



November 21, 2019

Ms. Renee Romero  
New Mexico Environment Department  
Petroleum Storage Tank Bureau  
1914 West Second Street  
Roswell, New Mexico 88201-1712

Re: Preliminary Groundwater Monitoring Report  
Former Y Station, 721 Commerce Way, Clovis, New Mexico  
Facility #53742, Release ID #4746, WPID #4022

Dear Ms. Romero:

Daniel B. Stephens & Associates, Inc. (DBS&A) is pleased to submit the enclosed report summarizing well installation and baseline groundwater monitoring activities conducted at the above-referenced site on September 16 through 21, 2019. All activities were completed in accordance with the approved work plan and DBS&A standard operating procedures.

This report constitutes the deliverable for Deliverable ID #4022-7. DBS&A plans to invoice the full amount budgeted for this task.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

Thomas Golden, P.E.  
Project Engineer

Patrice Feltman, P.G.  
Geologist

TG/ed  
Attachment

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**Final Well Installation and  
Baseline Groundwater Monitoring Report  
Former Y Station**

**721 Commerce Way, Clovis, New Mexico  
Facility ID #53742, Release ID #4746**

**Prepared for**

**New Mexico Environment Department  
Petroleum Storage Tank Bureau  
Roswell, New Mexico**

**November 21, 2019**



***Daniel B. Stephens & Associates, Inc.***

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**Final Well Installation and  
Baseline Groundwater Monitoring Report  
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721 Commerce Way, Clovis, New Mexico  
Facility ID #53742, Release ID #4746**

## **1. Introduction**

Daniel B. Stephens & Associates, Inc. (DBS&A) has prepared this report documenting results of well installation and baseline groundwater monitoring activities at the Former Y Station State Lead site (the site), located at 721 Commerce Way in Clovis, New Mexico (Figure 1). All field activities were performed in accordance with DBS&A standard operating procedures (SOPs) and work plan identification (WPID) #4022 (NMED, 2019a), as modified by change order letters approved by the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB) on May 8 and August 15, 2019 (NMED, 2019b, 2019c). The report was prepared in accordance with applicable sections of Part 119 of the Petroleum Storage Tank Regulations (PSTR).

### **1.1 Site Background**

Initial site investigation activities completed by the previous consultant in 2011 were driven by the discovery of a release during a tank pull at the Allsup's No. 320 site (Allsup's), located at the corner of Prince and 21st Streets. Subsequent investigations from 2012 to 2016 revealed a large dissolved-phase hydrocarbon plume south of the Allsup's, centered near the intersection of Prince Street and Commerce Way. Interviews with local residents and inspection of public records by the previous consultant revealed that a Shamrock-brand fueling station was formerly present on the southwest corner of this intersection, locally referred to as "the Y". Former Y Shamrock was reportedly active from the late 1950s through approximately 1981. The site is currently an optical retail center and is surrounded by a variety of other commercial land uses, such as big box retail stores, fast food restaurants, and existing gasoline service stations. Residential neighborhoods are adjacent to the commercial corridor to the west and east.



The previous consultant oversaw installation of 10 groundwater monitor wells (BW-1 through BW-10) in the vicinity of the Former Y station, including 3 wells on the Allsup's property (Figure 2). As of July 2016, the extent of groundwater contamination remained undefined to the south and east. Benzene was the constituent found at the highest concentrations and across the greatest areal extent. Concentrations of other contaminants of concern above applicable regulatory standards were typically localized near the center of the benzene plume.

On October 24, 2017, DBS&A submitted a proposal in response to the request for proposals (RFP) for State Lead remediation services for the site. DBS&A was deemed to be the most responsive bidder and entered into a contract with NMED executed on May 15, 2018. No corrective action has been implemented at the site as of yet, pending completion of characterization efforts. Existing well BW-7 was reported to have been damaged during groundwater sampling activities in September 2015. DBS&A confirmed during a downhole video survey in October 2019 that the well screen has a breach approximately 2.5 feet above the water table; sediment and rocks were also visible at the measured total depth.

On May 30, 2019, DBS&A initiated an additional investigation program for installation of 9 new monitor and/or remediation wells at the site. One of the primary goals was to characterize soil and groundwater conditions directly under the site of the Former Y station, which is presumed to be the site of the primary release. Historical aerial photographs show an aboveground tank farm and convenience store north of the current Optical Source building, within what is currently right-of-way (ROW) for Commerce Way (Figure 2). Light nonaqueous-phase liquid (LNAPL) was first observed by DBS&A in monitor well BW-5 on March 6, 2019, during a well check at a thickness of 1.92 feet. Based on the prominent groundwater flow direction to the south-southeast, it is reasonable to assume that LNAPL in BW-5 could have emanated from a source area associated with the former tank farm.

This report documents field activities and results of the well installation and baseline groundwater monitoring at the site.



## **1.2 Scope of Work**

The scope of work completed under Deliverable ID #4022-7 consisted of documenting the additional site investigation, which included installing 9 groundwater monitor and/or remediation wells, field screening soil samples, characterizing the subsurface geology, and conducting the baseline groundwater sampling event. Details of the investigation activities and findings are provided in Section 2, and the baseline monitoring event is discussed in Section 3. To ensure that project objectives were achieved, an authorized representative of DBS&A maintained direct supervisory control of all aspects of the project.

## **2. Drilling and Well Installation**

The field investigation was performed under the oversight of DBS&A field scientists with direction from the DBS&A project manager and was conducted in accordance with the approved work plan, change orders, and DBS&A SOPs. DBS&A contracted with Yellow Jacket Drilling (YJD) of Phoenix, Arizona to perform the drilling activities. Utility clearances were provided by New Mexico One Call following site visits to mark the proposed well locations. Prior to drilling, new access agreements were obtained from the affected property owners, and well permits were obtained from the New Mexico Office of the State Engineer (Appendix A). Access agreements were provided to the PSTB project manager under separate cover.

Field activities were conducted by DBS&A and YJD from May 30 through October 18, 2019. Typical work shifts were 15 days on and 6 days off, although accommodations were made for Federal holidays and required overnight drilling. Field notes documenting drilling and associated field activities are provided in Appendix B. Photographic documentation of the drilling and well installation tasks is included in Appendix C.

A total of 9 wells were installed during the additional investigation. The soil borings for well installation were advanced using a Terra Sonic International 150 (TSI-150) sonic drilling rig operated by YJD. Total depth for each borehole was determined in the field by the DBS&A field scientist. At each borehole location, samples were collected from soil cuttings for geologic description, and four soil samples from each borehole were submitted for laboratory analysis.



Well construction is described in Section 2.3, and as-built diagrams for each new well installation are provided with the well diagrams in Appendix D.

## **2.1 Lithologic Logging**

Lithologic logging was conducted with continuous observation during sonic drilling, with descriptions noted at 5- to 10-foot intervals, or with prominent changes in lithology. Lithologic logs included descriptions of soil or rock type, moisture content, and hydrocarbon odors. Soil borings were advanced to a depth of approximately 365 feet below ground surface (bgs) at the locations shown on Figure 2. Geologic materials encountered during drilling consisted primarily of sand and silty sand with minor clay and gravel. Caprock (fine-grained soil partially cemented with calcium carbonate) was noted in all borings from the surface to varying depths of approximately 25 to 60 feet bgs. In addition, a clayey sand and gravel layer was noted in the bottom of all borings, typically below the total depth of previous drilling activities at the site. This finding is consistent with geologic studies of the Clovis area, which report a gravelly zone 15 to 40 feet thick at the base of the Ogallala Formation (Galloway, 1972). The presence of a clay- and silt-rich interval is significant, as it helps explain hydraulic conductivity values determined during both laboratory and field aquifer testing, which are lower than published regional values for the Ogallala Aquifer.

## **2.2 Soil Sampling and Field Screening**

Samples were collected from the soil borings at 10-foot intervals using a sonic core barrel and field-screened using a photoionization detector (PID) and the heated headspace method. Three samples were collected immediately from each interval. One sample was used for field screening, one for geologic description, and one for possible laboratory analysis. During field screening, the limits of petroleum-impacted soil were determined by PID readings less than 100 parts per million by volume (ppmv).

One soil sample was submitted for laboratory analysis from each 100-foot interval based on field screening results. The samples were submitted to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for volatile organic compound (VOC) analysis including benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertiary-butyl ether (MTBE),





1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), and total naphthalenes (naphthalene plus methylnaphthalenes) using U.S. Environmental Protection Agency (EPA) method 8260B (full list).

Constituents of concern (COCs) were detected above the laboratory reporting limit in soil samples collected from wells MW-11, MW-12, MW-13, RW-2, and RW-3. The highest soil concentrations were found in future remediation well RW-2, located near the presumed hydrocarbon release. Soil sample analytical results are summarized in Table 1, and the laboratory report is provided in Appendix E.

Results of field screening for total hydrocarbons are included on the well diagrams (Appendix D). Petroleum-impacted soil was encountered above the water table in the soil borings for RW-1, RW-2, RW-3, and RW-4 and was encountered at the water table in MW-11.

### **2.3 Hydraulic Properties**

In addition to analytical data, DBS&A also collected composite soil samples for hydraulic properties analysis from wells BW-7R, MW-11, MW-12, and MW-13. Samples from MW-11 and MW-12 were collected from the shallow saturated zone, near the water table, and samples from BW-7R and MW-13 were collected from the bottom of the boring. Samples were analyzed at the DBS&A Soil Testing and Research Laboratory for soil classification (particle size analysis, standard sieves, hydrometer, and Atterberg limits) and laboratory determination of saturated hydraulic conductivity ( $K_{sat}$ ) using a rigid-wall compaction-mold parameter. The laboratory report is provided in Appendix E.

Samples from the shallow saturated zone were classified as silty sands, and samples from the bottom of the borings were classified as silty sands with gravel. Samples from the bottom of the borings generally contained higher percentages of gravel, silt, and clay; whereas, samples in the shallow saturated zone contained more than 70 percent sand.

A portion of each sample was remolded into a testing ring for rigid-wall  $K_{sat}$  testing, with a target of 91 percent of the maximum dry bulk density.  $K_{sat}$  values ranged from  $5.6 \times 10^{-4}$  to  $4.0 \times 10^{-3}$  centimeters per second (cm/s). These values are within the typical literature ranges for the soil



types encountered at the site and are similar to the values determined using field aquifer testing. However, as discussed in the aquifer test report, results indicate that the aquifer under the site is an order of magnitude less transmissive than regional literature estimates for the Ogallala aquifer (DBS&A, 2019b).

## **2.4 Well Completion**

Of the 9 soil borings, 5 were completed as 5-inch-diameter monitor wells (designated BW-7R, MW-11, MW-12, MW-13, and MW-14) and 4 were completed as nested remediation wells (designated RW-1, RW-2, RW-3, and RW-4). Nested wells include a 4-inch-diameter screen interval that intersects the water table and two 2-inch-diameter sections of screen in the vadose zone. All wells were installed in accordance with 19.27.4.30 New Mexico Administrative Code (NMAC). General specifications adhered to during well installation were as follows:

- Wells were completed using Schedule 80 (SCH 80) polyvinyl chloride (PVC) well materials, including flush-threaded, machine-cut, 0.020-inch slot well screen. A 5-foot blank casing sump was installed below the well screen on wells completed below the water table. Blank SCH 80 PVC, flush-threaded casing extended from the surface to the top of each screened interval.
- 12/20 silica sand was placed in the annulus around each screened interval from the bottom of the boring or screened interval to about 3 feet above the top of the screen.
- The space between screened intervals in nested wells was sealed with a bentonite chip seal and hydrated during emplacement. Above the highest well screen, a minimum 5-foot-thick bentonite chip seal was installed on top of the sand pack. The remaining annulus was filled with a high solids bentonite grout to approximately 20 feet bgs, then with cement/bentonite grout from there to the surface (or as otherwise shown on the logs).
- For wells that penetrate the water table, well screens were centered in the boring by affixing stainless steel centralizers at 60-foot intervals from the ground surface to 20 feet



above the static water table, and 20-foot intervals from 20 feet above the water table to total depth.

- Monitor wells were completed at the surface with a locking cap within a 12-inch-diameter, flush-mount, traffic-rated steel well vault. A 6-inch-thick concrete pad was poured around each well vault.

Target well screen placement in wells that penetrate the water table was approximately 40 feet of screen above the water table and 30 feet of screen below the water table. Depth to water was measured in the wells between September 16 and 21, 2019 (Table 2) and are shown on the well diagrams. As-built diagrams and specific completion details for each new well are provided with the well diagrams (Appendix D). Following well completion, a 10-foot-long steel pipe (dummy) of 4.5-inch outside diameter for 5-inch well casing and 3.5-inch outside diameter for 4-inch well casing was run to the bottom to ensure the casing is plumb and a pump can be installed. Photographs of the dummy pipes are provided in Appendix C.

A conceptual cross section was prepared using soil data from the current and previous investigations (Figure 3). Based on the most recent soil borings, the fuel product infiltrated vertically at the point of release, through the caprock and unconsolidated sediments of the Ogallala Formation, with some lateral migration at depth. The extent of hydrocarbon contamination in the shallow vadose zone is limited to the vicinity of the releases. Deep vadose zone soil contamination appears to be present across a smaller area than previously theorized. Field vapor concentrations were well below the 100 ppmv threshold for determining petroleum-impacted soil in samples collected from borehole BW-7R, which is located approximately 300 feet downgradient of the Former Y Shamrock release site.

## **2.5 Well Development**

After completion, each well was developed by bailing and surging until suspended sediment was reduced and conditions were suitable for pumping. Pumping development continued until groundwater parameters stabilized and turbidity was reduced to the extent practicable, as determined by the DBS&A on-site scientist.



Well development occurred in three mobilizations. The first mobilization occurred after completion of the first three wells (MW-11, RW-1, and RW-2) between July 14 and 21, 2019. These wells were developed immediately following completion to allow for aquifer testing and associated sampling. Five wells (BW-7R, RW-4, and MW-12 through MW-14) were developed immediately following completion of the drilling program between September 16 and 21, 2019. RW-3 was developed during a separate mobilization on October 17 and 18, 2019, due to the inability to advance a surge bailer to total depth during the September 2019 well development mobilization. Photographic documentation of well development activities is provided in Appendix C.

Development water was transferred to an on-site water storage tank and treated using a trailer-mounted air stripper, with the treated water discharged to the City of Clovis sanitary sewer.

## **2.6 Investigation-Derived Waste**

Investigation-derived waste (IDW) was stored in on-site mud boxes (roll-off bins) for disposal at a licensed facility by Gandy Marley of Roswell, New Mexico. A total of 12 mud boxes of IDW were removed from the site between June 4 and October 19, 2019. Waste manifests are provided in Appendix F.

## **2.7 Survey**

Spatial locations and measuring point elevations were surveyed to a common datum for a total of 19 wells by New Mexico-Licensed Professional Land Surveyor Lydick Engineers & Surveyors of Clovis, New Mexico. The well survey report is presented as Appendix G. The survey was based on New Mexico State Plane Coordinates, NAD 83, and the NAVD 88 vertical datum.

## **3. Groundwater Monitoring**

DBS&A personnel conducted the baseline groundwater monitoring event at the site on September 16 through 21, 2019. Activities conducted during the monitoring event included gauging water levels in and collecting groundwater samples from up to 19 site wells. LNAPL was recovered from any well containing LNAPL at a thickness of greater than  $\frac{1}{8}$  inch (0.01 foot).



Groundwater wells without measurable LNAPL were sampled for laboratory analysis. Field notes recorded during sampling activities are included in Appendix B. The sampling protocol is provided in Appendix H.

### **3.1 Fluid Level Gauging**

On September 16 through 21, 2019, DBS&A personnel used an electronic interface probe to gauge the depth to water (and LNAPL where present) in all existing monitor wells. Fluid level measurements from this and previous groundwater monitoring events are summarized in Table 2. Based on information collected during the May 2019 groundwater monitoring event, gasoline was shown to be the predominant LNAPL present at the site (DBS&A, 2019a). Therefore, the potentiometric surface elevation for any well containing LNAPL was corrected using a specific gravity of 0.75. Fluid level data were used to prepare a potentiometric surface elevation map (Figure 3).

### **3.2 LNAPL Recovery**

LNAPL was present in monitor well BW-5 at a thickness of 0.76 foot on September 20, 2019. LNAPL was recovered by hand bailing for approximately 70 minutes using a new, dedicated, disposable 3-inch polyethylene bailer. A total of 0.95 gallon of LNAPL was recovered, with a final LNAPL thickness of 0.01 foot. LNAPL recovery is summarized in Table 3.

### **3.3 Groundwater Sampling**

Monitor wells BW-1 through BW-4, BW-6 through BW-10, MW-11 through MW-14, and RW-1 through RW-4 were sampled following gauging on September 16 through 21, 2019. A DBS&A-owned Bennett pump was used for purging and groundwater sampling with the exception of the sample collected from BW-7R. The Bennett pump is a piston fluid pump with two motor pistons capable of lifts up to 1,000 feet. Nitrogen gas is conveyed to the pump to operate the piston, which returns groundwater to the surface. The pump and associated tubing coils on and off a reel operated by a 50-ampacity motor. The tubing bundle, reel, and motor are all mounted on a flatbed trailer. BW-7R was sampled immediately following well development using the development pump provided by YJD.



During purging, extracted groundwater water was pumped into a calibrated, 5-gallon bucket to assess the presence of LNAPL and measure purge volume. Purge water from the Bennett pump was handled in accordance with the sampling protocol (Appendix H). Groundwater field parameters, including dissolved oxygen (DO), oxygen/reduction potential (ORP), electrical conductivity (EC), pH, and temperature, were measured in the field during purging and recorded in the field notes (Appendix B).

Groundwater samples collected from the wells were transferred from the pump tubing directly into laboratory-prepared sample containers containing the appropriate preservatives. The samples were labeled and preserved on ice in an insulated cooler for delivery to HEAL for analysis; samples were accompanied by full chain of custody documentation at all times. Groundwater samples were analyzed for volatile organic compounds (VOCs) using EPA method 8260B (full list) and for EDB using EPA method 504.1. The complete laboratory analytical reports for collected groundwater samples are included in Appendix E.

### **3.4 Results**

Results from groundwater monitoring activities during the baseline groundwater monitoring event are discussed below.

#### *3.4.1 Fluid Level Measurements*

Fluid levels measured on September 16 through 21, 2019, are summarized in Table 2 and were used to construct the potentiometric surface map provided in Figure 4. Groundwater is encountered under the site at an approximate depth of 328 feet bgs and generally flows to the south-southeast with an approximate gradient of 0.003 foot per foot. The overall flow direction and gradient are similar to that noted during previous monitoring events. Since 2014, groundwater elevations have decreased approximately 2.8 feet, resulting in an average annual decrease of 0.5 foot per year (Appendix I).

#### *3.4.2 Groundwater Analysis*

Groundwater samples from the 18 existing monitor wells that do not contain a measurable thickness of LNAPL were submitted to HEAL for analysis as described in Section 3.3. The full laboratory analytical report is provided in Appendix E; results are summarized in Table 4 and on



Figure 5. Benzene, EDC, and EDB isoconcentration maps were prepared to show the extent of dissolved-phase contamination associated with the site (Figures 6 through 8). Graphs showing historical trends in monitor well contaminant concentrations are provided in Appendix I.

Concentrations of COCs were below laboratory reporting limits or applicable New Mexico Water Quality Control Commission (NMWQCC) standards in groundwater samples collected from monitor wells BW-1 through BW-4, BW-6, BW-9, and BW-10. The samples collected from BW-7, BW-7R, BW-8, MW-11 through MW-14, and RW-1 through RW-4 contained multiple COCs at concentrations exceeding NMWQCC standards. BW-5 has been reported to contain LNAPL since February 2019, but DBS&A first measured LNAPL with an interface probe in March 2019. Notable changes or trends include:

- BW-4: Concentrations of COCs have significant fluctuations in the historic record, but have been below applicable groundwater standards for two consecutive groundwater monitoring events. Benzene has previously been detected at concentrations as high as 1,100 micrograms per liter ( $\mu\text{g/L}$ ) in this well, but was below the laboratory reporting limit of 1.0  $\mu\text{g/L}$  during the current monitoring event. Due to a relatively high soil vapor extraction (SVE) radius of influence (ROI) at the site, contamination may have been drawn to BW-4 during vapor sampling activities conducted by the previous consultant. DBS&A will monitor trends associated with this well closely, as it is upgradient from the presumed release at the Former Y Station.
- BW-7: Concentrations of BTEX constituents decreased significantly (1,870 to 739.3  $\mu\text{g/L}$ ) since the previous monitoring event in May 2019. During the current monitoring event, benzene (590  $\mu\text{g/L}$ ), EDB (0.31  $\mu\text{g/L}$ ), and EDC (120  $\mu\text{g/L}$ ) were detected at concentrations exceeding the respective NMWQCC standards.
- BW-8: COC concentrations have not varied significantly since the well was installed in 2016. During the current monitoring event, benzene (5,000  $\mu\text{g/L}$ ), toluene (4,300  $\mu\text{g/L}$ ), total xylenes (1,400  $\mu\text{g/L}$ ), EDB (14  $\mu\text{g/L}$ ), EDC (270  $\mu\text{g/L}$ ), and total naphthalenes (94  $\mu\text{g/L}$ ) were detected at concentrations exceeding the respective NMWQCC standards.



Results for newly installed groundwater monitoring/remediation wells include:

- MW-11: Benzene (3,300 µg/L), total xylenes (1,100 µg/L), EDB (5.0 µg/L), EDC (130 µg/L), and total naphthalenes (40 µg/L) were detected at concentrations exceeding the respective NMWQCC standards. All other COC concentrations were either below the NMWQCC standards or the laboratory reporting limits.
- MW-12: Benzene (1,400 µg/L), EDB (0.78 µg/L), and EDC (72 µg/L) were detected at concentrations exceeding the respective NMWQCC standards. All other COC concentrations were either below the NMWQCC standards or the laboratory reporting limits.
- MW-13: Benzene (97 µg/L) and EDC (5.1 µg/L) were detected at concentrations exceeding the respective NMWQCC standards. All other COC concentrations were either below the NMWQCC standards or the laboratory reporting limits.
- MW-14: EDB was detected at the NMWQCC standard of 0.05 µg/L. All other COC concentrations were either below the NMWQCC standards or the laboratory reporting limits.
- RW-1: Benzene (720 µg/L), EDB (6.4 µg/L), and EDC (36 µg/L) were detected at concentrations exceeding the respective NMWQCC standards. All other COC concentrations were either below the NMWQCC standards or the laboratory reporting limits.
- RW-2: Benzene (3,500 µg/L), toluene (3,300 µg/L), total xylenes (1,600 µg/L), EDB (74 µg/L), EDC (220 µg/L), and total naphthalenes (58 µg/L) were detected at concentrations exceeding the respective NMWQCC standards. All other COC concentrations were either below the NMWQCC standards or the laboratory reporting limits.
- RW-3: Benzene (4,100 µg/L), toluene (5,100 µg/L), total xylenes (2,300 µg/L), EDB (25 µg/L), EDC (130 µg/L), and total naphthalenes (58 µg/L) were detected at





concentrations exceeding the respective NMWQCC standards. All other COC concentrations were either below the NMWQCC standards or the laboratory reporting limits.

- RW-4: Benzene (690 µg/L), EDB (5.2 µg/L), and EDC (28 µg/L) were detected at concentrations exceeding the respective NMWQCC standards. All other COC concentrations were either below the NMWQCC standards or the laboratory reporting limits.

#### **4. Conclusions and Recommendations**

Based on the data collected during the well installation and baseline groundwater monitoring event, concentrations of dissolved-phase COCs in excess of NMWQCC standards extend further than 1,400 feet downgradient from the presumed release. The dissolved-phase plume remains undefined primarily cross-gradient to the east with multiple COCs detected above the NMWQCC standards in newly installed monitor well MW-11 and MW-12.

Soil sampling using sonic drilling methods provided extremely useful data to help refine the conceptual site model (CSM). Soil sampling data helped confirm the release point as the Former Y Shamrock, with high soil vapor field screening concentrations present in RW-2 below a depth of 135 feet bgs. High concentrations were present in RW-1 starting at approximately 273 feet bgs, which corresponds with the approximate water table near the time of the release. In RW-3, high concentrations were noted starting at approximately 294 feet bgs. This data confirmed the CSM presented in the DBS&A proposal that decreasing water levels as contaminants migrated off-site have resulted in a significant but decreasing thickness of deep smear zone away from the point of release. Vadose zone contamination in the smear zone at downgradient well locations appears to be less than previously believed. It is possible that hydrocarbon impacts to soil in the smear zone may have been exaggerated by wellhead vapor sampling data collected by the previous consultant, due in part to relatively high SVE ROI.

LNAPL has been consistently present in monitor well BW-5 since at least February 2019. Based on the location of BW-5 relative to the release point, a significant volume of LNAPL is believed to exist under North Prince Street and Commerce Way. Remediation wells RW-1



through RW-4 did not contain a measurable thickness of LNAPL during the baseline monitoring event; however, more time may be needed for LNAPL to accumulate in the wells.

Based on these findings, DBS&A recommends that corrective action proceed as detailed in the DBS&A proposal for State Lead remediation services. The remediation system should prioritize removal of source area mass (LNAPL and hydrocarbons in the vadose zone) using multi-zone remediation wells located near the known extent of LNAPL. Single-zone wells can be used for dissolved-phase plume containment. Deep vadose zone contamination was found in the multi-zone remediation wells, but not in single-zone wells south of RW-4, so well locations appear to have been chosen appropriately for the distribution of contamination.

DBS&A also recommends installing three new monitor wells, one downgradient well near the intersection of Ashton Street and Sheffield Drive, one cross-gradient well in the parking lot south of Albertsons Market, and one cross-gradient well east of MW-12 behind Brown's Shoe Fit. These wells are needed to define the extent of contamination cross-gradient to the east, but do not affect the overall remediation plan for the site. Quarterly groundwater monitoring should continue at the site to establish trends in contaminant concentrations prior to and following implementation of a corrective action system.

### **Statement of Familiarity**

I, the undersigned, am personally familiar with the information submitted in this report and the attached documents and attest that it is true and complete.

Signature: 

Authorized Representative: Thomas Golden, P.E.

Affiliation: Daniel B. Stephens & Associates, Inc.

Title: Project Engineer

Date: November 21, 2019



## References

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*Daniel B. Stephens & Associates, Inc.*

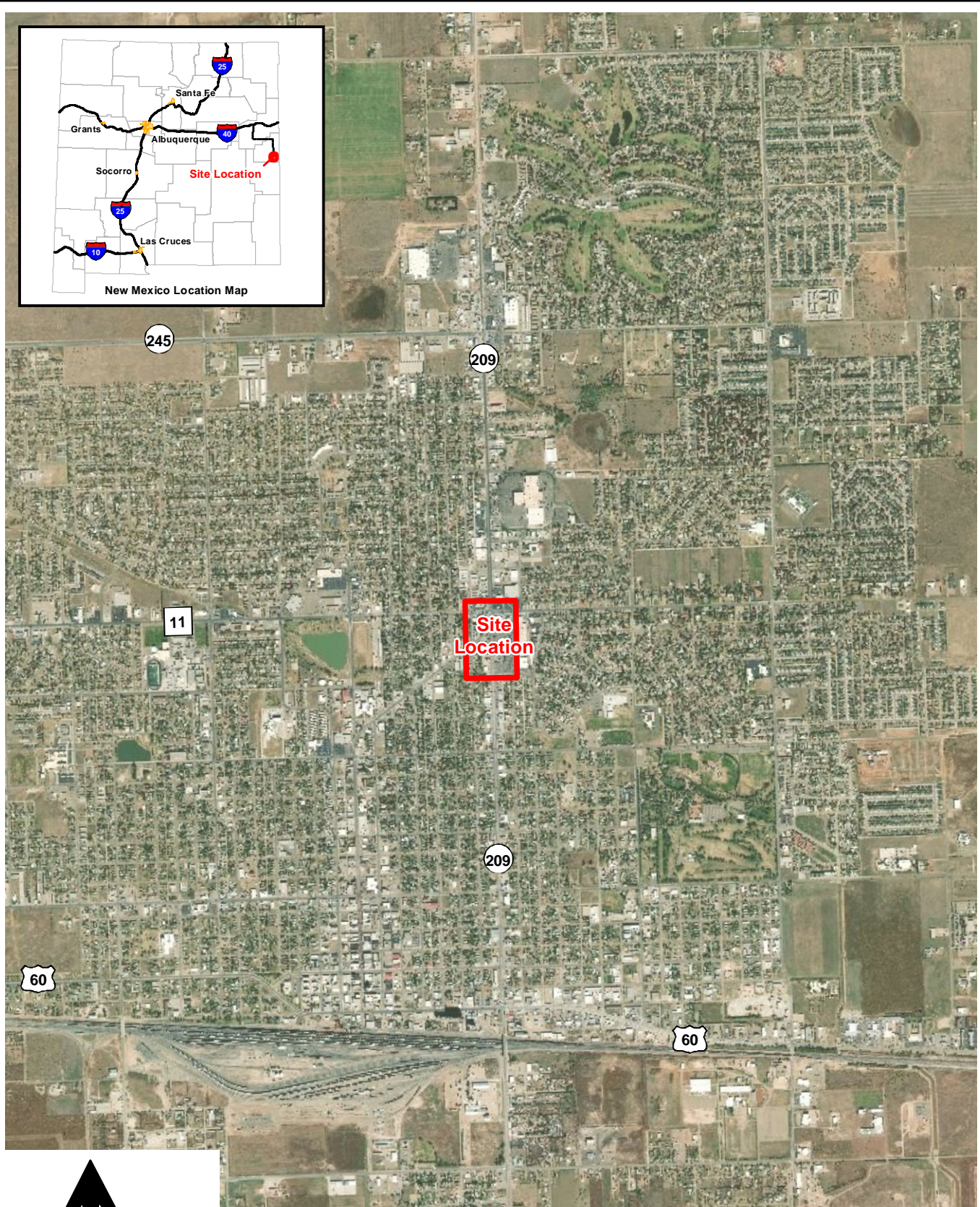
NMED. 2019b. Letter from Dana Bahar to Thomas Golden, Daniel B. Stephens & Associates, Inc., regarding approval of Phase 5 fixed-price workplan change order for Former Y Station, 721 Commerce Way, Clovis, New Mexico. May 8, 2019.

NMED. 2019c. Letter from Dana Bahar to Thomas Golden, Daniel B. Stephens & Associates, Inc., regarding approval of Phase 5 fixed-price workplan change order for Former Y Station, 721 Commerce Way, Clovis, New Mexico. August 15, 2019.

