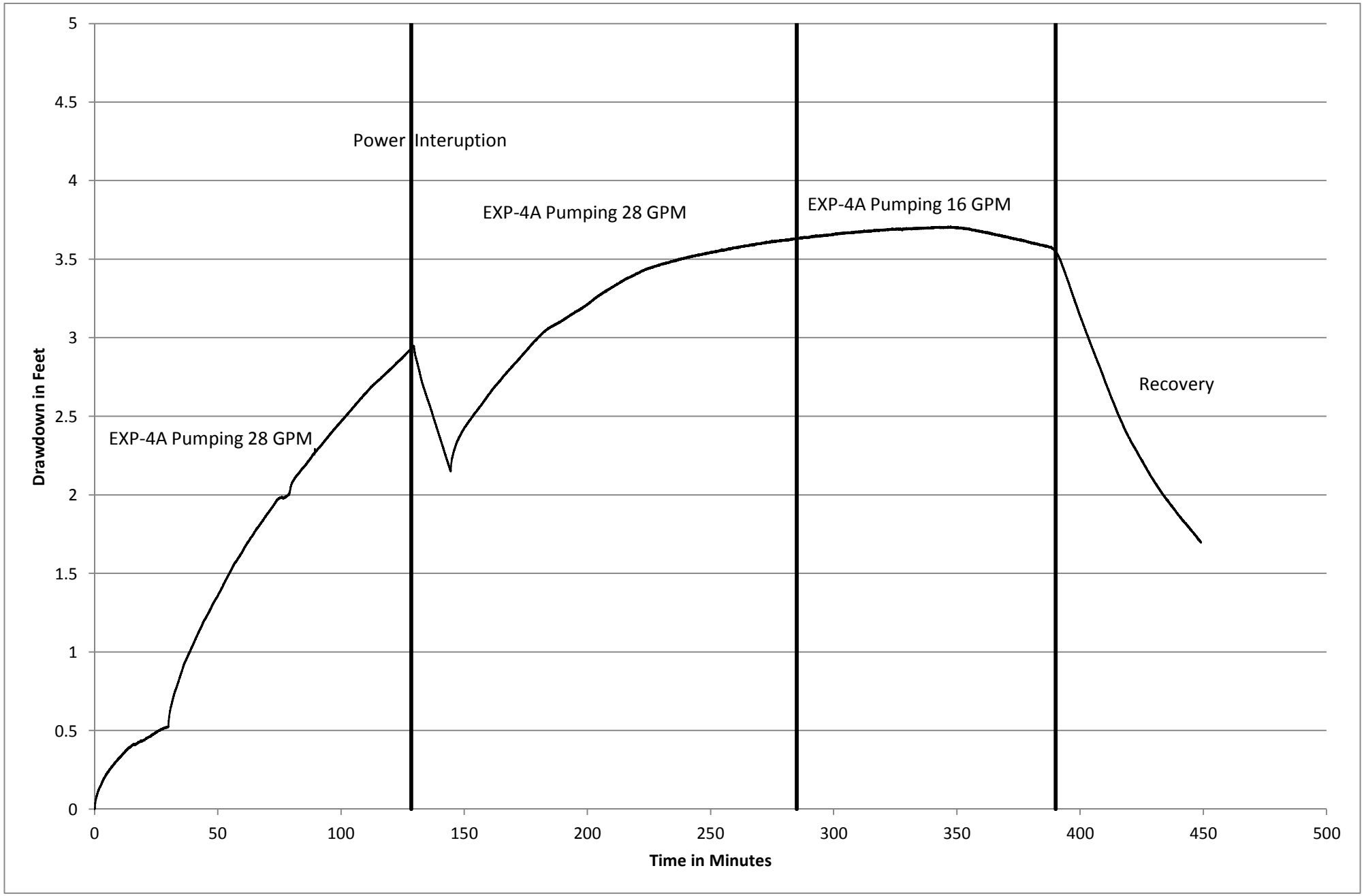
CDM Smith

EXP-4A Capture Zone Simulation



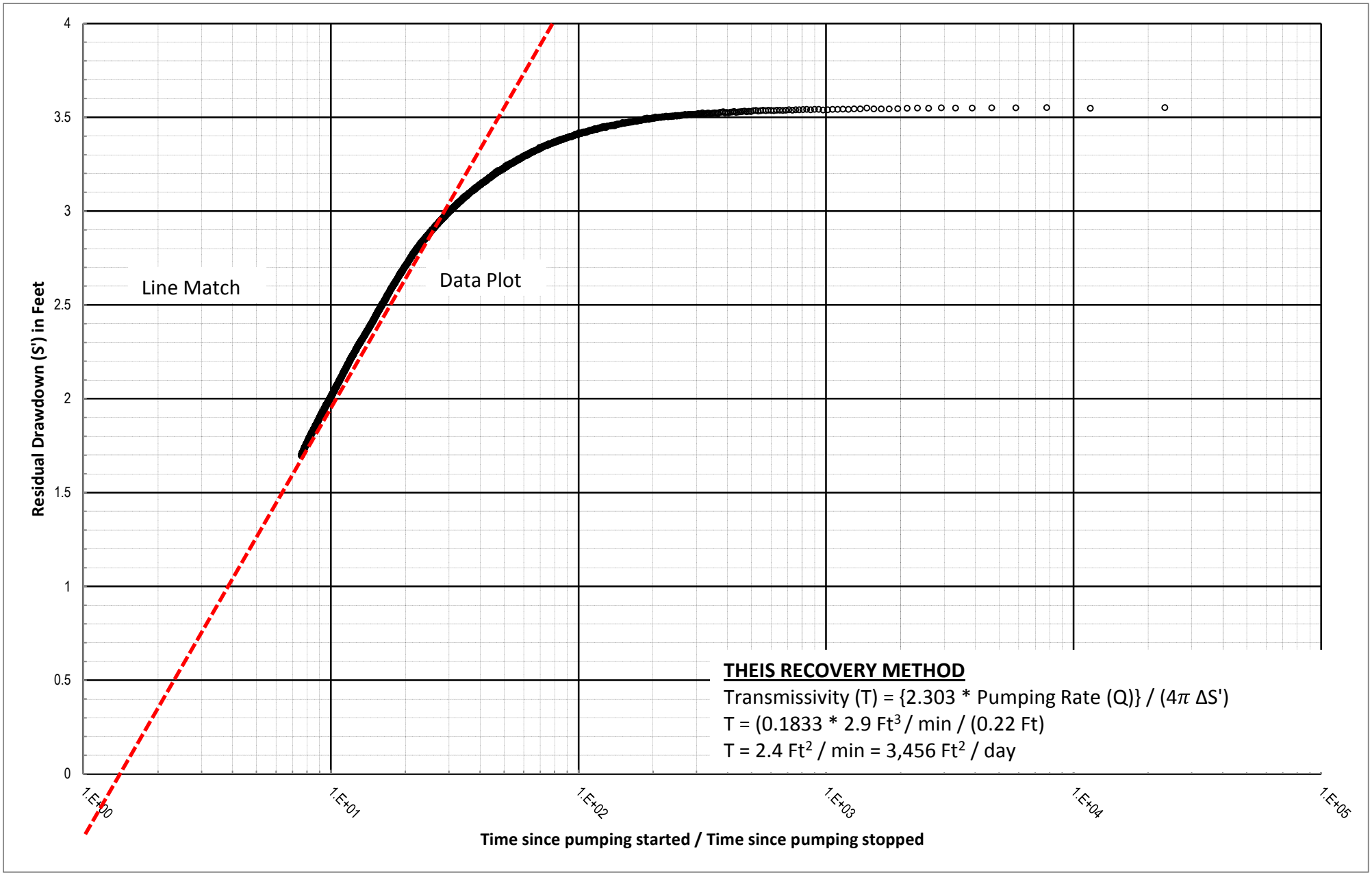
CDM Smith

EXP-5A Hydrograph



CDM Smith

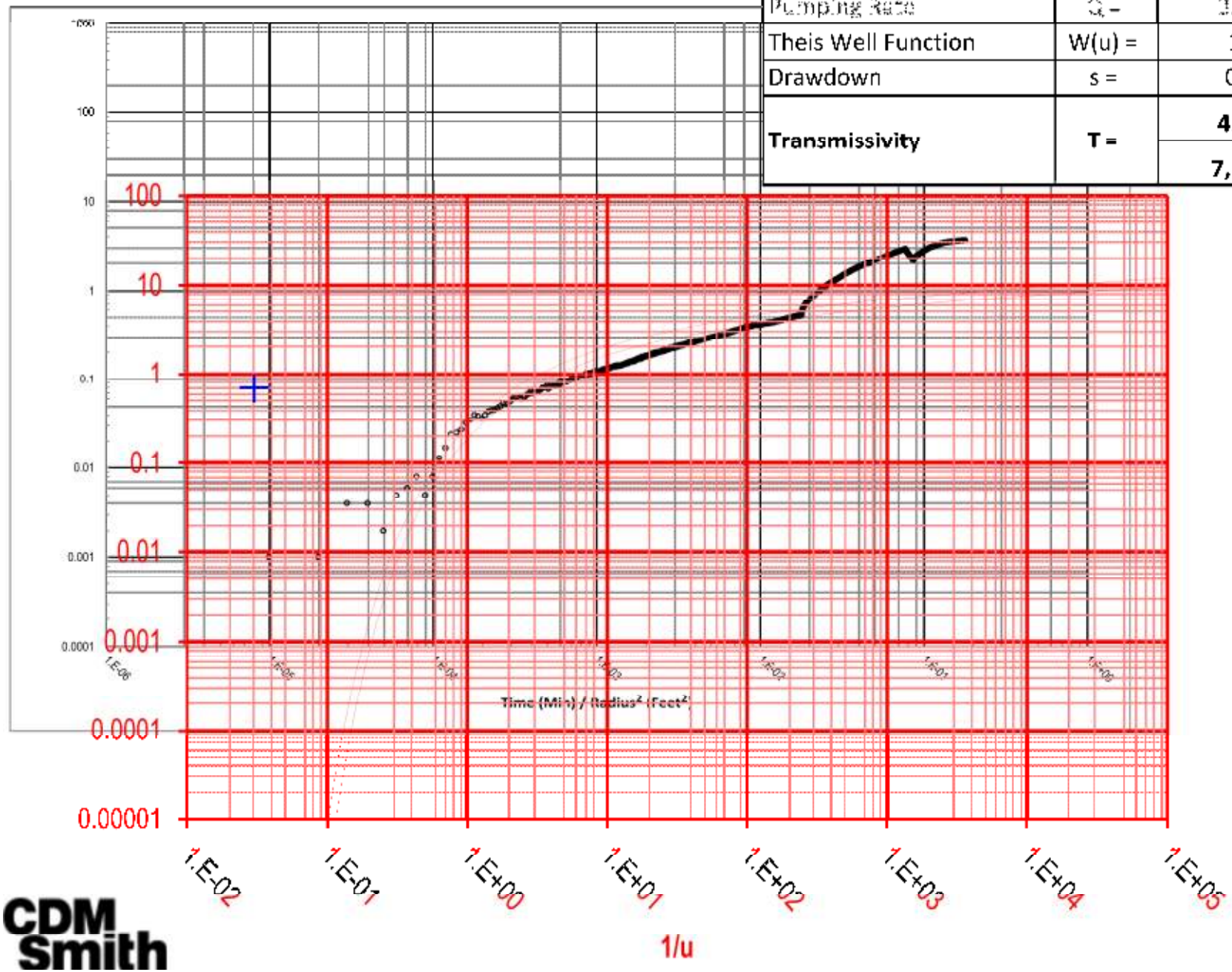
MW-16A Hydrograph



CDM Smith

EXP-16A Recovery Plot

T = (Q * W(u)} / {4 pi * s}			
Parameter	**Variable**	**Value**	**Units**
Pumping Rate	Q =	2.74	Feet^3/Second
Theis Well Function	W(u) =	10	Dimensionless
Drawdown	s =	0.6	Feet
Transmissivity	**T =**	**4.96**	**Feet^2 / Minute**
		7,149	**Feet^2/Day**

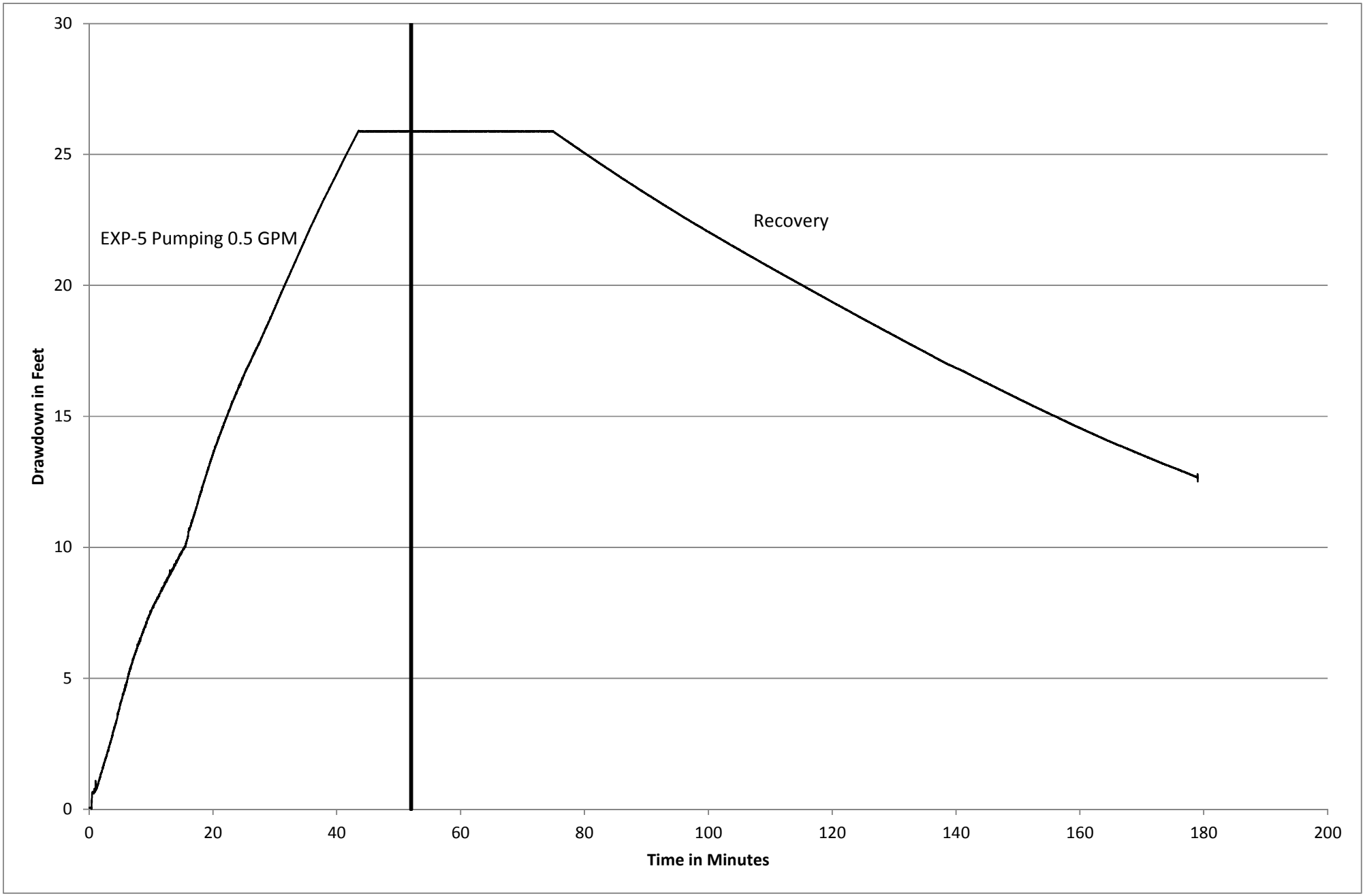


CDM Smith

MW-16A Theis Plot

EXP-5 Test Results

EXP-5 Hydrograph
EXP-6B Hydrograph
MW-12C Hydrograph



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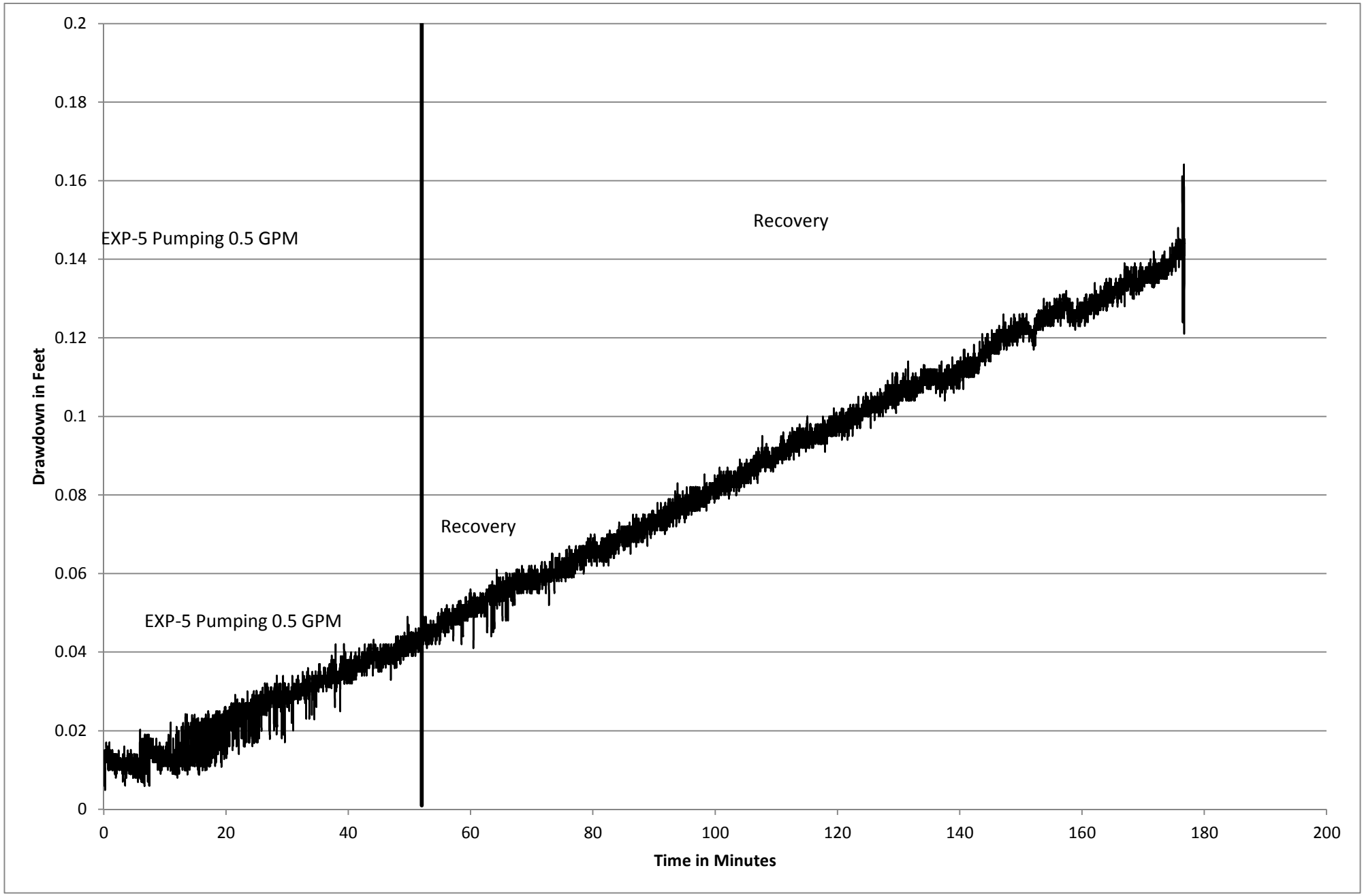
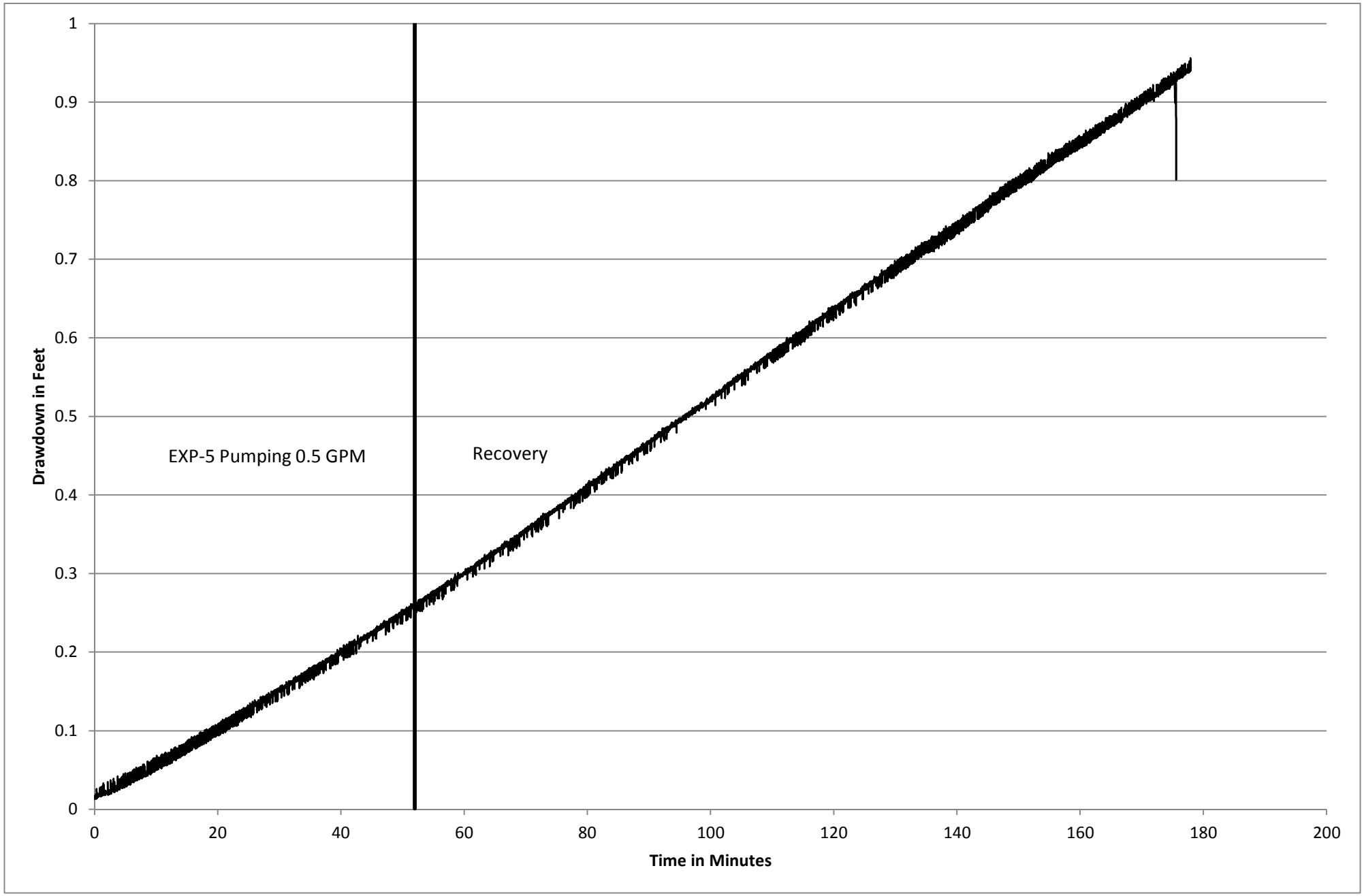
EXP-5 Hydrograph