## Figures



New Mexico Location Map



0 0.25 0.5  
Mile

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Area Map**

S:\PROJECTS\DB18.1157\_FORMER\_Y\_STATION\GIS\WXDS\F01\_AREA\_MAP\MXD



*Daniel B. Stephens & Associates, Inc.*  
6/3/2019 JN DB18.1157.00

Figure 1



**Explanation**

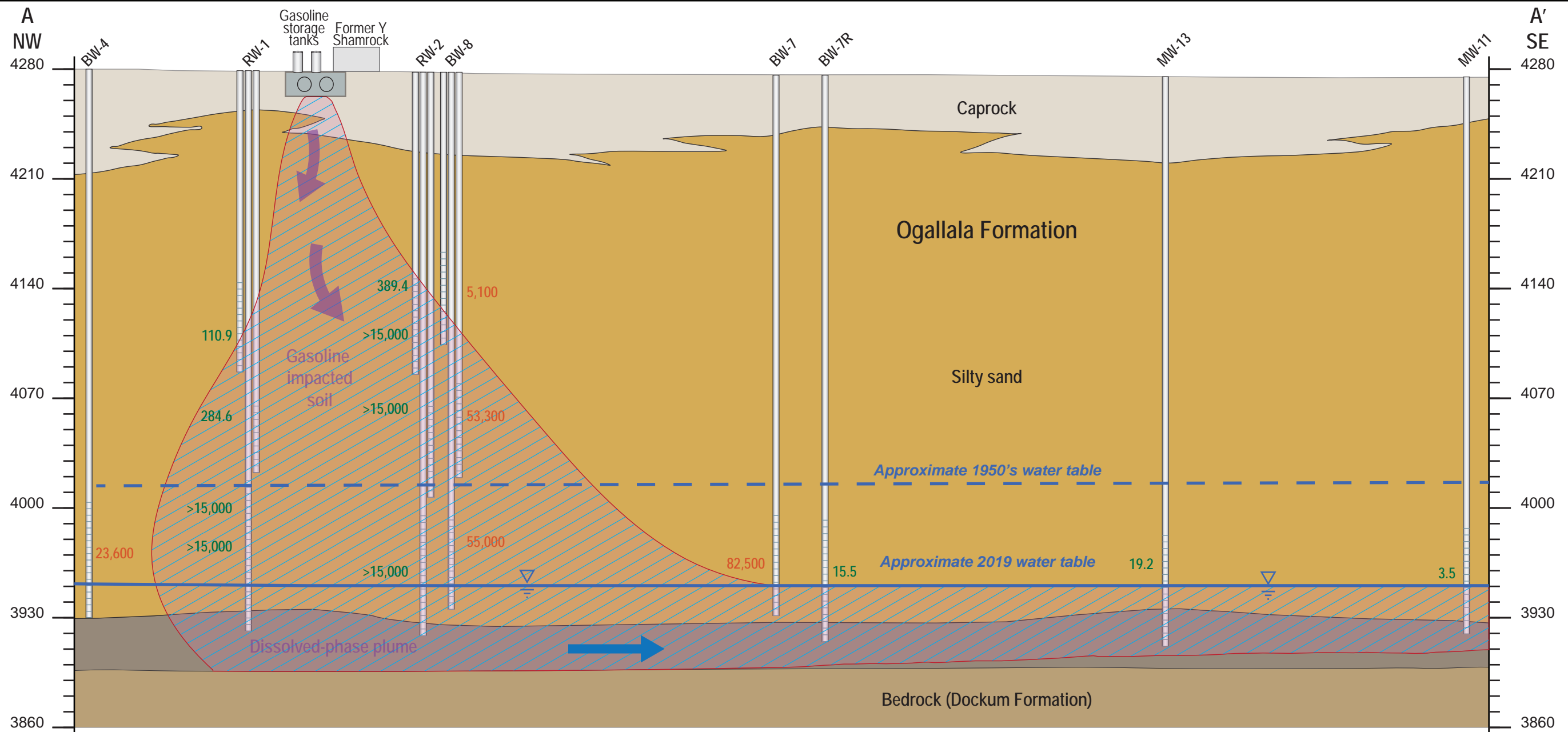
- Single completion monitor well
- Nested monitor well

**FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
Site Map**

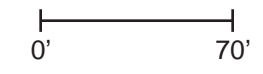
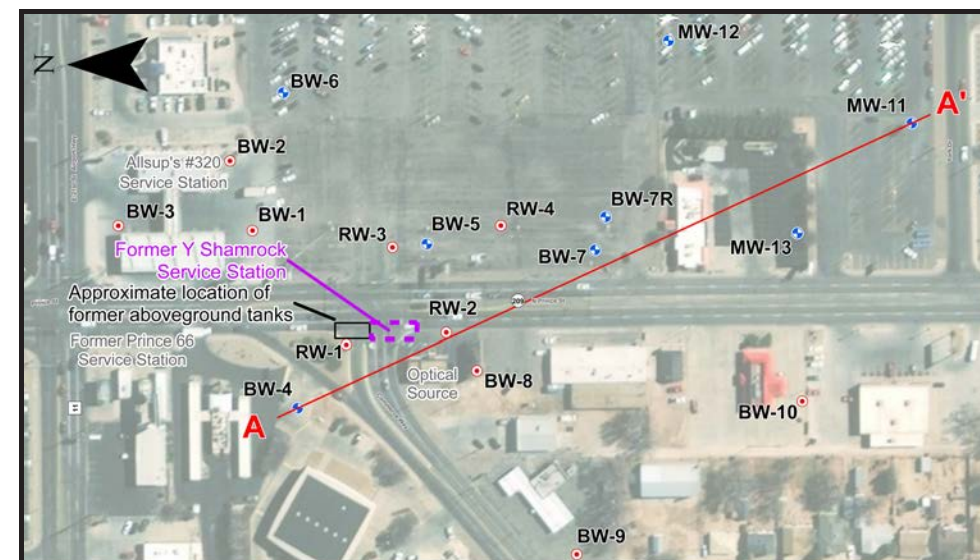
Figure 2



S:\Projects\DB18.1157\_Former\_Y\_Station\VR\_Drawings\All\Cross\_Section\_20191113\Former Y Station 20191113.ai



- Explanation**
- Single completion monitor well
  - Nested monitor well
  - Cross section A - A'
  - 389.4 Field vapor concentration (ppmv)
  - 23,600 TPH vapor concentration (µg/L)
  - Approximate historical water table
  - Approximate 2019 water table
  - Hydrocarbon impacted area
  - Contaminant flow direction
  - Groundwater flow direction
- Geology**
- Caprock (Ogallala Formation)
  - Ogallala Formation
  - Clayey sand and gravel
  - Bedrock (Dockum Formation)
- Other Symbols:**
- Monitor well
  - Well screen
  - Former gasoline storage tank
  - Underground storage tank (UST)
  - Building



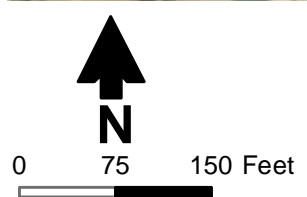
**FORMER Y STATION  
STATE LEAD SITE  
CLOVIS, NEW MEXICO  
Geologic Cross Section**



**Daniel B. Stephens & Associates, Inc.**  
11/14/2019 DB18.1157

Figure 3





- Explanation**
- MW-14 Monitor well designation
  - 3947.22 Potentiometric surface elevation (ft msl)
  - [3949.64] Elevation not used for contouring
  - ⊕ Single completion monitor well
  - ⊙ Nested monitor well (dashed where inferred)

FORMER Y STATION STATE LEAD SITE  
 CLOVIS, NEW MEXICO  
**Potentiometric Surface Elevations**  
 September 16 through 20, 2019

Figure 4



Approximate location of former aboveground tanks

BW-5 LNAPL=0.76'

**Explanation**

- ⊕ Single completion monitor well
- ⊙ Nested monitor well

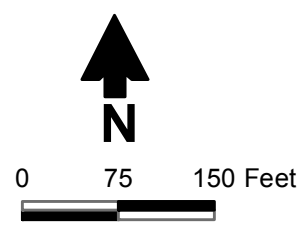
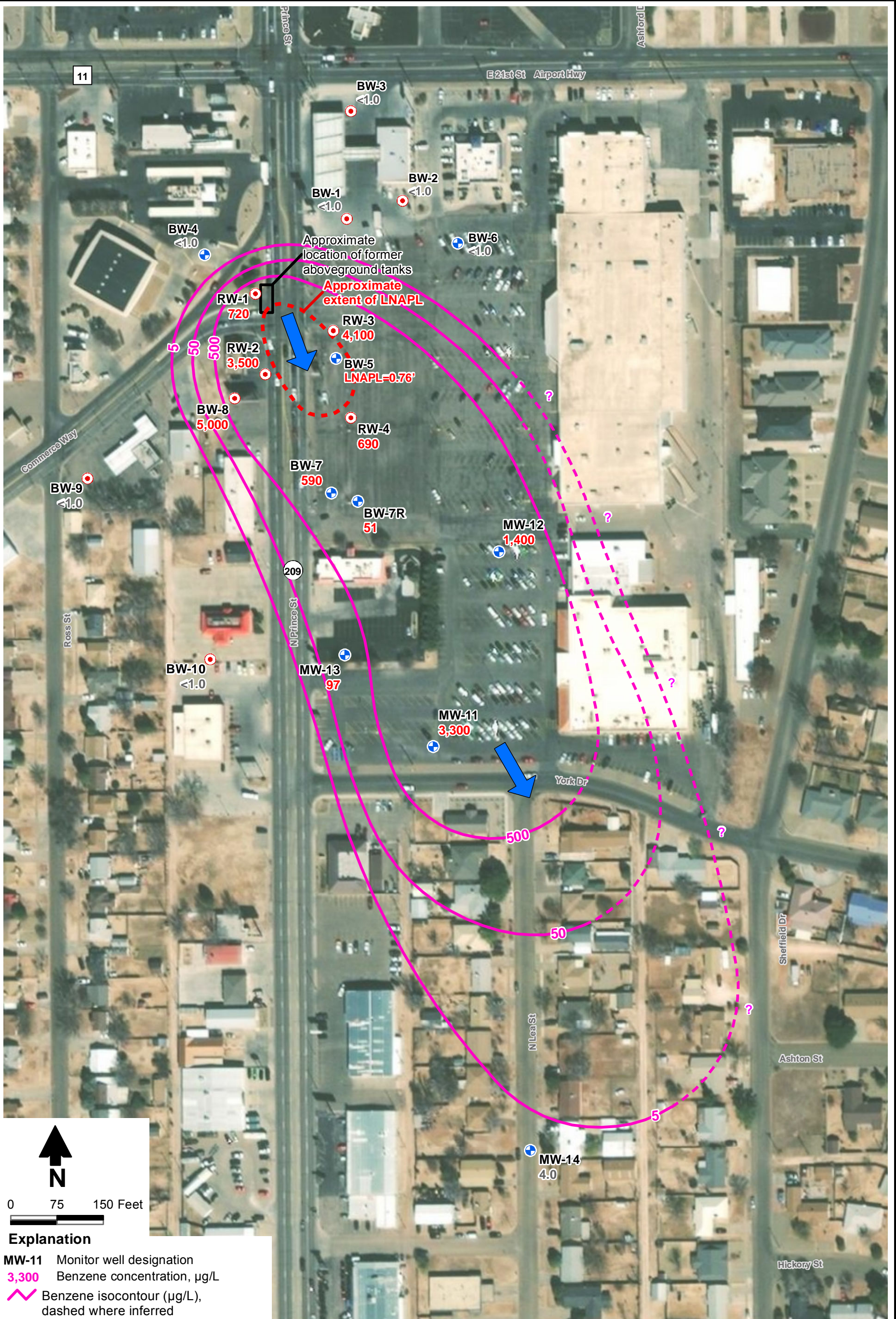
Location designation				Sample Date
Benzene	Toluene	Ethylbenzene	Total Xylenes	
BTEX	EDB	EDC	Total Naphthalenes	
MTBE				

- Notes: 1. All concentrations reported in µg/L  
 2. **RED** indicates concentration that exceeds NMWQCC standard

**FORMER Y STATION STATE LEAD SITE  
 CLOVIS, NEW MEXICO  
 Distribution of Dissolved-Phase  
 Contaminants - September 2019**

Figure 5





- Explanation**
- MW-11** Monitor well designation
  - 3,300** Benzene concentration,  $\mu\text{g/L}$
  - Benzene isoconcentration ( $\mu\text{g/L}$ ), dashed where inferred
  - Single completion monitor well
  - Nested monitor well

Notes: 1. All concentrations reported in  $\mu\text{g/L}$   
 2. **RED** indicates concentration that exceeds NMWQCC standard

FORMER Y STATION STATE LEAD SITE  
 CLOVIS, NEW MEXICO  
**Benzene Isoconcentration Map**  
 September 2019

Figure 6





0 75 150 Feet

**Explanation**

- MW-11 Monitor well designation
- 130 EDC concentration, µg/L
- Yellow line EDC isocontour (µg/L), dashed where inferred
- Blue circle with cross Single completion monitor well
- Red circle with cross Nested monitor well

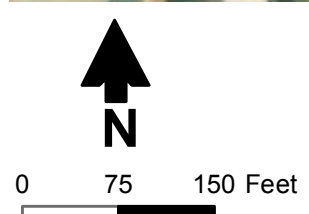
Notes: 1. All concentrations reported in µg/L  
 2. RED indicates concentration that exceeds NMWQCC standard



**Daniel B. Stephens & Associates, Inc.**  
 11/18/2019 JN DB18.1157.00

FORMER Y STATION STATE LEAD SITE  
 CLOVIS, NEW MEXICO

**EDC Isoconcentration Map**  
**September 2019**



- Explanation**
- MW-11 Monitor well designation
  - 5.0 EDB concentration, µg/L
  - EDB isocontour (µg/L), dashed where inferred
  - Groundwater flow direction
  - ⊕ Single completion monitor well
  - ⊙ Nested monitor well

Notes: 1. All concentrations reported in µg/L  
 2. **RED** indicates concentration that exceeds NMWQCC standard

FORMER Y STATION STATE LEAD SITE  
 CLOVIS, NEW MEXICO  
**EDB Isoconcentration Map**  
 September 2019

Figure 8

## Tables



**Table 1. Summary of Soil Analytical Organic Chemistry Data  
Former Y Station, Clovis, New Mexico**

Sample ID	Date Sampled	Sample Depth (ft bgs)	Concentration <sup>a</sup> (mg/kg)							
			Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDC	EDB	Naphthalene
BW-7R	07/21/19	95	<0.014	<0.027	<0.027	<0.055	<0.027	<0.027	<0.027	<0.055
	07/22/19	145	<0.015	<0.030	<0.030	<0.061	<0.030	<0.030	<0.030	<0.061
	07/30/19	275	<0.017	<0.035	<0.035	<0.070	<0.035	<0.035	<0.035	<0.070
	07/31/19	330	<0.015	<0.030	<0.030	<0.059	<0.030	<0.030	<0.030	<0.059
MW-11	05/30/19	20-30	<0.018	<0.036	<0.036	<0.072	<0.036	<0.036	<0.036	<0.072
	05/31/19	110-120	<0.013	<0.026	<0.026	<0.052	<0.026	<0.026	<0.026	<0.052
	06/03/19	280-290	<0.019	<0.037	<0.037	<0.075	<0.037	<0.037	<0.037	<0.075
	06/04/19	332	0.67	<0.026	0.055	0.22	<0.026	0.031	<0.026	<0.052
MW-12	07/09/19	80-85	<0.019	<0.039	<0.039	<0.077	<0.039	<0.039	<0.039	<0.077
	07/12/19	160-165	<0.018	<0.037	<0.037	<0.073	<0.037	<0.037	<0.037	<0.073
	07/13/19	200-205	<0.019	<0.039	<0.039	<0.078	<0.039	<0.039	<0.039	<0.078
	07/16/19	325-330	0.043	<0.031	<0.031	<0.062	<0.031	<0.031	<0.031	<0.062
MW-13	08/04/19	65	<0.020	<0.040	<0.040	<0.080	<0.040	<0.040	<0.040	<0.080
	08/07/19	195	<0.015	<0.030	<0.030	<0.061	<0.030	<0.030	<0.030	<0.061
	08/08/19	295	<0.019	<0.038	<0.038	<0.077	<0.038	<0.038	<0.038	<0.077
	08/09/19	327	0.043	<0.063	<0.063	<0.13	<0.063	<0.063	<0.063	<0.13
MW-14	09/12/19	45	<0.017	<0.034	<0.034	<0.068	<0.034	<0.034	<0.034	<0.068
	09/13/19	170-175	<0.021	<0.042	<0.042	<0.084	<0.042	<0.042	<0.042	<0.084
	09/15/19	290-295	<0.017	<0.034	<0.034	<0.068	<0.034	<0.034	<0.034	<0.068
	09/15/19	320	<0.016	<0.033	<0.033	<0.065	<0.033	<0.033	<0.033	<0.065
RW-1	06/20/19	90-100	<0.016	<0.033	<0.033	<0.065	<0.033	<0.033	<0.033	<0.066
	06/21/19	190-200	<0.016	<0.033	<0.033	<0.065	<0.033	<0.033	<0.033	<0.065
	06/25/19	265-270	<0.018	<0.036	<0.036	<0.071	<0.036	<0.036	<0.036	<0.071
	06/26/19	320-330	<0.017	<0.034	<0.034	<0.068	<0.034	<0.034	<0.034	<0.068
RW-2	06/16/19	85	<0.014	<0.029	<0.029	<0.058	<0.029	<0.029	<0.029	<0.058
	06/16/19	175	<0.019	<0.038	<0.038	<0.076	<0.038	<0.038	<0.038	<0.076



**Table 1. Summary of Soil Analytical Organic Chemistry Data  
Former Y Station, Clovis, New Mexico**

Sample ID	Date Sampled	Sample Depth (ft bgs)	Concentration <sup>a</sup> (mg/kg)							
			Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDC	EDB	Naphthalene
RW-2 (cont.)	06/17/19	235	<0.017	<0.033	<0.033	<0.066	<0.033	<0.033	<0.033	<0.066
	06/18/19	329	51	330	73	410	<0.74	0.98	1.9	21
RW-3	08/21/19	50-55	<0.018	<0.037	<0.037	<0.074	<0.037	<0.037	<0.037	<0.074
	08/21/19	120	0.027	0.32	0.074	0.43	<0.030	<0.030	<0.030	<0.060
	08/25/19	294	<0.017	0.33	0.13	0.92	<0.033	<0.033	<0.033	0.091
	08/26/19	325-330	<0.017	<0.034	<0.034	<0.068	<0.034	<0.034	<0.034	<0.068
RW-4	09/05/19	6	<0.14	<0.29	<0.29	<0.57	<0.29	<0.29	<0.29	<0.57
	09/06/19	182	<0.017	<0.035	<0.035	<0.069	<0.035	<0.035	<0.035	<0.069
	09/07/19	292	<0.019	<0.038	<0.038	<0.075	<0.038	<0.038	<0.038	<0.075
	09/08/19	330	<0.016	<0.033	<0.033	<0.066	<0.033	<0.033	<0.033	<0.066

<sup>a</sup> Samples analyzed in accordance with U.S. Environmental Protection Agency (EPA) method 8260B.

mg/kg = Milligrams per kilogram  
 MTBE = Methyl tertiary-butyl ether  
 EDB = 1,2-Dibromoethane  
 EDC = 1,2-Dichloroethane





**Table 2. Summary of Fluid Level Measurements  
Former Y Station State Lead Site, Clovis, New Mexico**

Well Name	Screened Interval (ft bgs)	Top of Casing Elevation <sup>a</sup> (ft msl)	Date Measured	Depth to Water (ft btoc)	Depth to LNAPL (ft btoc)	LNAPL Thickness (feet)	Groundwater Elevation <sup>b</sup> (ft msl)
BW-1	295–345	4279.88 <sup>c</sup>	04/13/12	322.49	—	0.00	3957.39
			07/27/12	322.69	—	0.00	3957.19
			09/24/12	322.75	—	0.00	3957.13
		4279.55	04/29/14	325.75	—	0.00	3953.80
			05/08/15	326.60	—	0.00	3952.95
			09/10/15	326.96	—	0.00	3952.59
			03/29/16	327.12	—	0.00	3952.43
			07/26/16	327.34	—	0.00	3952.21
			07/10/18 <sup>d</sup>	327.93	—	0.00	3951.62
			02/14/19 <sup>d</sup>	328.18	—	0.00	3951.37
			03/06/19	328.11	—	0.00	3951.44
			05/02/19 <sup>d</sup>	328.41	—	0.00	3951.14
			05/20/19	328.20	—	0.00	3951.35
			08/13/19	328.61	—	0.00	3950.94
09/16/19	328.85	—	0.00	3950.70			
BW-2	287–347	4280.53 <sup>c</sup>	10/26/09	323.12	—	0.00	3957.41
			09/24/12	323.21	—	0.00	3957.32
		4280.23	04/29/14	326.14	—	0.00	3954.09
			05/08/15	327.00	—	0.00	3953.23
			09/10/15	327.33	—	0.00	3952.90
			03/29/16	327.52	—	0.00	3952.71
			07/26/16	327.78	—	0.00	3952.45
			07/10/18 <sup>d</sup>	328.38	—	0.00	3951.85
			02/14/19 <sup>d</sup>	328.60	—	0.00	3951.63
			03/06/19	328.53	—	0.00	3951.70



**Table 2. Summary of Fluid Level Measurements  
Former Y Station State Lead Site, Clovis, New Mexico**

Well Name	Screened Interval (ft bgs)	Top of Casing Elevation <sup>a</sup> (ft msl)	Date Measured	Depth to Water (ft btoc)	Depth to LNAPL (ft btoc)	LNAPL Thickness (feet)	Groundwater Elevation <sup>b</sup> (ft msl)
BW-2 (cont.)	287-347	4280.23	05/02/19 <sup>d</sup>	328.97	—	0.00	3951.26
			05/20/19	328.61	—	0.00	3951.62
			08/13/19	329.03	—	0.00	3951.20
			09/17/19	328.98	—	0.00	3951.25
BW-3	287-347	4280.17 <sup>c</sup>	10/26/09	322.36	—	0.00	3957.81
			09/24/12	322.44	—	0.00	3957.73
		4279.91	04/29/14	325.38	—	0.00	3954.53
			05/08/15	326.20	—	0.00	3953.71
			09/10/15	326.56	—	0.00	3953.35
			03/29/16	326.71	—	0.00	3953.20
			07/26/16	326.94	—	0.00	3952.97
			07/10/18 <sup>d</sup>	327.52	—	0.00	3952.39
			02/14/19 <sup>d</sup>	327.76	—	0.00	3952.15
			03/06/19	327.75	—	0.00	3952.16
			05/02/19 <sup>d</sup>	328.00	—	0.00	3951.91
			05/20/19	327.79	—	0.00	3952.12
			08/13/19	328.19	—	0.00	3951.72
09/16/19	328.11	—	0.00	3951.80			
BW-4	275-345	4280.02	04/29/14	326.04	—	0.00	3953.98
			05/08/15	326.80	—	0.00	3953.22
			09/10/15	327.23	—	0.00	3952.79
			03/29/16	327.27	—	0.00	3952.75
			07/26/16	327.52	—	0.00	3952.50
			07/10/18 <sup>d</sup>	327.95	—	0.00	3952.07
			02/14/19 <sup>d</sup>	328.29	—	0.00	3951.73



**Table 2. Summary of Fluid Level Measurements  
Former Y Station State Lead Site, Clovis, New Mexico**

Well Name	Screened Interval (ft bgs)	Top of Casing Elevation <sup>a</sup> (ft msl)	Date Measured	Depth to Water (ft btoc)	Depth to LNAPL (ft btoc)	LNAPL Thickness (feet)	Groundwater Elevation <sup>b</sup> (ft msl)
BW-4 (cont.)	275–345	4280.02	03/06/19	328.20	—	0.00	3951.82
			05/02/19 <sup>d</sup>	328.59	—	0.00	3951.43
			05/20/19	328.36	—	0.00	3951.66
			08/13/19	328.74	—	0.00	3951.28
			09/17/19	328.59	—	0.00	3951.43
BW-5	273.5–348.5	4278.99	04/29/14	325.53	—	0.00	3953.46
			05/08/15	326.27	—	0.00	3952.72
			09/10/15	326.73	—	0.00	3952.26
			03/29/16	326.87	—	0.00	3952.12
			07/26/16	326.98	—	0.00	3952.01
			07/10/18 <sup>d</sup>	327.53	—	0.00	3951.46
			02/14/19 <sup>d</sup>	329.46	NA	NA	NA
			03/06/19	329.28	327.36	1.92	3951.15
			05/02/19 <sup>d</sup>	329.70	NA	NA	NA
			05/20/19	329.35	327.58	1.77	3950.97
			08/13/19	328.89	328.20	0.69	3950.62
09/20/19	328.94	328.18	0.76	3950.62			
BW-6	275–345	4280.24	04/29/14	326.46	—	0.00	3953.78
			05/08/15	327.27	—	0.00	3952.97
			09/10/15	327.60	—	0.00	3952.64
			03/29/16	327.70	—	0.00	3952.54
			07/26/16	328.08	—	0.00	3952.16
			07/10/18 <sup>d</sup>	328.72	—	0.00	3951.52
			02/14/19 <sup>d</sup>	328.91	—	0.00	3951.33
			03/06/19	328.82	—	0.00	3951.42



**Table 2. Summary of Fluid Level Measurements  
Former Y Station State Lead Site, Clovis, New Mexico**

Well Name	Screened Interval (ft bgs)	Top of Casing Elevation <sup>a</sup> (ft msl)	Date Measured	Depth to Water (ft btoc)	Depth to LNAPL (ft btoc)	LNAPL Thickness (feet)	Groundwater Elevation <sup>b</sup> (ft msl)
BW-6 (cont.)	275-345	4280.24	05/02/19 <sup>d</sup>	329.23	—	0.00	3951.01
			05/20/19	328.91	—	0.00	3951.33
			08/13/19	329.35	—	0.00	3950.89
			09/16/19	329.18	—	0.00	3951.06
BW-7	284-349	4277.47	04/29/14	324.63	—	0.00	3952.84
			05/08/15	325.42	—	0.00	3952.05
			09/10/15	325.84	—	0.00	3951.63
			03/29/16	326.01	—	0.00	3951.46
			07/26/16	326.14	—	0.00	3951.33
			03/06/19	326.88	—	0.00	3950.59
			05/20/19	327.11	—	0.00	3950.36
			08/13/19	327.47	—	0.00	3950.00
BW-7R		4277.44	08/13/19	327.33	—	0.00	3950.11
			09/21/19	327.80	—	0.00	3949.64
BW-8	287-347	4278.74	03/29/16	326.61	—	0.00	3952.13
			07/26/16	326.75	—	0.00	3951.99
			07/10/18 <sup>d</sup>	327.33	—	0.00	3951.41
			02/14/19 <sup>d</sup>	327.73	—	0.00	3951.01
			03/06/19	327.55	—	0.00	3951.19
			05/20/19	327.72	—	0.00	3951.02
			08/13/19	328.10	—	0.00	3950.64
BW-9	287-347	4278.31	03/29/16	326.30	—	0.00	3952.01
			07/26/16	326.60	—	0.00	3951.71



**Table 2. Summary of Fluid Level Measurements  
Former Y Station State Lead Site, Clovis, New Mexico**

Well Name	Screened Interval (ft bgs)	Top of Casing Elevation <sup>a</sup> (ft msl)	Date Measured	Depth to Water (ft btoc)	Depth to LNAPL (ft btoc)	LNAPL Thickness (feet)	Groundwater Elevation <sup>b</sup> (ft msl)
BW-9 (cont.)	287–347	4278.31	03/06/19	327.33	—	0.00	3950.98
			05/02/19 <sup>d</sup>	327.67	—	0.00	3950.64
			05/20/19	327.44	—	0.00	3950.87
			08/13/19	327.81	—	0.00	3950.50
			09/17/19	327.74	—	0.00	3950.57
BW-10	306–346	4275.11	03/29/16	323.92	—	0.00	3951.19
			07/26/16	324.21	—	0.00	3950.90
			03/06/19	324.96	—	0.00	3950.15
			05/20/19	324.99	—	0.00	3950.12
			08/13/19	325.44	—	0.00	3949.67
			09/17/19	325.30	—	0.00	3949.81
MW-11	285.5–355.5	4274.64	08/13/19	325.81	—	0.00	3948.83
			09/18/19	325.85	—	0.00	3948.79
MW-12	287–357	4277.60	08/13/19	328.16	—	0.00	3949.44
			09/20/19	328.14	—	0.00	3949.46
MW-13	287–357	4275.82	08/13/19	326.33	—	0.00	3949.49
			09/21/19	326.44	—	0.00	3949.38
MW-14	280.5-350.73	4265.25	09/19/19	318.03	—	0.00	3947.22
RW-1	265–355	4280.00	08/13/19	328.89	—	0.00	3951.11
			09/19/19	328.84	—	0.00	3951.16
RW-2	290–360	4279.70	08/13/19	329.00	—	0.00	3950.70
			09/18/19	328.97	—	0.00	3950.73
RW-3	289.27-364.52	4278.78	09/20/19	327.95	—	0.00	3950.83
RW-4	291.15-361.51	4278.84	09/19/19	328.48	—	0.00	3950.36

Table notes and acronyms found on next page



**Table 2. Summary of Fluid Level Measurements  
Former Y Station State Lead Site, Clovis, New Mexico**

Note: Pre-2017 data reported by Brown Environmental, Inc. (BEI, 2016).

<sup>a</sup> Surveyed by Lydick Engineers & Surveyors, October 2019. For consistency,  
historical groundwater elevations reference current survey data.

<sup>b</sup> Groundwater elevation (GWE) corrected for LNAPL thickness using the following equation:  
$$\text{GWE} = \text{TOC Elevation} - (\text{DTW} - [\text{LNAPL thickness} \times 0.75]).$$

<sup>c</sup> Well survey data reported by BEI following well installation.

<sup>d</sup> Data reported by Brown Environmental, Inc. (BEI, 2019).

ft bgs = Feet below ground surface

ft msl = Feet above mean sea level

ft btoc = Feet below top of casing

DTW = Depth to water

LNAPL = Light nonaqueous-phase liquid

NA = Not measured or not available



**Table 3. Summary of LNAPL Recovery From Site Wells  
Former Y Station State Lead Site, Clovis, New Mexico**

Date Bailed	Depth to Water <sup>a</sup> (ft btoc)	Depth to LNAPL (ft btoc)	Initial LNAPL Thickness (feet)	Depth to Water <sup>b</sup> (ft btoc)	Total Volume of Fluids Removed (gallons)	Volume of LNAPL Removed (gallons)	Cumulative Volume of LNAPL Removed (gallons)	Final Thickness of LNAPL (feet)
Cumulative volume of LNAPL recovered by DBS&A is approximately 3 gallons, as tabulated below.								
BW-5								
5/23/2019	329.35	327.58	1.77	328.02	7.16	1.95	1.95	0.26
9/20/2019	328.94	328.18	0.76	328.37	5.35	0.95	2.90	0.01

<sup>a</sup> Depth to water (DTW) before correction for LNAPL thickness.

<sup>b</sup> DTW corrected for LNAPL thickness using the following equation:  
DTW = DTW - (LNAPL thickness x 0.75).

LNAPL = Nonaqueous-phase liquid

ft btoc = Feet below top of casing



**Table 4. Summary of Analytical Organic Chemistry Data for Groundwater  
Former Y Station State Lead Site, Clovis, New Mexico**

Well Name	Date Sampled	Concentration <sup>a</sup> (µg/L)								
		Benzene	Toluene	Ethyl- benzene	Total Xylenes	BTEX	MTBE	EDB	EDC	Total Naphthalenes
<i>NMWQCC Standard</i>		5	1,000	700	620	None	100	0.05	5	30
BW-1	04/13/12	<b>240</b>	61	4.5	20	325.5	1.6	<1.0 <sup>b</sup>	3.5	<10
	09/25/12	<b>290</b>	29	4.9	34	357.9	<1.0	<1.0 <sup>b</sup>	<b>5.2</b>	<10
	09/25/12 <sup>c</sup>	<b>200</b>	46	7.8	45	298.8	<1.0	<1.0 <sup>b</sup>	<b>6.2</b>	<10
	04/30/14	<b>50</b>	6.0	<1.0	1.6	57.6	<1.0	<1.0 <sup>b</sup>	1.4	<10
	05/07/15	<b>130</b>	5.5	<1.0	5.6	141.1	1.1	<1.0 <sup>b</sup>	2.6	<10
	09/11/15	<b>13</b>	55	<1.0	<1.5	68	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	03/30/16	<b>40</b>	130	<1.0	<1.5	170	<1.0	<1.0 <sup>b</sup>	1.3	<10
	07/27/16	<b>18</b>	15	<1.0	<1.5	33	1.2	<1.0 <sup>b</sup>	1.9	<10
	07/10/18	<1.0	2.9	<1.0	<1.5	2.9	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	07/10/18 <sup>c</sup>	<1.0	2.9	<1.0	<1.5	2.9	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	02/15/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0094 <sup>d</sup>	<1.0	<10
	02/15/19 <sup>c</sup>	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0094 <sup>d</sup>	<1.0	<10
	05/03/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	05/03/19 <sup>c</sup>	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	05/22/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0094 <sup>d</sup>	<1.0	<10
09/16/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0093 <sup>d</sup>	<1.0	<10	
BW-2	09/25/12	<b>21</b>	15	<1.0	6.2	42.2	<1.0	<1.0 <sup>b</sup>	1.0	<10
	04/29/14	<1.0	5.6	<1.0	<1.5	5.6	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	05/07/15	<1.0	18	<1.0	<1.5	18	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	09/10/15	<b>7.2</b>	21	<1.0	<1.5	28.2	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	03/29/16	<1.0	97	<1.0	<1.5	97	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	07/26/16	<1.0	2.5	<1.0	<1.5	2.5	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	07/10/18	<1.0	1.7	<1.0	<1.5	1.7	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	02/14/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0095 <sup>d</sup>	<1.0	<10
05/02/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<1.0 <sup>b</sup>	<1.0	<10	





**Table 4. Summary of Analytical Organic Chemistry Data for Groundwater  
Former Y Station State Lead Site, Clovis, New Mexico**

Well Name	Date Sampled	Concentration <sup>a</sup> (µg/L)								
		Benzene	Toluene	Ethyl- benzene	Total Xylenes	BTEX	MTBE	EDB	EDC	Total Naphthalenes
<i>NMWQCC Standard</i>		5	1,000	700	620	None	100	0.05	5	30
BW-2 (cont.)	05/21/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0095 <sup>d</sup>	<1.0	<10
	09/17/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0092 <sup>d</sup>	<1.0	<10
BW-3	09/25/12	1.4	56	<1.0	6.1	63.5	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	04/29/14	<1.0	14	<1.0	<1.5	14	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	05/07/15	2.6	5.0	<1.0	3.5	11.1	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	09/10/15	<1.0	46	<1.0	<1.5	46	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	03/29/16	<1.0	180	<1.0	2.2	182.2	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	07/26/16	<1.0	4.0	<1.0	<1.5	4.0	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	07/10/18	<1.0	4.3	<1.0	<1.5	4.3	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	02/15/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0094 <sup>d</sup>	<1.0	<10
	05/03/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	05/21/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0094 <sup>d</sup>	<1.0	<10
	09/16/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0093 <sup>d</sup>	<1.0	<10
BW-4	04/30/14	<1.0	11	<1.0	<1.5	11	<1.0	<1.0 <sup>b</sup>	1.8	<10
	05/07/15	<b>1,100</b>	<b>1,100</b>	61	600	2,861	<1.0	<1.0 <sup>b</sup>	<b>32</b>	<10
	09/10/15	1.9	43	<1.0	<1.5	44.9	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	03/30/16	<b>200</b>	200	5.1	33	438.1	<1.0	<1.0 <sup>b</sup>	<b>6.9</b>	<10
	07/27/16	<b>140</b>	85	1.2	15	241.2	<1.0	<1.0 <sup>b</sup>	<b>6.9</b>	<10
	05/22/19	1.8	<1.0	<1.0	<1.5	1.8	<1.0	<0.0094 <sup>d</sup>	2.1	<10
	09/17/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0092 <sup>d</sup>	<1.0	<10
BW-5	04/29/14	<b>2,100</b>	<b>1,800</b>	200	<b>990</b>	5,090	<1.0	<b>29</b>	<b>100</b>	<b>59.9</b>
	05/08/15	<b>3,700</b>	<b>2,800</b>	300	<b>1,700</b>	8,500	<5.0	<b>51</b>	<b>180</b>	<b>83</b>
	09/11/15	<b>2,000</b>	<b>1,400</b>	220	<b>900</b>	4,520	<5.0	<b>18</b>	<b>100</b>	<b>80</b>
	09/11/15 <sup>c</sup>	<b>1,900</b>	<b>1,300</b>	230	<b>960</b>	4,390	<5.0	<b>20</b>	<b>100</b>	<b>64</b>
	03/30/16	<b>5,000</b>	<b>4,200</b>	500	<b>2,000</b>	11,700	<5.0	<b>54</b>	<b>230</b>	<500 <sup>b</sup>



**Table 4. Summary of Analytical Organic Chemistry Data for Groundwater  
Former Y Station State Lead Site, Clovis, New Mexico**