CDM Smith

EXP-6B Hydrograph

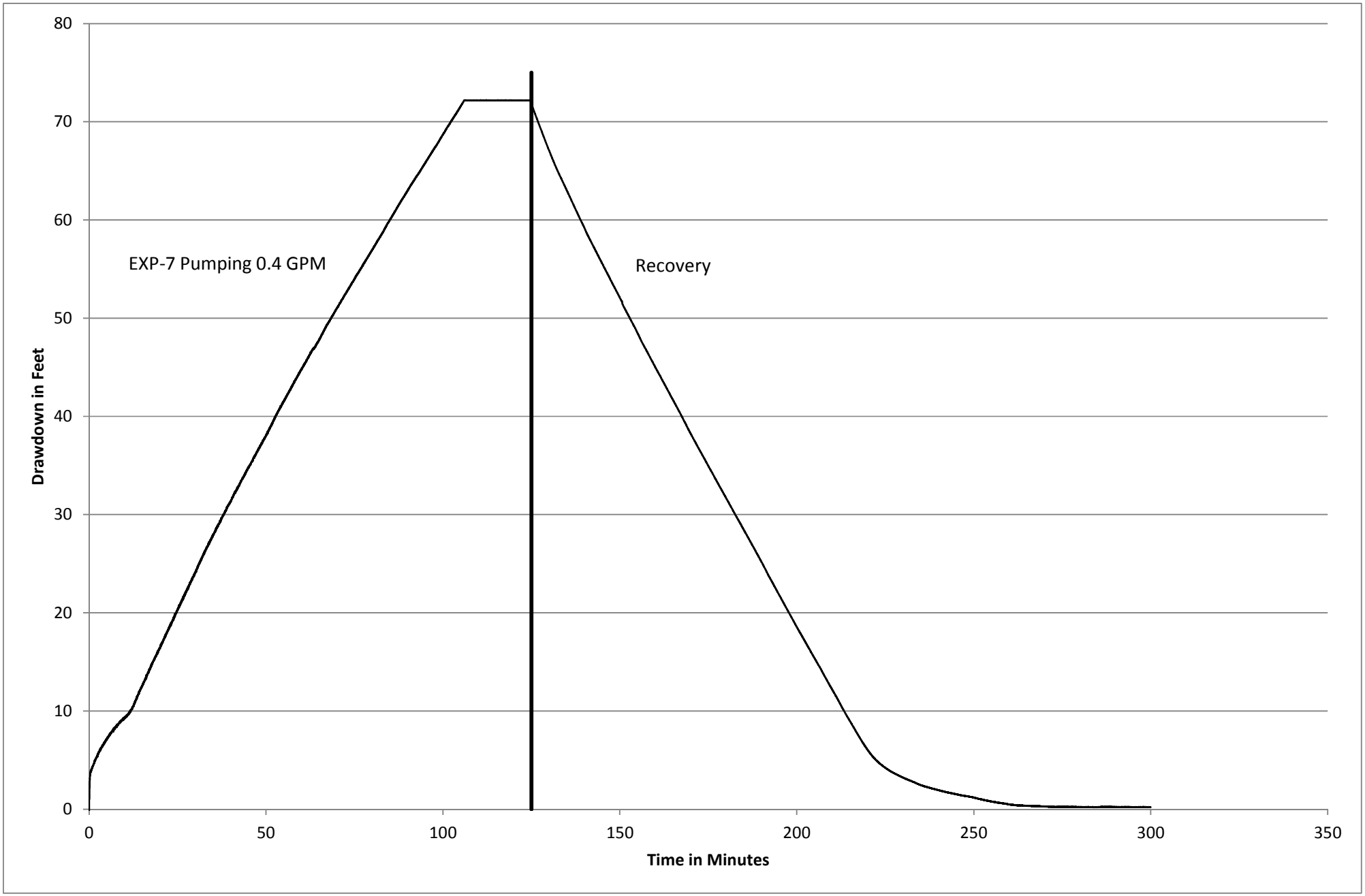


CDM Smith

MW-12C Hydrograph

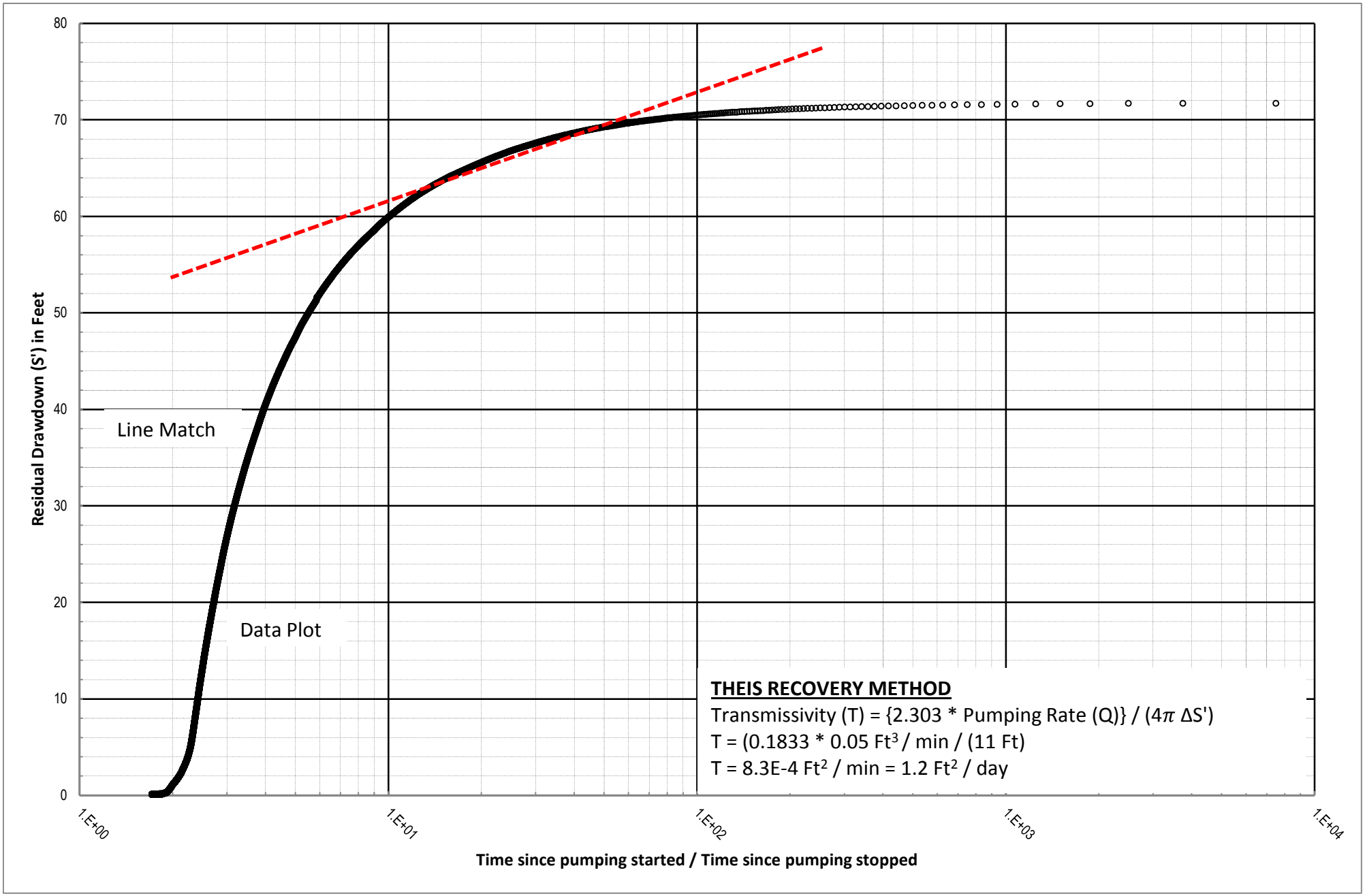
EXP-7 Test Results

EXP-7 Hydrograph
EXP-7 Recovery Plot
EXP-7 Aquifer Performance Test Simulation
EXP-7 Capture Zone Simulation



CDM Smith

EXP-7 Hydrograph



CDM Smith

EXP-7 Recovery Plot

Aquifer Characteristics		
9	GPD / Ft^2	Transmissivity
82	Ft	Aquifer Saturated Thickness
0.005	Decimal	Storativity
0.015	Ft / D	Calculated Average Hydraulic Conductivity

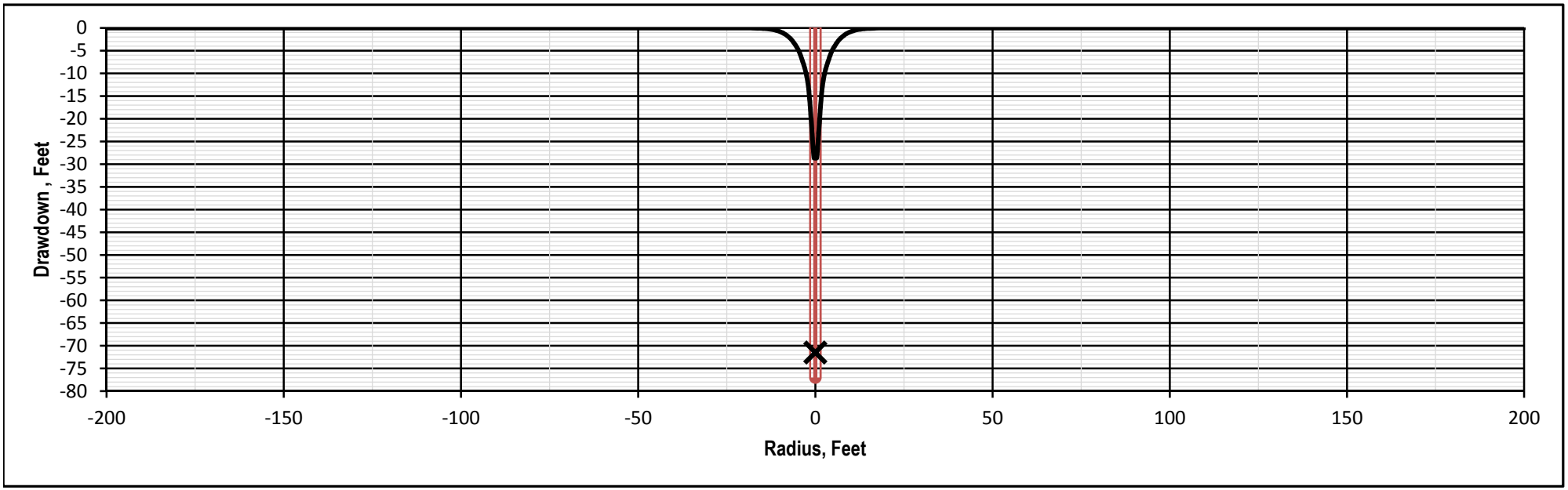
Extraction Well Characteristics		
5.00	In	Borehole Radius
0.4	Gal / Min	Pumping Rate
2.1	Hrs	Pumping Duration
-71.5	Ft	Observed Extraction Well Drawdown
40%	%	Calculated Extraction Well Efficiency

APT Observation Well Data		
200	Ft	Radius of Interest
Radius	**Draw-down**	**Well Code**

Available Drawdown

X Observed Potentiometric Surface

Simulated Potentiometric Surface



CDM Smith

EXP-7 Aquifer Performance Test Simulation

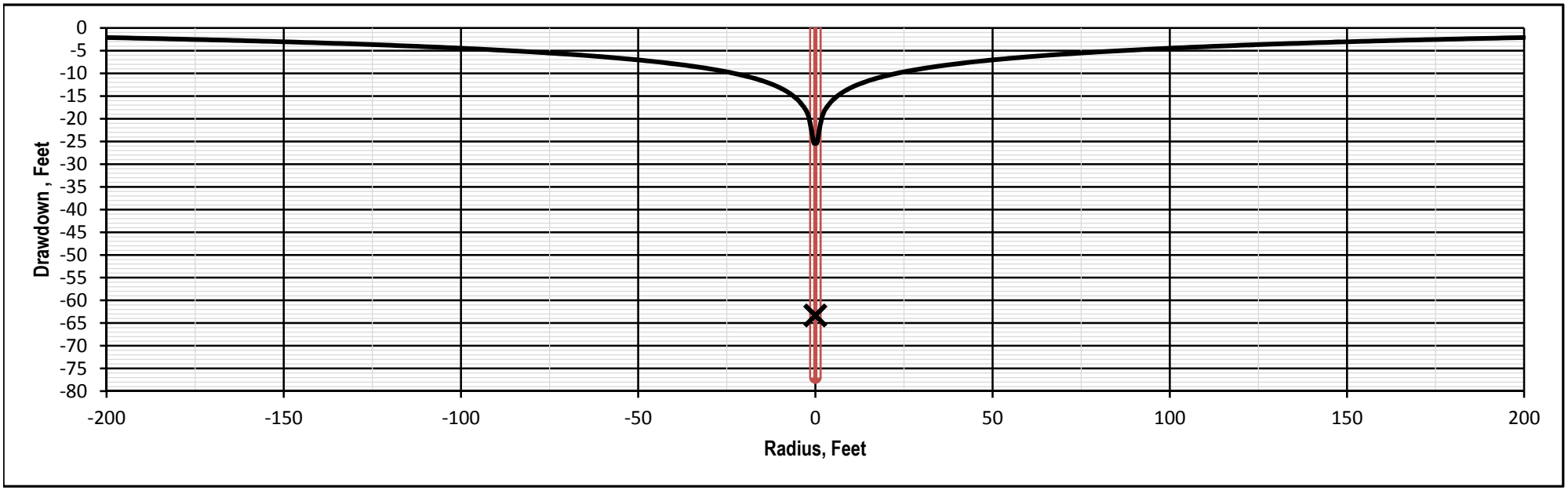
Aquifer Characteristics		
9	GPD / Ft^2	Transmissivity
82	Ft	Aquifer Saturated Thickness
0.005	Decimal	Storativity
0.015	Ft / D	Calculated Average Hydraulic Conductivity

Extraction Well Characteristics		
5.00	In	Borehole Radius
0.15	Gal / Min	Pumping Rate
4,320	Hrs	Pumping Duration
-63.4	Ft	Simulated Extraction Well Drawdown
40%	%	Calculated Extraction Well Efficiency
200	Ft	Radius of Interest