Well Name	Date Sampled	Concentration <sup>a</sup> (µg/L)								
		Benzene	Toluene	Ethyl- benzene	Total Xylenes	BTEX	MTBE	EDB	EDC	Total Naphthalenes
<i>NMWQCC Standard</i>		5	1,000	700	620	None	100	0.05	5	30
BW-5 (cont.)	07/28/16	<b>2,000</b>	<b>2,400</b>	270	<b>1,300</b>	5,970	<10	<b>29</b>	<b>110</b>	<b>141</b>
	05/20/18	Well not sampled due to presence of LNAPL								
	09/20/19	Well not sampled due to presence of LNAPL								
BW-6	04/29/14	<1.0	10	<1.0	<1.5	10	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	05/07/15	<1.0	8.4	<1.0	<1.5	8.4	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	09/10/15	<1.0	36	<1.0	<1.5	36	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	03/29/16	<1.0	130	<1.0	<1.5	130	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	07/26/16	<1.0	3.8	<1.0	<1.5	3.8	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	07/11/18	<1.0	10	<1.0	<1.5	10	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	02/15/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0095 <sup>d</sup>	<1.0	<10
	05/02/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	05/21/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0094 <sup>d</sup>	<1.0	<10
09/16/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0094 <sup>d</sup>	<1.0	<10	
BW-7	04/30/14	<b>990</b>	3.4	67	260	1,320	<1.0	<b>2.6</b>	<b>75</b>	21.1
	04/30/14 <sup>c</sup>	<b>1,100</b>	4.4	74	300	1,478	<1.0	<b>2.9</b>	<b>75</b>	20.1
	05/08/15	<b>3,200</b>	<b>1,200</b>	210	<b>920</b>	5,530	<1.0	<b>9.6</b>	<b>230</b>	<b>45.5</b>
	09/11/15	<b>9,400</b>	<b>5,000</b>	<b>750</b>	<b>2,600</b>	17,750	<1.0	<b>36</b>	<b>590</b>	<b>204</b>
	03/31/16	<b>8,800</b>	<b>2,900</b>	650	<b>2,100</b>	14,450	<1.0	<50 <sup>b</sup>	<b>580</b>	<b>120</b>
	07/28/16	<b>8,000</b>	<b>1,100</b>	630	<b>1,200</b>	10,930	<50	<50 <sup>b</sup>	<b>500</b>	<b>120</b>
	05/22/19	<b>1,400</b>	140	100	230	1,870	<5.0	<b>0.24</b>	<b>180</b>	22
09/18/19	<b>590</b>	5.3	56	88	739.3	<2.0	<b>0.31<sup>d</sup></b>	<b>120</b>	15	
BW-7R	09/21/19	<b>51</b>	9.4	1.5	9.2	71.1	<1.0	<b>0.096<sup>d</sup></b>	<b>22</b>	<10
BW-8	03/31/16	<b>3,900</b>	<b>5,400</b>	440	<b>2,400</b>	12,140	<1.0	<b>95</b>	<b>210</b>	<500 <sup>b</sup>
	03/31/16 <sup>c</sup>	<b>4,300</b>	<b>5,900</b>	500	<b>2,700</b>	13,400	<1.0	<b>110</b>	<b>230</b>	<b>100</b>
	07/28/16	<b>3,600</b>	<b>4,800</b>	380	<b>2,500</b>	11,280	<50	<b>100</b>	<b>180</b>	<b>120</b>



**Table 4. Summary of Analytical Organic Chemistry Data for Groundwater  
Former Y Station State Lead Site, Clovis, New Mexico**

Well Name	Date Sampled	Concentration <sup>a</sup> (µg/L)								
		Benzene	Toluene	Ethyl- benzene	Total Xylenes	BTEX	MTBE	EDB	EDC	Total Naphthalenes
<i>NMWQCC Standard</i>		5	1,000	700	620	None	100	0.05	5	30
BW-8 (cont.)	07/28/16 <sup>c</sup>	<b>3,400</b>	<b>4,700</b>	380	<b>2,500</b>	10,980	<50	<b>100</b>	<b>180</b>	<b>120</b>
	05/30/19	<b>4,600</b>	<b>4,200</b>	390	<b>1,200</b>	10,390	<5.0	<b>9.1<sup>d</sup></b>	<b>290</b>	<b>67</b>
	09/18/19	<b>5,000</b>	<b>4,300</b>	420	<b>1,400</b>	11,120	<10	<b>14<sup>d</sup></b>	<b>270</b>	<b>94</b>
BW-9	03/30/16	<1.0	190	<1.0	<1.5	190	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	07/27/16	<1.0	6.1	<1.0	<1.5	6.1	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	05/21/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0093 <sup>d</sup>	<1.0	<10
	09/17/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0093 <sup>d</sup>	<1.0	<10
BW-10	03/29/16	<1.0	280	<1.0	<1.5	280	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	07/27/16	<1.0	33	<1.0	<1.5	33	<1.0	<1.0 <sup>b</sup>	<1.0	<10
	05/21/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0093 <sup>d</sup>	<1.0	<10
	09/17/19	<1.0	<1.0	<1.0	<1.5	<4.5	<1.0	<0.0094 <sup>d</sup>	<1.0	<10
MW-11	09/18/19	<b>3,300</b>	5.0	280	<b>1,100</b>	4,685	<5.0	<b>5.0<sup>d</sup></b>	<b>130</b>	<b>40</b>
MW-12	09/20/19	<b>1,400</b>	27	9.4	200	1,636.4	<1.0	<b>0.78<sup>d</sup></b>	<b>72</b>	6.0
MW-13	09/21/19	<b>97</b>	6.4	9.2	29	141.6	<1.0	0.037 <sup>d</sup>	<b>5.1</b>	<10
MW-14	09/19/19	4.0	15	2.8	15	36.8	<1.0	<b>0.050<sup>d</sup></b>	<1.0	<10
RW-1	09/19/19	<b>720</b>	800	47	430	1,997	<1.0	<b>6.4<sup>d</sup></b>	<b>36</b>	10
RW-2	09/18/19	<b>3,500</b>	<b>3,300</b>	210	<b>1,600</b>	8,610	<10	<b>74<sup>d</sup></b>	<b>220</b>	<b>58</b>
RW-3	09/20/19	<b>4,100</b>	<b>5,100</b>	310	<b>2,300</b>	11,810	<10	<b>25<sup>d</sup></b>	<b>130</b>	<b>58</b>
RW-4	09/19/19	<b>690</b>	730	47	340	1,807	<1.0	<b>5.2<sup>d</sup></b>	<b>28</b>	5.4

**Bold** indicates values that exceed applicable standards.

Pre-May 2, 2019 data reported by Brown Environmental, Inc. (BEI, 2016).

<sup>a</sup> Samples analyzed in accordance with EPA method 8260B, unless otherwise noted.

<sup>b</sup> Laboratory reporting limit is equal or greater than the NMWQCC standard.

<sup>c</sup> Duplicate sample

<sup>d</sup> Samples analyzed in accordance with EPA method 504.1.

µg/L = Micrograms per liter

BTEX = Benzene, toluene, ethylbenzene, and total xylenes

MTBE = Methyl tertiary-butyl ether

EDB = 1,2-Dibromoethane

EDC = 1,2-Dichloroethane

NMWQCC = New Mexico Water Quality Control Commission

LNAPL = Light nonaqueous-phase liquid

**Appendix A**  
**Well Permits**

John R. D Antonio, Jr., P.E.  
State Engineer



Roswell Office  
1900 WEST SECOND STREET  
ROSWELL, NM 88201

**STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 649169  
File Nbr: CC 02536

May. 13, 2019

THOMAS GOLDEN  
NMED PETROLEUM STORAGE TANK BUREAU  
6020 ACADEMY RD NE SUITE 100  
ALBUQUERQUE, NM 87109

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

- \* If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.
- \* If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.
- \* The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.
- \* This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website [www.ose.state.nm.us](http://www.ose.state.nm.us).

Sincerely,

A handwritten signature in black ink, appearing to read "Andrew Dennis".

Andrew Dennis  
(575) 622-6521

Enclosure

explores

**NEW MEXICO OFFICE OF THE STATE ENGINEER**



**WR-07 APPLICATION FOR PERMIT TO DRILL  
A WELL WITH NO WATER RIGHT**



(check applicable box):

For fees, see State Engineer website: <http://www.ose.state.nm.us/>

Purpose:	<input type="checkbox"/> Pollution Control And/Or Recovery	<input type="checkbox"/> Ground Source Heat Pump
<input type="checkbox"/> Exploratory Well (Pump test)	<input type="checkbox"/> Construction Site/Public Works Dewatering	<input type="checkbox"/> Other(Describe):
<input checked="" type="checkbox"/> Monitoring Well	<input type="checkbox"/> Mine Dewatering	
A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.		
<input checked="" type="checkbox"/> Temporary Request - Requested Start Date: 05/27/2019		Requested End Date: Unknown
Plugging Plan of Operations Submitted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

**1. APPLICANT(S)**

Name: NMED Petroleum Storage Tank Bureau	Name:
Contact or Agent: <input checked="" type="checkbox"/> check here if Agent Thomas Golden for Daniel B. Stephens & Associates, Inc.	Contact or Agent: <input type="checkbox"/> check here if Agent
Mailing Address: 6020 Academy Rd. NE, Suite 100	Mailing Address:
City: Albuquerque	City:
State: NM      Zip Code: 87109	State:      Zip Code:
Phone: 505-822-9400 <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work):	Phone: <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work):
E-mail (optional): TGolden@geo-logic.com	E-mail (optional):

FOR OSE INTERNAL USE      Application for Permit, Form WR-07, Rev 11/17/16

File No.: <b>CC-2536</b>	Trn. No.: <b>649169</b>	Receipt No.:
Trans Description (optional):		
Sub-Basin: <b>CU</b>	PCW/LOG Due Date: <b>5/13/20</b>	

2. WELL(S) Describe the well(s) applicable to this application.

**Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).  
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.**

NM State Plane (NAD83) (Feet)       UTM (NAD83) (Meters)       Lat/Long (WGS84) (to the nearest 1/10<sup>th</sup> of second)
   
 NM West Zone       Zone 12N
   
 NM East Zone       Zone 13N
   
 NM Central Zone

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves, Section, Township, Range) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
RW-1	103° 11' 48.2" W	34° 25' 6.23"N	
RW-2	103° 11' 47.91" W	34° 25' 4.67" N	
RW-3	103° 11' 46.77" W	34° 25' 5.43" N	
RW-4	103° 11' 46.46" W	34° 25' 4.01" N	
BW-7R	103° 11' 46.38" W	34° 25' 2.70" N	

**NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)**  
 Additional well descriptions are attached:  Yes  No      If yes, how many 1

Other description relating well to common landmarks, streets, or other:  
 721 Commerce Way, Clovis New Mexico, in the general vicinity of the intersection of N Prince St and Commerce Way. Please see attached map.

Well is on land owned by: City of Clovis, Raymond Montoya, Clovis Grocery Owners LLC, Clovis Shopping Center LLC

**Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached?**  Yes  No  
 If yes, how many 1

Approximate depth of well (feet): 365 (see attached table)	Outside diameter of well casing (inches): 2-5 inches
Driller Name: Yellow Jacket	Driller License Number: WD-1458

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Daniel B. Stephens & Associates, Inc. has been contracted by the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB) to investigate and remediate a petroleum hydrocarbon release at the Former Y Station State Lead Site in Clovis, NM. The investigation will be conducted to determine the horizontal and vertical extent of light non-aqueous phase liquid (LNAPL) and dissolved-phase contamination at the site. The duration of the monitoring is unknown.

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.: <u>CG-2536</u>	Trn No.: <u>649169</u>
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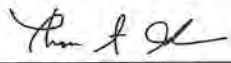
**4. SPECIFIC REQUIREMENTS:** The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

<p><b>Exploratory:</b>  <input type="checkbox"/> Include a description of any proposed pump test, if applicable.</p>	<p><b>Pollution Control and/or Recovery:</b>  <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following:  <input type="checkbox"/> A description of the need for the pollution control or recovery operation.  <input type="checkbox"/> The estimated maximum period of time for completion of the operation.  <input type="checkbox"/> The annual diversion amount.  <input type="checkbox"/> The annual consumptive use amount.  <input type="checkbox"/> The maximum amount of water to be diverted and injected for the duration of the operation.  <input type="checkbox"/> The method and place of discharge.</p>	<p><b>Construction De-Watering:</b>  <input type="checkbox"/> Include a description of the proposed dewatering operation,  <input type="checkbox"/> The estimated duration of the operation,  <input type="checkbox"/> The maximum amount of water to be diverted,  <input type="checkbox"/> A description of the need for the dewatering operation, and,  <input type="checkbox"/> A description of how the diverted water will be disposed of.</p>	<p><b>Mine De-Watering:</b>  <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following:  <input type="checkbox"/> A description of the need for mine dewatering.  <input type="checkbox"/> The estimated maximum period of time for completion of the operation.  <input type="checkbox"/> The source(s) of the water to be diverted.  <input type="checkbox"/> The geohydrologic characteristics of the aquifer(s).  <input type="checkbox"/> The maximum amount of water to be diverted per annum.  <input type="checkbox"/> The maximum amount of water to be diverted for the duration of the operation.  <input type="checkbox"/> The quality of the water.</p>
<p><b>Monitoring:</b>  <input checked="" type="checkbox"/> Include the reason for the monitoring well, and,  <input checked="" type="checkbox"/> The duration of the planned monitoring.</p>	<p><input type="checkbox"/> The method of measurement of water produced and discharged.  <input type="checkbox"/> The source of water to be injected.  <input type="checkbox"/> The method of measurement of water injected.  <input type="checkbox"/> The characteristics of the aquifer.  <input type="checkbox"/> The method of determining the resulting annual consumptive use of water and depletion from any related stream system.  <input type="checkbox"/> Proof of any permit required from the New Mexico Environment Department.  <input type="checkbox"/> An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.</p>	<p><b>Ground Source Heat Pump:</b>  <input type="checkbox"/> Include a description of the geothermal heat exchange project,  <input type="checkbox"/> The number of boreholes for the completed project and required depths,  <input type="checkbox"/> The time frame for constructing the geothermal heat exchange project, and,  <input type="checkbox"/> The duration of the project.  <input type="checkbox"/> Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.</p>	<p><input type="checkbox"/> The method of measurement of water diverted.  <input type="checkbox"/> The recharge of water to the aquifer.  <input type="checkbox"/> Description of the estimated area of hydrologic effect of the project.  <input type="checkbox"/> The method and place of discharge.  <input type="checkbox"/> An estimation of the effects on surface water rights and underground water rights from the mine dewatering project.  <input type="checkbox"/> A description of the methods employed to estimate effects on surface water rights and underground water rights.  <input type="checkbox"/> Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.</p>

**ACKNOWLEDGEMENT**

I, We (name of applicant(s)), Thomas Golden on behalf of the NMED PSTB  
 Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

 Digitally signed by Thomas Golden  
 Date: 2019.04.25 18:03:37 -06'00'  
 Applicant Signature Applicant Signature

**ACTION OF THE STATE ENGINEER**

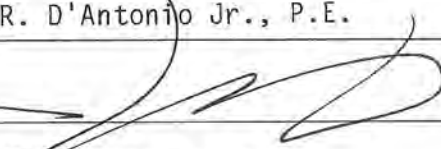
This application is:

approved  partially approved  denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 13th day of May 20 19, for the State Engineer,

John R. D'Antonio Jr., P.E. State Engineer

By:  Juan Hernandez  
 Signature Print  
 Title: Water Resources Manager I  
 Print

STATE OF NEW MEXICO  
 OFFICE OF THE STATE ENGINEER  
 2019 APR 25 09:18:28

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.: <u>CC-2536</u>	Trn No.: <u>649169</u>
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# NEW MEXICO OFFICE OF THE STATE ENGINEER



## ATTACHMENT 1 POINT OF DIVERSION DESCRIPTIONS

This Attachment is to be completed if more than one (1) point of diversion is described on an Application or Declaration.

<b>a. Is this a:</b> <input type="checkbox"/> Move-From Point of Diversion(s) <input type="checkbox"/> Move-To Point of Diversion(s)		<b>b. Information on Attachment(s):</b> Number of points of diversion involved in the application: <u>7</u> Total number of pages attached to the application: <u>1</u>			
<input type="checkbox"/> <b>Surface Point of Diversion</b>		<b>OR</b>		<input checked="" type="checkbox"/> <b>Well</b>	
Name of ditch, acequia, or spring:					
Stream or water course:					
Tributary of:					
<b>c. Location (Required):</b> <span style="color: red;">Required: Move to POD location coordinate must be either New Mexico State Plane (NAD 83), UTM (NAD 83), or Lat/Long (WGS84)</span>					
NM State Plane (NAD83) (feet) NM West Zone <input type="checkbox"/> NM Central Zone <input type="checkbox"/> NM East Zone <input type="checkbox"/>	UTM (NAD83) (meters) Zone 13N <input type="checkbox"/> Zone 12N <input type="checkbox"/>	<input checked="" type="checkbox"/> Lat/Long-- (WGS84) 1/10 <sup>th</sup> of second	OTHER (allowable only for move-from descriptions - see application form for format) <input type="checkbox"/> PLSS (quarters, section, township, range) <input type="checkbox"/> Hydrographic Survey, Map & Tract <input type="checkbox"/> Lot, Block & Subdivision <input type="checkbox"/> Grant		
POD Number:	X or Longitude	Y or Latitude	Other Location Description:		
MW-11	103° 11' 44.98" W	34° 24' 58.65" N			
POD Number:	X or Longitude	Y or Latitude	Other Location Description:		
MW-12	103° 11' 43.56" W	34° 25' 2.41" N			
POD Number:	X or Longitude	Y or Latitude	Other Location Description:		
POD Number:	X or Longitude	Y or Latitude	Other Location Description:		
POD Number:	X or Longitude	Y or Latitude	Other Location Description:		
POD Number:	X or Longitude	Y or Latitude	Other Location Description:		
POD Number:	X or Longitude	Y or Latitude	Other Location Description:		
POD Number:	X or Longitude	Y or Latitude	Other Location Description:		
POD Number:	X or Longitude	Y or Latitude	Other Location Description:		

FOR OSE INTERNAL USE

Form wr-08

POD DESCRIPTIONS - ATTACHMENT 1

File Number: <u>CC-2536</u>	Trn Number: <u>649169</u>
Trans Description (optional): <u>CU</u>	

NEW MEXICO STATE ENGINEER OFFICE  
PERMIT TO EXPLORE

**SPECIFIC CONDITIONS OF APPROVAL**

- 17-1A Depth of the well shall not exceed the thickness of the valley fill.
- 17-4 No water shall be appropriated and beneficially used under this permit.
- 17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.
- 17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

**NEW MEXICO STATE ENGINEER OFFICE  
PERMIT TO EXPLORE**

**SPECIFIC CONDITIONS OF APPROVAL (Continued)**

- 17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.
- 17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.  
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.
- 17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.
- 17-Q The State Engineer retains jurisdiction over this permit.
- 17-R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.
- LOG The Point of Diversion CC 02536 must be completed and the Well Log filed on or before 05/13/2020.
- LOG The Point of Diversion CC 02536 POD2 must be completed and the Well Log filed on or before 05/13/2020.

NEW MEXICO STATE ENGINEER OFFICE  
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

- LOG The Point of Diversion CC 02536 POD3 must be completed and the Well Log filed on or before 05/13/2020.
- LOG The Point of Diversion CC 02536 POD4 must be completed and the Well Log filed on or before 05/13/2020.
- LOG The Point of Diversion CC 02536 POD5 must be completed and the Well Log filed on or before 05/13/2020.
- LOG The Point of Diversion CC 02536 POD6 must be completed and the Well Log filed on or before 05/13/2020.
- LOG The Point of Diversion CC 02536 POD7 must be completed and the Well Log filed on or before 05/13/2020.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd:	Date Rcvd. Corrected:
Formal Application Rcvd: 04/29/2019	Pub. of Notice Ordered:
Date Returned - Correction:	Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 13 day of May A.D., 2019

John R. D Antonio, Jr., P.E. State Engineer

By: JUAN HERNANDEZ



Trn Desc: CC 02536 POD1-7

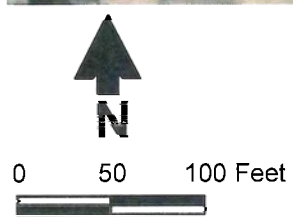
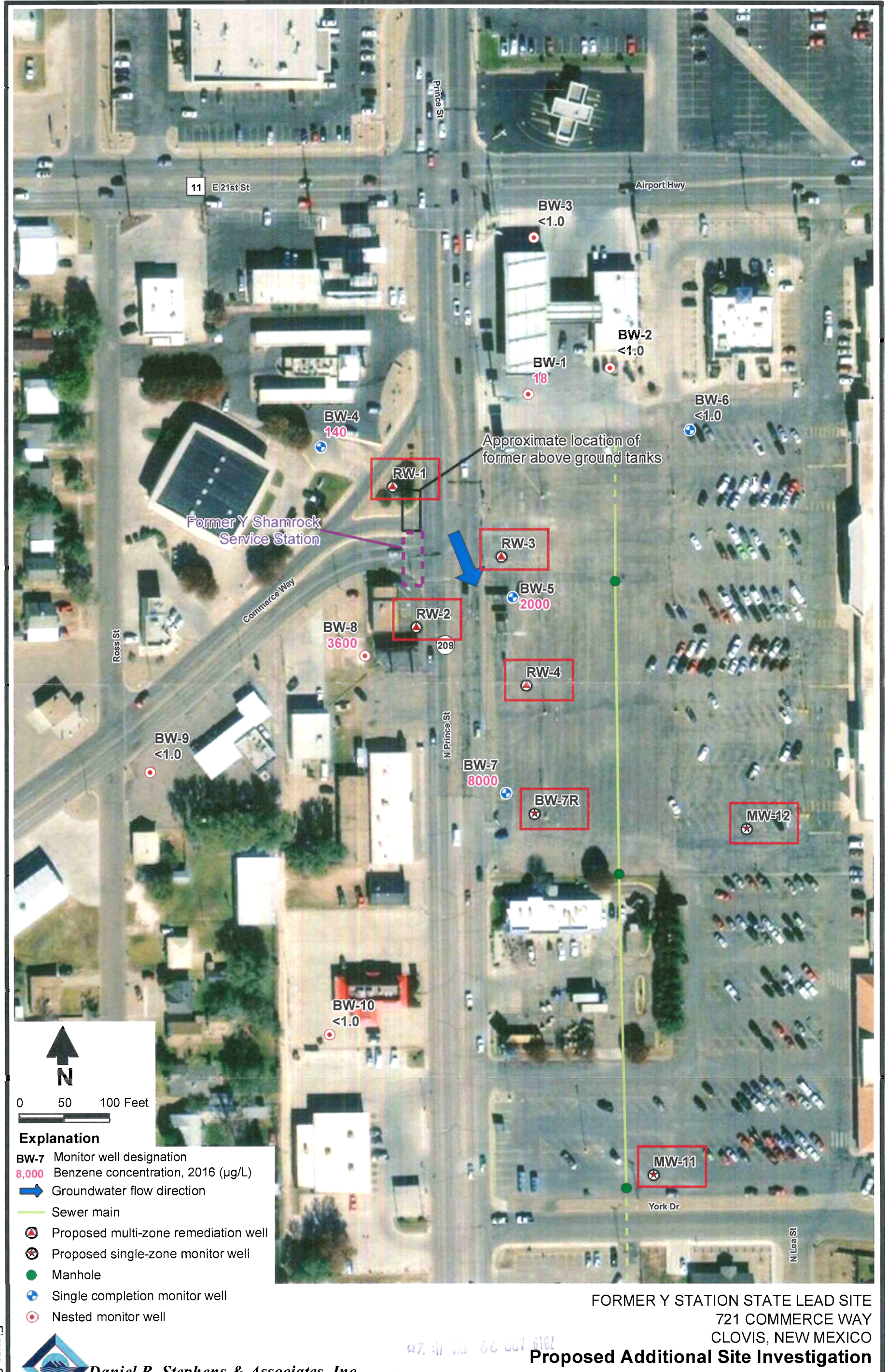
File Number: CC 02536  
Trn Number: 649169

**Table 1. Well Designations and Construction Details**

Well Designation	Location	Total Depth (feet bgs)	Borehole Diameter(s)	Well Materials	Screen Intervals(s) (feet)
RW-1s <sup>a</sup>	On-site	365	10-inch to 200 feet	2-inch	135-195
RW-1i			9-inch to 280 feet	2-inch	215-275
RW-1d			8-inch to TD	4-inch	290-360
RW-2s <sup>a</sup>	On-site	365	10-inch to 200 feet	2-inch	135-195
RW-2i			9-inch to 280 feet	2-inch	215-275
RW-2d			8-inch to TD	4-inch	290-360
RW-3s <sup>a</sup>	Off-site	365	10-inch to 200 feet	2-inch	135-195
RW-3i			9-inch to 280 feet	2-inch	215-275
RW-3d			8-inch to TD	4-inch	290-360
RW-4s <sup>a</sup>	Off-site	365	10-inch to 200 feet	2-inch	135-195
RW-4i			9-inch to 280 feet	2-inch	215-275
RW-4d			8-inch to TD	4-inch	290-360
BW-7R	Off-site	365	10-inch to TD	5-inch	290-360
MW-11	Off-site	365	10-inch to TD	5-inch	290-360
MW-12	Off-site	365	10-inch to TD	5-inch	290-360

<sup>a</sup> Denotes nested well  
 bgs = Below ground surface  
 TD = Total depth

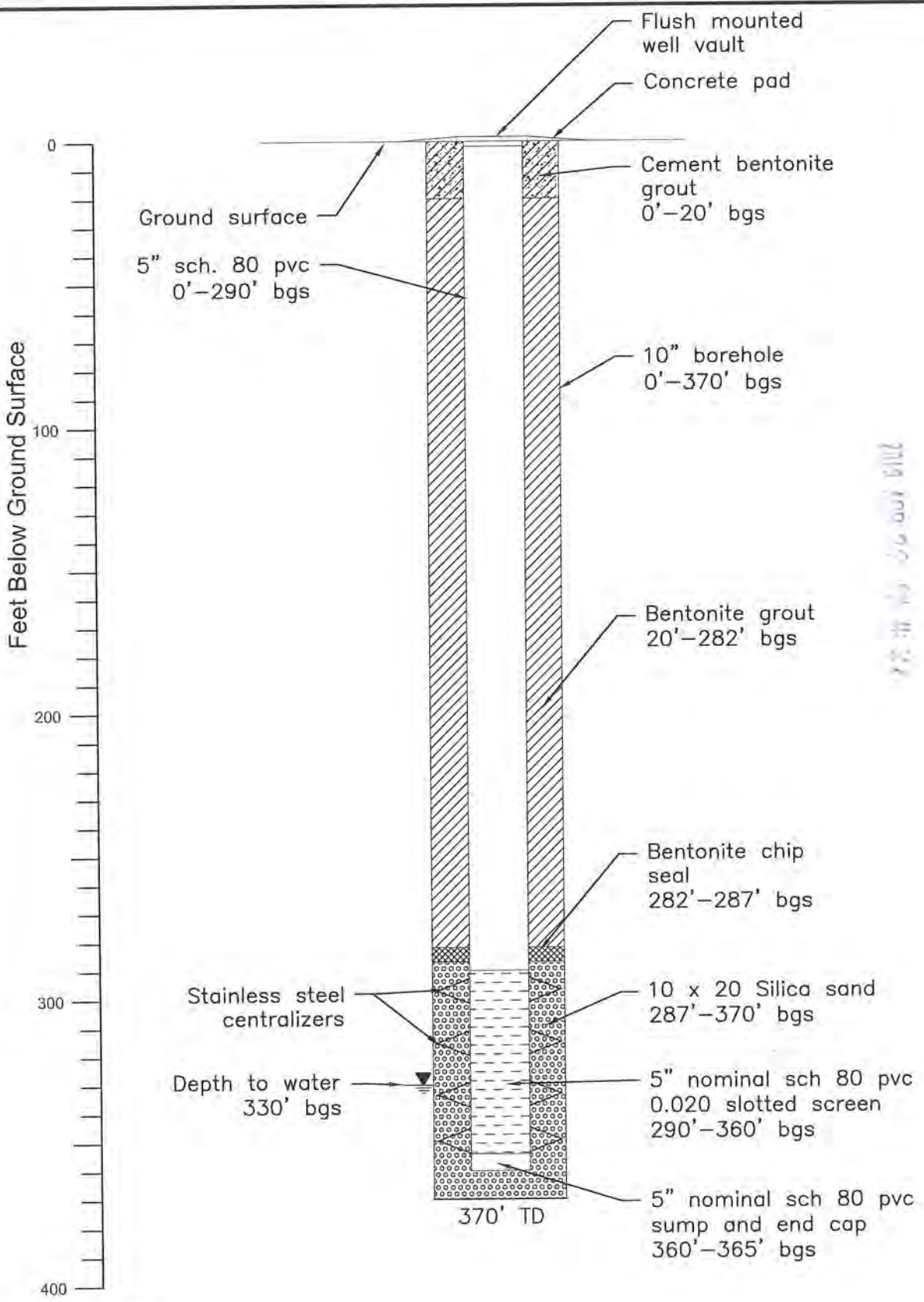
STATE OF MICHIGAN  
 ROFT  
 OFFICE  
 MEMPHIS  
 2019 APR 22 PM 04:26



- Explanation**
- BW-7** Monitor well designation
  - 8,000** Benzene concentration, 2016 (µg/L)
  - Groundwater flow direction
  - Sewer main
  - Proposed multi-zone remediation well
  - Proposed single-zone monitor well
  - Manhole
  - Single completion monitor well
  - Nested monitor well

STATE PROJECT OFFICE  
ROSEMONT, NEW MEXICO  
2019 APR 29 PM 4:28

S:\Projects\18.1157\_Former\_Y\_Station\VR\_Drawings\Former Y Station Well Diagram.dwg



2018  
R  
30/03/2018

Not to Scale

- Notes:
1. TD = Total depth
  2. Centralizers installed approximately every 20 feet across screen (as shown)

### FORMER Y STATION Well Construction Diagram





NEW MEXICO ENVIRONMENT DEPARTMENT



MICHELLE LUJAN GRISHAM Governor

HOWIE C. MORALES Lt. Governor

2905 Rodeo Park Drive East Building 1

Santa Fe, NM 87505-6313

Phone (505) 476-4397 Fax (505) 476-4374

www.env.nm.gov

JAMES C. KENNEY Cabinet Secretary

JENNIFER J. PRUETT Deputy Secretary

February 21, 2019

Mr. Thomas Golden Daniel B. Stephens & Associates, Inc. 6020 Academy NE, Suite 100 Albuquerque, NM 87109

Re: Phase 3 Fixed-Price Workplan Approval for Former Y Station, 721 Commerce Way, Clovis, New Mexico

Facility #: 53742

Release ID #: 4746

WPID #: 4022

Dear Mr. Golden:

The New Mexico Environment Department (Department) approves, with modification, the fixed-price workplan dated September 14, 2018. This workplan is for Phase 3 activities consisting of aquifer testing, monitor well installation and pilot testing. Work shall be performed in accordance with contract number 18-667-3200-0022 and the workplan provided. The approved workplan has been modified as follows:

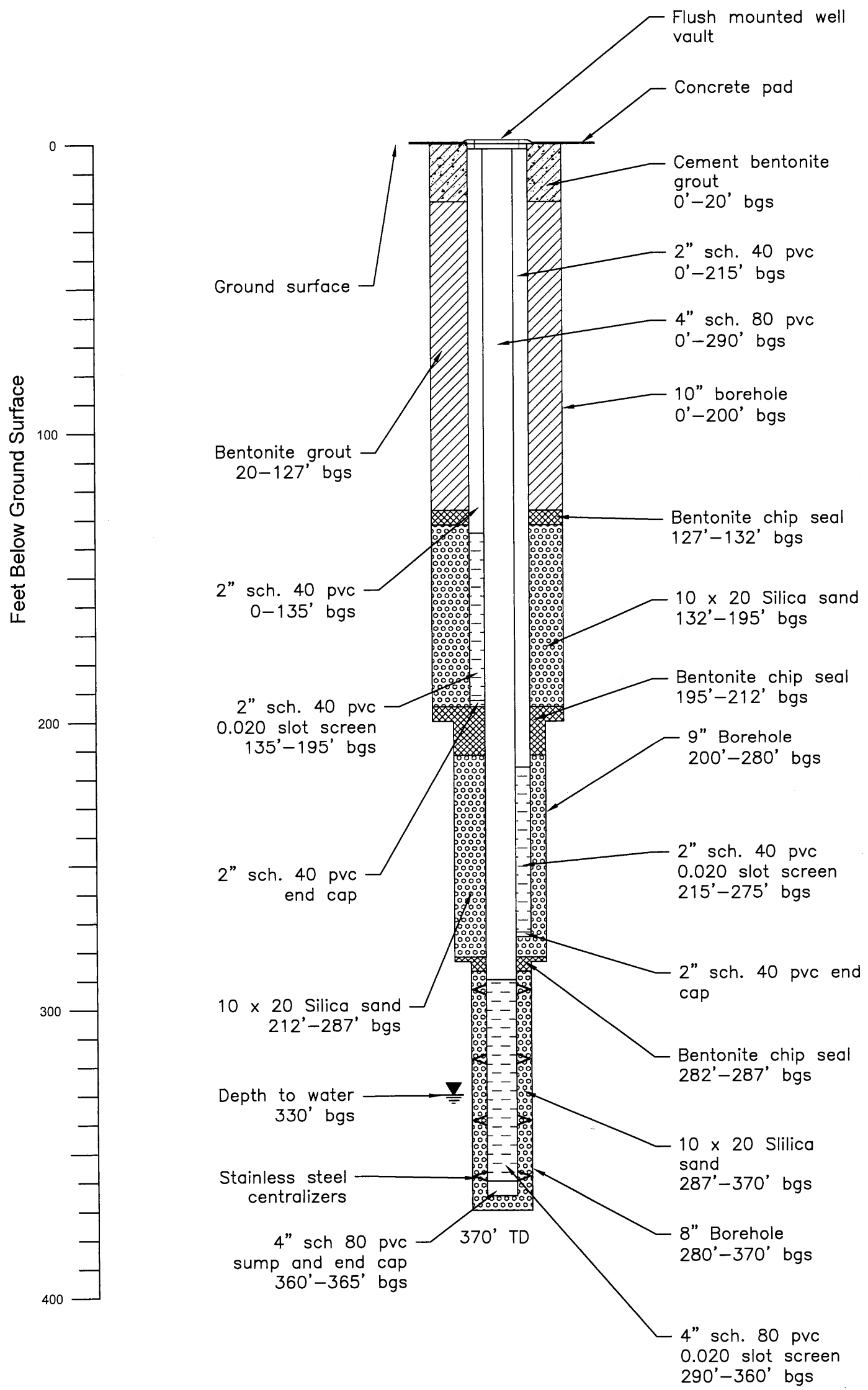
- 1. Task 1 Conceptual Remediation Plan (CRP) Development has not been included. Costs for this task have been removed accordingly.