Available Drawdown

X Simulated Extraction Well Drawdown

Simulated Potentiometric Surface

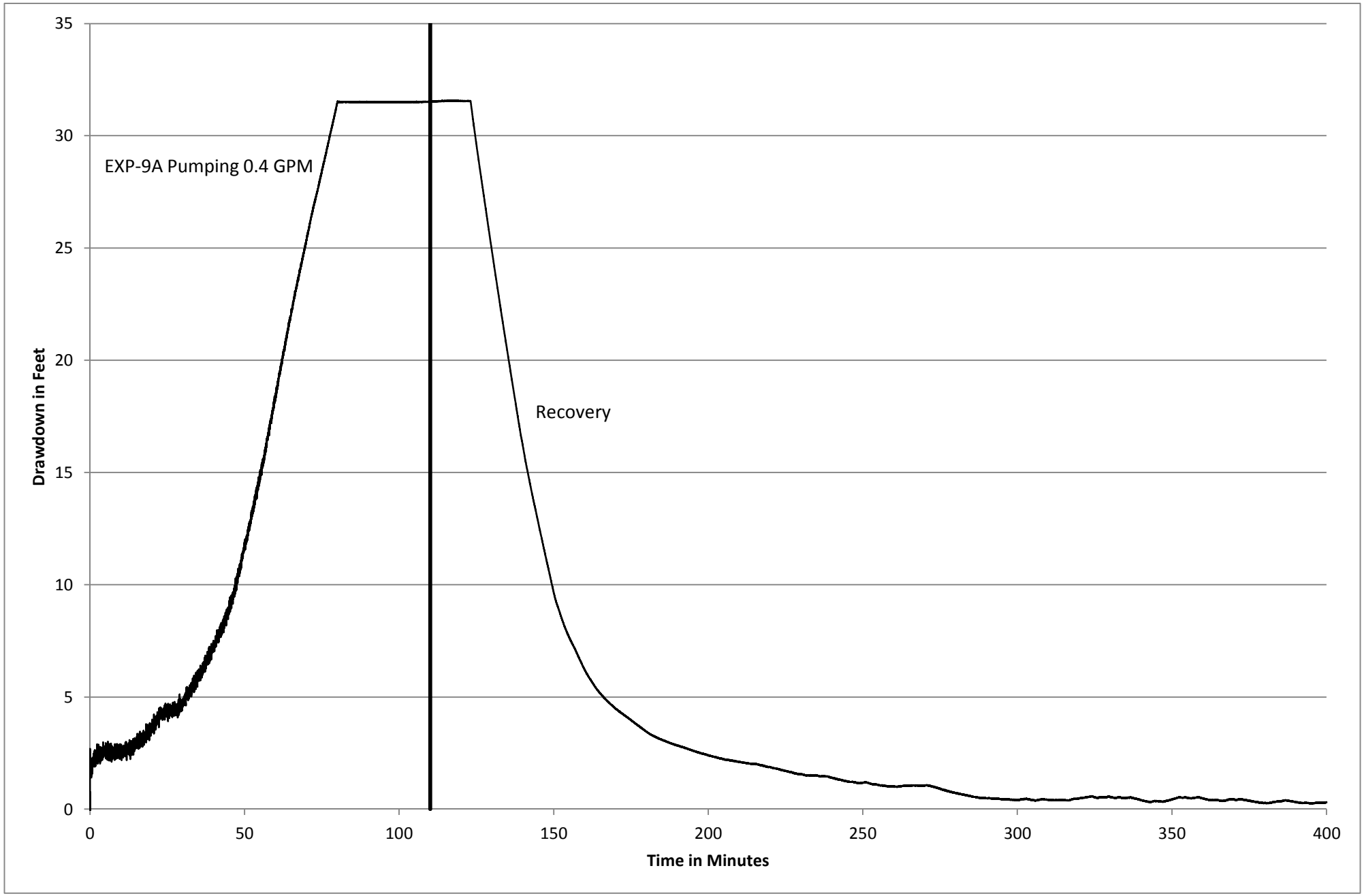


CDM Smith

EXP-7 Capture Zone Simulation

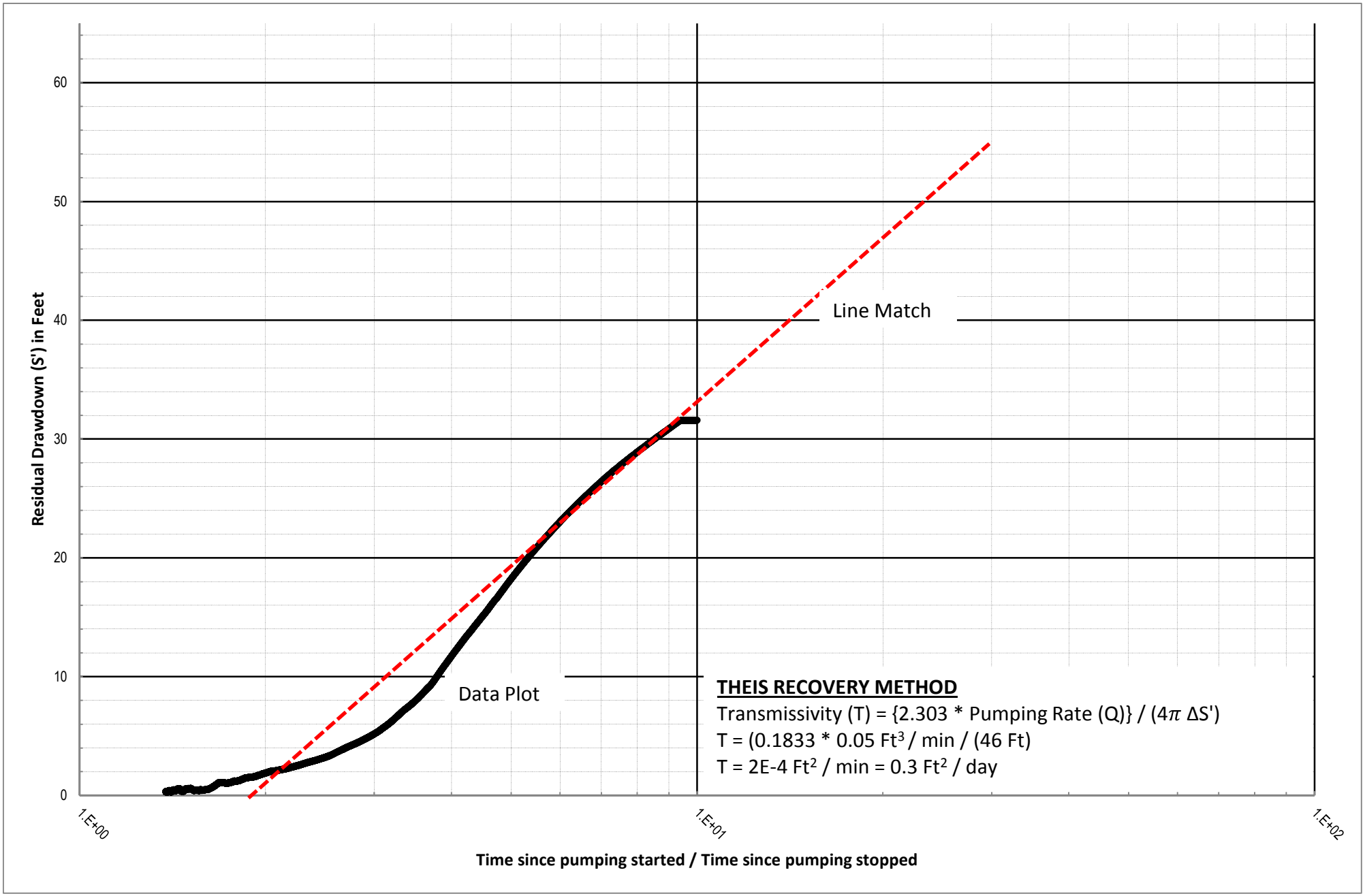
EXP-9A Test Results

EXP-9A Hydrograph
EXP-9A Recovery Plot
EXP-9A Aquifer Performance Test Simulation
EXP-9A Capture Zone Simulation



CDM Smith

EXP-9A Hydrograph



CDM Smith

EXP-9A Recovery Plot

Aquifer Characteristics		
2	GPD / Ft^2	Transmissivity
81.5	Ft	Aquifer Saturated Thickness
0.15	Decimal	Storativity
0.004	Ft / D	Calculated Average Hydraulic Conductivity

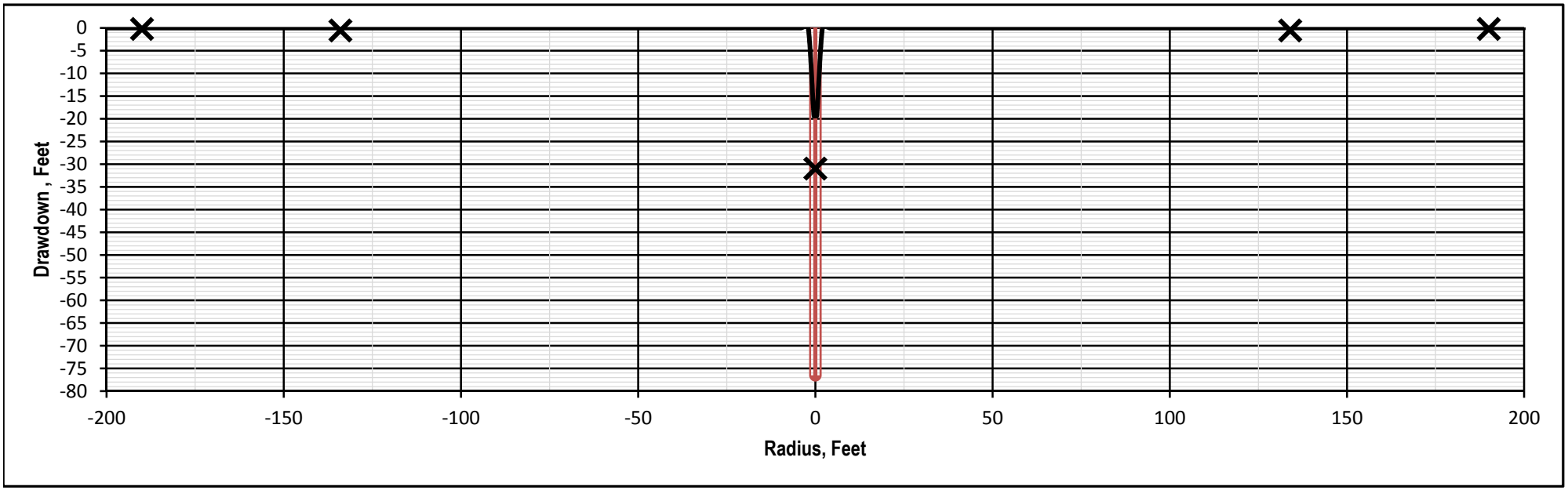
Extraction Well Characteristics		
5	In	Borehole Radius
0.4	Gal / Min	Pumping Rate
1.8	Hrs	Pumping Duration
-31	Ft	Observed Extraction Well Drawdown
62%	%	Calculated Extraction Well Efficiency

APT Observation Well Data		
200	Ft	Radius of Interest
Radius	**Draw-down**	**Well Code**
190	**-0.23**	MW-41C
134	**-0.57**	EXP-3
0	**0.00**	

Available Drawdown

X Observed Potentiometric Surface

Simulated Potentiometric Surface



CDM Smith

EXP-9A Aquifer Performance Test Simulation

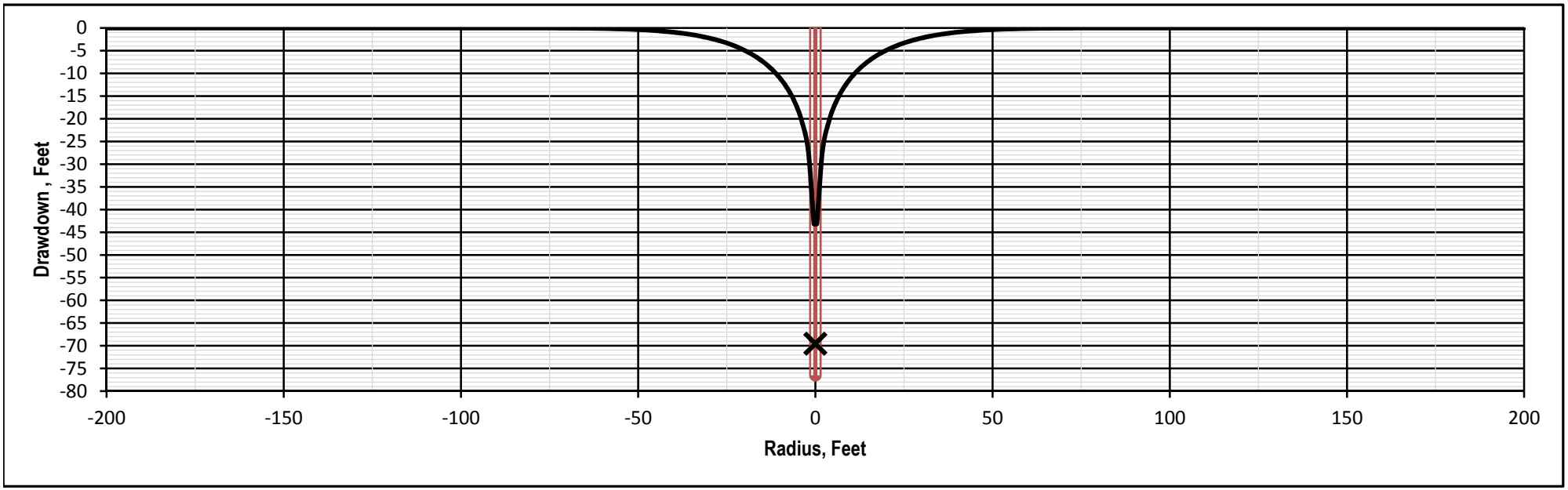
Aquifer Characteristics		
2	GPD / Ft^2	Transmissivity
81.5	Ft	Aquifer Saturated Thickness
0.15	Decimal	Storativity
0.004	Ft / D	Calculated Average Hydraulic Conductivity

Extraction Well Characteristics		
5	In	Borehole Radius
0.10	Gal / Min	Pumping Rate
4,320	Hrs	Pumping Duration
-69.6	Ft	Simulated Extraction Well Drawdown
62%	%	Calculated Extraction Well Efficiency
200	Ft	Radius of Interest

Available Drawdown

X Simulated Extraction Well Drawdown

Simulated Potentiometric Surface

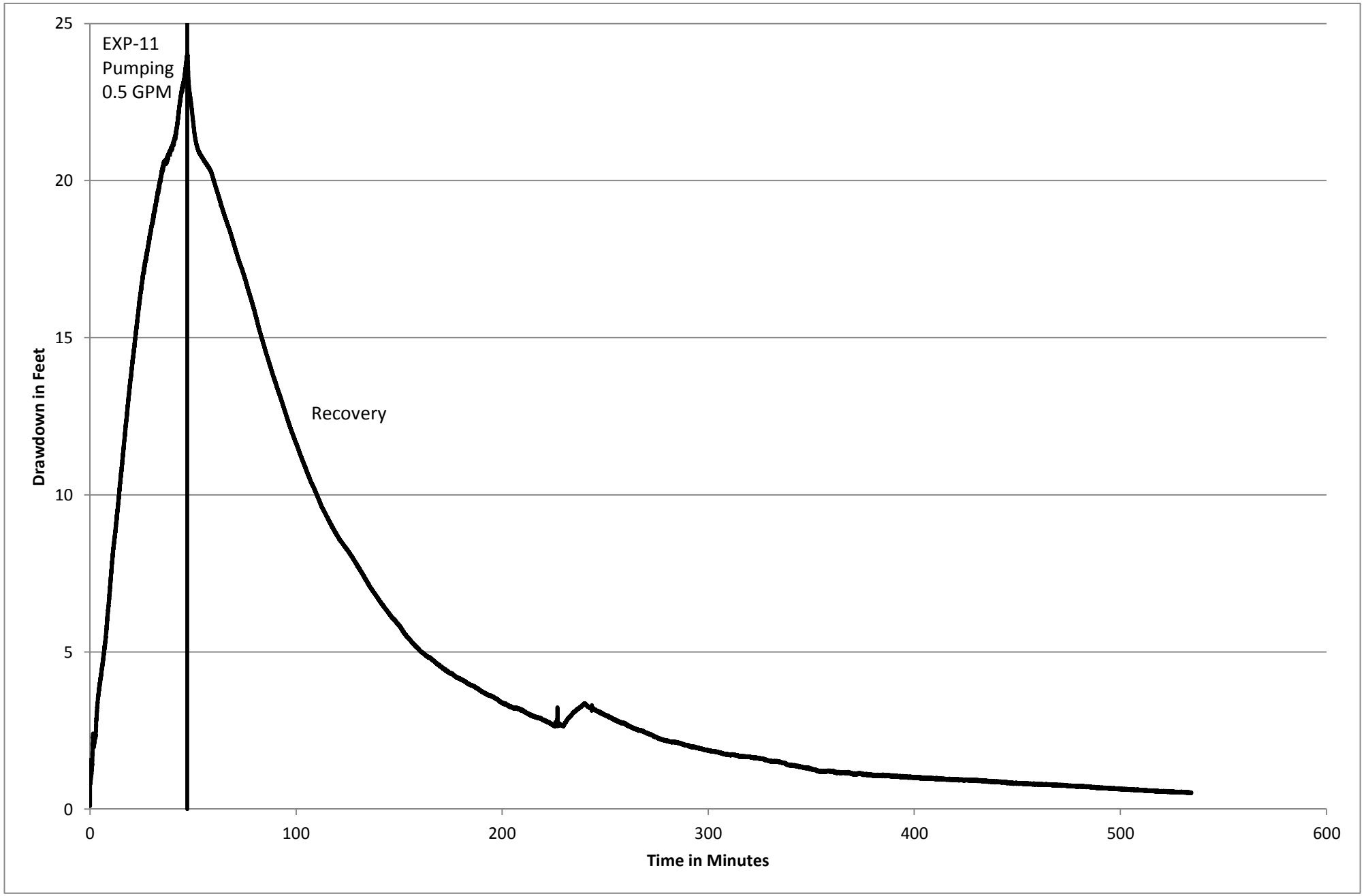


CDM Smith

EXP-9A Capture Zone Simulation

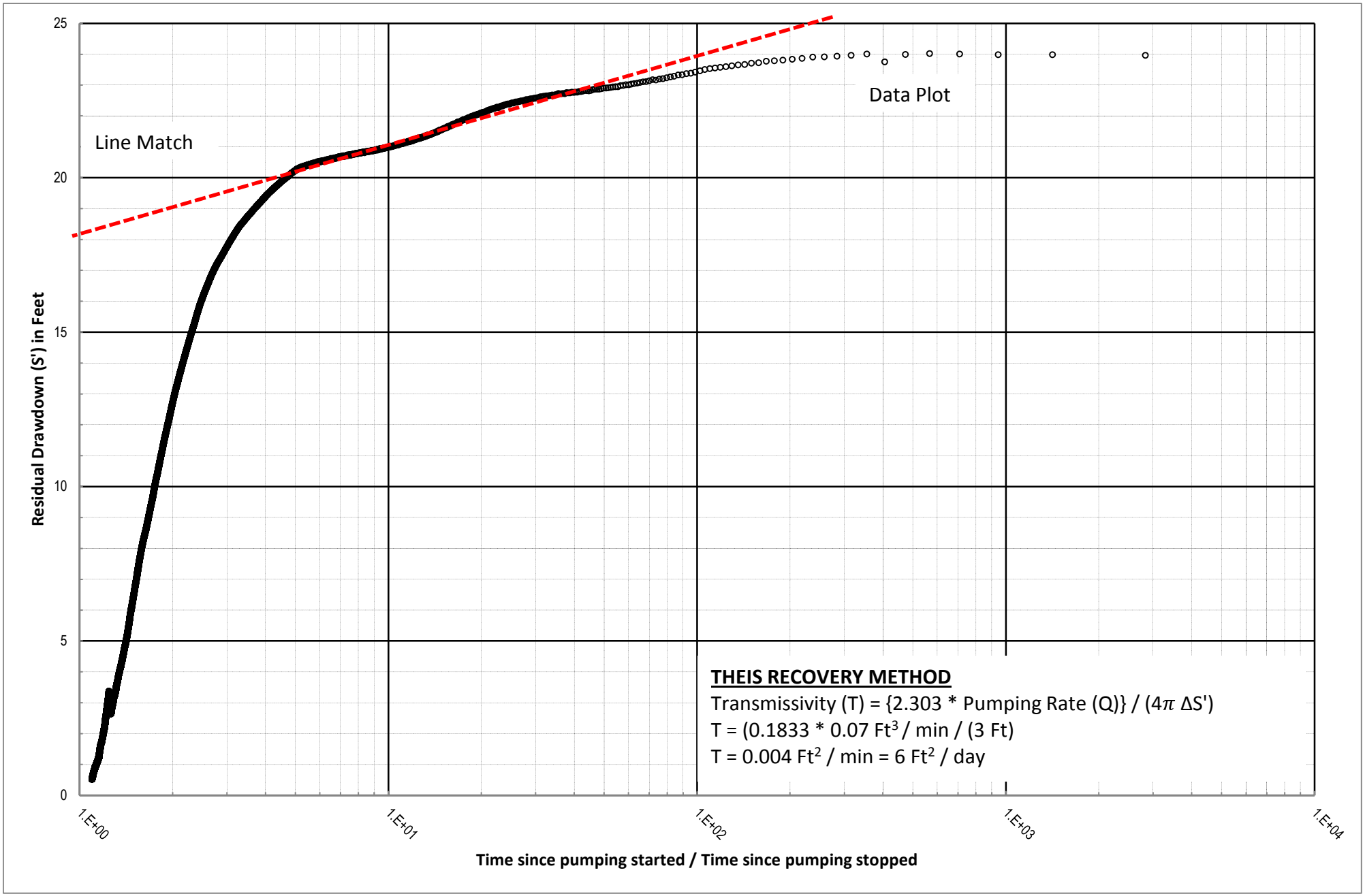
EXP-11 Test Results

EXP-11 Hydrograph
EXP-11 Recovery Plot
EXP-11 Aquifer Performance Test Simulation
EXP-11 Capture Zone Simulation



CDM Smith

EXP-11 Hydrograph



CDM Smith

EXP-11 Recovery Plot

Aquifer Characteristics		
45	GPD / Ft^2	Transmissivity
39.5	Ft	Aquifer Saturated Thickness
0.15	Decimal	Storativity
0.2	Ft / D	Calculated Average Hydraulic Conductivity

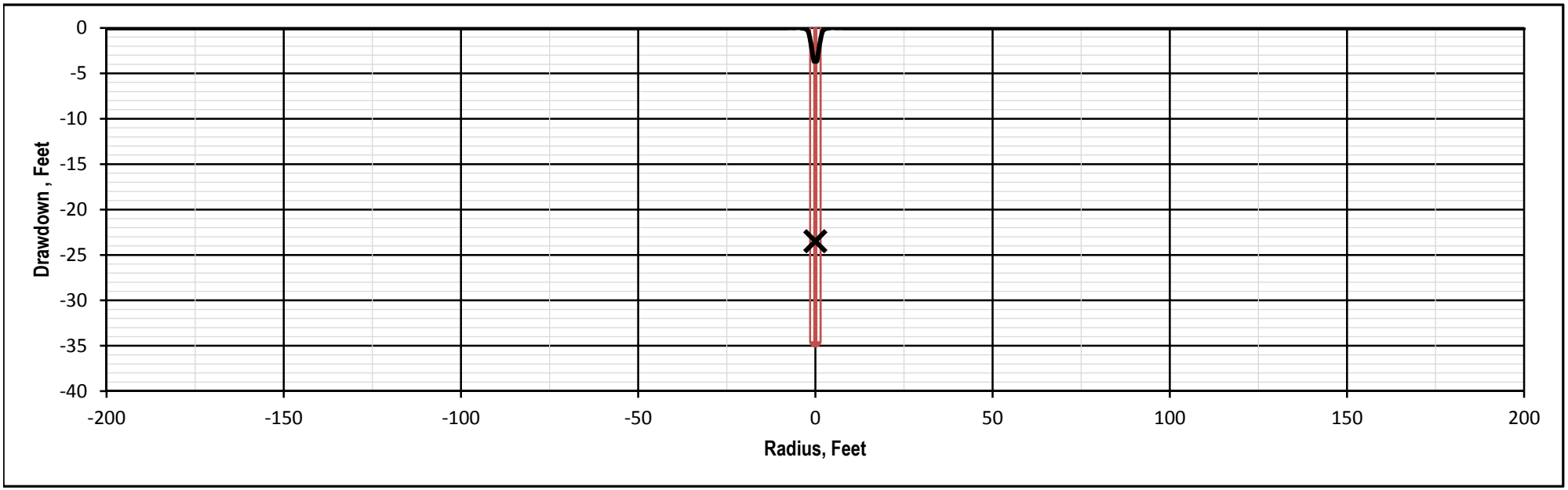
Extraction Well Characteristics		
5	In	Borehole Radius
0.5	Gal / Min	Pumping Rate
0.8	Hrs	Pumping Duration
-23.5	Ft	Observed Extraction Well Drawdown
16%	%	Calculated Extraction Well Efficiency

APT Observation Well Data		
200	Ft	Radius of Interest
Radius	**Draw-down**	**Well Code**

Available Drawdown

X Observed Potentiometric Surface

Simulated Potentiometric Surface



CDM Smith

EXP-11 Aquifer Performance Test Simulation

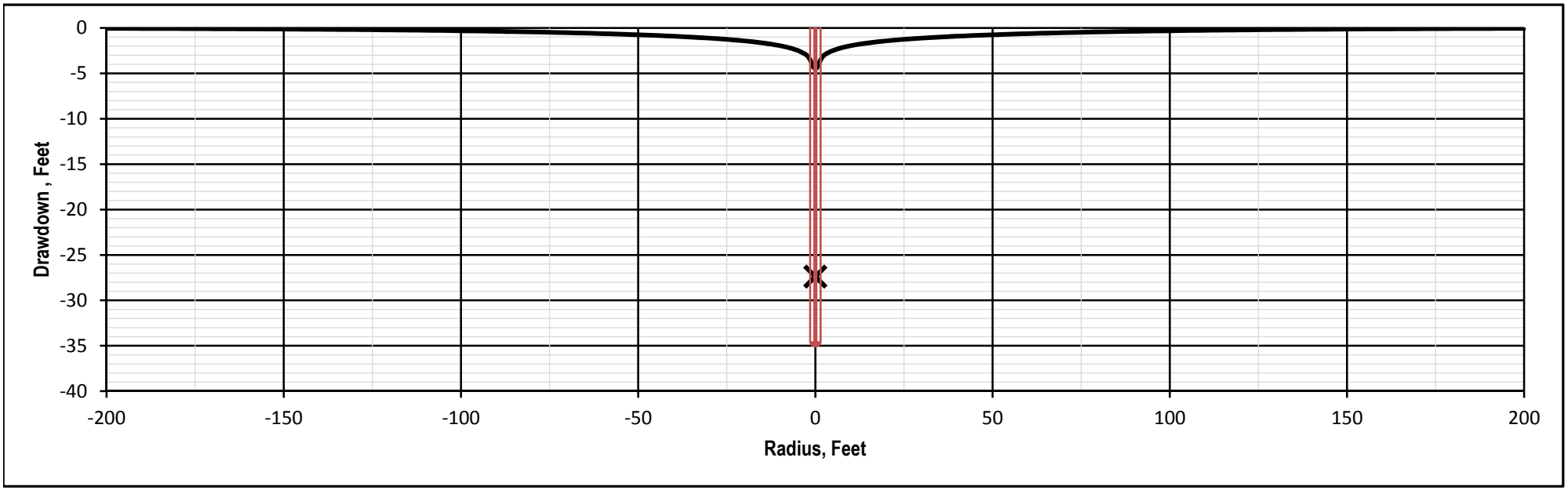
Aquifer Characteristics		
45	GPD / Ft^2	Transmissivity
39.5	Ft	Aquifer Saturated Thickness
0.15	Decimal	Storativity
0.2	Ft / D	Calculated Average Hydraulic Conductivity

Extraction Well Characteristics		
5	In	Borehole Radius
0.15	Gal / Min	Pumping Rate
4,320	Hrs	Pumping Duration
-27.4	Ft	Simulated Extraction Well Drawdown
16%	%	Calculated Extraction Well Efficiency
200	Ft	Radius of Interest