The total budget approved for this workplan shall not exceed \$1,018,104.55, which includes New Mexico Gross Receipts Tax. Please refer to the following table for a breakdown of the expected deliverables and dates of completion. The dates listed in the table are the current deadlines in the applicable portion of the corrective action timeline for the subject site. These deliverables document completion of individual performance criteria.

Table with 4 columns: Deliverable Name, \$ Approved, Estimated Date of Deliverable, Deliverable ID. Rows include Project Kickoff Activities, Access Negotiations, and Well Check; Aquifer Test and report; Well Installation and Letter Report (1st Month); Well Installation and Letter Report (2nd Month).

Vertical stamp: 2019 APR 29 PM 4: 27 STATE OF NEW MEXICO OFFICE OF THE ATTORNEY GENERAL





**Not to Scale**

**Notes:** 1. TD = Total depth  
 2. Centralizers installed approximately every 20 feet across screen (as shown)



**Daniel B. Stephens & Associates, Inc.**  
 10/17/2018 JN DB 18.1157.00

2018 APR 29 PM 4:27

NESTED REMEDIATION WELL  
**Well Construction Diagram**

STATE ENGINEER OFFICE  
 ROSWELL, GEORGIA

S:\Projects\181157\_Former\_Y\_Station\VR\_Drawing\Nested Remediation Well Diagram.dwg

Thomas Golden  
February 21, 2019  
Page 2

<u>Deliverable Name</u>	<u>\$ Approved</u>	<u>Estimated Date of Deliverable</u>	<u>Deliverable ID</u>
Well Installation and Letter Report (3 <sup>rd</sup> Month)	\$247,726.60	08/19/2019	4022-5
Pilot Testing and report	\$43,318.02	09/30/2019	4022-6
Baseline Groundwater Sampling and Final Well Installation Report	\$23,691.24	10/31/2019	4022-7
*Contingency	\$94,908.60	11/29/2019	4022-8


*\*NOTE: Daniel B. Stephens & Associates, Inc. shall notify the Department in writing or by electronic mail and receive Department approval prior to expenditure of any contingency set-aside funds. The approved budgets for these deliverables are not-to-exceed amounts for the period covered by the subject workplan.*

You may begin work immediately. Approval of this workplan is contingent upon all work being performed on this site in accordance with all local, state, and federal regulations, including 29 CFR 1910 governing occupational health and safety. The Department expects Daniel B. Stephens & Associates, Inc. to complete the work as outlined within the approved budget. All change orders must be approved in writing prior to the work being performed.

To facilitate payment, if a deliverable represents a reduced scope of work that requires a reduction in the amount to be claimed, the notification of the modified costs must be submitted to the Department with the deliverable.

If you have any questions, please contact the project manager, D. Renee Romero at (575) 291-2109.

Sincerely,



Dana Bahar  
Bureau Chief  
Petroleum Storage Tank Bureau

DB:DRR:tn

cc: Lorraine Martinez, Daniel B. Stephens & Associates, Inc. (via email)  
Lorena Goerger, Manager, Remedial Action Program (via email)  
Sarah McGrath, Geoscientist Supervisor (via email)  
D. Renee Romero, Project Manager (via email)  
Jonathon Boyle, Inspector, Prevention and Inspection Program (via email)

cc w/encl: PSTB Master File Santa Fe

2019 FEB 21 PM 11:27

STATE OF NEW MEXICO  
OFFICE OF THE ATTORNEY GENERAL



April 26, 2019

New Mexico Office of the State Engineer  
District II  
1900 West Second Street  
Roswell, NM 88201-1712

Re: Application to Drill Well With No Consumptive Use of Water

Please find enclosed three (3) copies of Application to Drill Well With No Consumptive Use of Water and a check for the appropriate permit fees. Daniel B. Stephens & Associates (DBS&A) has been contracted by the New Mexico Environment Department (NMED) to drill eight (8) new groundwater monitoring and remediation wells (RW-1 through RW-4, BW-7R, and MW-11 through MW-13) for the Former Y Station State Lead site in Clovis, New Mexico. Seven of those wells are included in this application. The eighth well will be contingent upon data collected from installation of wells MW-11 and MW-12, and will be permitted separately. Previous wells were installed at this NMED site by Brown Environmental on behalf of Allsup's. DBS&A does not have copies of the permit approvals provided to the previous consultant.

Please call me at (505) 822-9400 should you have any questions or need additional paperwork.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

Thomas Golden, P.E.  
Project Engineer

TG/djs  
Enclosures

2019 APR 29 PM 4: 27

STATE ENGINEER  
OFFICE  
ROSSELL, NEW MEXICO

*Daniel B. Stephens & Associates, Inc.*

6020 Academy Rd., NE, Suite 100

505-822-9400

Albuquerque, NM 87109-3315

FAX 505-822-8877

# OFFICE OF THE STATE ENGINEER/INTERSTATE STREAM COMMISSION – ROSWELL OFFICE

OFFICIAL RECEIPT NUMBER: 2-40734      DATE: 4/29/19      FILE NO.: CC-Basin  
 TOTAL: 35.00 RECEIVED: Thirty-five DOLLARS CHECK NO.: 106284 CASH: \_\_\_\_\_  
 PAYOR: NMED Petroleum Storage Tank Bureau ADDRESS: 6020 Academy Rd. NE Ste. 100 CITY: Albany STATE: NM  
 ZIP: 87109 RECEIVED BY: Thomas Golden for Daniel Stephens & Associates, Inc.  
C. Guillen

INSTRUCTIONS: Indicate the number of actions to the left of the appropriate type of filing. Complete the receipt information. **Original** to payor; **pink** copy to Program Support/ASD; and **yellow** copy for Water Rights. If a mistake is made, void the original and all copies and submit to Program Support/ASD as part of your daily deposit.

- A. Ground Water Filing Fees**
- 1. Change of Ownership of Water Right \$ 2.00
  - 2. Application to Appropriate or Supplement Domestic 72-12-1 Well \$ 125.00
  - 3. Application to Repair or Deepen 72-12-1 Well \$ 75.00
  - 4. Application for Replacement 72-12-1 Well \$ 75.00
  - 5. Application to Change Purpose of Use 72-12-1 Well \$ 75.00
  - 6. Application for Stock Well/Temp. Use \$ 5.00
- 
- 7. Application to Appropriate Irrigation, Municipal, or Commercial Use \$ 25.00
  - 8. Declaration of Water Right \$ 1.00
  - 9. Application for Supplemental Non 72-12-1 Well \$ 25.00
  - 10. Application to Change Place or Purpose of Use Non 72-12-1 Well \$ 25.00
  - 11. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Ground Water \$ 50.00
  - 12. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Ground Water \$ 50.00
  - 13. Application to Change Point of Diversion of Non 72-12-1 Well \$ 25.00
  - 14. Application to Repair or Deepen Non 72-12-1 Well \$ 5.00
- 
- 15. Application for Test, Expl. Observ. Well \$ 5.00
  - 16. Application for Extension of Time \$ 25.00
  - 17. Proof of Application to Beneficial Use \$ 25.00
  - 18. Notice of Intent to Appropriate \$ 25.00

- B. Surface Water Filing Fees**
- 1. Change of Ownership of a Water Right \$ 5.00
  - 2. Declaration of Water Right \$ 10.00
  - 3. Amended Declaration \$ 25.00
  - 4. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Surface Water \$ 200.00
  - 5. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Surface Water \$ 200.00
  - 6. Application to Change Point of Diversion \$ 100.00
  - 7. Application to Change Place and/or Purpose of Use \$ 100.00
  - 8. Application to Appropriate \$ 25.00
  - 9. Notice of Intent to Appropriate \$ 25.00
  - 10. Application for Extension of Time \$ 50.00
  - 11. Supplemental Well to a Surface Right \$ 100.00
  - 12. Return Flow Credit \$ 100.00
  - 13. Proof of Completion of Works \$ 25.00
  - 14. Proof of Application of Water to Beneficial Use \$ 25.00
  - 15. Water Development Plan \$ 100.00
  - 16. Declaration of Livestock Water Impoundment \$ 10.00
  - 17. Application for Livestock Water Impoundment \$ 10.00

- C. Well Driller Fees**
- 1. Application for Well Driller's License \$ 50.00
  - 2. Application for Renewal of Well Driller's License \$ 50.00
  - 3. Application to Amend Well Driller's License \$ 50.00

- D. Reproduction of Documents**
- @ 0.25¢ \$ \_\_\_\_\_
  - Map(s) \$ \_\_\_\_\_

**E. Certification** \$ \_\_\_\_\_

**F. Other** \$ \_\_\_\_\_

**G. Comments:**  
Mail  
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 \_\_\_\_\_  
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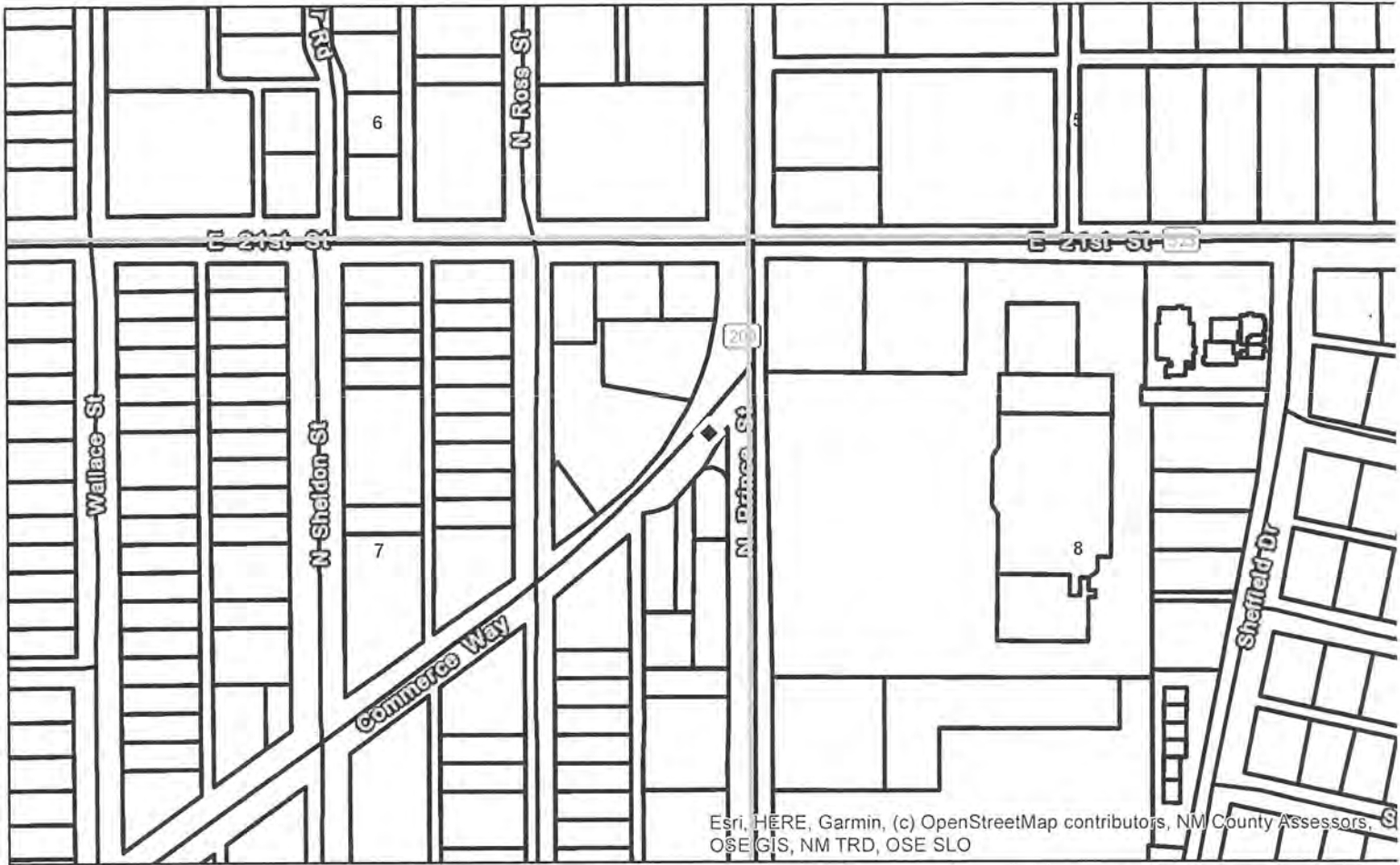
**All fees are non-refundable.**

**DANIEL B. STEPHENS & ASSOCIATES, INC.**

Check Date: 4/26/2019

106284

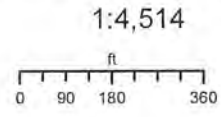
Invoice Number	Date	Voucher	Amount	Discounts	Previous Pay	Net Amount
CkRqst20190426	4/26/2019	0186162	35.00			35.00
New Mexico Office of the State Engineer		TOTAL	35.00			35.00
Operating Acct - Bank of Alb 2		140219				



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**Coordinates**  
UTM - NAD 83 (m) - Zone 13  
 Easting 665718.707  
 Northing 3810022.314  
State Plane - NAD 83 (f) - Zone E  
 Easting 884124.867  
 Northing 1245565.232  
Degrees Minutes Seconds  
 Latitude 34 : 25 : 6.230000  
 Longitude -103 : 11 : 48.200000  
 Location pulled from Coordinate Search

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 OF THE  
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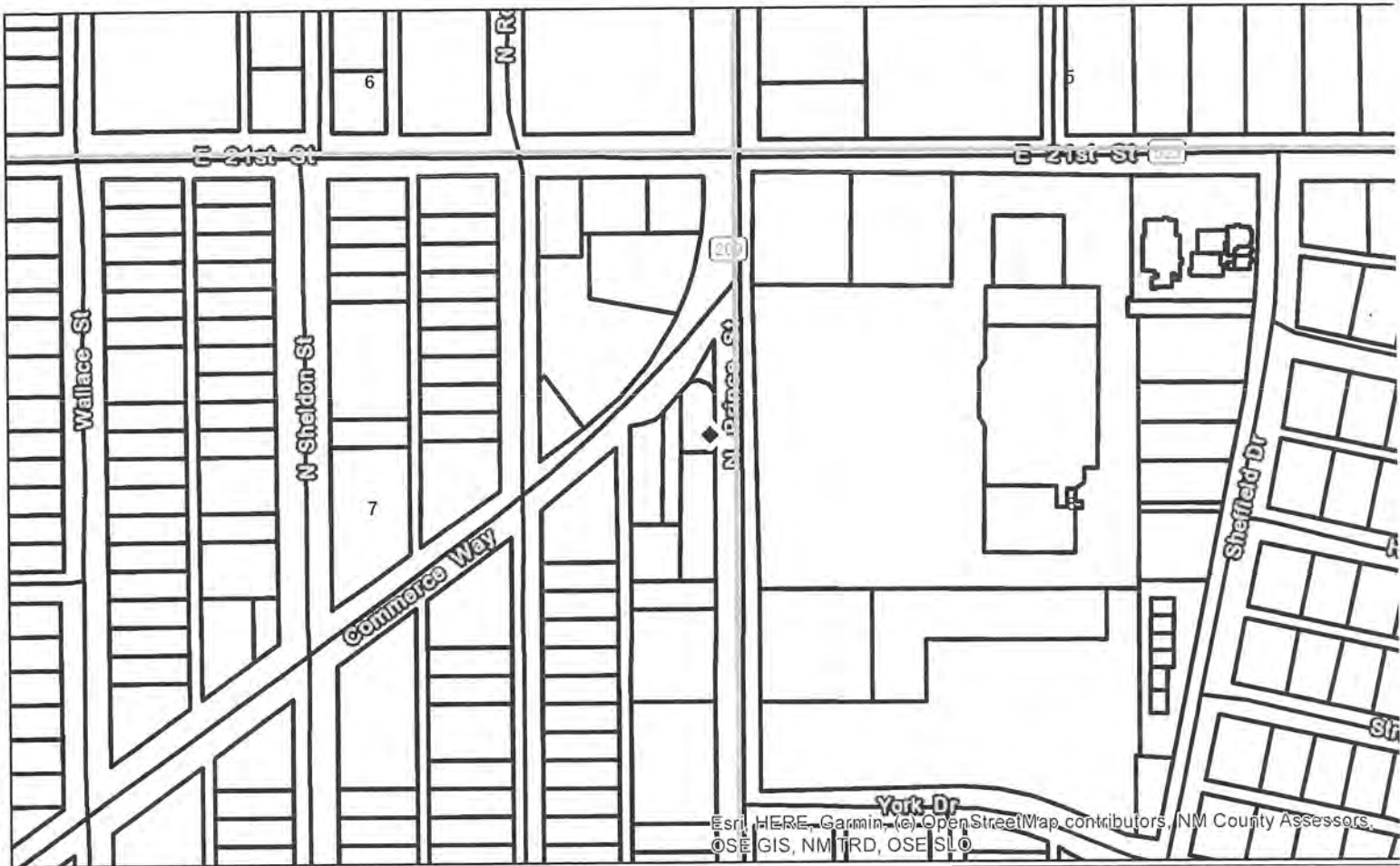
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**Spatial Information**  
 County: Curry  
 Groundwater Basin: Curry County  
 Abstract Area: Curry County-CU  
 Land Grant:  
 Not in Land Grant  
Restrictions:  
 Curry-Portales Underground Water Basins  
PLSS Description  
 NENENENE Qtr of Sec 07 of 002N 036E  
 Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

**Parcel Information**  
 UPC/DocNum: 4140084290078000000  
 Parcel Owner: Perez, Francisco Zavala;  
 Address: 108 Sagebrush Valley Rd  
 Legal:

**POD Information**  
 Owner: NMED PETROLEUM STORAGE  
 File Number: CC-2536 POD1  
 POD Status: NoData  
 Permit Status: NoData  
 Permit Use: NoData  
 Purpose: MON

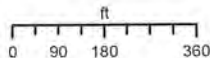
- ◆ Coord Search Location
- WRAB Abstract Project Areas
- Curry County Parcels 2018
- Sections



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THE STATE ENGINEER HAS REVIEWED THIS PLAN FOR CONFORMANCE WITH THE REQUIREMENTS OF THE INTERSTATE STREAM COMMISSION ACT AND THE WATER RIGHTS ACT. THE STATE ENGINEER'S REVIEW IS LIMITED TO THE TECHNICAL ASPECTS OF THE PLAN AND DOES NOT CONSTITUTE A GUARANTEE OF THE ACCURACY OF THE INFORMATION PROVIDED HEREON. THE STATE ENGINEER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN THIS PLAN OR FOR ANY DAMAGE TO PERSONS OR PROPERTY RESULTING FROM THE USE OF THIS PLAN.

Spatial Information

County: Curry  
Groundwater Basin: Curry County  
Abstract Area: Curry County-CU

Land Grant:  
Not in Land Grant  
Restrictions:  
Curry-Portales Underground Water Basins  
PLSS Description  
SENEENE Qtr of Sec 07 of 002N 036E

Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

Coordinates  
UTM - NAD 83 (m) - Zone 12

Easting 665726.966  
Northing 3809974.387

State Plane - NAD 83 (f) - Zone E

Easting 884150.931  
Northing 1245407.799

Degrees Minutes Seconds

Latitude 34 : 25 : 4.670000  
Longitude -103 : 11 : 47.910000

Location pulled from Coordinate Search

Parcel Information

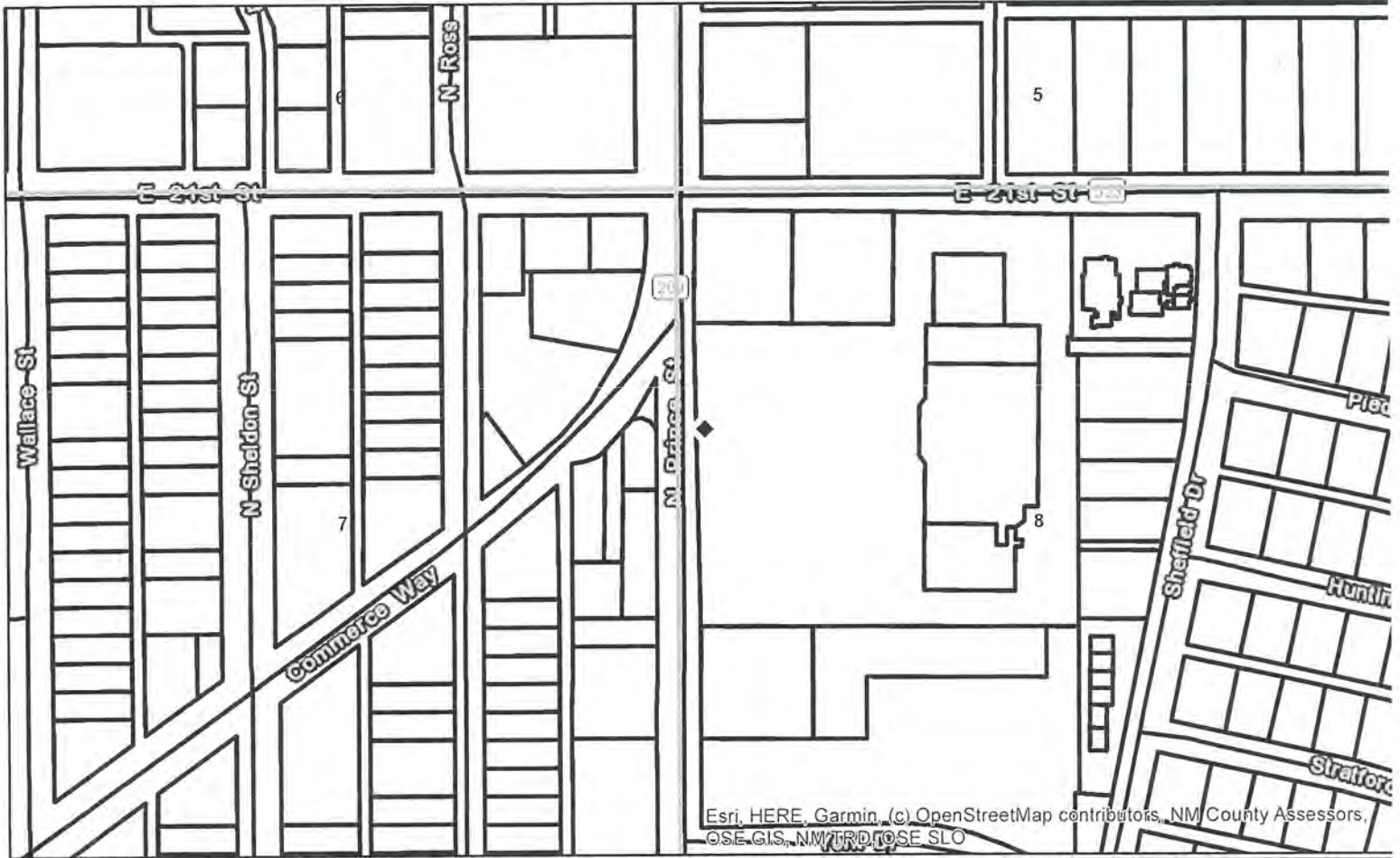
UPC/DocNum: 1211011523478  
Parcel Owner: MONTOYA RAYMOND J  
Address: 1908 PRINCE

Legal: MAULDIN TRACT 23 LOT 1 BEG AT PT 120' S OF NE COR: S 78.2'; W 60'; N 101.75'; TO PT OF CURVE NELY 37.2'; SELY 36'; E 2' TO POINT OF BEG.

POD Information

Owner: NMED PETROLEUM STORAGE  
File Number: CC-2536 POD2  
POD Status: NoData  
Permit Status: NoData  
Permit Use: NoData  
Purpose: MON

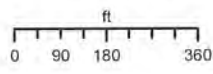
- ◆ Coord Search Location
- WRAB Abstract Project Areas
- Curry County Parcels 2018
- Sections



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**Coordinates**  
UTM - NAD 83 (m) - Zone 13  
 Easting 665755.654  
 Northing 3809998.318  
State Plane - NAD 83 (f) - Zone E  
 Easting 884245.576  
 Northing 1245485.702  
Degrees Minutes Seconds  
 Latitude 34 : 25 : 5.430000  
 Longitude -103 : 11 : 46.770000  
 Location pulled from Coordinate Search

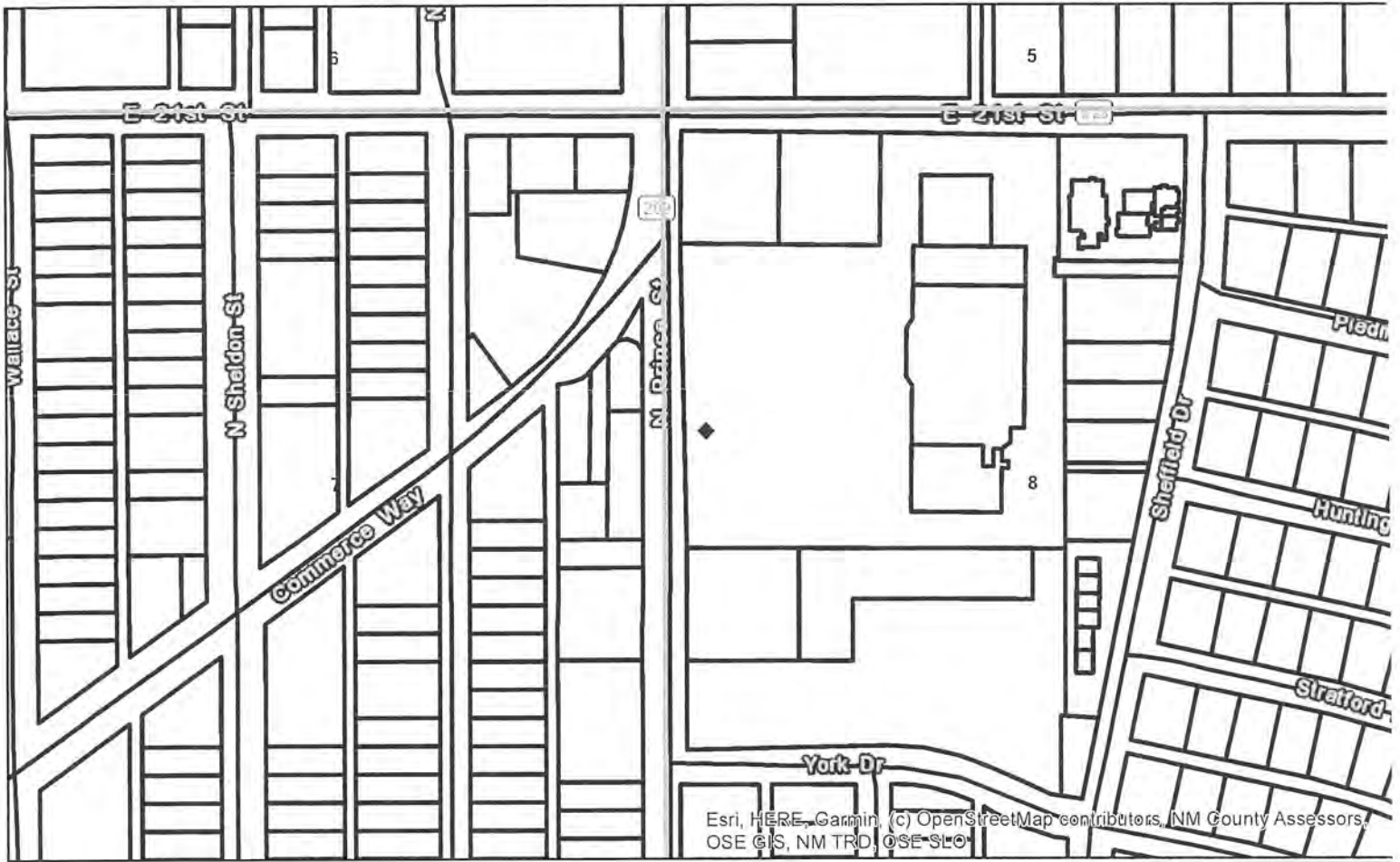
**Spatial Information**  
 County: Curry  
 Groundwater Basin: Curry County  
 Abstract Area: Curry County-CU  
 Land Grant:  
 Not in Land Grant  
Restrictions:  
 Curry-Portales Underground Water Basins  
PLSS Description  
 SWNWNWNW Qtr of Sec 08 of 002N 036E  
 Derived from CADNSDI- Qtr Sec. Locations are calculated and are only approximations

**Parcel Information**  
 UPC/DocNum:  
 Parcel Owner:  
 Address:  
 Legal: SECTION-08 TOWNSHIP-02N RANGE-36E TR NW4  
 BEG 40S & 215E NW COR NW4: 500E; 732S;  
 675W; 532N; 175E; 200N POB MINUS L3IP LOTS 1-4

**POD Information**  
 Owner: NMED PETROLEUM STORAGE  
 File Number: CC-2536 POD3  
 POD Status: NoData  
 Permit Status: NoData  
 Permit Use: NoData  
 Purpose: MON

- ◆ Coord Search Location
- WRAB Abstract Project Areas
- Curry County Parcels 2018
- Sections

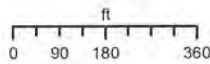




**Coordinates**  
**UTM - NAD 83 (m) - Zone 13**  
 Easting 665764.347  
 Northing 3809954.713  
**State Plane - NAD 83 (f) - Zone E**  
 Easting 884273.158  
 Northing 1245342.441  
**Degrees Minutes Seconds**  
 Latitude 34 : 25 : 4.010000  
 Longitude -103 : 11 : 46.460000  
 Location pulled from Coordinate Search

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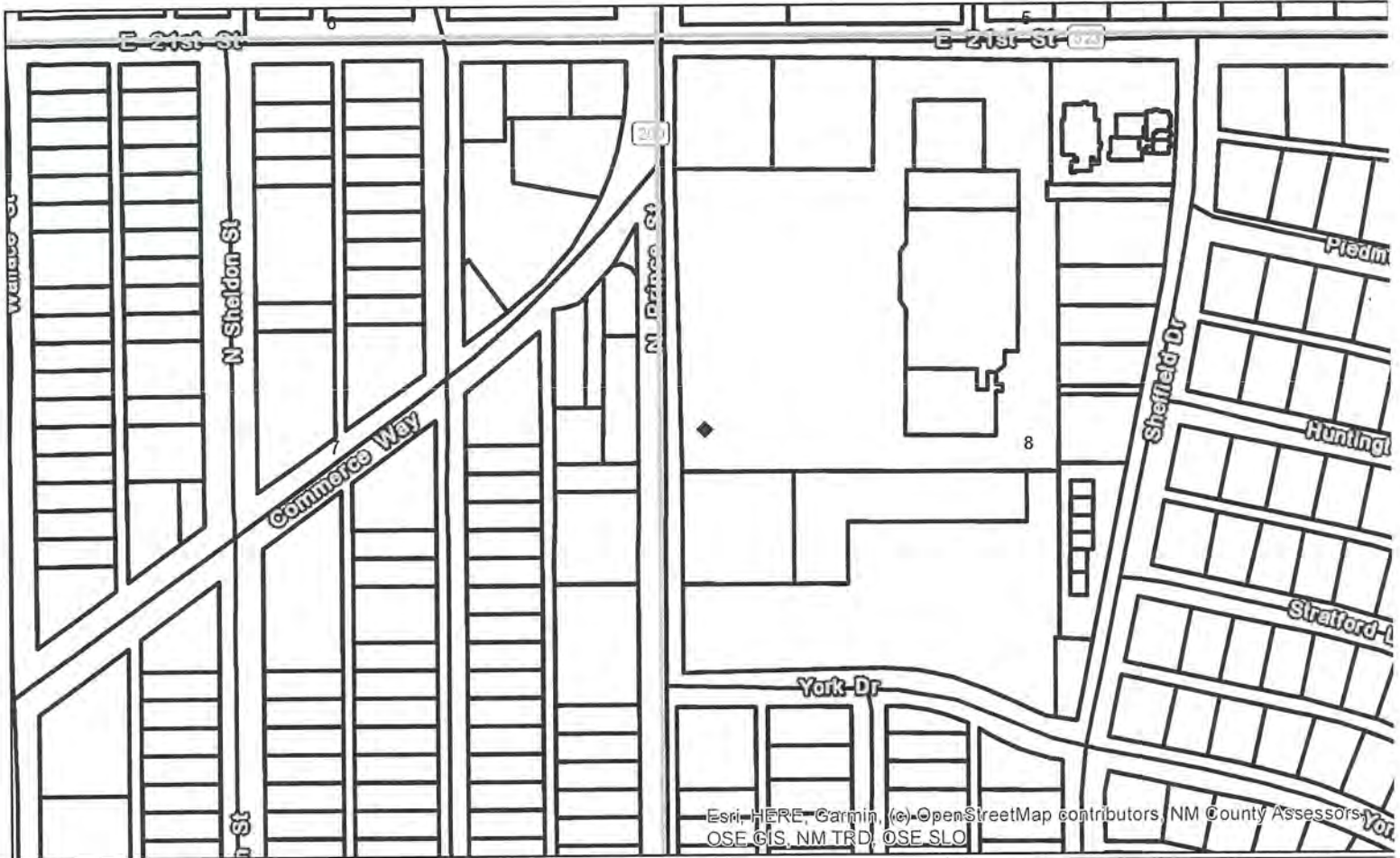
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**Spatial Information**  
 County: Curry  
 Groundwater Basin: Curry County  
 Abstract Area: Curry County-CU  
 Land Grant:  
 Not in Land Grant  
Restrictions:  
 Curry-Portales Underground Water Basins  
PLSS Description  
 SWNWNWNW Qtr of Sec 08 of 002N 036E  
 Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

**Parcel Information**  
 UPC/DocNum:  
 Parcel Owner:  
 Address:  
 Legal: SECTION-08 TOWNSHIP-02N RANGE-36E TR NW4  
 BEG 40'S & 21'S E NW COR NW4: 500'E; 732'S;  
 675'W; 532'N; 175'E; 200'N POB MINUS L3IP LOTS 1-4