Available Drawdown

X Simulated Extraction Well Drawdown

Simulated Potentiometric Surface

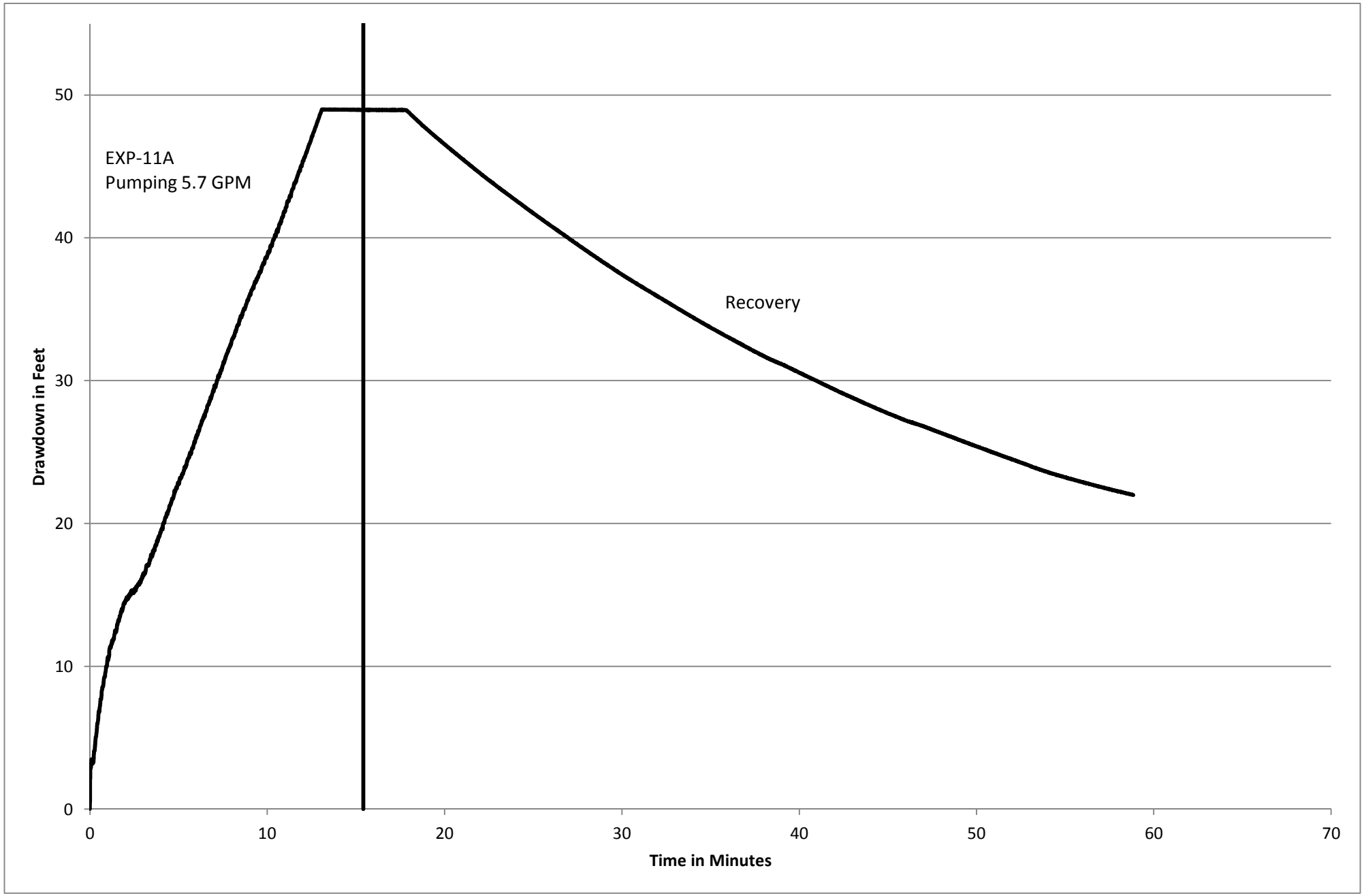


CDM Smith

EXP-11 Capture Zone Simulation

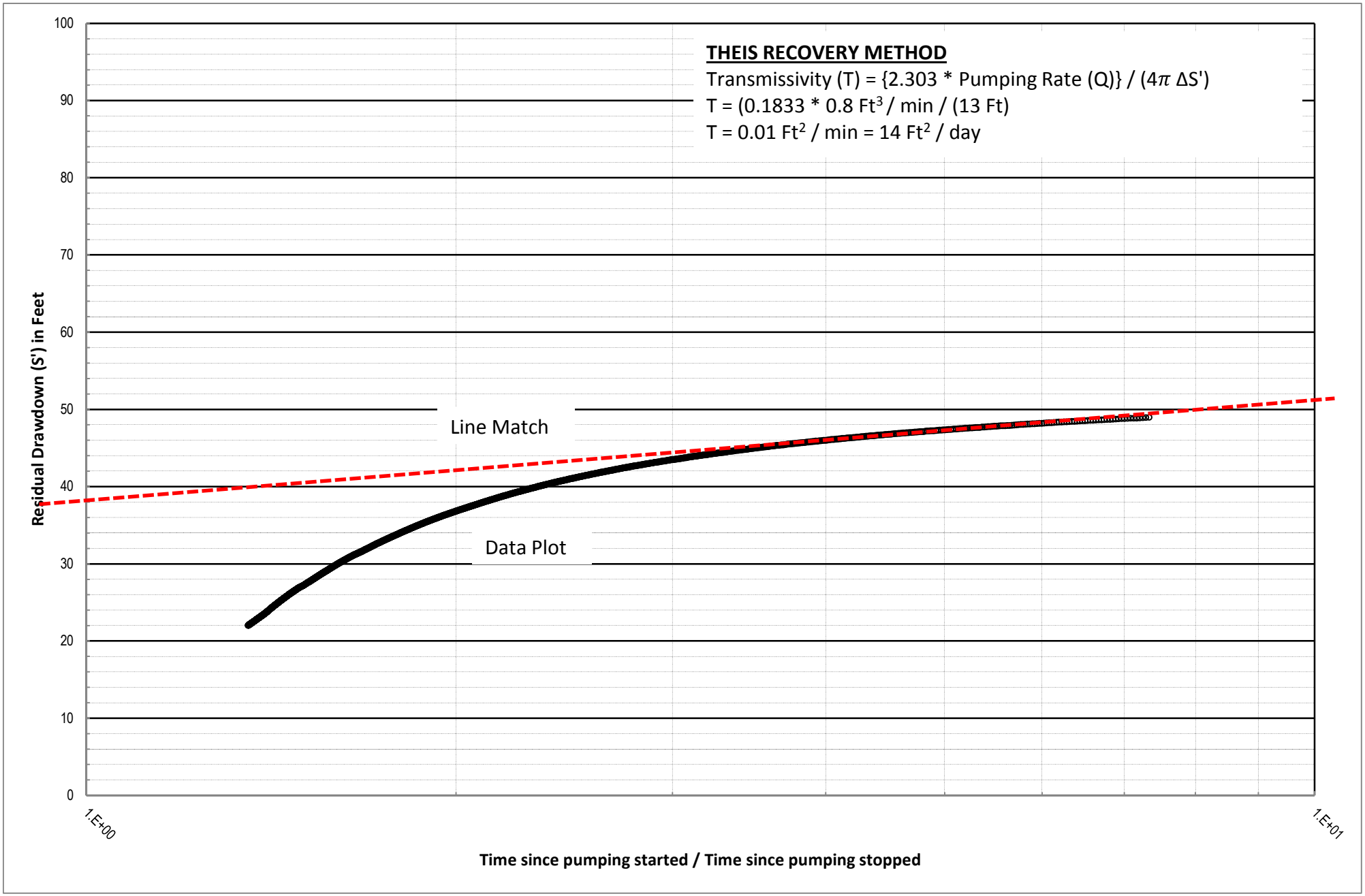
EXP-11A Test Results

EXP-11A Hydrograph
EXP-11A Recovery Plot
EXP-11A Aquifer Performance Test Simulation
EXP-11A Capture Zone Simulation



CDM Smith

EXP-11A Hydrograph



CDM Smith

EXP-11A Recovery Plot

Aquifer Characteristics		
105	GPD / Ft^2	Transmissivity
53.7	Ft	Aquifer Saturated Thickness
0.15	Decimal	Storativity
0.3	Ft / D	Calculated Average Hydraulic Conductivity

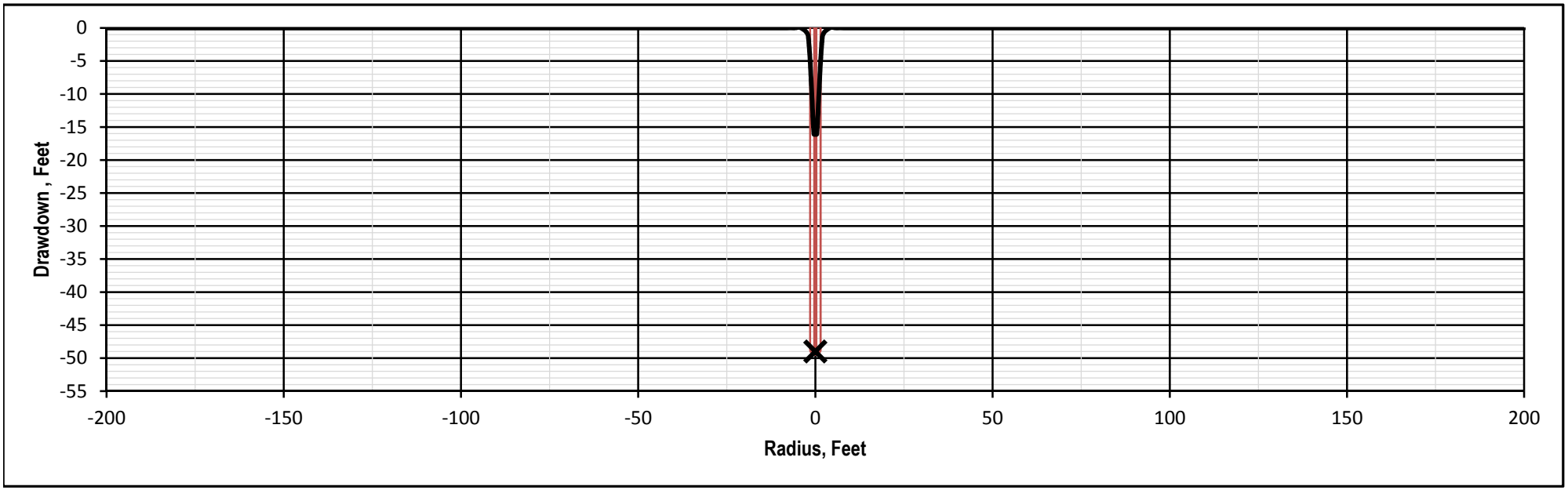
Extraction Well Characteristics		
5	In	Borehole Radius
5.7	Gal / Min	Pumping Rate
0.3	Hrs	Pumping Duration
-49	Ft	Observed Extraction Well Drawdown
33%	%	Calculated Extraction Well Efficiency

APT Observation Well Data		
200	Ft	Radius of Interest
Radius	**Draw-down**	**Well Code**

Available Drawdown

X Observed Potentiometric Surface

Simulated Potentiometric Surface



CDM Smith

EXP-11A Aquifer Performance Test Simulation

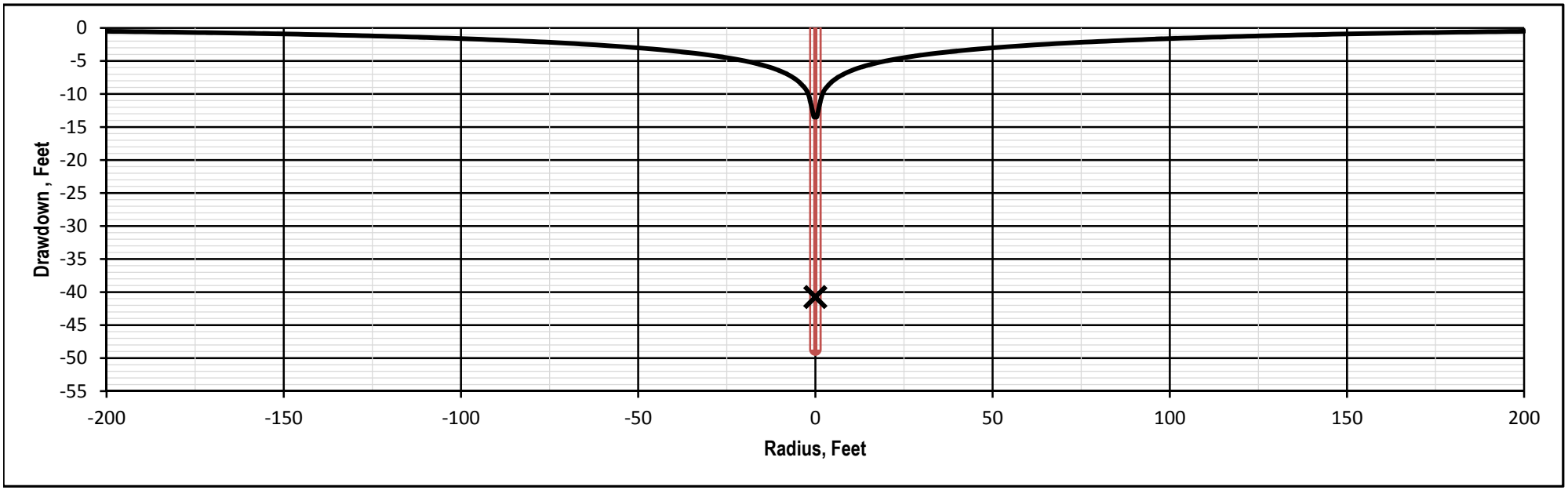
Aquifer Characteristics		
105	GPD / Ft^2	Transmissivity
53.7	Ft	Aquifer Saturated Thickness
0.15	Decimal	Storativity
0.3	Ft / D	Calculated Average Hydraulic Conductivity

Extraction Well Characteristics		
5	In	Borehole Radius
1.00	Gal / Min	Pumping Rate
4,320	Hrs	Pumping Duration
-40.8	Ft	Simulated Extraction Well Drawdown
33%	%	Calculated Extraction Well Efficiency
200	Ft	Radius of Interest