**POD Information**  
 Owner: NMED PETROLEUM STORAGE  
 File Number: CC-2536 POD4  
 POD Status: NoData  
 Permit Status: NoData  
 Permit Use: NoData  
 Purpose: MON

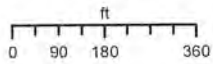
- ◆ Coord Search Location
- WRAB Abstract Project Areas
- Curry County Parcels 2018
- Sections



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**Coordinates**  
 UTM - NAD 83 (m) - Zone 13  
 Easting 665767.108  
 Northing 3809914.392  
 State Plane - NAD 83 (f) - Zone E  
 Easting 884281.346  
 Northing 1245210.084  
 Degrees Minutes Seconds  
 Latitude 34 : 25 : 2.700000  
 Longitude -103 : 11 : 46.380000  
 Location pulled from Coordinate Search

**Spatial Information**  
 County: Curry  
 Groundwater Basin: Curry County  
 Abstract Area: Curry County-CU  
 Land Grant:  
 Not in Land Grant  
 Restrictions:  
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 PLSS Description  
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 Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

**Parcel Information**  
 UPC/DocNum:  
 Parcel Owner:  
 Address:  
 Legal: SECTION-08 TOWNSHIP-02N RANGE-36E TR NW4 BEG 40'S & 215'E NW COR NW4: 500'E; 732'S; 675'W; 532'N; 175'E; 200'N POB MINUS L3IP LOTS 1-4

**POD Information**  
 Owner: NMED PETROLEUM STORAGE  
 File Number: CC-2536 POD5  
 POD Status: NoData  
 Permit Status: NoData  
 Permit Use: NoData  
 Purpose: MON

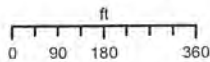
- ◆ Coord Search Location
- WRAB Abstract Project Areas
- Curry County Parcels 2018
- Sections



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Spatial Information

County: Curry  
Groundwater Basin: Curry County  
Abstract Area: Curry County-CU

Land Grant:  
Not in Land Grant  
Restrictions:  
Curry-Portales Underground Water Basins  
PLSS Description  
SWSWNWNW Qtr of Sec 08 of 002N 036E

Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

Coordinates  
UTM - NAD 83 (m) - Zone 13

Easting 665805.072  
Northing 3809790.260

State Plane - NAD 83 (f) - Zone E

Easting 884403.231  
Northing 1244801.972

Degrees Minutes Seconds

Latitude 34 : 24 : 58.650000  
Longitude -103 : 11 : 44.980000

Location pulled from Coordinate Search

Parcel Information

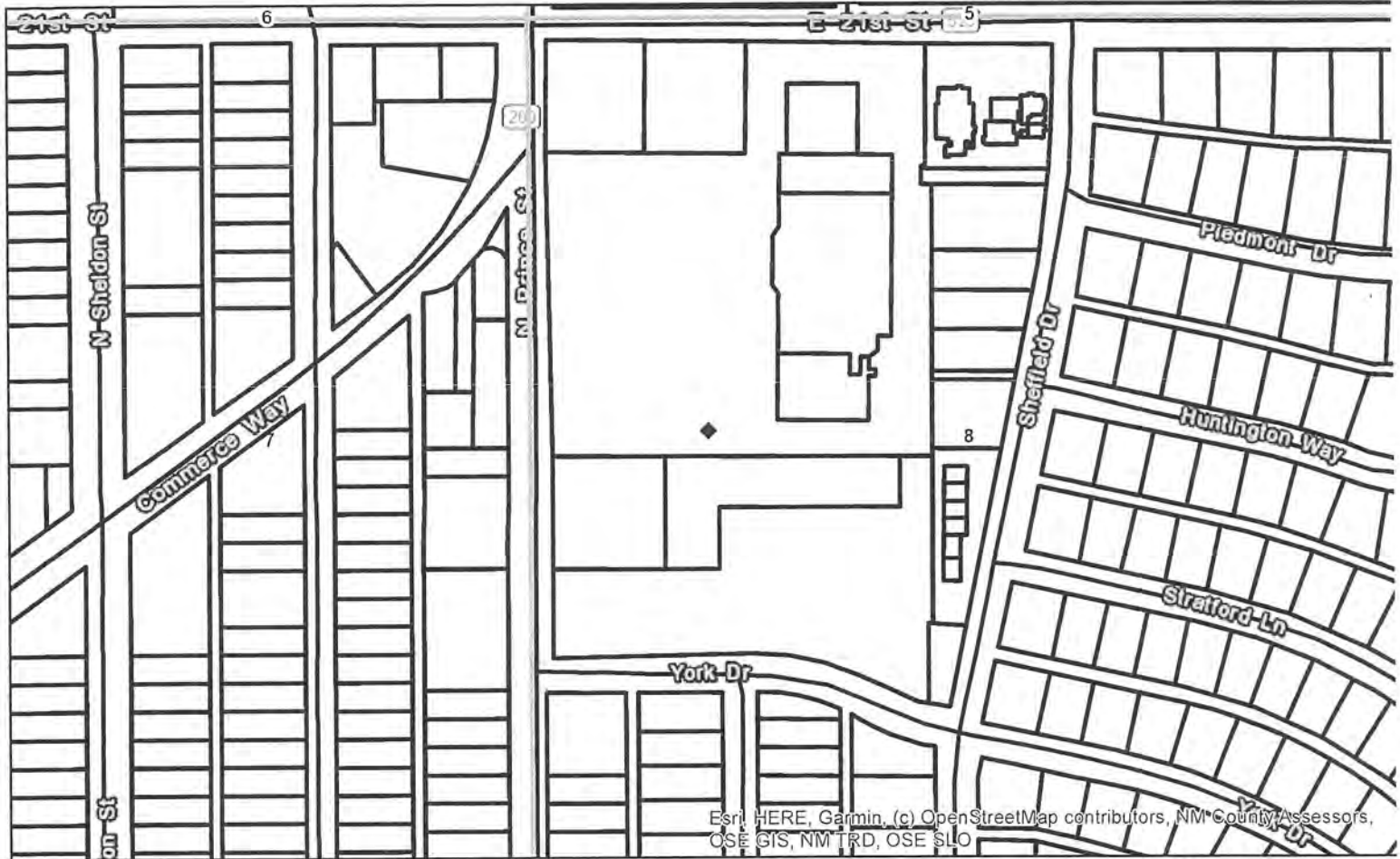
UPC/DocNum: 1212011035432  
Parcel Owner: COLE AB CLOVIS NM LLC  
Address: 1905 PRINCE

Legal: SECTION-08 TOWNSHIP-02N RANGE-36E TR NW4  
BEG 772'S & 715'E NW COR NW4: 448'S 691.35'W;  
158'N; 296.1'E; 110.2'N; 321'E; 89.8'N; 57.9'E POB

POD Information

Owner: NMED PETROLEUM STORAGE  
File Number: CC-2536 POD6  
POD Status: NoData  
Permit Status: NoData  
Permit Use: NoData  
Purpose: MON

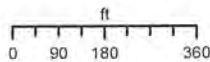
- ◆ Coord Search Location
- WRAB Abstract Project Areas
- Curry County Parcels 2018
- Sections



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Spatial Information

County: Curry  
Groundwater Basin: Curry County  
Abstract Area: Curry County-CU

Land Grant:  
Not in Land Grant  
Restrictions:  
Curry-Portales Underground Water Basins  
PLSS Description  
NWSWNWNW Qtr of Sec 08 of 002N 036E

Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

Coordinates

UTM - NAD 83 (m) - Zone 13

Easting 665839.264

Northing 3809906.740

State Plane - NAD 83 (f) - Zone E

Easting 884517.931

Northing 1245183.418

Degrees Minutes Seconds

Latitude 34 : 25 : 2.410000

Longitude -103 : 11 : 43.560000

Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address:

Legal: SECTION-08 TOWNSHIP-02N RANGE-36E TR NW4  
BEG 40'S & 21'S E NW COR NW4: 500'E; 732'S;  
675'W; 532'N; 175'E; 200'N POB MINUS L3IP LOTS 1-  
4

POD Information

Owner: NMED PETROLEUM STORAGE

File Number: CC-2536 POD7

POD Status: NoData

Permit Status: NoData

Permit Use: NoData

Purpose: MON

- ◆ Coord Search Location
- WRAB Abstract Project Areas
- Curry County Parcels 2018
- Sections

John R. D Antonio, Jr., P.E.  
State Engineer



Roswell Office  
1900 WEST SECOND STREET  
ROSWELL, NM 88201

**STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 654213  
File Nbr: CC 02536 POD8

Jul. 09, 2019

THOMAS GOLDEN  
NMED PETRO STORAGE TANK BUREAU  
6020 ACADEMY RD NE SUITE 100  
ALBUQUERQUE, NM 87109

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

- \* If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.
- \* If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.
- \* The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.
- \* This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website [www.ose.state.nm.us](http://www.ose.state.nm.us).

Sincerely,

A handwritten signature in black ink, appearing to be "JH" or "Juan Hernandez".

Juan Hernandez  
(575) 622-6521

Enclosure

explore

**NEW MEXICO OFFICE OF THE STATE ENGINEER**



**WR-07 APPLICATION FOR PERMIT TO DRILL**

**A WELL WITH NO WATER RIGHT**

(check applicable box):

For fees, see State Engineer website: <http://www.ose.state.nm.us/>

Purpose:	<input type="checkbox"/> Pollution Control And/Or Recovery	<input type="checkbox"/> Ground Source Heat Pump
<input type="checkbox"/> Exploratory Well (Pump test)	<input type="checkbox"/> Construction Site/Public Works Dewatering	<input type="checkbox"/> Other(Describe):
<input checked="" type="checkbox"/> Monitoring Well	<input type="checkbox"/> Mine Dewatering	
A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.		
<input checked="" type="checkbox"/> Temporary Request - Requested Start Date: 07/15/2019		Requested End Date: Unknown
Plugging Plan of Operations Submitted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

**1. APPLICANT(S)**

Name: NMED Petroleum Storage Tank Bureau	Name:
Contact or Agent: <input checked="" type="checkbox"/> check here if Agent Thomas Golden for Daniel B. Stephens & Associates, Inc.	Contact or Agent: <input type="checkbox"/> check here if Agent
Mailing Address: 6020 Academy Rd. NE, Suite 100	Mailing Address:
City: Albuquerque	City:
State: NM                      Zip Code: 87109	State:                      Zip Code:
Phone: 505-822-9400 <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work):	Phone: <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work):
E-mail (optional): TGolden@geo-logic.com	E-mail (optional):

FOR OSE INTERNAL USE                      Application for Permit, Form WR-07, Rev 11/17/16

File No.: <b>CC-2536 POD 8</b>	Trn. No.: <b>654213</b>	Receipt No.:
Trans Description (optional):		
Sub-Basin: <b>CU</b>	PCW/LOG Due Date: <b>7-31-20</b>	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).  
 District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

NM State Plane (NAD83) (Feet)       UTM (NAD83) (Meters)       Lat/Long (WGS84) (to the nearest 1/10<sup>th</sup> of second)  
 NM West Zone       Zone 12N  
 NM East Zone       Zone 13N  
 NM Central Zone

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves, Section, Township, Range) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
CC-2536 POD8 MW-13	103° 11' 46.57" W	34° 25' 0.18" N	

**NOTE:** If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)  
 Additional well descriptions are attached:  Yes  No      If yes, how many 1

Other description relating well to common landmarks, streets, or other:  
 1917 N Prince St, Clovis, NM 88101, in the parking lot for Domino's Pizza.

Well is on land owned by: Domino's Pizza

**Well Information:** NOTE: If more than one (1) well needs to be described, provide attachment. Attached?  Yes  No  
 If yes, how many \_\_\_\_\_

Approximate depth of well (feet): 365 (see attached table)	Outside diameter of well casing (inches): 5 inches
Driller Name: Yellow Jacket	Driller License Number: WD-1458

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Daniel B. Stephens & Associates, Inc. has been contracted by the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB) to investigate and remediate a petroleum hydrocarbon release at the Former Y Station State Lead Site in Clovis, NM. The investigation will be conducted to determine the horizontal and vertical extent of light non-aqueous phase liquid (LNAPL) and dissolved-phase contamination at the site. The duration of the monitoring is unknown.

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.: CC-2536 POD8

Trn No.: 654213

**4. SPECIFIC REQUIREMENTS:** The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

<p><b>Exploratory:</b>  <input type="checkbox"/> Include a description of any proposed pump test, if applicable.</p>	<p><b>Pollution Control and/or Recovery:</b>  <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following:  <input type="checkbox"/> A description of the need for the pollution control or recovery operation.  <input type="checkbox"/> The estimated maximum period of time for completion of the operation.  <input type="checkbox"/> The annual diversion amount.  <input type="checkbox"/> The annual consumptive use amount.  <input type="checkbox"/> The maximum amount of water to be diverted and injected for the duration of the operation.  <input type="checkbox"/> The method and place of discharge.  <input type="checkbox"/> The method of measurement of water produced and discharged.  <input type="checkbox"/> The source of water to be injected.  <input type="checkbox"/> The method of measurement of water injected.  <input type="checkbox"/> The characteristics of the aquifer.  <input type="checkbox"/> The method of determining the resulting annual consumptive use of water and depletion from any related stream system.  <input type="checkbox"/> Proof of any permit required from the New Mexico Environment Department.  <input type="checkbox"/> An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.</p>	<p><b>Construction De-Watering:</b>  <input type="checkbox"/> Include a description of the proposed dewatering operation,  <input type="checkbox"/> The estimated duration of the operation,  <input type="checkbox"/> The maximum amount of water to be diverted,  <input type="checkbox"/> A description of the need for the dewatering operation, and,  <input type="checkbox"/> A description of how the diverted water will be disposed of.</p>	<p><b>Mine De-Watering:</b>  <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following:  <input type="checkbox"/> A description of the need for mine dewatering.  <input type="checkbox"/> The estimated maximum period of time for completion of the operation.  <input type="checkbox"/> The source(s) of the water to be diverted.  <input type="checkbox"/> The geohydrologic characteristics of the aquifer(s).  <input type="checkbox"/> The maximum amount of water to be diverted per annum.  <input type="checkbox"/> The maximum amount of water to be diverted for the duration of the operation.  <input type="checkbox"/> The quality of the water.  <input type="checkbox"/> The method of measurement of water diverted.  <input type="checkbox"/> The recharge of water to the aquifer.  <input type="checkbox"/> Description of the estimated area of hydrologic effect of the project.  <input type="checkbox"/> The method and place of discharge.  <input type="checkbox"/> An estimation of the effects on surface water rights and underground water rights from the mine dewatering project.  <input type="checkbox"/> A description of the methods employed to estimate effects on surface water rights and underground water rights.  <input type="checkbox"/> Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.</p>
<p><b>Monitoring:</b>  <input checked="" type="checkbox"/> Include the reason for the monitoring well, and,  <input checked="" type="checkbox"/> The duration of the planned monitoring.</p>		<p><b>Ground Source Heat Pump:</b>  <input type="checkbox"/> Include a description of the geothermal heat exchange project,  <input type="checkbox"/> The number of boreholes for the completed project and required depths.  <input type="checkbox"/> The time frame for constructing the geothermal heat exchange project, and,  <input type="checkbox"/> The duration of the project.  <input type="checkbox"/> Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.</p>	

**ACKNOWLEDGEMENT**

I, We (name of applicant(s)), Thomas Golden on behalf of the NMED PSTB

Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.



Digitally signed by Thomas Golden  
 Date: 2019.06.24 16:17:24 -06'00'

Applicant Signature

Applicant Signature

**ACTION OF THE STATE ENGINEER**

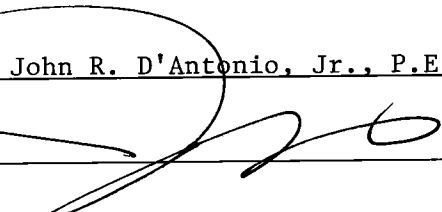
This application is:

approved       partially approved       denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 9th day of July 20 19, for the State Engineer,

John R. D'Antonio, Jr., P.E., State Engineer

By:   
 Signature

Print

Title: Juan Hernandez, Water Resources Manager 1

Print

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.: CC-2534 POD 8

Trn No.: UA213

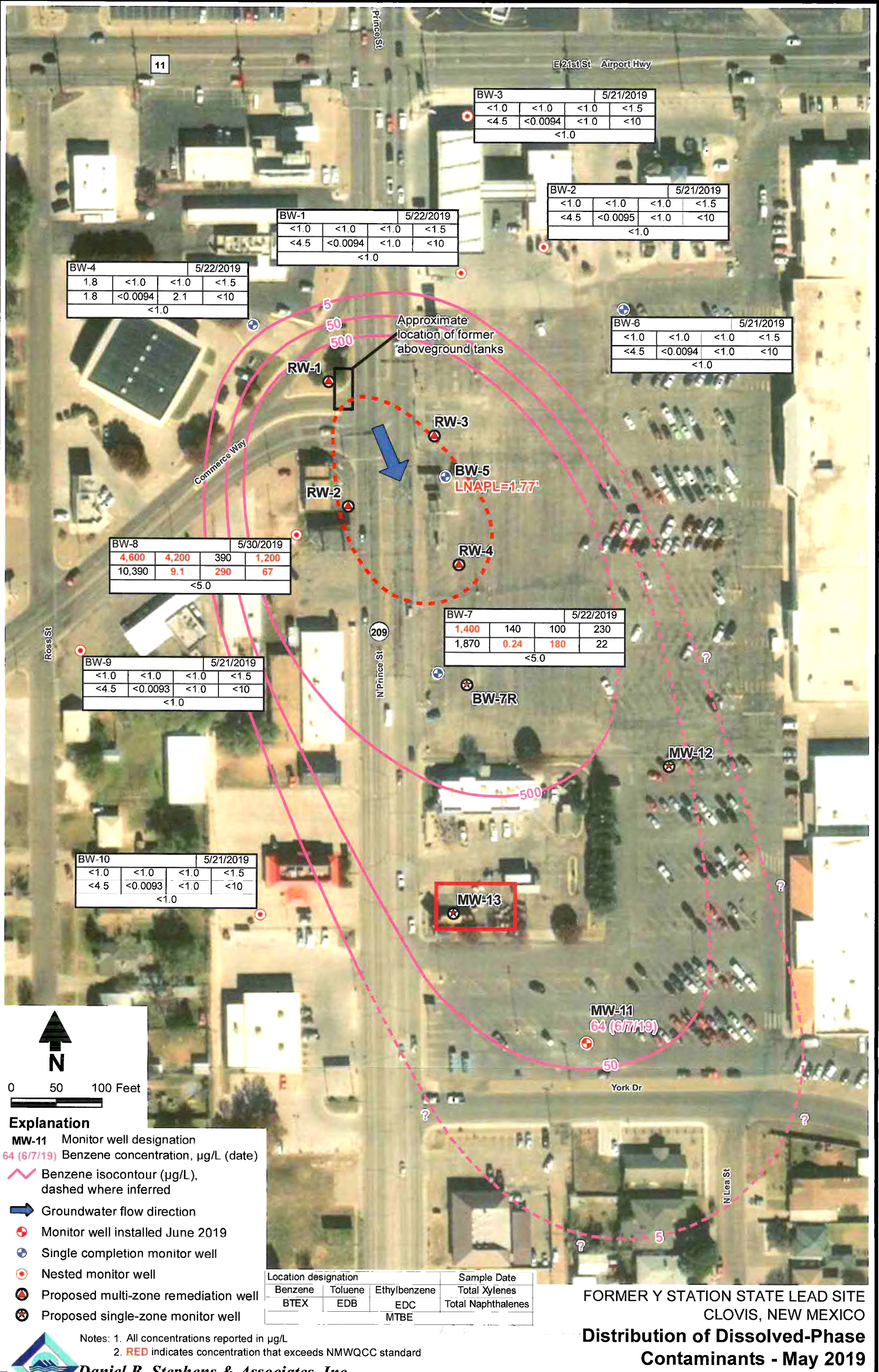


**NEW MEXICO STATE ENGINEER OFFICE  
PERMIT TO EXPLORE**

**SPECIFIC CONDITIONS OF APPROVAL**

- 17-1A Depth of the well shall not exceed the thickness of the valley fill.
- 17-4 No water shall be appropriated and beneficially used under this permit.
- 17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.
- 17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.





BW-3				5/21/2019
<1.0	<1.0	<1.0	<1.5	
<4.5	<0.0094	<1.0	<10	
<1.0				

BW-2				5/21/2019
<1.0	<1.0	<1.0	<1.5	
<4.5	<0.0095	<1.0	<10	
<1.0				

BW-1				5/22/2019
<1.0	<1.0	<1.0	<1.5	
<4.5	<0.0094	<1.0	<10	
<1.0				

BW-4				5/22/2019
1.8	<1.0	<1.0	<1.5	
1.8	<0.0094	2.1	<10	
<1.0				

BW-6				5/21/2019
<1.0	<1.0	<1.0	<1.5	
<4.5	<0.0094	<1.0	<10	
<1.0				

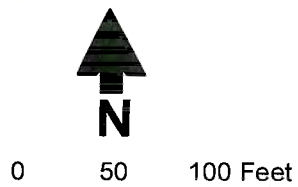
BW-8				5/30/2019
4,600	4,200	390	1,200	
10,390	9.1	290	67	
<5.0				

BW-7				5/22/2019
1,400	140	100	230	
1,870	0.24	180	22	
<5.0				

BW-9				5/21/2019
<1.0	<1.0	<1.0	<1.5	
<4.5	<0.0093	<1.0	<10	
<1.0				

BW-10				5/21/2019
<1.0	<1.0	<1.0	<1.5	
<4.5	<0.0093	<1.0	<10	
<1.0				

Location designation			Sample Date	
Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Naphthalenes
BTEX	EDB	EDC		
MTBE				



- Explanation**
- MW-11 Monitor well designation
  - 64 (6/7/19) Benzene concentration, µg/L (date)
  - ~ Benzene isocontour (µg/L), dashed where inferred
  - ➡ Groundwater flow direction
  - ⊕ Monitor well installed June 2019
  - ⊕ Single completion monitor well
  - ⊕ Nested monitor well
  - ⊕ Proposed multi-zone remediation well
  - ⊕ Proposed single-zone monitor well

Notes: 1. All concentrations reported in µg/L  
 2. RED indicates concentration that exceeds NMWQCC standard

**FORMER Y STATION STATE LEAD SITE  
 CLOVIS, NEW MEXICO  
 Distribution of Dissolved-Phase  
 Contaminants - May 2019**

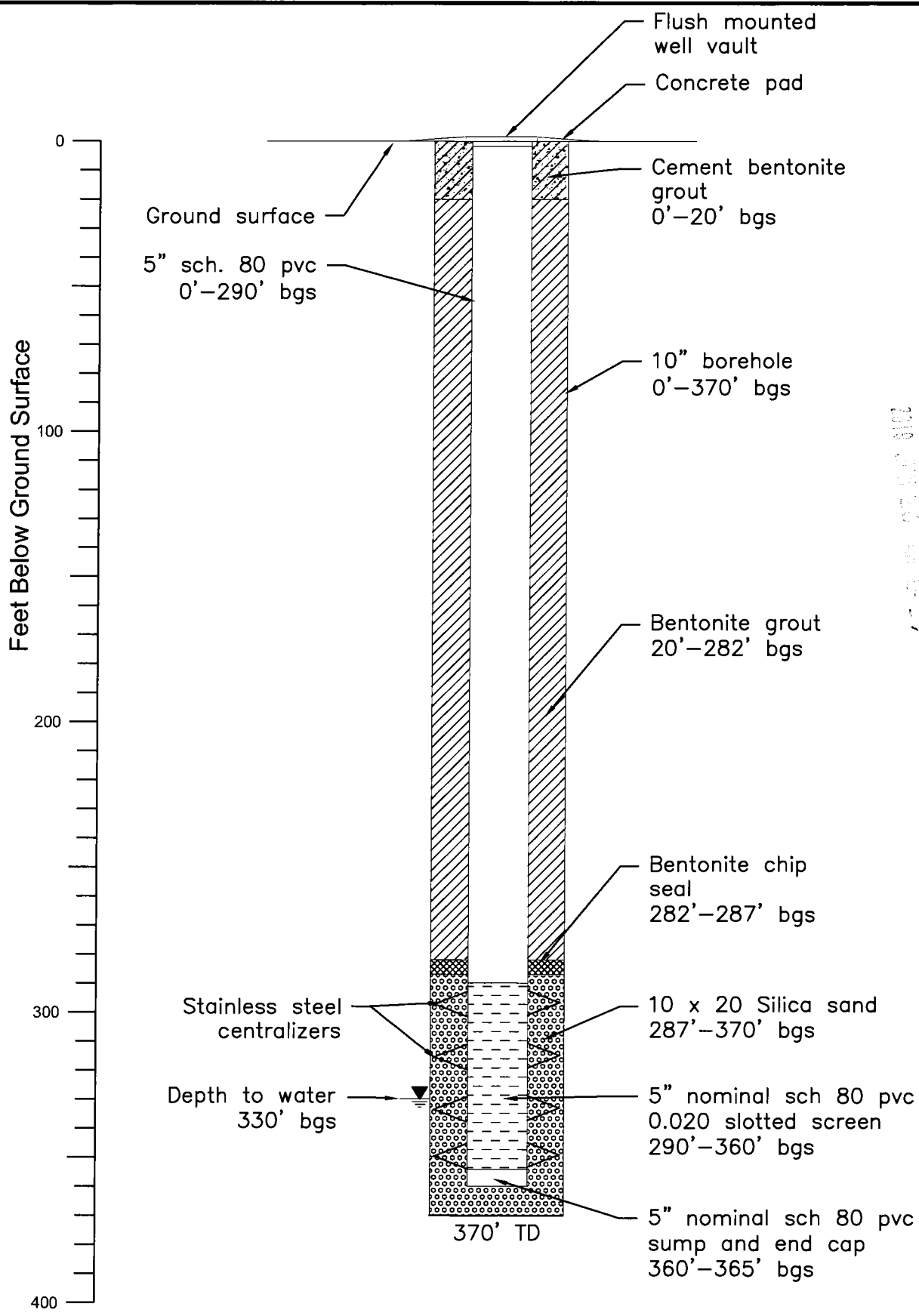
Figure 4

**Table 1. Well Designations and Construction Details**

Well Designation	Location	Total Depth (feet bgs)	Borehole Diameter(s)	Well Materials	Screen Intervals(s) (feet)
MW-13	Off-site	365	10-inch to TD	5-inch	290-360

<sup>a</sup> Denotes nested well  
bgs = Below ground surface  
TD = Total depth

2013-08-14 10:10:10 AM  
10/10/2013 10:10:10 AM



10/18/2018  
 10:00 AM  
 10/18/2018

**Not to Scale**

- Notes:**
1. TD = Total depth
  2. Centralizers installed approximately every 20 feet across screen (as shown)

**FORMER Y STATION  
Well Construction Diagram**







June 24, 2019

New Mexico Office of the State Engineer  
District II  
1900 West Second Street  
Roswell, NM 88201-1712

Re: Application to Drill Well With No Consumptive Use of Water

Please find enclosed three copies of Application to Drill Well With No Consumptive Use of Water and a check for the appropriate permit fees. Daniel B. Stephens & Associates, Inc. (DBS&A) has been contracted by the New Mexico Environment Department (NMED) to drill eight new groundwater monitoring and remediation wells (RW-1 through RW-4, BW-7R, and MW-11 through MW-13) for the Former Y Station State Lead site in Clovis, New Mexico. This is the final permit application for the eighth well, which was contingent upon data collected from installation of wells MW-11 and MW-12. This monitor well will be related to previous permit applications approved under file number CC 02536. We are currently scheduled to start drilling on July 15, 2019, and would appreciate any help with expediting this application.

Please call me at (505) 822-9400 should you have any questions or need additional paperwork.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

Thomas Golden, P.E.  
Project Engineer

Enclosures

2019 JUN 24 10 58 AM  
NEW MEXICO STATE ENGINEER  
DISTRICT II

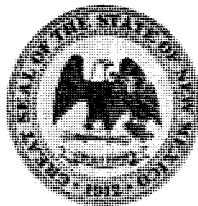
*Daniel B. Stephens & Associates, Inc.*

6020 Academy Rd., NE, Suite 100

505-822-9400

Albuquerque, NM 87109-3315

FAX 505-822-8877



**NEW MEXICO  
ENVIRONMENT DEPARTMENT**



**MICHELLE LUJAN GRISHAM**  
Governor

**HOWIE C. MORALES**  
Lt. Governor

2905 Rodeo Park Drive East

Building 1

Santa Fe, NM 87505-6313

Phone (505) 476-4397 Fax (505) 476-4374

[www.env.nm.gov](http://www.env.nm.gov)

**JAMES C. KENNEY**  
Cabinet Secretary

**JENNIFER J. PRUETT**  
Deputy Secretary

February 21, 2019

Mr. Thomas Golden  
Daniel B. Stephens & Associates, Inc.  
6020 Academy NE, Suite 100  
Albuquerque, NM 87109

Re: Phase 3 Fixed-Price Workplan Approval for Former Y Station, 721 Commerce Way, Clovis, New Mexico

Facility #: 53742

Release ID #: 4746

WPID #: 4022

Dear Mr. Golden:

The New Mexico Environment Department (Department) approves, with modification, the fixed-price workplan dated September 14, 2018. This workplan is for Phase 3 activities consisting of aquifer testing, monitor well installation and pilot testing. Work shall be performed in accordance with contract number 18-667-3200-0022 and the workplan provided. The approved workplan has been modified as follows:

1. Task 1 Conceptual Remedation Plan (CRP) Development has not been included. Costs for this task have been removed accordingly.

The total budget approved for this workplan shall not exceed \_\_\_\_\_ which includes New Mexico Gross Receipts Tax. Please refer to the following table for a breakdown of the expected deliverables and dates of completion. The dates listed in the table are the current deadlines in the applicable portion of the corrective action timeline for the subject site. These deliverables document completion of individual performance criteria.

<u>Deliverable Name</u>	<u>\$ Approved</u>	<u>Estimated Date of Deliverable</u>	<u>Deliverable ID</u>
Project Kickoff Activities, Access Negotiations, and Well Check		04/15/2019	4022-1
Aquifer Test and report		05/15/2019	4022-2
Well Installation and Letter Report (1 <sup>st</sup> Month)		06/17/2019	4022-3
Well Installation and Letter Report (2 <sup>nd</sup> Month)		07/17/2019	4022-4



<u>Deliverable Name</u>	<u>\$ Approved</u>	<u>Estimated Date of Deliverable</u>	<u>Deliverable ID</u>
Well Installation and Letter Report (3 <sup>rd</sup> Month)		08/19/2019	4022-5
Pilot Testing and report		09/30/2019	4022-6
Baseline Groundwater Sampling and Final Well Installation Report		10/31/2019	4022-7
*Contingency		11/29/2019	4022-8

*\*NOTE: Daniel B. Stephens & Associates, Inc. shall notify the Department in writing or by electronic mail and receive Department approval prior to expenditure of any contingency set-aside funds. The approved budgets for these deliverables are not-to-exceed amounts for the period covered by the subject workplan.*

You may begin work immediately. Approval of this workplan is contingent upon all work being performed on this site in accordance with all local, state, and federal regulations, including 29 CFR 1910 governing occupational health and safety. The Department expects Daniel B. Stephens & Associates, Inc. to complete the work as outlined within the approved budget. All change orders must be approved in writing prior to the work being performed.

To facilitate payment, if a deliverable represents a reduced scope of work that requires a reduction in the amount to be claimed, the notification of the modified costs must be submitted to the Department with the deliverable.

If you have any questions, please contact the project manager, D. Renee Romero at (575) 291-2109.

Sincerely,



Dana Bahar  
Bureau Chief  
Petroleum Storage Tank Bureau

DB:DRR:tn

cc: Lorraine Martinez, Daniel B. Stephens & Associates, Inc. (via email)  
Lorena Goerger, Manager, Remedial Action Program (via email)  
Sarah McGrath, Geoscientist Supervisor (via email)  
D. Renee Romero, Project Manager (via email)  
Jonathon Boyle, Inspector, Prevention and Inspection Program (via email)

cc w/encl: PSTB Master File Santa Fe

# OFFICE OF THE STATE ENGINEER/INTERSTATE STREAM COMMISSION – ROSWELL OFFICE

OFFICIAL RECEIPT NUMBER: 2 - 40928 DATE: 6/26/19 FILE NO.: \_\_\_\_\_  
 TOTAL: 85.00 RECEIVED: Five DOLLARS CHECK NO.: 106293 CASH: \_\_\_\_\_  
 PAYOR: Daniel P. Stephens & Assoc. Inc. ADDRESS: 6020 Academy Rd. NE CITY: Albuquerque STATE: NM  
 ZIP: 87109 RECEIVED BY: [Signature]

INSTRUCTIONS: Indicate the number of actions to the left of the appropriate type of filing. Complete the receipt information. **Original** to payor; **pink** copy to Program Support/ASD; and **yellow** copy for Water Rights. If a mistake is made, void the original and all copies and submit to Program Support/ASD as part of your daily deposit.

**A. Ground Water Filing Fees**

- \_\_\_ 1. Change of Ownership of Water Right \$ 2.00
- \_\_\_ 2. Application to Appropriate or Supplement Domestic 72-12-1 Well \$ 125.00
- \_\_\_ 3. Application to Repair or Deepen 72-12-1 Well \$ 75.00
- \_\_\_ 4. Application for Replacement 72-12-1 Well \$ 75.00
- \_\_\_ 5. Application to Change Purpose of Use 72-12-1 Well \$ 75.00
- \_\_\_ 6. Application for Stock Well/Temp. Use \$ 5.00

---

- \_\_\_ 7. Application to Appropriate Irrigation, Municipal, or Commercial Use \$ 25.00
- \_\_\_ 8. Declaration of Water Right \$ 1.00
- \_\_\_ 9. Application for Supplemental Non 72-12-1 Well \$ 25.00
- \_\_\_ 10. Application to Change Place or Purpose of Use Non 72-12-1 Well \$ 25.00
- \_\_\_ 11. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Ground Water \$ 50.00
- \_\_\_ 12. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Ground Water \$ 50.00
- \_\_\_ 13. Application to Change Point of Diversion of Non 72-12-1 Well \$ 25.00
- \_\_\_ 14. Application to Repair or Deepen Non 72-12-1 Well \$ 5.00

---

- \_\_\_ 15. Application for Test, Expl. Observ. Well \$ 5.00
- \_\_\_ 16. Application for Extension of Time \$ 25.00
- \_\_\_ 17. Proof of Application to Beneficial Use \$ 25.00
- \_\_\_ 18. Notice of Intent to Appropriate \$ 25.00

**B. Surface Water Filing Fees**

- \_\_\_ 1. Change of Ownership of a Water Right \$ 5.00
- \_\_\_ 2. Declaration of Water Right \$ 10.00
- \_\_\_ 3. Amended Declaration \$ 25.00
- \_\_\_ 4. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Surface Water \$ 200.00
- \_\_\_ 5. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Surface Water \$ 200.00
- \_\_\_ 6. Application to Change Point of Diversion \$ 100.00
- \_\_\_ 7. Application to Change Place and/or Purpose of Use \$ 100.00
- \_\_\_ 8. Application to Appropriate \$ 25.00
- \_\_\_ 9. Notice of Intent to Appropriate \$ 25.00
- \_\_\_ 10. Application for Extension of Time \$ 50.00
- \_\_\_ 11. Supplemental Well to a Surface Right \$ 100.00
- \_\_\_ 12. Return Flow Credit \$ 100.00
- \_\_\_ 13. Proof of Completion of Works \$ 25.00
- \_\_\_ 14. Proof of Application of Water to Beneficial Use \$ 25.00
- \_\_\_ 15. Water Development Plan \$ 100.00
- \_\_\_ 16. Declaration of Livestock Water Impoundment \$ 10.00
- \_\_\_ 17. Application for Livestock Water Impoundment \$ 10.00

**C. Well Driller Fees**

- \_\_\_ 1. Application for Well Driller's License \$ 50.00
- \_\_\_ 2. Application for Renewal of Well Driller's License \$ 50.00
- \_\_\_ 3. Application to Amend Well Driller's License \$ 50.00

**D. Reproduction of Documents**

- \_\_\_ @ 0.25¢ \$ \_\_\_\_\_
- \_\_\_ Map(s) \$ \_\_\_\_\_

**E. Certification**

\$ \_\_\_\_\_

**F. Other**

\$ \_\_\_\_\_

**G. Comments:**

\* Mail  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**All fees are non-refundable.**

John R. D Antonio, Jr., P.E.  
State Engineer



Roswell Office  
1900 WEST SECOND STREET  
ROSWELL, NM 88201

**STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 657528  
File Nbr: CC 02548 POD1

Aug. 27, 2019

THOMAS GOLDEN, D B STEPHENS & ASSOC  
NMED PETROLEUM STORAGE TANK  
6020 ACADEMY RD NE SUITE 100  
ALBUQUERQUE, NM 87109

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

- \* If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.
- \* If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.
- \* The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.
- \* This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website [www.ose.state.nm.us](http://www.ose.state.nm.us).

Sincerely,

*JRH*  
Juan Hernandez  
(575) 622-6521

Enclosure

explore



## NEW MEXICO OFFICE OF THE STATE ENGINEER



### WR-07 APPLICATION FOR PERMIT TO DRILL

#### A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: <http://www.ose.state.nm.us/>

Purpose:	<input type="checkbox"/> Pollution Control And/Or Recovery	<input type="checkbox"/> Ground Source Heat Pump
<input type="checkbox"/> Exploratory Well (Pump test)	<input type="checkbox"/> Construction Site/Public Works Dewatering	<input type="checkbox"/> Other(Describe):
<input checked="" type="checkbox"/> Monitoring Well	<input type="checkbox"/> Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

<input checked="" type="checkbox"/> Temporary Request - Requested Start Date: 09/03/2019	Requested End Date: Unknown
Plugging Plan of Operations Submitted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

### 1. APPLICANT(S)

Name: NMED Petroleum Storage Tank Bureau	Name:
Contact or Agent: <input checked="" type="checkbox"/> check here if Agent	Contact or Agent: <input type="checkbox"/> check here if Agent
Thomas Golden for Daniel B. Stephens & Associates, Inc.	
Mailing Address: 6020 Academy Rd. NE, Suite 100	Mailing Address:
City: Albuquerque	City:
State: NM      Zip Code: 87109	State:      Zip Code:
Phone: 505-822-9400 <input type="checkbox"/> Home <input type="checkbox"/> Cell	Phone: <input type="checkbox"/> Home <input type="checkbox"/> Cell
Phone (Work):	Phone (Work):
E-mail (optional): TGolden@geo-logic.com	E-mail (optional):

FOR OSE INTERNAL USE

Application for Permit, Form WR-07, Rev 11/17/16

File No.: <b>CC-2548</b>	Trn. No.: <b>65528</b>	Receipt No.: <b>2-41117</b>
Trans Description (optional): <b>POD1</b>		
Sub-Basin: <b>CU</b>	PCW/LOG Due Date: <b>8-31-19</b>	

2. WELL(S) Describe the well(s) applicable to this application.

**Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).  
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.**

NM State Plane (NAD83) (Feet)       UTM (NAD83) (Meters)       Lat/Long (WGS84) (to the nearest 1/10<sup>th</sup> of second)  
 NM West Zone       Zone 12N  
 NM East Zone       Zone 13N  
 NM Central Zone

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves, Section, Township, Range) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
CC-2548 PODI MW-14	103° 11' 43.23"W	34° 24' 52.20"N	

**NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)**  
 Additional well descriptions are attached:  Yes  No      If yes, how many 1

Other description relating well to common landmarks, streets, or other:  
 1608 Lea Street, Clovis, NM 88101, in City right-of-way for Lea Street.

Well is on land owned by: City of Clovis right-of-way

**Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached?**  Yes  No  
 If yes, how many \_\_\_\_\_

Approximate depth of well (feet): 365 (see attached table)	Outside diameter of well casing (inches): 5 inches
Driller Name: Yellow Jacket	Driller License Number: WD-1458

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Daniel B. Stephens & Associates, Inc. has been contracted by the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB) to investigate and remediate a petroleum hydrocarbon release at the Former Y Station State Lead Site in Clovis, NM. The investigation will be conducted to determine the horizontal and vertical extent of light non-aqueous phase liquid (LNAPL) and dissolved-phase contamination at the site. The duration of the monitoring is unknown.

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.: CC-2548	Trn No.: 657528
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**4. SPECIFIC REQUIREMENTS:** The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

<p><b>Exploratory:</b>  <input type="checkbox"/> Include a description of any proposed pump test, if applicable.</p>	<p><b>Pollution Control and/or Recovery:</b>  <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following:  <input type="checkbox"/> A description of the need for the pollution control or recovery operation.  <input type="checkbox"/> The estimated maximum period of time for completion of the operation.  <input type="checkbox"/> The annual diversion amount.  <input type="checkbox"/> The annual consumptive use amount.  <input type="checkbox"/> The maximum amount of water to be diverted and injected for the duration of the operation.  <input type="checkbox"/> The method and place of discharge.</p>	<p><b>Construction De-Watering:</b>  <input type="checkbox"/> Include a description of the proposed dewatering operation,  <input type="checkbox"/> The estimated duration of the operation,  <input type="checkbox"/> The maximum amount of water to be diverted,  <input type="checkbox"/> A description of the need for the dewatering operation, and,  <input type="checkbox"/> A description of how the diverted water will be disposed of.</p>	<p><b>Mine De-Watering:</b>  <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following:  <input type="checkbox"/> A description of the need for mine dewatering.  <input type="checkbox"/> The estimated maximum period of time for completion of the operation.  <input type="checkbox"/> The source(s) of the water to be diverted.  <input type="checkbox"/> The geohydrologic characteristics of the aquifer(s).  <input type="checkbox"/> The maximum amount of water to be diverted per annum.  <input type="checkbox"/> The maximum amount of water to be diverted for the duration of the operation.  <input type="checkbox"/> The quality of the water.</p>
<p><b>Monitoring:</b>  <input checked="" type="checkbox"/> Include the reason for the monitoring well, and,  <input checked="" type="checkbox"/> The duration of the planned monitoring.</p>	<p><input type="checkbox"/> The method of measurement of water produced and discharged.  <input type="checkbox"/> The source of water to be injected.  <input type="checkbox"/> The method of measurement of water injected.  <input type="checkbox"/> The characteristics of the aquifer.  <input type="checkbox"/> The method of determining the resulting annual consumptive use of water and depletion from any related stream system.  <input type="checkbox"/> Proof of any permit required from the New Mexico Environment Department.  <input type="checkbox"/> An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.</p>	<p><b>Ground Source Heat Pump:</b>  <input type="checkbox"/> Include a description of the geothermal heat exchange project,  <input type="checkbox"/> The number of boreholes for the completed project and required depths.  <input type="checkbox"/> The time frame for constructing the geothermal heat exchange project, and,  <input type="checkbox"/> The duration of the project.  <input type="checkbox"/> Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.</p>	<p><input type="checkbox"/> The method of measurement of water diverted.  <input type="checkbox"/> The recharge of water to the aquifer.  <input type="checkbox"/> Description of the estimated area of hydrologic effect of the project.  <input type="checkbox"/> The method and place of discharge.  <input type="checkbox"/> An estimation of the effects on surface water rights and underground water rights from the mine dewatering project.  <input type="checkbox"/> A description of the methods employed to estimate effects on surface water rights and underground water rights.  <input type="checkbox"/> Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.</p>

**ACKNOWLEDGEMENT**

I, We (name of applicant(s)), Thomas Golden on behalf of the NMED PSTB  
 Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

  
 Digitally signed by Thomas Golden  
 Date: 2019.08.16 10:23:23 -06'00'  
 Applicant Signature

Applicant Signature

**ACTION OF THE STATE ENGINEER**

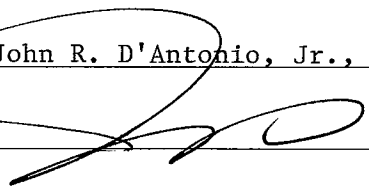
This application is:

approved       partially approved       denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 27<sup>th</sup> day of August 20 19, for the State Engineer,

John R. D'Antonio, Jr., P.E. State Engineer

By:   
 Signature      Print

Title: Juan Hernandez, Water Resources Manager 1  
 Print

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.: <u>CC-2548</u>	Trn No.: <u>657528</u>
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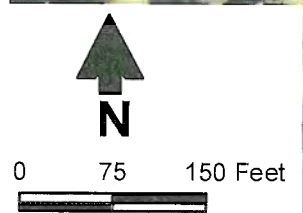
**NEW MEXICO STATE ENGINEER OFFICE  
PERMIT TO EXPLORE**

**SPECIFIC CONDITIONS OF APPROVAL**

- 17-1A Depth of the well shall not exceed the thickness of the valley fill.
- 17-4 No water shall be appropriated and beneficially used under this permit.
- 17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.
- 17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.







- Explanation**
- BW-7 Monitor well designation
  - 1,400 Benzene concentration, 2019 (µg/L)
  - ➔ Groundwater flow direction
  - Sewer main
  - ⊗ Proposed multi-zone remediation well
  - ⊗ Proposed single-zone monitor well
  - Manhole
  - ⊕ Single completion monitor well
  - ⊙ Nested monitor well

FORMER Y STATION STATE LEAD SITE  
 721 COMMERCE WAY  
 CLOVIS, NEW MEXICO

**Proposed Additional Site Investigation**

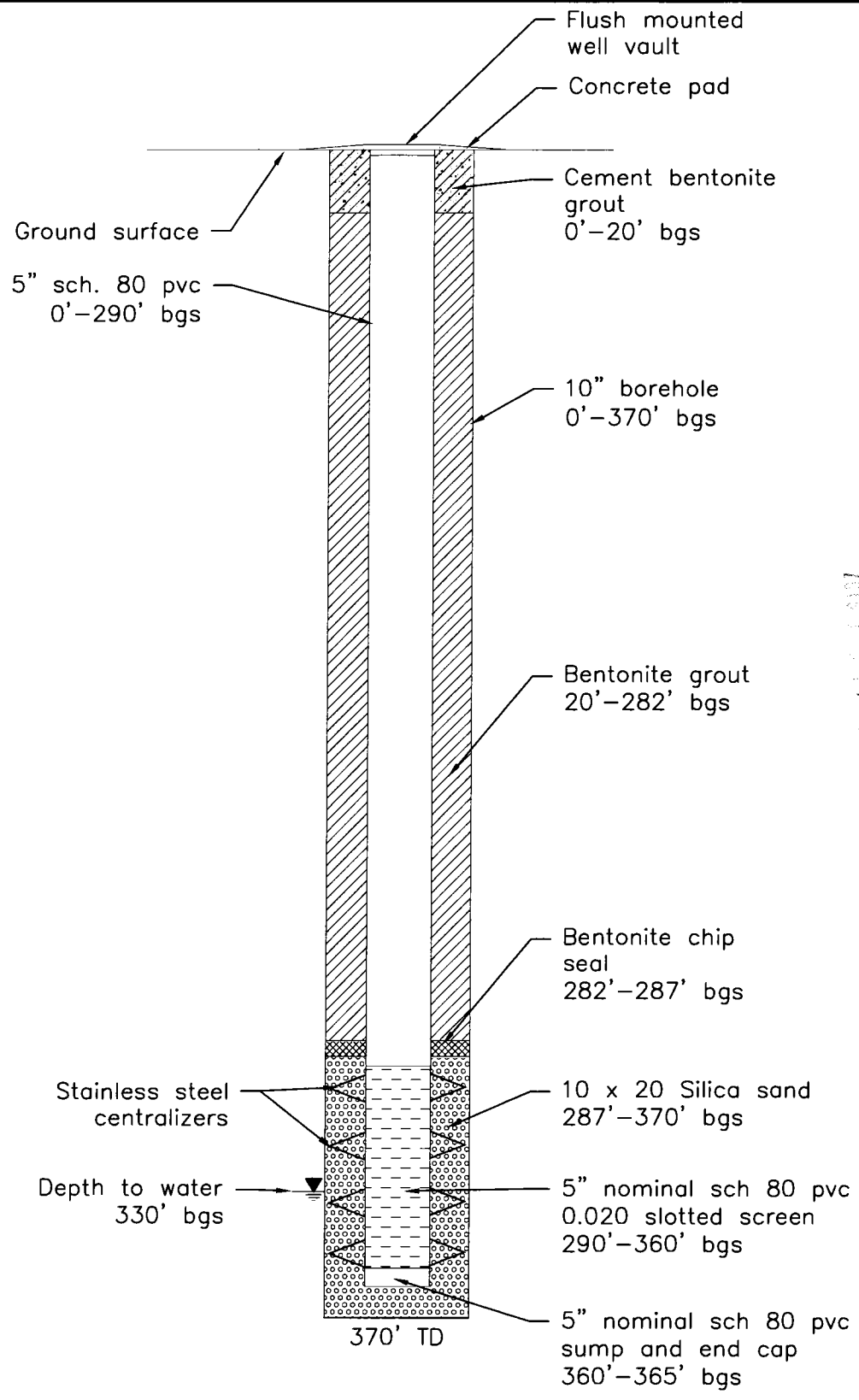
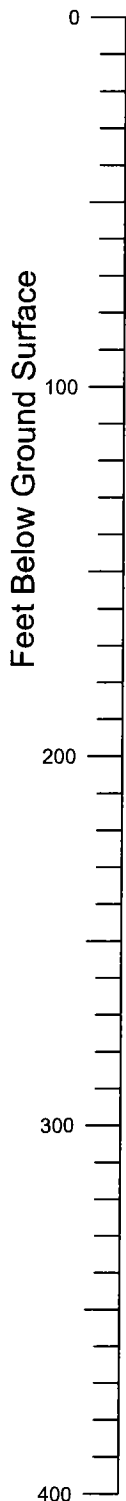
Figure 1

**Table 1. Well Designations and Construction Details**

Well Designation	Location	Total Depth (feet bgs)	Borehole Diameter(s)	Well Materials	Screen Intervals(s) (feet)
MW-14	Off-site	365	10-inch to TD	5-inch	290-360

<sup>a</sup> Denotes nested well  
bgs = Below ground surface  
TD = Total depth

2019 JUN 12 11 29 51  
SITING



**Not to Scale**

- Notes:**
1. TD = Total depth
  2. Centralizers installed approximately every 20 feet across screen (as shown)

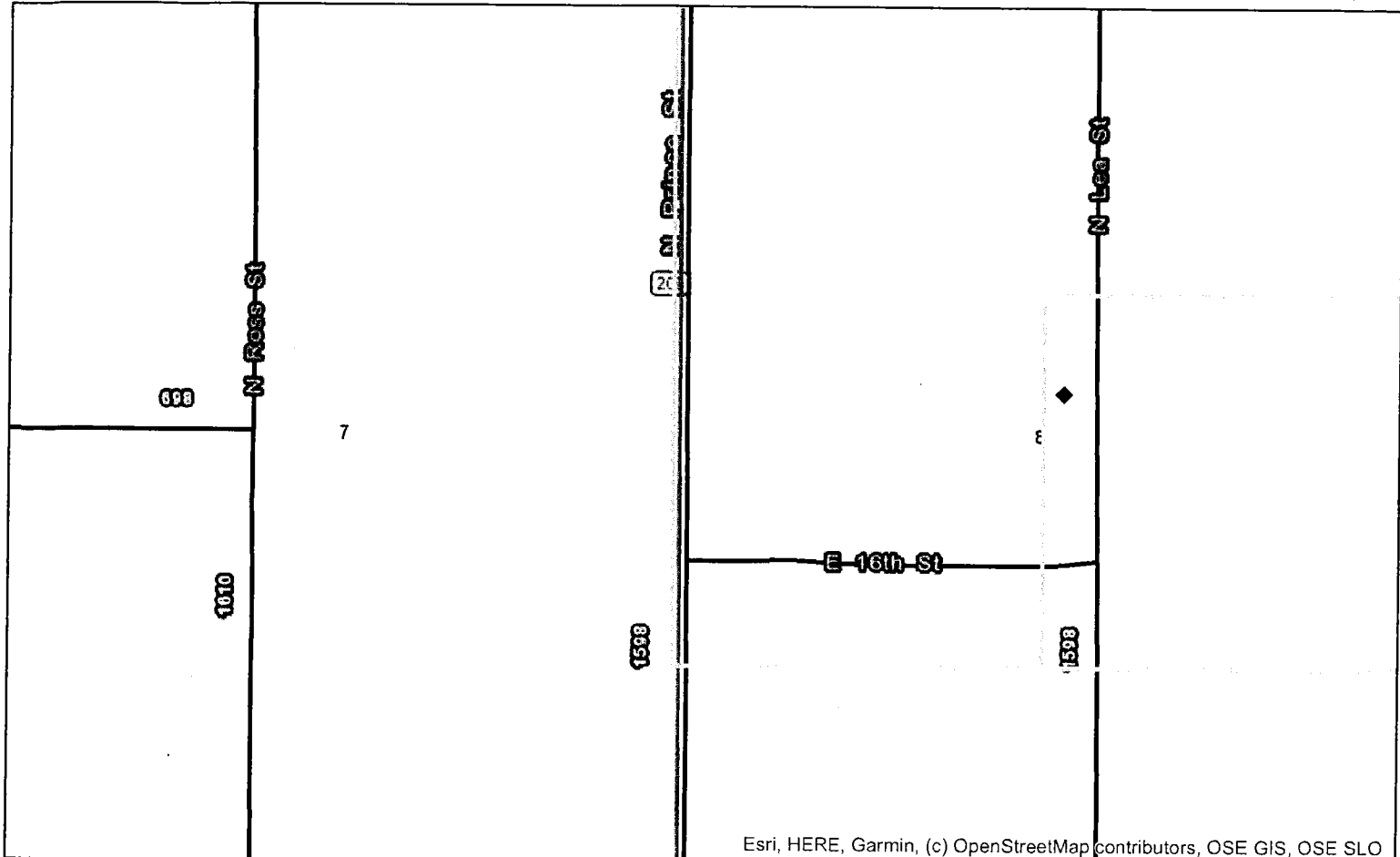
2018 AUG 19 PM 2:51  
 15 02 18 11 57 0182

S:\Projects\18.1157\_Former\_Y\_Station\VR\_Drawings\Former\_Y\_Station Well Diagram.dwg



**Daniel B. Stephens & Associates, Inc.**  
 10/18/2018 JN DB 18.1157.00

**FORMER Y STATION  
 Well Construction Diagram**

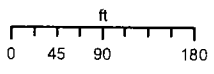


Esri, HERE, Garmin, (c) OpenStreetMap contributors, OSE GIS, OSE SLO

**Coordinates**  
UTM - NAD 83 (m) - Zone 13  
 Easting 665853.290  
 Northing 3809592.349  
State Plane - NAD 83 (f) - Zone E  
 Easting 884557.166  
 Northing 1244151.567  
Degrees Minutes Seconds  
 Latitude 34 : 24 : 52.200000  
 Longitude -103 : 11 : 43.230000  
 Location pulled from Coordinate Search

NEW MEXICO OFFICE  
 OF THE  
 STATE ENGINEER

1:2,257



YMENDIOLA



Revised 10/2013. This map was prepared by the New Mexico Office of the State Engineer, 228 West 24th Street, Santa Fe, New Mexico 87501. The map is provided as a public service and is not intended to be used for legal purposes. The State Engineer and the Interstate Stream Commission are not responsible for any errors or omissions on this map. For more information, please contact the New Mexico Office of the State Engineer.

**Spatial Information**  
 County: Curry  
 Groundwater Basin: Curry County  
 Abstract Area: Curry County  
 Land Grant:  
 Not in Land Grant  
 Restrictions:  
 Curry-Portales Underground Water Basins  
PLSS Description  
 SENWSWNW Qtr of Sec 08 of 002N 036E  
 Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

**Parcel Information**  
 UPC/DocNum:  
 Parcel Owner:  
 Address:  
 Legal:

**POD Information**  
 Owner: CITY OF CLOVIS/NMED  
 File Number: CC-2548 POD 1  
 POD Status: NoData  
 Permit Status: NoData  
 Permit Use: NoData  
 Purpose: MONITOR

- |                         |                   |                  |                  |                     |                       |
|-------------------------|-------------------|------------------|------------------|---------------------|-----------------------|
| Calculated PLSS         | — Arroyo          | — Creek          | — Interior Drain | — Wasteway          | — Pipeline            |
| ◆ Coord Search Location | — Canal           | — Culvert        | — Lateral        | <b>NHD Flowline</b> | — StreamRiver         |
| <b>Conveyances</b>      | — Channel         | — Ditch          | — Pipe           | — ArtificialPath    | — Underground Conduit |
| — Acequia               | — Closed Drain    | — Diversion Weir | — River          | — CanalDitch        | — Sections            |
| — Acequia Tunnel        | — Community Ditch | — Drain          | — Unknown        | — Coastline         |                       |
|                         | — Connector       | — Feeder         | — Wash           | — Connector         |                       |



August 16, 2019

New Mexico Office of the State Engineer  
District II  
1900 West Second Street  
Roswell, NM 88201-1712

Re: Application to Drill Well With No Consumptive Use of Water

Please find enclosed three copies of Application to Drill Well With No Consumptive Use of Water and a check for the appropriate permit fees. Daniel B. Stephens & Associates, Inc. (DBS&A) has been contracted by the New Mexico Environment Department (NMED) to drill eight new groundwater monitoring and remediation wells (RW-1 through RW-4, BW-7R, and MW-11 through MW-13) for the Former Y Station State Lead site in Clovis, New Mexico. This is a permit application for an additional ninth well (MW-14), which is being completed based on data collected from installation of monitor well MW-11. This monitor well will be related to previous permit applications approved under file number CC 02536. We are currently scheduled to start drilling after the Labor Day holiday, and would appreciate any help with expediting this application.

Please call me at (505) 822-9400 should you have any questions or need additional paperwork.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

Thomas Golden, P.E.  
Project Engineer

TG/djs  
Enclosures

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*Daniel B. Stephens & Associates, Inc.*

6020 Academy Rd., NE, Suite 100

505-822-9400

Albuquerque, NM 87109-3315

FAX 505-822-8877



Michelle Lujan Grisham  
Governor

Howie C. Morales  
Lt. Governor

NEW MEXICO  
ENVIRONMENT DEPARTMENT

Petroleum Storage Tank Bureau

2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505-6313  
Phone (505) 476-4397 Fax (505) 476-4374  
[www.env.nm.gov](http://www.env.nm.gov)



James C. Kenney  
Cabinet Secretary

Jennifer J. Pruett  
Deputy Secretary

August 15, 2019

Mr. Thomas Golden  
Daniel B. Stephens & Associates, Inc.  
6020 Academy NE, Suite 100  
Albuquerque, NM 87109

Re: Approval of Phase 3 Fixed-Price Workplan Change Order for Former Y Station, 721  
Commerce Way, Clovis, New Mexico

Facility #: 53742

Release ID #: 4746

WPID #: 4022

2019 AUG 15 10 50 AM  
STATION 721  
CLOVIS, NM

Dear Mr. Golden:

The New Mexico Environment Department (Department) approves the fixed-price change order dated August 9, 2019. This change order amends the previous workplan dated May 8, 2019, for additional Phase 3 work consisting of the installation of one additional monitor well, costs associated with the drilling, sampling and reporting. Work shall be performed in accordance with contract number 18-667-3200-0022 and the workplan provided.

The additional amount approved herein is including New Mexico Gross Receipts Tax. This increases the total approved for the workplan dated September 14, 2018 and previous amendment dated May 8, 2019 to Please refer to the following table for a revised breakdown of the expected deliverables and dates of completion. The dates listed in the table are the current deadlines in the applicable portion of the corrective action timeline for the subject site. These deliverables document completion of individual performance criteria.

<u>Deliverable Name</u>	<u>\$Approved</u>	<u>Additional \$Approved</u>	<u>Estimated Date of Deliverable</u>	<u>Deliverable ID</u>
Project Kickoff Activities, Access Negotiations, and Well Check			completed	4022-1

<u>Deliverable Name</u>	<u>\$Approved</u>	<u>Additional \$Approved</u>	<u>Estimated Date of Deliverable</u>	<u>Deliverable ID</u>
Aquifer Test and Report			09/30/2019	4022-2
Well Installation and Letter Report (1 <sup>st</sup> Month)			completed	4022-3
Well Installation and Letter Report (2 <sup>nd</sup> Month)			08/15/2019	4022-4
Well Installation and Letter Report (3 <sup>rd</sup> Month)			09/15/2019	4022-5
Pilot Testing and Report			10/30/2019	4022-6
Baseline Groundwater Sampling and Final Well Installation Report			11/30/2019	4022-7
*Contingency			12/30/2019	4022-8
Preliminary Groundwater Monitoring and Report			07/15/2019	4022-17
Well Installation and Letter Report (4 <sup>th</sup> Month)			10/15/2019	4022-19

2019 AUG 19 09 28 AM

STATE OF CALIFORNIA  
 DEPARTMENT OF INDUSTRIAL RELATIONS  
 DIVISION OF WORKERS COMPENSATION

*\*NOTE: Daniel B. Stephens & Associates, Inc. shall notify the Department in writing or by electronic mail and receive Department approval prior to expenditure of any contingency set-aside funds. The approved budgets for these deliverables are not-to-exceed amounts for the period covered by the subject workplan.*

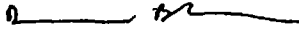
You may begin work immediately. Approval of this workplan is contingent upon all work being performed on this site in accordance with all local, state, and federal regulations, including 29 CFR 1910 governing occupational health and safety. The Department expects Daniel B. Stephens & Associates, Inc. to complete the work as outlined within the approved budget. All change orders must be approved in writing prior to the work being performed.

To facilitate payment, if a deliverable represents a reduced scope of work that requires a reduction in the amount to be claimed, the notification of the modified costs must be submitted to the Department with the deliverable.

Thomas Golden  
August 15, 2019  
Page 3

If you have any questions, please contact the project manager, D. Renee Romero at (575) 291-2109.

Sincerely,



Dana Bahar  
Bureau Chief  
Petroleum Storage Tank Bureau

DB:DRR:as

cc: Lorraine Martinez, Daniel B. Stephens & Associates, Inc. (via email)  
Lorena Goerger, Manager, Remedial Action Program (via email)  
Sarah McGrath, Geoscientist Supervisor (via email)  
D. Renee Romero, Project Manager (via email)  
Katherine Macneil, Environmental Engineer (via email)

cc w/encl: PSTB Master File Santa Fe

2019 AUG 19 PM 2:51

STATE OF NEW MEXICO  
OFFICE OF THE ATTORNEY GENERAL



# OFFICE OF THE STATE ENGINEER/INTERSTATE STREAM COMMISSION – ROSWELL OFFICE

OFFICIAL RECEIPT NUMBER: 2 - 41117      DATE: 08-19-19      FILE NO.: \_\_\_\_\_  
 TOTAL: 5.00      RECEIVED: Five      DOLLARS      CHECK NO.: 106301      CASH: \_\_\_\_\_  
 PAYOR: Daniel Stephens + Assoc.      ADDRESS: 6020 Academy Rd. N.E.      CITY: Alb      STATE: N.H.  
 ZIP: 87109      RECEIVED BY: MJA      Ste 100

INSTRUCTIONS: Indicate the number of actions to the left of the appropriate type of filing. Complete the receipt information. **Original** to payor; **pink** copy to Program Support/ASD; and **yellow** copy for Water Rights. If a mistake is made, void the original and all copies and submit to Program Support/ASD as part of your daily deposit.

### A. Ground Water Filing Fees

- 1. Change of Ownership of Water Right \$ 2.00
- 2. Application to Appropriate or Supplement Domestic 72-12-1 Well \$ 125.00
- 3. Application to Repair or Deepen 72-12-1 Well \$ 75.00
- 4. Application for Replacement 72-12-1 Well \$ 75.00
- 5. Application to Change Purpose of Use 72-12-1 Well \$ 75.00
- 6. Application for Stock Well/Temp. Use \$ 5.00

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- 7. Application to Appropriate Irrigation, Municipal, or Commercial Use \$ 25.00
- 8. Declaration of Water Right \$ 1.00
- 9. Application for Supplemental Non 72-12-1 Well \$ 25.00
- 10. Application to Change Place or Purpose of Use Non 72-12-1 Well \$ 25.00
- 11. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Ground Water \$ 50.00
- 12. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Ground Water \$ 50.00
- 13. Application to Change Point of Diversion of Non 72-12-1 Well \$ 25.00
- 14. Application to Repair or Deepen Non 72-12-1 Well \$ 5.00

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- 15. Application for Test, Expl. Observ. Well \$ 5.00
- 16. Application for Extension of Time \$ 25.00
- 17. Proof of Application to Beneficial Use \$ 25.00
- 18. Notice of Intent to Appropriate \$ 25.00

### B. Surface Water Filing Fees

- 1. Change of Ownership of a Water Right \$ 5.00
- 2. Declaration of Water Right \$ 10.00
- 3. Amended Declaration \$ 25.00
- 4. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Surface Water \$ 200.00
- 5. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Surface Water \$ 200.00
- 6. Application to Change Point of Diversion \$ 100.00
- 7. Application to Change Place and/or Purpose of Use \$ 100.00
- 8. Application to Appropriate \$ 25.00
- 9. Notice of Intent to Appropriate \$ 25.00
- 10. Application for Extension of Time \$ 50.00
- 11. Supplemental Well to a Surface Right \$ 100.00
- 12. Return Flow Credit \$ 100.00
- 13. Proof of Completion of Works \$ 25.00
- 14. Proof of Application of Water to Beneficial Use \$ 25.00
- 15. Water Development Plan \$ 100.00
- 16. Declaration of Livestock Water Impoundment \$ 10.00
- 17. Application for Livestock Water Impoundment \$ 10.00

### C. Well Driller Fees

- 1. Application for Well Driller's License \$ 50.00
- 2. Application for Renewal of Well Driller's License \$ 50.00
- 3. Application to Amend Well Driller's License \$ 50.00

### D. Reproduction of Documents

- @ 0.25¢ \$ \_\_\_\_\_
- Map(s) \$ \_\_\_\_\_

### E. Certification

- \$ \_\_\_\_\_

### F. Other

- \$ \_\_\_\_\_

### G. Comments:

Mail

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All fees are non-refundable.

**Appendix B**  
**Field Notes**

5/29/19

PNF

0745 PNF onsite @ Albertsons

0940 met w/ Mike, Mike's Landscaping

The correct juniper was removed.

Porto Potty onsite.

1415 Yellow Jacket onsite

1445 Jake from YJD relayed

that PNF was to go offsite as per T. Golden.

~~PNF~~  
5/29/19

5/30/19

PNF

0700 PNF onsite / YJD onsite

Setting up.

- No fencing or roll off bin onsite

0710 Tailgate safety meeting

0725 Roll off bin onsite.

0750 Materials truck onsite.

0800 Begin drilling mw-11.

0810 Calibrate PID

Zero = 0.0 ppm

Span = 99.9 ppm

0950 Sunny Fence onsite w/ temp  
fencing for the yard.

1100 Drilling slowed due to consolidated  
portion of the caprock (possibly  
the bottom)

Driller, Chris, advises that  
they may need to run water  
to get through it but that  
will generate a large amount  
of water to dispose of.

1115 Thomas Hopkins onsite

1120 Resume drilling - attempting w/o  
water.

1145 Break for lunch

1240 Resume work

~~PNF~~ 5/30/19

5/30/19

PNF

1640 Chris Reports no recovery  
at 85 ft. The hole is tight  
and the bit drill string gets  
caught and he vibrates the  
sample out trying to get  
the drill string out. He will  
switch to a rotary bit  
to try to clear the borehole  
and continue drilling.

\*Note the rig does not have  
a geolograph to show  
plumbness and alignment  
during drilling.

1815 Chris reports that he believes  
we won't be able to drill this  
hole w/o water. The bit keeps  
locking up and he can't  
recover sample.

We will shut down for the  
day and try again tomorrow.

1830 PNF + YJD offsite

~~PNF 5/30/19~~

5/31/19

PNF

0655 PNF + YJD onsite

Tailgate Safety meeting

0750 TG call to PNF: They are approved to use water and dispose of it into the roll off bin. They should only use water in the hard zone.