Available Drawdown

X Simulated Extraction Well Drawdown

Simulated Potentiometric Surface

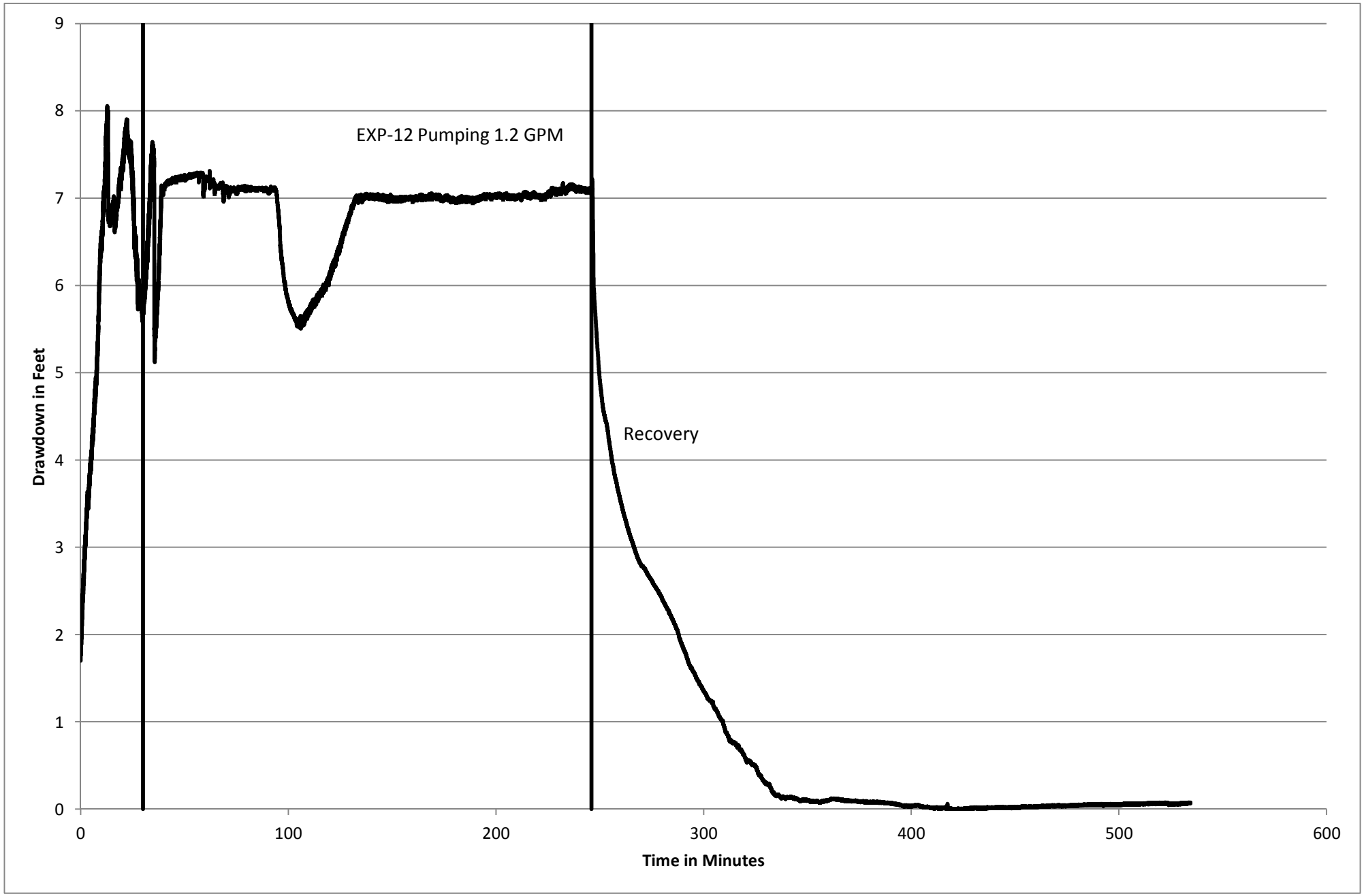


CDM Smith

EXP-11A Capture Zone Simulation

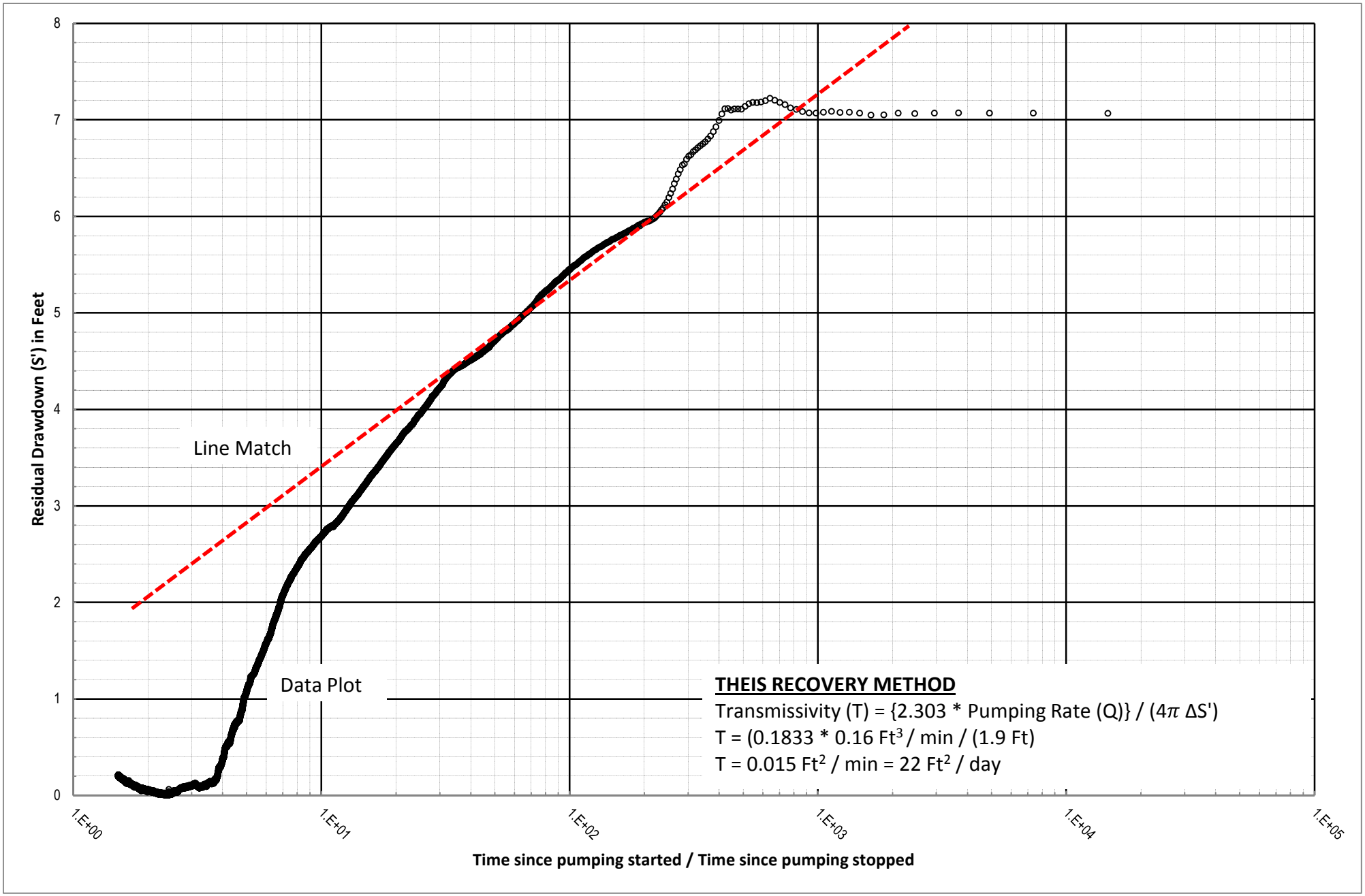
EXP-12 Test Results

EXP-12 Hydrograph
EXP-12 Recovery Plot
EXP-12 Aquifer Performance Test Simulation
EXP-12 Capture Zone Simulation



CDM Smith

EXP-12 Hydrograph



CDM Smith

EXP-12 Recovery Plot

Aquifer Characteristics		
165	GPD / Ft^2	Transmissivity
48	Ft	Aquifer Saturated Thickness
0.15	Decimal	Storativity
0.5	Ft / D	Calculated Average Hydraulic Conductivity

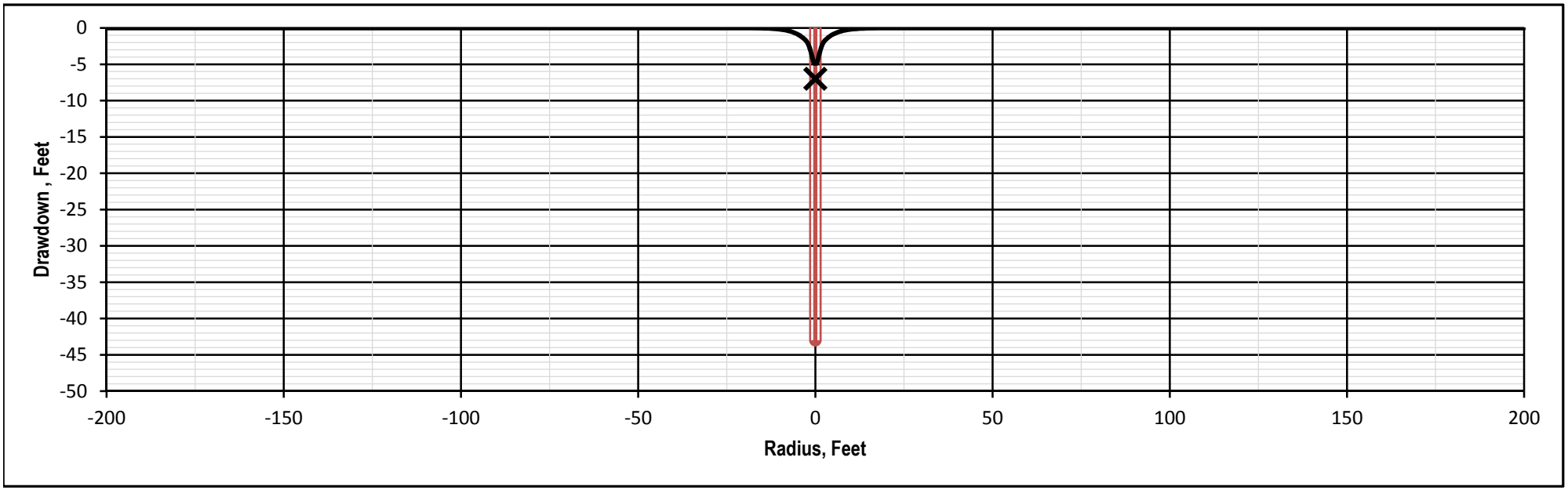
Extraction Well Characteristics		
5	In	Borehole Radius
1.2	Gal / Min	Pumping Rate
4.1	Hrs	Pumping Duration
-7	Ft	Observed Extraction Well Drawdown
69%	%	Calculated Extraction Well Efficiency

APT Observation Well Data		
200	Ft	Radius of Interest
Radius	**Draw-down**	**Well Code**

Available Drawdown

X Observed Potentiometric Surface

Simulated Potentiometric Surface



CDM Smith

EXP-12 Aquifer Performance Test Simulation

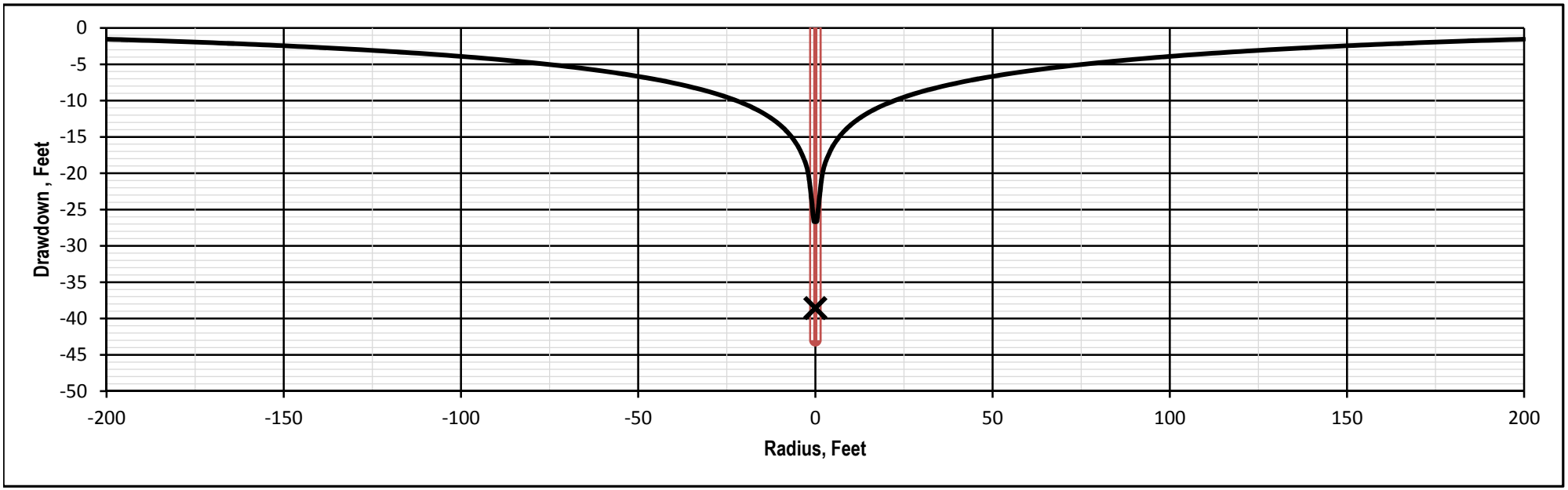
Aquifer Characteristics		
165	GPD / Ft^2	Transmissivity
48	Ft	Aquifer Saturated Thickness
0.15	Decimal	Storativity
0.5	Ft / D	Calculated Average Hydraulic Conductivity

Extraction Well Characteristics		
5	In	Borehole Radius
3	Gal / Min	Pumping Rate
4,320	Hrs	Pumping Duration
-38.6	Ft	Simulated Extraction Well Drawdown
69%	%	Calculated Extraction Well Efficiency
200	Ft	Radius of Interest

Available Drawdown

X Simulated Extraction Well Drawdown

Simulated Potentiometric Surface



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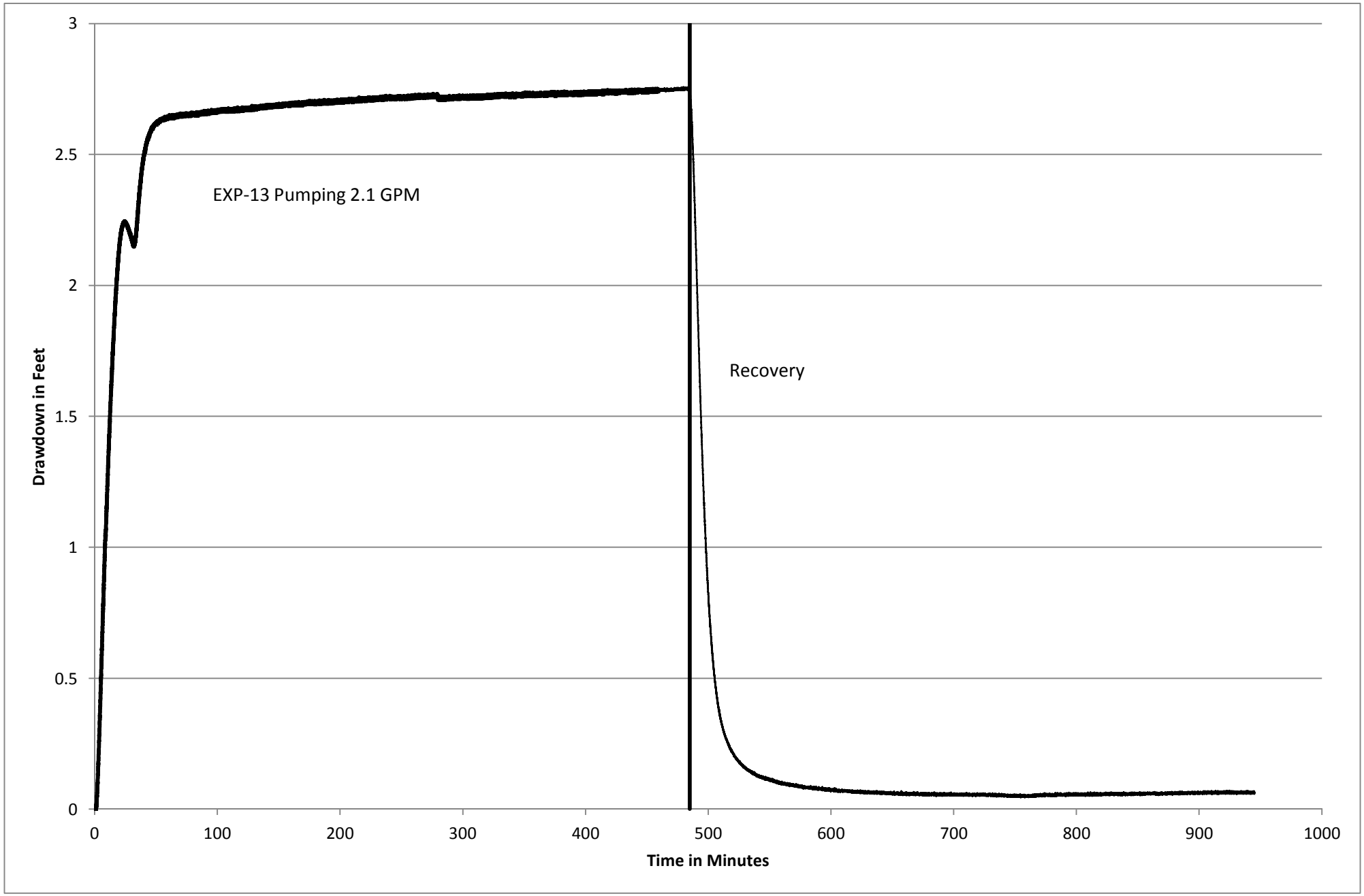
EXP-12 Capture Zone Simulation

EXP-13 Test Results

EXP-13 Hydrograph
EXP-13 Recovery Plot
EXP-13 Aquifer Performance Test Simulation
EXP-13 Capture Zone Simulation



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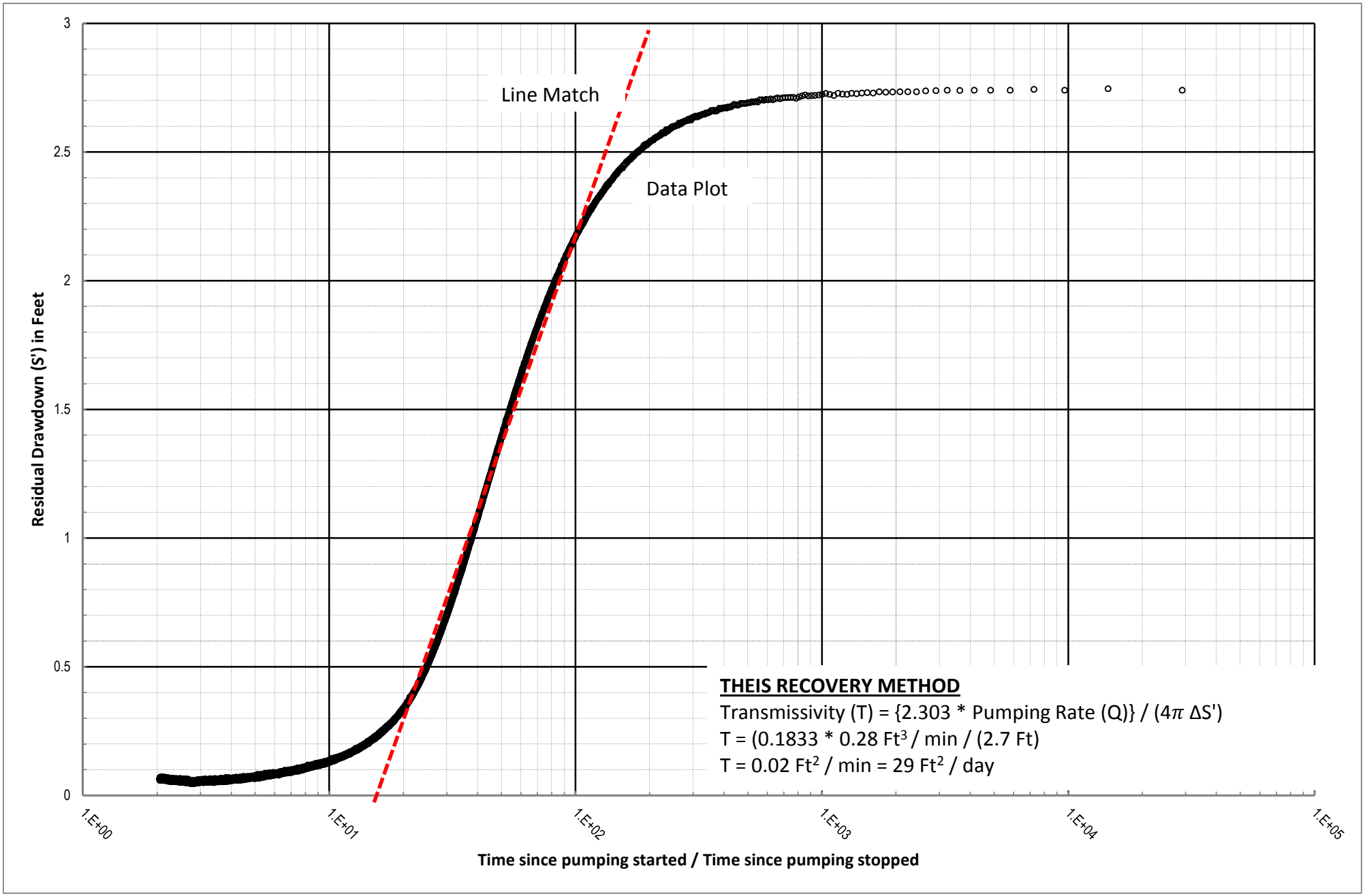
EXP-13 Hydrograph



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EXP-13 Recovery Plot

Aquifer Characteristics		
823	GPD / Ft^2	Transmissivity
39	Ft	Aquifer Saturated Thickness
0.15	Decimal	Storativity
2.8	Ft / D	Calculated Average Hydraulic Conductivity

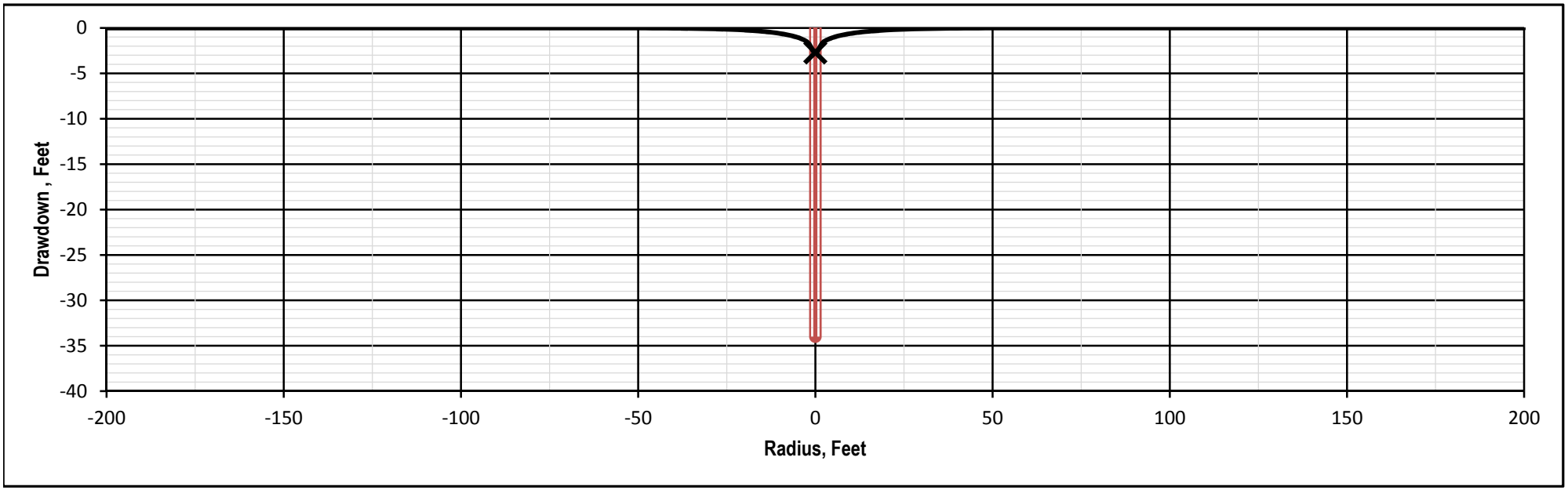
Extraction Well Characteristics		
5	In	Borehole Radius
2.4	Gal / Min	Pumping Rate
8.1	Hrs	Pumping Duration
-2.7	Ft	Observed Extraction Well Drawdown
100%	%	Calculated Extraction Well Efficiency

APT Observation Well Data		
200	Ft	Radius of Interest
Radius	**Draw-down**	**Well Code**

Available Drawdown

X Observed Potentiometric Surface

Simulated Potentiometric Surface



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EXP-13 Aquifer Performance Test Simulation

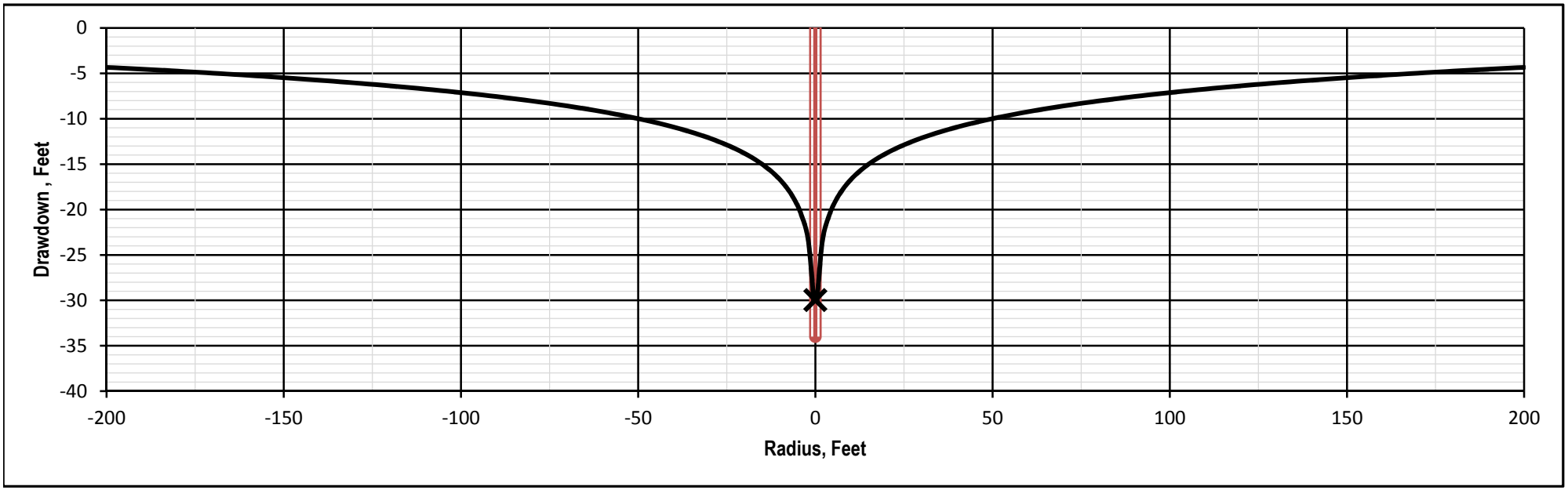
Aquifer Characteristics		
823	GPD / Ft^2	Transmissivity
39	Ft	Aquifer Saturated Thickness
0.15	Decimal	Storativity
2.8	Ft / D	Calculated Average Hydraulic Conductivity

Extraction Well Characteristics		
5	In	Borehole Radius
15	Gal / Min	Pumping Rate
4,320	Hrs	Pumping Duration
-30.0	Ft	Simulated Extraction Well Drawdown
100%	%	Calculated Extraction Well Efficiency
200	Ft	Radius of Interest

Available Drawdown

X Simulated Extraction Well Drawdown

Simulated Potentiometric Surface



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EXP-13 Capture Zone Simulation

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