0755 Calibrate PID

Zero = 0 ppm

Span = 99.7 ppm

0800 The rig won't vibrate; crew is fixing some wiring.

0815 The solenoid valve that controls the vibration is broken. They were unable to bypass it.

0910 Problem fixed.

0915 Resume drilling

0920 Jake Lagana advises that the days of schedule may need to be adjusted to start RW-2 on the evening of the 15<sup>th</sup>.

~~PNF~~

5/31/19

PNF

1115 Chris reports that a drill rod is broken off downhole and is lodged. He will run in with a larger size bit to free it up and then run in to retrieve it.

1215 Broken drill rod retrieved.

1220 Break for lunch

1315 Resume work

1415 Pipe delivery onsite for dummy test for plumbness.

1445 PNF & YJD offsite  
depth = 155'

~~PNF~~  
5/31/19

6/11/19

PNF

0655 PNF onsite / YJD onsite

Tailgate safety meeting

0820 Calibrate PFD

Zero = 0.0 ppm

Span = 100.0 ppm

1100 Jake and PNF visit to site of RW-1

~~1145~~ 1145 Break for lunch

1245 Resume work

1700 Stop work for thunderstorm hole @ 195'

1730 PNF offsite / YJD offsite

PNF 6/11/19

6/12/19

PNF

0700 PNF onsite / YJD onsite

0715 Tailgate safety meeting

0825 Calibrate PFD

Zero = 0.0 ppm

Span = 100.0 ppm

1125 Break for lunch

1225 Resume work.

1800 PNF + YJD offsite

hole @ 240', lost sample @ 235'

PNF 6/12/19

6/3/19

0730 PMF onsite; YJD drilling to  
255'

0745 Calibrate PIP

Zero = 0.0ppm

Span = 100.0ppm

1115 Break for lunch

1215 Resume work

1515 Stop work to fix broken  
bolts on the sonic head

1530 Resume drilling

1815 PMF + YJD offsite

PMF  
6/3/19

6/4/19

0700 PMF + YJD onsite

Tailgate safety meeting.

0720 Resume drilling

0750 Calibrate PIP

Zero = 0.0ppm

Span = 100.0ppm

1000 Gandy Marley onsite w/ new  
rod & bin

1140 Stop for lunch

Casing @ 300'

Drilling to 320'

1240 ONSITE. DRILLERS ARE TAKING LUNCH.

1315 PATROL OFFSITE.

1340 BEGIN TRIPPING OUT w/ 315'-325'  
SAMPLE.

1425 325' SAMPLE OUT.

1505 335' SAMPLE OUT.

1520 DRILLING TO 345'

1800 345' SAMPLE IS OUT.

1830 OFFSITE

PMF  
6/4/19

6/5/19

J. FISHER

0700 ONSITE. WEATHER IS COOL (~60°F),  
CLEAR, BREEZY-SL WINDY.  
T-STORMS EXPECTED TODAY.  
HOLD TAILGATE SAFETY MEETING.  
SEE FORM IN HASP FOR DETAILS.

0730 RESUME DRILLING FROM  
345'

0905 355' SAMPLE IS OUT.

0920 TAG WATER @ 330.76 TO TOP OF WELL  
- 5.86 INCH ABOVE G  
324.90 FT BGS

CALIBRATE PID. MINI PACE 3000  
SN: 592-926669

ZEROED FRESH AIR READINGS = 0.0PPM  
CAL'D 100PPM ISOBUTYLENE READINGS = 100.0PPM

1050 360' SAMPLE IS OUT.  
9" CASING IS @ 327'. WILL ADVANCE  
CASING TO 360', CLEAN OUT, &  
PREPARE TO SET WLN.

1445 LIGHTNING. SHUT DOWN

1540 CALLING IT A DAY DUE TO  
SEVERE T-STORM. 70 mph gusts  
& QUARTER SIZED HAIL PREDICTED  
BY NWS.

1600 OFFSITE.

6/6/19

J. FISHER

0700 ONSITE. WEATHER IS COOL (~61°F),  
P. CLOUDY, BREEZY. FORECAST IS  
FOR 83°F, SUNNY. HOLD TAILGATE  
SAFETY MEETING. SEE FORM IN HASP  
FOR DETAILS.

0715 CALIBRATE PID. MINI PACE 3000.  
SN: 592-926669.

ZEROED FRESH AIR READINGS = 0.0PPM  
CAL'D 100PPM ISOBUTYLENE READINGS = 100.0PPM

0730 WLN RETRIEVE 365' SAMPLE, PULL  
10" CASING (80'), ADVANCE 9"  
CASING TO 365', CLEAN OUT, &  
BEGIN WELL CONSTRUCTION.

0810 365' SAMPLE IS OUT.

0915 10' CASING IS OUT

1030 9' IS @ 365'.

1145 HOLE IS CLEANED OUT TO 365'  
PREPARE FOR WELL CONSTRUCTION

1200 THEY HAVE 362.75' OF 5" WELL  
MATERIALS.

1345 TAG WATER @ 337.08 - 5.86 = 331.22

1419 BEGIN TRIPPING IN WELL PIPE



4/7/19

J. FISHER

- 1000 ON SITE. WEATHER IS WARM (~75°F)  
WINDY, BREEZY. FORECAST IS  
FOR SUNNY, 90°F. HOLD
- 1100 TALKING SPECTY MEETING.  
SEE FORM IN HALL FOR  
DETAILS. PREPARE TO  
RESUME WELL CONSTRUCTION
- 1215 WELL PIPE IS IN TO ~361' bgs.  
PREPARE TO INSTALL FILTER  
PACK. SEE FORM FOR  
DETAILS.
- 1510 FILTER PACK IS IN TO 281' bgs  
INSTALL BENTONITE SEAL.
- 1520 HYDRATE BENTONITE. PREPARE  
TO GROUT WELL W/ HIGH SOLIDS  
BENTONITE GROUT. GW SAMPLING COMPLETED  
@ 1650
- 1725 1<sup>ST</sup> BATCH OF GROUT DOWN.  
1 BATCH = 2-50 lb BAGS OF  
QUICKGEL (POWDERED BENTONITE)  
+ ~50 GALLONS H<sub>2</sub>O.
- 1830 2<sup>ND</sup> BATCH OF GROUT DOWN HOLE.  
WILL RESUME GROUTING TOMORROW.  
OFF SITE.

*J. Fisher*  
6/7/19

6/8/19

J. FISHER

- 0700 ON SITE. WEATHER IS WARM (80-85°F)  
P. CLOUDY, BREEZY. HOLD TALKING  
SPECTY MEETING. SEE FORM IN  
HALL FOR DETAILS.
- 0735 RESUME PULLING CASING.
- 0850 9" CASING IS OUT OF HOLE. PREPARE  
TO RESUME GROUTING.
- 0915 BEGIN MIXING 3<sup>RD</sup> BATCH OF GROUT.
- 0935 3<sup>RD</sup> BATCH DOWN HOLE. PREPARE TO  
MIX 4<sup>TH</sup> BATCH.
1057. 13 BATCHES DOWN HOLE. TAG  
BENTONITE @ ~27' PREPARE TO MIX  
CEMENT BENTONITE GROUT.  
8 ~~50~~ 46 lb BAGS OF PORTLAND  
1/2 BAG OF QUICKGEL  
35 GALLONS OF H<sub>2</sub>O PER BATCH.
- 1130 GROUTING COMPLETE AFTER  
2 BATCHES OF CEMENT GROUT.  
PREPARE FOR SURFACE COMPLETION.
- 1515 SURFACE COMPLETION IS NEARLY  
FINISHED. SITE HAS BEEN CLEANED UP.  
OFF SITE

*J. Fisher*

6/15/19 RW-2 drilling JR/HB

1520 H.B. onsite  
 weather: 95°F, overcast  
 Purpose: <sup>RW</sup> ~~HW~~ install

1530 Spoke to employees at Optical Source  
 Yellow Jacket on site -  
 Setting up rig on RW-2

1800 Held H.S. meeting

1845 Barricade in place - entrance to  
 Optical Source still accessible

1940 Begin drilling RW-2  
 Calibrate PID  
 zero gas = 0.0 ppm  
 100 ppm gas = 100.0 ppm

2040 J. Raucci onsite

2120 H. Barnes off site. Drilling continues

2200 @ 62' Caliche. NO impacts  
 observed.

2300 Realize that well is situated  
 ~15' south of marked location

2308 measure 17' south and ~3' west  
 center w/ T. Golden.

2355 Decision made to relocate  
 well to proper location.  
 original hole to be abandoned  
 at 65'

JR/HB 6/16/19

0009 Decision to relocate communicated  
 to drillers. moving rig.

0145 Resume drilling

0210 @ 15'

0240 @ 25'

0345 @ 55'

0430 Tight overburden, having difficulty  
 backing out of core drilled.

0440 @ 65'

0515 @ 75'

0555 @ 85'

0600 Driller's shift change. Tailgate  
 loading up more 10" casing.

0655 H.B. onsite

0710 J.R. offsite

0820 Rig being repaired

1100 Rig back up & running

1230 VJD offsite for lunch

1315 Drilling resumed - sign for Optical  
 Source displayed

1800 Shift change for VJD; J. Raucci onsite

1835 Tailgate

1840 Running casing and  
 cleaning hole @ 155'

6/16/19

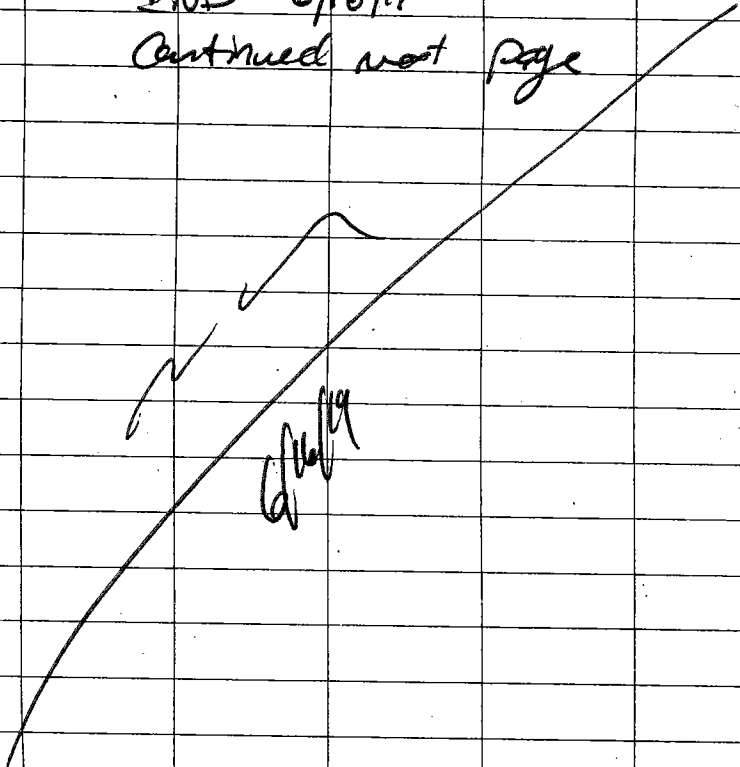
Drilling RW-2

JR

- 1840 Resume drilling  
 2020 @ 175'  
 2200 @ 195'  
 2230 setting 10" casing between  
 195-200', cleaning out hole.  
 2315 T. Golden on-site setting up  
 signage, discuss site work.  
~~0000~~  
 0000 Tapping in 9" casing

- END 6/16/19 -

Continued next page



5/14/18

Drill RW-12

6/17/19

- 0000 Tripping in 9" casing. Advance  
 бурhole to 210'.  
 0012 T. Golden off-site  
 0420 @ 243'  
 0455 @ 255'  
 0550 Tag well RW-5  
 DTP = 328.14  
 DTW = 328.72  
 H. Barnes off-site  
 0600 J. Pauci off-site  
 Held tailgate safety meeting  
 0730 Noticed problems w/ hydraulic  
 hoses on rig - drilling stopped for  
 repairs  
 0845 T. Golden onsite  
 0930 Rig functional again  
 0940 T. Golden checked the noise level  
 in the store - volume not bad  
 employees say it is okay,  
 checked location for RW-1 w/  
 driller; discussed hazards;  
 setup  
 1010 Rig down for repair  
 1135 YSD tried to find part - will not be  
 available until 4pm

6/17/19

RW-2 Drilling

HS/SR

- 1330 New roll off bin being delivered  
T. Golden OFF SITE
- 1400 Heavy thunder storms
- 1430 Hail
- 1535 YJD no part for fixing rig  
-lightening within 5 miles
- 1730 lightening still within 5 miles
- 1800 J. Brucchi onsite, shift change
- 1805 Tailgate
- 1815 Waiting out + storms + lightning
- 0000 continuous rain + lightning up  
to ~2345 or so. will start to  
ramp up for drilling now  
6/18/19 continued next page →

~~JJD  
6/17/19~~

RW-2

Drilling

6/18/19

- 0023 started to prep for drilling  
but another T-storm moved  
in, v. close lightning strikes.
- 0040 Resume prep for drilling.
- 0055 Drilling @ 255'
- 0150 @ 275'
- 0252 @ 294'
- 0435 @ 315'
- 0525 @ 325'
- 0600 H. Barnes on site.  
Shift change
- 0615 Held H.S. meeting
- 0715 Sample taken from aWI  
@ ~329' bgs
- 0945 Hydraulic nose popped -  
everyone okay - drilling  
Stopped: repairs in progress
- 1015 Rig repaired - resume  
drilling
- 1200 Break for lunch @ 352' bgs
- 1300 Resume
- 1340 Gauged BW-8 DTW: 328.01' btoe
- 1545 Drilled to TD: 365' bgs -  
drillers checking w/ tape

6/18/19 Drill RW-2 JR/HB

1745 Cleaned out borehole  
TD w/ RH: 366.6' bgs

1750 J. Raucci onsite  
YDS <sup>VJD</sup> shift change  
NB

1800 Prepping to install well  
Talgate.

1900 Installing 4" casing - see form  
372 casing length  
stuck up ~6.5' (365.5 down hole)  
well screen @ 360.1 (approx)

2030 Starting sand pack.  
Recorded on Form.  
Casing shifted a bit during  
construction - pending final  
measurement on completion \*

2050 Sand pack complete @ 366.4

2155 Chip seal, hydrating during  
emplacement.

2315 Bentonite to 276.3

2000 Installing nested 2"  
Casing → next page

*JR*  
6/18/19

JR/HB Rw 2 Install 6/19/19

0035 2nd casing landed @ ~~355~~  
@ 275.3 (bottom of cap)

0040 2nd casing annular materials  
(see form)

0250 sand @ 212' 50 bags

0300 installing chip seal, reworking  
9" casing back over to yard.

0510 Bentonite compact @ 197'.  
Running casing to 195.

0540 Casing in. Start sand pack.

0600 ST bags down, tagged @ 192'

0610 H. Sykes on-site, shift change  
Held HoS Meeting

0700 Marked MW-12 location  
-confirmed w/ PM

0730 Placing sand from 192'

0745 Remaining same outer casing  
while adding sand

0910 sand @ 142' bgs

0940 sand @ 1319' bgs - begin  
placing ~10' bentonite seal

1010 Bentonite seal in place & hydrated  
to 126.3' bgs  
offloading casing

6/19/19

## RW-2 Install HB

- 1215 ~~YJD~~ lunch  
 HB
- 1245 Southwest Safety on site  
 to close lanes for next  
 drilling location
- 1310 Begin grouting RW-2
- 1415 NIMED Rene on site
- 1430 SW Safety took Business access  
 signs - left barricades off site  
 abandoned borehole being  
 grouted & cemented
- 1520 Cement / bentonite grout  
 in place for RW-2  
 RW-2d 5'5"  
 RW-2i 4'10"  
 RW-2S 5'3"  
 ↑ stick up from ground  
 surface
- 1540 Site cleanup & surface  
 completions
- 1635 Pressure washing the  
 parking lot of Optical  
 Source
- 1730 Installing Well Vault for RW-2
- 1745 Cutting pad for abandoned  
 Doring P:A

HB

## RW-2 Install

6/19/19

- Note: For cement/bentonite grout used
- 19 bags quick grout  
 20 bags cement  
 1 bag gel
- 13 batches of bentonite grout  
 (70 gal per batch)
- 2.5 batches of cement  
 (70 gal per batch)  
 cement for upper 20' bgs
- 1915 Surface completions done
- 1950 H.B. YJD off site  
 Well pads blocked off  
 Site secure
- ~~YJD~~  
 6/19/19

6/20/19 RW-1 HB

0600 HB: YJD onsite  
Weather: 68°F, partly cloudy  
YJD doing paperwork

0635 Held H's Meeting

0640 Begin moving equipment to  
next drilling location RW-1

0730 Confirmed drilling location  
w/ PM

Note: Dummy not used at RW-2  
Dummy should be used during  
development

0805 Hand augering the first 5'  
to check for utilities

0855 Rig towered up

0905 United Rentals onsite to take  
overnight lights <sup>HB</sup>

0945 Begin drilling RW-1

1210 at 55' bgs

1220 YJD lunch

~~1300~~ <sup>HB</sup> 1310 YJD onsite

1550 P. Barlow P. Feilken onsite

1615 H. Barnes offsite

1650 MCoder noted in core from  
85-95' bgs

1730 PMF & YJD offsite; Hole @ 115'

~~6/20/19~~

6/21/19 PMF

0555 PMF onsite

Barriers placed in driveway  
of Optical Source as  
requested by Kay via T.  
6/20/19.

0600 YJD onsite.

Tailgate safety meeting

0630 Resume work, Running  
casing

1200 Break for lunch.

1315 Resume work

1420 PID calibrate a 0.15  
Zero = 0

Span = 100.0

Recalibrated @ 1450

Zero = 0

Span = 100.0

1420 Stop drilling to repair  
drive belt.

1425 Repair complete.

1800 PMF offsite; hole is @ 195' bgs  
H.C. Oden

~~PMF  
6/21/19~~

6/22/19

0645 PNF onsite; YJD onsite

Tailgate Meeting

0700 Begin Repairs to Jix Stopped bolts

0755 Calibrate PID

Zero = 0.0 ppm

Span = 100.0 ppm

1115 fixed problem with bolts

\* The tap broke off inside the block. New tap was acquired

1115 Mr Weston stopped by (Ray's attorney.)

1130 Running casing.

1700 Cleaning out from running casing

1740 PNF & YJD off site  
hole @ 240' bap  
10" casing @ 200'

PNF  
6/22/19

6/23/19

PNF

0600 PNF onsite / YJD onsite

0630 Tailgate safety meeting

0644 Calibrate PPM

Zero = 0.0 ppm

Span = 100.0 ppm

0700 Begin cleaning out hole.

0900 Begin running 9" casing.

1200 Break for lunch

1310 Resume work. Begin drilling @ 240' bap

11015 Very hard drilling @ +265'

11040 Broken drill pipe.

11045 Running 9" casing to drill out

~~1730 PNF~~ around broken pipe.

1730 PNF off site; YJD will continue prepping to retrieve broken drill rod.

PNF  
6/23/19



6/24/19

PMF

0720 PMF onsite; 4 JD onsite  
drilling out broken drill  
rod.

0747 MW-11 WL = 325.72' btoc

0815 Retrieved broken drill rod.

Tipping out.

0925 Calibrate PID

Zero = 0.0 ppm

Span = 100.0 ppm

0935 715,000 ppm @ 265-270

1000 Very hard drilling

1130 Break for lunch

1230 Resume drilling.

1415 Change to 7" drill bit & core.

1630 Continued difficult drilling

\*loud Rig chatter w/vibration

turned up high

\*Chris (driller) reports that

the rig has come close to

overheating several times today.

Rig currently cooling down.

There is an auger bit on

now to retain the sample

but it doesn't drill as fast.

1715 No recovery ~290' bop.

1800 PMF & 4 JD off site

6/25/19

PMF

0700 PMF onsite; 4 JD onsite  
drilling

Taukate safety meeting

\*Chris (driller) reports that

the rotary bit was broken

when the tripped out

1<sup>st</sup> thing this morning.

0715 Changed bit; resumed

drilling @ 293' bop.

0730 Calibrate PID

Zero = 0.0 ppm

Span = 100.0 ppm

0840 Chris reports that they

will try welding a bit

to make the cutting stay

in the barrel. He drilled

to 303' bop and the

sample fell out.

0900 Resume drilling.

0930 Maintenance on Kelly

1100 Kelly repaired

1130 Break for lunch.

1315 Resume work.

1345 Running in new bit.

1610 Running casing.

6/25/19

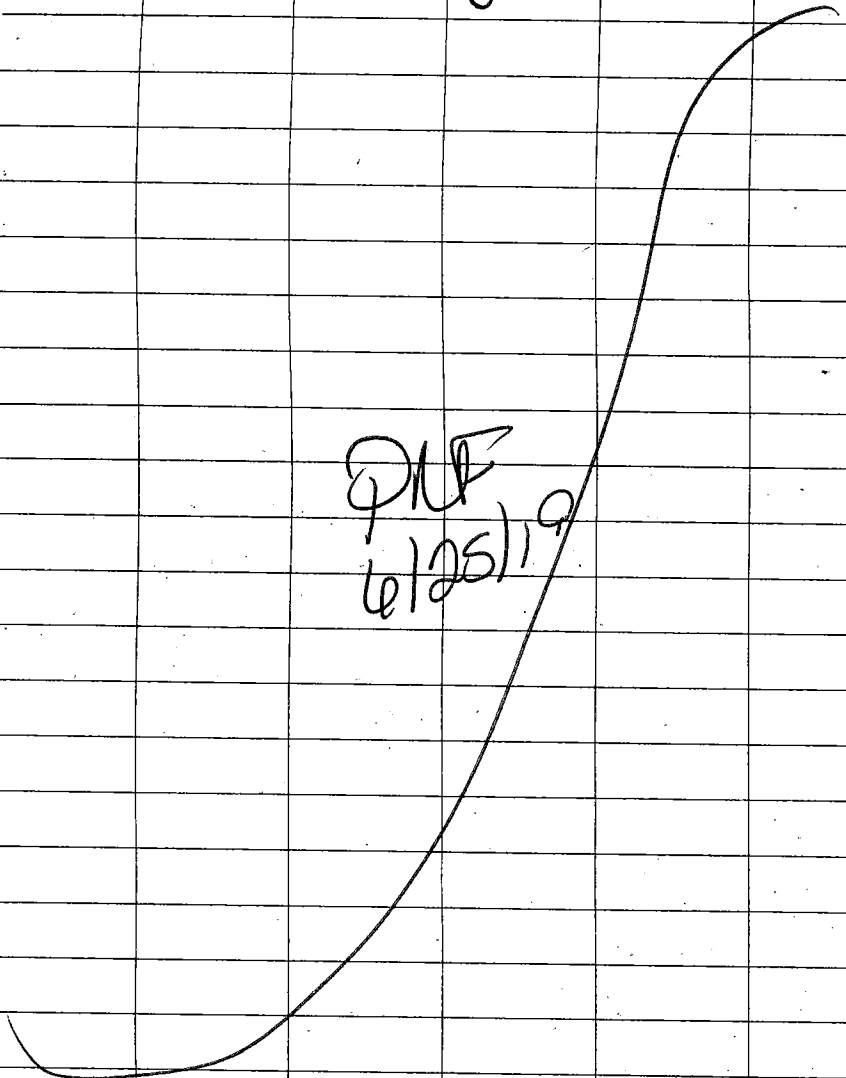
PMF

1630 Tripping in drill string.

1715 No Recovery

1800 PMF + YJD off site

PMF  
6/25/19



6/26/19

PMF

0700 PMF onsite; YJD have resumed drilling

0715 Tailgate safety meeting

0735 Calibrate PID

zero = 0.0 ppm

span = 100.0 ppm

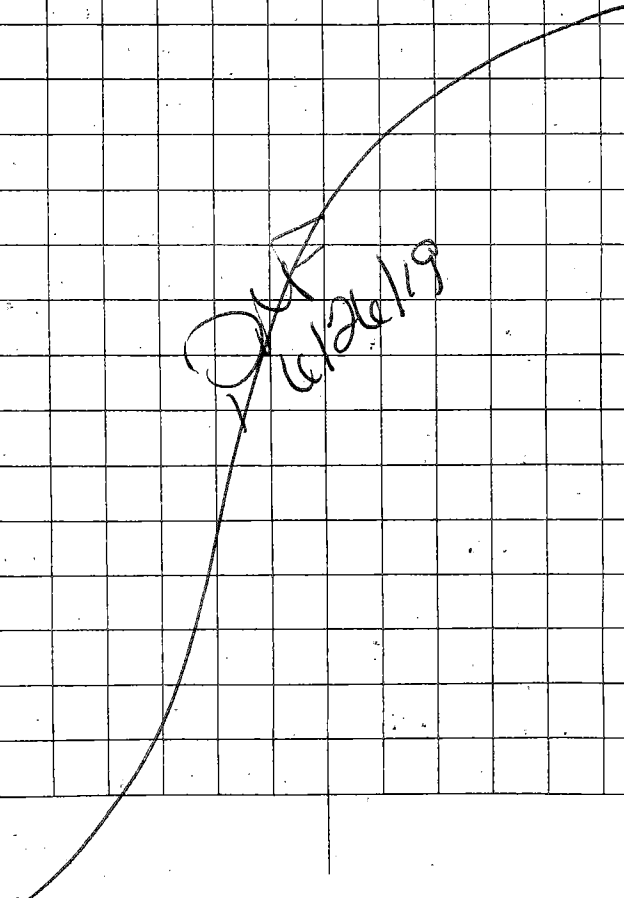
1210 Break for lunch

1325 Resume work.

1730 Hole @ 365' bop

1745 PMF + YJD off site.

PMF  
6/26/19



6/27/19

PNF

0630 PNF onsite; JD onsite.

Tailgate Safety meeting.

0700 Begin tripping last sample.

0750 WL @ ~~333~~ ~~bp~~ ~328' bop

0806 TG ~~has~~ approves setting  
the 4" screen from 288-  
358.

WL @ RW-2 = 328.92 bop

1020 RW-1 cased to TD and  
cleaned out.

1030 Broken bolts on Kelly ~~rig~~

1045 Hole TD'd @ 265' bop.

1125 Begin running 4" casing.

1142 One length of casing has a  
broken out slot - discarded.

1200 Twin Cronnies owner stopped  
by TG to ask how many more  
days we will be onsite  
w/ the intersection closed  
down.

1320 RW-5

DTP = 328.09

DTW = 328.70

\*While gauging: PNF was  
confronted by a local  
Citizen Details given to TG.

6/27/19

PNF

11010 moving well lower ~1'  
to accommodate removal  
of the casing while being  
able to remove casing.

1120 Begin sand pack installation

1725 Complete sand pack  
@ 262' bop

1726 Begin chip seal installation

1732 Bentonite @ 258' will  
tag in the morning.

1745 PNF offsite

PNF  
6/27/19

6/28/19

PNF

0615 PNF onsite / YJD onsite

Tailgate safety meeting

0700 measure 2" casing

0720 begin running intermediate 2" casing.

0800 begin installing filter pack

1200 Break for lunch

1300 Resume work.

1435 Bentonite chip seal installed

1515 Complete running casing for shallow well

Begin sand pack install

1800 off site

PNF  
6/28/19

6/29/19

PNF

0630 PNF onsite / YJD onsite

Tailgate safety meeting

0700 Resume filter pack installation

0745 Begin chip seal installation

0755 hydrating chips

0935 Begin prepping for grout.

0945 Begin grouting RW-11

0948 1st batch installed (~70 gal)

1010 2nd batch installed

1015 4th batch installed.

1021 5th batch installed.

1026 6th batch installed.

1035 7th batch installed

~~8th batch installed. PNF~~

1135 Run dummy pipe

1150 Mixing cement / bentonite grout

1215 Grout complete

1315 Resume work

Intermediate cutoff 3.69'

4" cut off 4.19

Shallow cutoff 4.1

1350 Rigging down

PNF  
6/29/19

6/29/19

PMF

1540

intermediate out off-

1.1'  
Shallow 1.0'  
4" 1.2

11020 DTW = 328.70 btoe

TD = 355.00 btoe

Intermediate TD = 255.05 btoe

Shallow TD = 194.83 btoe

11040 PMF offsite.

~~PMF~~  
6/29/19

7/9/19

PMF

0630 PMF onsite / JTD onsite

Tailgate safety meeting

0700 Mobilite equipment to

MW-12 site

0830 Begin removing asphalt

0840 Begin potholing

1000 Potholing complete

1030 Calibrate PID

zero = 0.0 ppm

span = 100.0 ppm

1100 Break for lunch

1235 Roll off bar onsite

1250 Restroom work

131030 Transducer installed @

MW-11

DTW = 325.68' btoe

Transducer depth = 25.669

Pressure = 10.916 PSI

11040 Barotroll installed @ MW-11

1730 offsite, hole @ 85' bgs

~~PMF~~  
7/9/19

7/10/19

PLF

0630 PNF onsite / 4JD already onsite

Tailgate safety meeting

0740 Resume drilling

0745 Calibrate PID

Zero = 0.0 ppm

Span = 100.0 ppm

1015 Spoke to Brian Max about setting up transducer in their parking lot.

1030 mw-10 DTW = 325.38' bto c  
transducer depth = 23.882'

Pressure = 10329.781

1100 Break for lunch

1230 Resume work.

1530 lightning delay

1545 off site; several storms moving in.

~~PNF  
7/10/19~~

7/11/19

PNF

0630 PNF onsite / 4JD onsite

Repairs to rig in progress

0715 Tailgate safety meeting

0725 Storms knocked over the barriers around MW-11;

The transducer may have been pushed toward the well giving erroneous readings.

0729 MW-11 DTW = 325.50

0742 MW-10 DTW = 325.41

0925 The part that holds one side of the drive head on the rig has broken and the head is hanging at an angle. They are trying to overnight w/ part to Clevis for  $\pm$  thing in the morning.

1000 Calibrate PID

Zero = 0.0 ppm

Span = 100.0 ppm

1128 mw-10 DTW = 325.32

1140 mw-11 DTW = 325.73

1200 PNF off site

~~PNF 7/11/19~~

7/12/19

1416 onsite @ mw-10

1420 mw-10 DTW = 325.18'

1432 MW-11 DTW = 325.59

1440 PNB onsite @ MW-12

Resume drilling.

1545 Calibrate PID

Zero = 0.0 ppm

Span = 100.0 ppm

1730 PNF & YTD onsite

Hole @ 165' top

PNF  
7/12/19

7/13/19

PNF

0620 PNF & YTD onsite

Tailgate Safety meeting

0645 Resume drilling.

0710 Calibrate PID

Zero = 0.0 ppm

Span = 100.0 ppm

0854 MW-11 DTW = 325.73' btoc

0905 MW-10 DTW = 325.35 btoc

1504 MW-11 DTW = 325.67

1523 MW-10 DTW = 325.24

1730 PNF & YTD onsite

Hole @ 215' top

PNF  
7/13/19

7/14/19

PNF

0635 PNF / YJD onsite

Tailgate safety meeting

0800 Jeremy + Pump crew onsite

0845 Calibrate PID

Zero = 0.0 ppm

Span = 100.0 ppm

1130 Break for lunch

1230 Resume work

1410 Discovered that the transducer

@ MW-11 was stolen overnight-

1500 Attempt to set up another

transducer @ MW-11 unsuccessful

1532 Call to Clovis, NM police to

report theft.

1538 Officer onsite

T. Colvin

badge #: 207

phone #: 769-1921

case #: 19-03565

1715 PNF + YJD offsite @

MW-12

~~PNF~~  
7/14/19

7/15/19

PNF/HCS

0630 PNF + YJD onsite

Tailgate safety meeting

0905 onsite @ MW-10 to set

transducer.

0910 DTW = 325.27' btoc

1000 Development crew

recovered ~350' of cable

and the transducer

from MW-11 during

swabbing.

The reel and ~150' of

cable were taken.

PNF updated the police

1035 Calibrate PID

Zero = 0.0 ppm

Span = 100.0 ppm.

~~1200~~ Break for lunch and

paperwork for trailer.

1345 H.B. Barnes onsite

1415 PNF offsite

1725 cleaning up site for overnight

1745 H.B. YJD offsite

@ 335' basin MW-12

Site secure

~~PNF~~  
7/15/19



7/16/19

MW-12

HB

- 0630 H.B. YJD onsite  
 Tailgate safety meeting  
 Resume drilling MW-12
- 0700 AWT sample taken @ ~330' bgs  
 Taking soil sample from  
 saturated zone
- 1115 Reached 365' bgs  
 Attempted to gauge water level  
 - too muddy  
 YJD break for lunch
- 1215<sup>HB</sup> Roll off bin delivered
- 1215 YJD onsite  
 Cleaning out hole
- 1455 Begin picking pipe
- 1520 Screen casing in place
- 1710 Securing site for overnight
- 1730 HB: YJD offsite

~~7/16/19~~

HB

MW-12

7/17/19

- 0615 HB: YJD onsite  
 H:5 meeting
- 0700 Begin picking surface sand filter pack
- 0815 YJD dropped tagline down - attempting  
 to retrieve
- 1230 YJD break for lunch
- 1325 YJD onsite, spoke to PM - we will  
 raise well to ~362' TD
- 1550 casing out - have to redrill/clean
- 1730 Retrieved taglines from well  
 cleaning up site for overnight  
 H.B.: YJD offsite

~~7/17/19~~

7/18/19

MW-12

HB

0600 HB: YJD onsite  
Held H:S meeting

0720 Ran casing down  
YJD oil change for rig

0845 Cleaning out borehole

1030 Placing screen: PVC casing

1145 Casing: screen in place  
YJD lunch

1256 YJD back onsite

1310 Attempted to gauge water  
Raised well to TD of 362'  
Begin placing silica sand filter pack

1630 Silica sand filter pack in place  
Placing bentonite seal

1645 Removing outer casing

1745 Site clean & secure for acm gnt  
HB: YJD offsite

~~7/18/19~~  
7/18/19

HB

MW-12

7/19/19

0600 HB: YJD onsite  
Held H:S meeting  
Resume pulling out r casing

0630 Bill onsite to mark utilities at  
other drilling locations

1040 Casing out - begin grouting  
MW-12

1125 6 batches = 9 bags of fluid  
grout - each batch 70 gallons  
YJD break for lunch

1245 YJD resume grouting

1405 15 total batches - 35' logs

1425 Filling the upper 20' w/  
Cement

1510 3 batches (8 bags cement  
+ 1 bag of gel)  
of cement in - level not  
rising - stopping to let it  
set a bit

1525 lightning delay

1605 Called PPA: suggested break  
until 5 or 6 - driller refusal  
shut down & lock up  
H.B: YJD offsite

~~7/19/19~~  
7/19/19

7/20/19 MW-12 / BW-7R HB

0600 HB: YJD onsite  
A.S. meeting

0630 Cement @ ~40' bgs

0700 cement @ ~2 bgs

0800 Measure stick up (57.5")

Removing stick up

Ran dummy pipe @ 0800

Cleaning up drill site

1010 Pressure washing pavement

Tagged TD at 362' bgs

1045 Surface completion MW-12

1220 Surface completion done -

backcaching cones

YJD break for lunch

1330 YJD resume cleaning

MW-12 drill site & moving

to BW-7R drilling location

1515 Set up on BW-7R

Hand augering

1540 Begin drilling

Calibrate PID

Zero gas = 0.0 ppm

100 ppm gas = 100.0 ppm

1800 at 55' bgs

Cleaning & securing site for overnight

HB: YJD onsite

~~7/20/19~~

HB BW-7R 7/21/19

0600 HB: YJD onsite  
M.S. meeting

0630 Resume drilling from 55' bgs  
- hard layers of calcite  
slow drilling

Check PID calibration - good

1120 @ 85' bgs

YJD break for lunch

1230 YJD resume drilling

1730 Reached 135' bgs

Clean: secured site

HB: YJD onsite

~~7/21/19~~

7/22/19

BW-7R

HB

0600 HB: YSD onsite

H: S meeting

Strong winds - possible + storms today

0720 YSD moving temporary materials storage

Check PID calibration

1120 @ 165' bgs - YSD break for lunch

1220 YSD onsite - resumed drilling

1530 @ 185' bgs

1730 Cleaning: securing site for overnight

H.B. YSD offsite - @ 95' bgs

~~HB~~

HB

BW-7R

7/23/19

0600 HB: YSD onsite

H: S meeting - short day

0630 Resumed drilling from 195'

0705 Reached 205' bgs

Cleaning up site for drilling break until Monday

0845 Gauged MW-12

DTW: 328.13' bgs TD: ~363.15' bgs

0945 HB + YSD offsite

Site secure

All samples on ice

~~HB~~

7/23/19

7/30/19

BW-7R

HB

0600 HB: VJD onsite  
Weather: 70°F, clear  
H:S meeting

0630 Setting up to resume  
drilling

0945 @ 215' bgs  
Check PID calibration  
zero gas = 0.0 ppm  
100 ppm gas = 100.0 ppm

1125 VJD break for lunch  
@ 230' bgs

1225 Resume drilling

1355 @ 245' bgs

1720 @ 275' bgs

1745 HB: VJD offsite  
Site secure

~~7/30/19~~  
7/30/19

HB

BW-7R

7/31/19

0600 HB: VJD onsite  
H:S meeting

0630 Resume drilling

0800 @ 285' bgs

1130 VJD break for lunch  
@ 305' bgs

1220 Resume drilling

1500 @ 325' bgs

1605 Saturated sediment @ ~330

1730 @ 340' bgs

Cleaning & securing site for  
overnight

1745 HB: VJD offsite

~~7/31/19~~  
7/31/19

8/11/19 BW-7R HB

0600 HB: YJD onsite  
H:S meeting

0625 Resume drilling

0800 Gauge BW-7 DTW: 328.0' bgs

0930 @ 355' bgs

Attempting to gauge

Dorende DTW ~333' bgs

-expected to rise

1120 @ 365' YJD break for lunch

1230 Begin cleaning hole

measuring pipe

Spoke to PM - will set well

at ~~32~~ HB 363' bgs

1410 T. Golden, Neil onsite

H:S meeting

Discussed next drilling

location

1445 T. Golden, Neil offsite

1650 Begin placing screen/casing

1745 cleaning site; securing

for overnight - will resume

placing casing tomorrow

HB: YJD offsite

*[Signature]*  
8/11/19

HB BW-7R 8/2/19

0600 HB: YJD onsite  
H:S meeting

0630 Resume placing casing

0725 screen casing in place

0845 Spoke to PM - going to set

well at 362' bgs instead

of 363' bgs

Begin placing silica sand

filter pack

1035 Sand @ 316' bgs

1135 Silica sand filter pack to 282'

1140 2 bags of bentonite chips in

place - hydrating

YJD break for lunch

1240 Begin tripping outer casing

out of borehole

1615 Begin grouting well

1715 9 batches - 650 gallons

4.5 bags per batch

1720 cleaning, securing site for

overnight

1745 HB: YJD offsite

*[Signature]*  
8/2/19

8/3/19

BW-7R

HB

0600 HB: YJD onsite

H:S meeting

0630 Resume grouting well

0750 6 batches of quick grout + 3 batches

0820 Begin cementing the upper

20' - each batch 6 bags  
of cement + 1/4 bag  
of quick gel0940 5 batches total of cement  
4.5' stick up - ran dummy  
cleaning: surface completing

1120 YJD break for lunch

1210 Lightning alert (10 miles)

1430 Spoke to PM - end for the  
day - site secureToo much lightning  
HB: YJD offsite

8/3/19

HB

BW-7R / MW-13

8/4/19

0600 HB: YJD onsite

H:S meeting

0630 Cleaning up site: surface  
completing

0830 Saw cutting well pad

0920 Making well pad

1015 Well completion finished  
Moving over to MW-13  
location

1130 Set up @ MW-13

1145 Hand augering first 5' of MW-13

1205 YJD break for lunch

1340 Begin drilling

Check PID calibration - good

1735 Stop drilling @ 65' bgs  
all samples on ice

1745 HB: YJD offsite

8/4/19

8/5/19

MW-13

~~200~~

0600 HB: YJD onsite

H:S Meeting

0630 Resume drilling from 65'

0820 @ 85'

1055 @ ~~100~~ HB 125' Break for lunch

1215 YJD onsite resume drilling

1440 J. Fisher onsite

8/6/19

J. Fisher

0645 Onsite weather is Mild, (~70°F),  
 McClear, Calm. Hold Tonight  
 Safety Meeting. See Form For  
 Details.

0710 Calibrate PID. Model No 3000.  
 SN: 592-926669

Zeroed Fresh Air Reading = 0.0 PPM

Cal'd 100 PPM Isobutylene Reading = 100.0 PPM

0720 Resume drilling from 145'

10950 165' Sample is out.

1210 175' Sample is out.

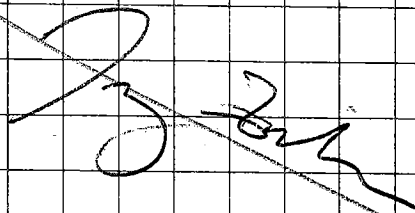
Advance 9" casing to 165'.

1350 185' Sample is out. Advance 9"  
 casing to 175'.

1650 195' Sample is out.

Roll off BW is marked.

1715 OFFSITE





8/7/19

J. FISHER

0645 ONSITE. WEATHER IS MILD (~70°F),  
P. CLOUDY, CALM. HOLD TRIVALENT  
SAFETY MEETING. SEE FORM FOR  
DETAILS. A ROLL OFF BIN WAS  
SWITCHED OUT OVERNIGHT.  
PREPARE TO RESUME DRILLING  
FROM 195'

0930 205' SAMPLE IS OUT.

1255 235' SAMPLE IS OUT.

1445 245' SAMPLE IS OUT

1705 SAMPLE BRACKETS @ 265'

Wm PUL OUT IN THE AM

1715 OFFSITE

~~J. Fisher  
8/7/19~~

8/8/19

J. FISHER

0645 ONSITE. WEATHER IS MILD (~70°F),  
M. CLOUDY, BREEZY. HOLD TRIVALENT  
SAFETY MEETING. SEE FORM FOR  
DETAILS.

0720 RESUME DRILLING.

0750 265' SAMPLE IS OUT.

0915 285' SAMPLE IS OUT.

0945 M. EBROZEK ONSITE

1005 295' SAMPLE IS OUT

1015 SAMPLE FOR HALL @ MW13 @ 295'

PID - 1.5 ppm

1020 J. FISHER OFFSITE

1100 305' SAMPLE OUT

1130 CREWS MAKE RUN FOR MORE PIPE

1200-1300 LUNCH

1330-1530 STANDBY BY LIGHTNING W/IN  
6 MILES

1530 RESUME DRILLING

1605 315' SAMPLE OUT

~~1645 325' SAMPLE OUT~~ DRILL TO 325'

1705 SEWAGE SITE

1730 M. EBROZEK + YELLOW JACKET  
OFFSITE.

~~J. Fisher~~

8/9/19 MW-13 MZ

0630 M. Biotek onsite  
yellow jacket already onsite  
frapped in and cleared out hole

0710 Resume drilling

0805 325 Sample out

0900 335' Sample out  
Tag water, cuttings wet  
no standing water in borehole  
@ 335', some sloughing down  
hole, moisture and mud on  
probe, no water. Waited 15 min

0915 Decision to continue to TD,  
Before attempting to tag water  
again -

1050 Break for lunch

1105 Tag for water,  
H<sub>2</sub>O @ 327' BGS, some  
sloughing

1330 345' sample out

1440 350' Sample out

1500 Caber EOC lightning

1515 Heavy rain + lightning

1600 decision to end day EOC  
weather current depth 350'

1630 M. Biotek onsite

8/10/19 MW-13 J. Fisher

0630 onsite: weather is mild (~75°F),  
Sunny, calm. HOLD TAGGERS SAFETY  
MEETING, SEE FORM FOR DETAILS.

0645 Resume Drilling FROM 350'

0710 @ TD = 365.

0750 DTW = 332.54 - 69" stick up  
DTW = 326.79' bgs.

0805 ADVANCE Casing.

1000 Hole is cleaned out to 365'.  
9" casing @ 365'. Prepare for  
Well Construction. See PIPE TRAY  
FORM FOR DETAILS.

1055 Begin installing Well Pipe.

1205 Well Pipe is in to 362'.  
Prepare to install Annular  
Materials.

1645 Last Tag, Sand was @ 324'.  
8 More Bags Have Been Installed.  
T-Stoppers Are Moving In. Will Cure  
IT A DAY + TAG IN THE AM.

1700 OFFSITE.

*J. Fisher*

8/10/19

8/11/19

MW-13

J. FISHER

0630 ONSITE. WEATHER IS MILD (~70°F),  
SUNNY, CALM. HOLD TAILGATE  
STORY MEETING. SEE FORM  
FOR DETAILS.

0650 RESUME FILTER PEEK INSPECTION.

0940 SAND IS IN TO 282.5' LGS  
AFTER 47 50LB BAGS.

1010 BENTONITE @ 277 AFTER 2  
50LB BAGS. HYDRATE  
BENTONITE. PREPARE FOR  
GROUTING.

~~1315~~ PUL CASING.

1315 T-Storms APPROACHING FROM  
S-SW. LIGHTNING W/IN 10 MILES.  
TRUCK UP.

1505 MORE T-Storms ON THE WAY.  
LIGHTNING HAS BEEN W/IN 5 MILES  
FOR OVER AN HOUR. WILL CANCEL IT  
FOR THE DAY.

1515 ONSITE

8/12/19

MW-13

J. FISHER

0630 ONSITE. WEATHER IS MILD (~70°F), CLEAR,  
CALM. HOLD TAILGATE STORY  
MEETING. SEE FORM IN HNSP  
FOR DETAILS.

0650 RESUME PULLING CASING.

0925 ALL CASING IS OUT. PREPARE  
TO GROUT.

0945 MIX 1<sup>ST</sup> BATCH OF GROUT.  
- 1/2 50LB BAGS QUIKROUT  
- ~70 GALLONS H<sub>2</sub>O.

1015 1<sup>ST</sup> BATCH IS DOWNHOLE  
MIX 2<sup>ND</sup> BATCH

1040 6<sup>TH</sup> BATCH DOWNHOLE

1245 13<sup>TH</sup> BATCH DOWNHOLE

1355 17<sup>TH</sup> BATCH DOWNHOLE

GROUT IS @ SURFACE.

1555 GROUT SETTED ~20' TOP  
20' FILL W/ CEMENT GROUT  
WILL DO SURFACE COMPLETION  
IN THE AM. CLEAN UP.

1730 ONSITE

J. Fisher  
8/12/19

8/13/19

MW-13

J. P. HARRIS

0645 onsite. weather is Mild (~70°F),  
Clear, Calm. Had to Turn off  
SPLITTING Machine, See Form  
For Details.

0700 Begin Prep for Surfactant  
Completion

0745 Saw Cut Asphalt

0850 Prep to Pour Cement

0945 Surfactant Completion is  
Finished. Mob Equipment  
to lay down yard.

1020 YTD OFFSITE. Gauge  
Site Work. See Form  
For Details.

1230 Gauging Complete. OFFSITE

~~J. P. Harris  
8/13/19~~

8/19/19

RW-3

0700 PNF onsite

0800 PNF OFFSITE

\*Note: Drilling delayed.

0855 PNF onsite

0950 TO onsite

1050 YTD onsite.

Site RW-3

1010 Tailgate safety meeting

1115 Begin setting up.

1700 Breaking through asphalt

1706 Begin utility clearance.

1733 Stop work for the day.

1740 OFFSITE

~~J. P. Harris  
8/19/19~~

8/20/19 ZW-3 PNF

0600 Onsite

Tougeau Safety meeting

0725 Begin Drilling

0830 Calibrate P110

Zero = 0.0 ppm

Span = 100.0 ppm

0835 T. Golden on-site. Yesterday went door to door along 1600-block of Lea Street to notify home owners of well installation planned for after labor day holiday. No opposition, all home owners said get it done. Were happy that traffic control might slow down speeders on Lea Street. All said start time around 7am would be OK. No small kids. However, need to make sure bus route is not impacted. Daniel & Dawn @ 1608 Lea Street said OK if we need to use vacant lot for materials.

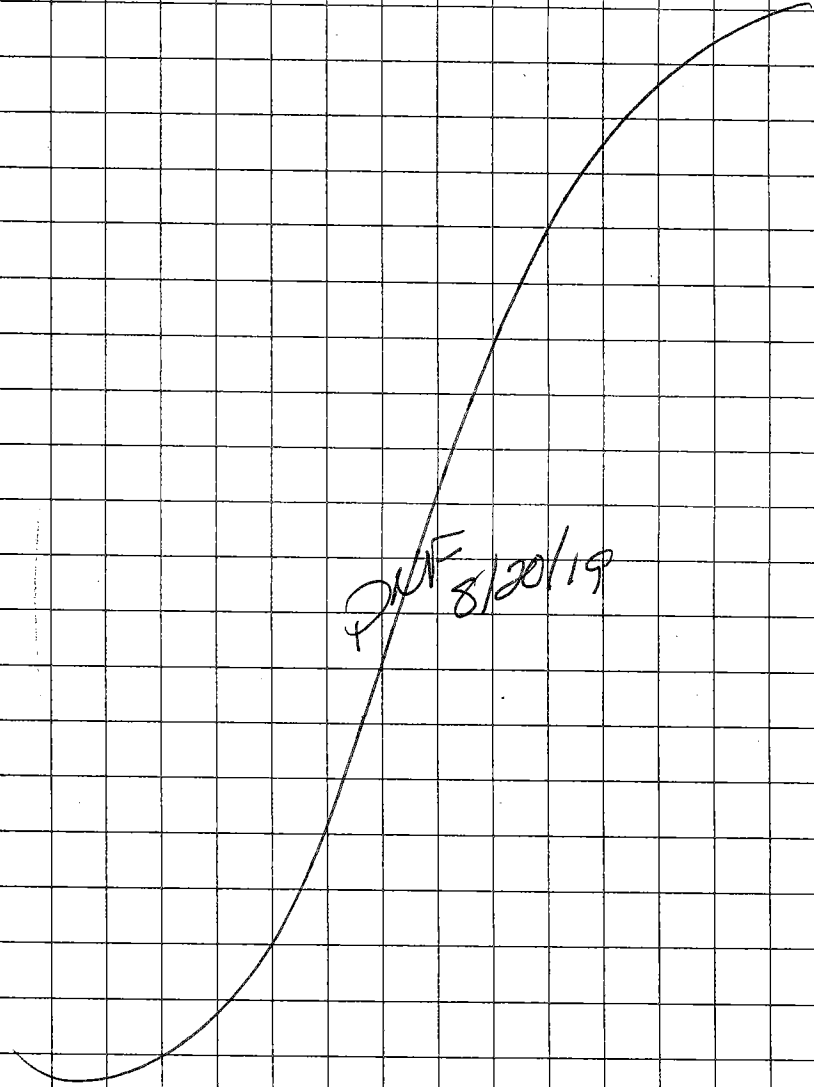
1040 Clint, driller, reports that the sample is falling out of the core barrel; they are switching to an auger bit.

8/20/19 ZW-3 PNF

1050 Stopped for repair to drive head. Resume work 1115

1730 Hole @ 95' bgs; YJD + PNF offsite.

PNF 8/20/19



8/21/19

RW-3

PMF

0630 PMF & YJD onsite

Tailgate safety meeting

0700 Resume drilling

0740 Calibrate DID

Zero = 0.0 ppm

Span = 100.0 ppm

1720 YJD & PMF off site; Hole @ 175'

~~PMF~~  
8/21/19

8/22/19

RW-3

PMF

0630 PMF onsite

0700 YJD onsite

Tailgate safety meeting

0845 Zig down for repairs

Some bolts stripped in the  
jaw table

0930 PMF off site

1230 PMF onsite repairs  
continue

1730 PMF & YJD off site;

5 of 6 bolts replaced

but they have not been  
able to get the 6th one out

TB weld applied but  
needs to cure.

~~PMF~~  
8/22/19

8/23/19 RW-3 PUF  
0630 PUF & YJD onsite  
Tailgate safety meeting  
0700 JB weld did not hold  
They will try to drill  
with only 3 bolts in  
jaw table.  
0800 Resume drilling.  
1150 9" casing run in and hole  
cleaned out  
Calibrate PID  
Zero = 0.0 ppm  
Span = 100.0 ppm  
1230 Break for lunch; Hole @ 215'  
+ Marc reports hydraulic leak  
in jaw; they will repair it  
after lunch.  
1305 Begin repair of hydraulic leak.  
1330 Resume drilling  
1800 PUF & YJD off site; hold @ 215

~~PUF 8/23/19~~

8/24/19 RW-3 PUF  
0630 PUF & YJD onsite  
Tailgate Safety meeting  
Teach Sellers have  
Set up a semi-truck  
to sell peaches between  
Merig and lay down  
yard  
0700 Resume drilling.  
0735 Calibrate PID  
Zero = 0.0 ppm  
1150 Rig overheating  
1200 Take lunch & let rig cool  
down  
1330 Begin trying to get rig running.  
~~1400 Rig repaired; resume drilling.~~  
1530 Resume drilling  
1630 PUF off site Rig is broken down  
again drillers will text when  
they are repaired.

~~PUF 8/24/19~~

8/25/19

RW-3

PMF

1030 PMF onsite

YJD already onsite &amp; drilling.

1138 Marc reports that the sample from 284-294 could not be caught because it was drilled and dropped too many times and they had to use the flapper bit. There was too much water in the cuttings and it fell out of the core barrel before they could bag it.

1220 Breakfast/lunch

1318 Kosiemo drilling.

1430 Calibrate PID

Zero = 0.0 ppm

Span = 100.0 ppm

1730 PMF &amp; YJD offsite

~~PMF~~ special

8/26/19

RW-3

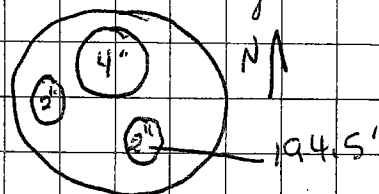
PMF

0630 PMF onsite

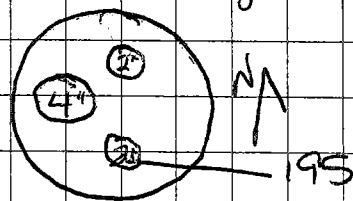
0640 YJD onsite

Tailgate safety meeting

0745 RW-2 configuration



0750 RW-1 configuration



0800 Calibrate PID

Zero = 0.0 ppm

Span = 0.0 ppm

Marc reports that they will have to change ~~the~~ one of the rotation motors on the rig to keep from burning out the one they have been running on (there should be two running).

~~PMF~~



8/26/19 RW-3 PNF

1130 PNF onsite; rig repair completed

1220 Break for lunch

1320 Resume work

Tag RW-3 @ ~328' bop

1730 PNF & YJD offsite

Hole TD @ 315' bop

PNF 8/26/19

8/27/19 RW-3 PNF

0630 PNF onsite

0640 YJD onsite

Tailgate safety meeting

0700 Begin welding patch where hydraulic fluid is leaking

NOTE: 4" Well to be raised 2' from the general diagram. The 2" wells will be as in the diagram.

0730 Resume work

1030 Begin running casing

1233 Open hole collapsed - cannot run casing to TD.

Break for lunch

1330 Resume work

1345 They will pull the well casing and drill out & case the hole

PNF offsite

1600 PNF onsite; YJD casing hole.

1700 Running well casing.

1730 PNF + YJD offsite

PNF 8/27/19

8/28/19 RW-3 PNF

0630 PNF & USD onsite

Tailgate safety meeting

0725 Begin filterpack

0955 Hydrating bentonite chips

1020 Begin running intermediate  
2" well casing

1100 out of sand - ordering from  
local place

1130 Lunch

1230 Resume construction

1530 Hydrating bentonite chips  
for intermediate seal.

1540 Installing shallow casing

1600 Begin shallow filterpack

2000 PNF & USD offsite

~~PNF 8/28/19~~

8/29/19 RW-3 PNF

0630 PNF & USD onsite

Tailgate safety meeting

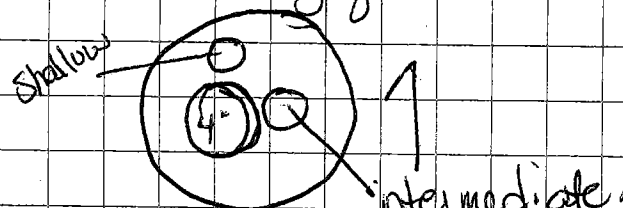
Resume RW-3 shallow  
construction.

1100 Install and hydrate  
bentonite chip seal

1230 Begin grouting.

1440 4 batches of high solids  
bentonite slurry  
installed. Run chimney

1730 well configuration



1930 Will complete vault  
in the morning  
PNF offsite

~~PNF 8/29/19~~

08/30/19

RW-3

PMF

0930 PMF onsite

Prepping for surface completion

1215 Completion done. PMF offsite

~~PMF 8/30/19~~

HB

RW-4

9/4/19

0600 HB onsite

0625 1 person from VJD onsite

- head driller not to arrive until 11?

0715 HB: VJD offsite

1100 HB: same VJD employee onsite

- waiting on driller - moving beam cables: setting up on RW-4

11300 No driller still - offsite  
Site secure

~~Maalata~~

9/5/19

RW-4

HB

0630 HB: VJD onsite  
H's meeting - one oniller  
still missing

0650 Setting up rig on RW-4

0950 Begin drilling RW-4

Calibrate PID

zero gas = 0.0 ppm

100 ppm gas = 100.0 ppm

1200 @ 74' bgs VJD break for lunch

1245 Resume

1510 @ 86' bgs

1730 Learning securing site

1745 HB: VJD offsite

~~JAD~~  
9/5/19

HB

RW-4

9/6/19

0630 HB: VJD onsite

H's meeting

0705 Resume drilling

1230 @ 156' bgs - VJD break  
for lunch

1300 VJD resume

1525 @ 182' bgs

Repairing rig

1900 Hydraulic hose fixed

HB: VJD offsite - site secure

~~JAD~~  
9/6/19

9/7/19

RW-4

HB

0630 HB: YJD onsite  
H:S meeting

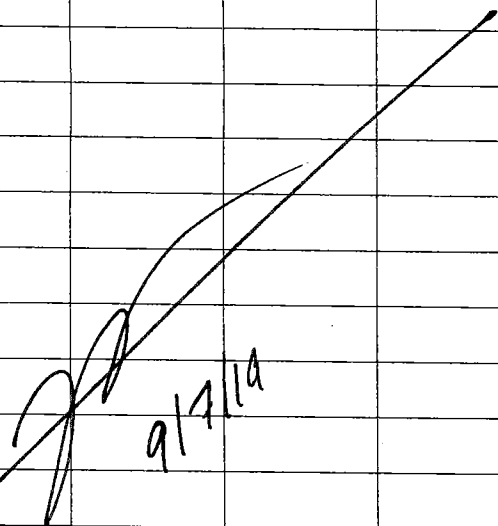
0700 Resume drilling from 202'

1020 @ 236' bgs

1640 @ 310' bgs - HC odor @ 286'  
and below

1730 Cleaning out hole - at 310'  
Drill

1800 Site secure  
HB: YJD offsite

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke, is written over a diagonal line drawn across the bottom half of the page. The date "9/7/19" is written in black ink below the signature.

HB

RW-4

9/8/19

0630 HB: YJD onsite  
H:S meeting

0700 Resume drilling from 310'

1030 wet sediment @ 331' bgs  
- sample taken

1200 YJD break for lunch  
short 20' of screen  
to install well, still drilling

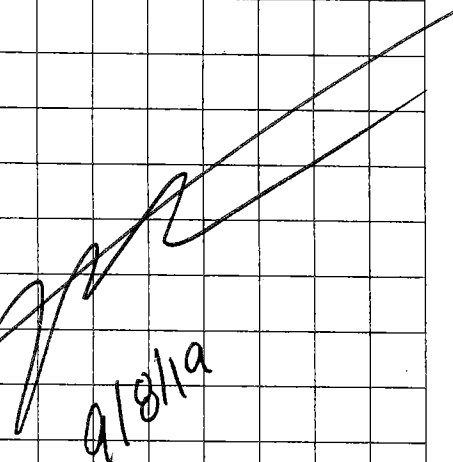
300 resume

1415 RAINING - @ 350' bgs

1610 Reached TD of 365' bgs

Reaming out hole

1645 Site secure  
HB: YJD offsite

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke, is written over a diagonal line drawn across the bottom half of the page. The date "9/8/19" is written in black ink below the signature.

9/19/19

RW-4

HB

- 0630 HB: YJD onsite  
H:S meeting
- 0700 Clearing out hole: breaking down tooling  
Will have to meet halfway from ABC to pick up screen for well
- 1030 YJD offsite to get pipe
- 1500 YJD onsite - Start installing deep well  
DTW: ~331' bgs  
Setting well at 365' bgs
- 1710 Begin placing sand filter pack
- 1800 sand @ 335' bgs - 22 bags  
HB: YJD offsite - site secure

~~9/19/19~~

HB

RW-4

9/10/19

- 0630 HB: YJD onsite  
H:S meeting
- 0700 Repairs
- 0745 Resume placing sand
- 0935 Placing bentonite chip seal between deep & intermediate
- 0950 Installing intermediate screen & casing
- 1030 Placing intermediate silica sand filter pack
- 1205 Filter pack in place -  
Placing bentonite chip seal & hydrating
- 1230 YJD lunch: grabbing another bag of sand
- 1300 YJD onsite w/ more sand
- 1340 Installing shallow well screen & casing
- 1405 Installing filter pack for shallow well
- 1615 Bentonite chip seal
- 1635 Grouting RW-4
- 1750 Cleaning up: separating die  
4 batches of gravel  
8 bags of gravel @ 1.5 bags bentonite per batch  
HB: YJD offsite

1800

~~9/10/19~~

9/11/19

RW-4 / MW-14

HB

0630 HB, YJD onsite

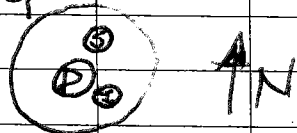
H's meeting

0700 Setting up to resume

grouting RW-4

1000 Filled RW-4 borehole

Topping off grout for RW-3

1045 Cleaning up site & test dummy  
RW-4

1135 YJD break for lunch

3 batches for RW-3

4 additional batches for

RW-4 (2 bags per batch)

1230 YJD to go get concrete for  
well pad

1250 YJD back w/cement -

begin surface completion

1415 surface completion almost done

Mobilizing equipment to

next borehole

1435 T. Golder onsite

Moving to next borehole

Spoke to neighbor

1545 Set up - begin drilling

HB

MW-14

9/11/19

1550 Hand auguring the first 5'

1750 Cleaning & securing site  
for overnight

1806 HB, TG, YJD offsite

all samples on ice

~~HB~~

~~9/11/19~~  
9/11/19

9/12/19

MW-14

HB

0635 HB: YJD onsite

H:S meeting

0700 Resume drilling

0850 Rig repair - at 55' bgs

1025 Resume

1215 YJD break for lunch

1310 Resume

1530 Repairing hydraulic hose  
- @ 110' bgs

1610 Resume drilling

1800 Site secure - @ 175' bgs

all samples on ice

HB: YJD offsite

~~9/12/19~~

HB

MW/14

9/13/19

0630 HB: YJD onsite

H:S meeting

0700 Setting up to resume drilling

: clearing samples

0810 Resume drilling

0850 Rig repair

0950 Resume drilling

1220 YJD break for lunch

1335 PNF onsite

1350 HB offsite

1730 PNF & YJD offsite

hole @ 180' bgs

195 PNF

PNF



9/14/19

MW-14

PNF

0635 PNF onsite

0700 YJD onsite

Tailgate safety meeting  
Begin Set up.

0810 Resume drilling

0820 Calibrate PID

Zero = 0.0 ppm

Span = 100.0 ppm

1000 New Roll of onsite.

1730 PNF & YJD offsite

Hole @ 285' bgs.

~~PNF~~  
9/14/19

9/15/19

MW-14

PNF

0730 PNF onsite.

0740 YJD onsite

Tailgate safety meeting.  
Marc is leaving today.  
Jose is the driller  
w/ helper AJ.

0825 Calibrate PID

Zero = 0.0 ppm

Span = 100.0 ppm

1145 Break for lunch

1230 Resume work

1320 Rig down for repair

1450 Rig repaired (hydraulics)  
Resume drilling.

1805 PNF & YJD offsite

~~PNF~~  
9/15/19

9/16/19 MW-14 PNF  
0630 PNF & YTD onsite  
Tailgate safety meeting  
0645 W @ ~320' bop  
Will TD hole @ 355' bop  
0650 Resume drilling  
0956 Hole TD'd @ 363' due to  
miscommunication w/  
driller  
1100 Break for lunch  
1200 Resume work.  
Begin turning casing  
1355 Begin filter pack installation  
1425 Bentonite seal installed  
Begin hydrating.  
1700 PNF & YTD offsite

PNF  
9/16/19

9/17/19 MW-14 PNF  
0630 PNF onsite / YTD onsite  
Tailgate safety meeting  
0645 Begin setting up to  
pull casing and grout.  
0700 Begin grouting  
0730 3 batches of bentonite  
grout installed.  
0750 Tripping casing.  
1140 Grout installed  
17 1/2 batches - grout @ 7'  
expected to fall.  
Break for lunch  
1230 Resume work.  
YTD will move casing  
back to yard and  
get the dummy.  
1320 Dummy to bottom  
measured w/ tape  
attached to well line  
1420 Grouting w/ cement grout  
1449 Complete grout  
cut off 5.13' of casing  
above ground.  
1500 Rigging down  
1600 Clean up to do surface  
completion  
1630 offsite PNF

9/18/19

MW-14

PMF

0630 PMF & WJD on site

tailgate safety meeting

0915 Completion done on MW-14.

1030 PMF off site; water

meter returned.

WJD will load up

equipment tomorrow

Jeremy to oversee.

~~PMF~~  
9/18/19

285  
705

337.08



Daniel B. Stephens  
& Associates, Inc.

PIPE TALLY

Project Name: <u>FORMER Y STATION</u>	Project No.: <u>DB 12, 1157</u>
Well No.: <u>MW-11</u>	Date: <u>6/6/19</u>
Location: <u>CLOVIS, NM</u>	Pipe Tally for:
Total Depth:	Geologist: <u>J. FISHER</u>

Type of Connections:  Welded  T+C  Flush Thread  Other

Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type	Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type
1419	✓	0.39	0.39	END CAP (SS)	36	✓	10.06	347.65	Blank Riser
1419	✓	5.23	5.42	Blank Riser	37	✓	10.06	357.71	Blank Riser
1423	✓	10.05	15.47	10.06 SCREEN	38	✓	5.04	362.75	↓
1426	✓	10.06	25.53	0.020 SCREEN	39	✓	5.03	367.78	↓
1430	✓	10.05	35.58						
1434	✓	10.06	45.64						
1436	✓	10.06	55.70						
1438	✓	10.06	65.76						
1440	✓	10.06	75.82						
1442	✓	10.07	85.89	Blank Riser					
1445	✓	10.07	95.96						
1448	✓	10.07	106.03						
1450	✓	10.07	116.10						
1453	✓	10.07	126.17						
1454	✓	10.07	136.24						
1455	✓	10.07	146.31						
1456	✓	10.07	156.38						
1458	✓	10.07	166.45						
1500	✓	10.07	176.52						
1501	✓	10.07	186.59						
1502	✓	10.08	196.67						
1504	✓	10.08	206.75						
1505	✓	10.07	216.82						
1509	✓	10.07	226.89						
1511	✓	10.08	236.97						
1513	✓	10.06	247.03						
1515	✓	10.06	257.09						
1516	✓	10.07	267.16						
1517	✓	10.06	277.22						
1520	✓	10.06	287.28						
1521	✓	10.06	297.34						
1523	✓	10.06	307.40						
1526	✓	10.06	317.46						
1528	✓	10.07	327.53						
1530	✓	10.06	337.59						

SUMMARY OF TALLY	
Total length of casing/screen tallied (ft.):	337.59
Length of casing cut off after landing (ft.):	
Bottom of Casing (feet below land surface):	
Screened Interval(s) (ft. bis):	
Total feet of blank casing in hole (ft.):	

Notes:

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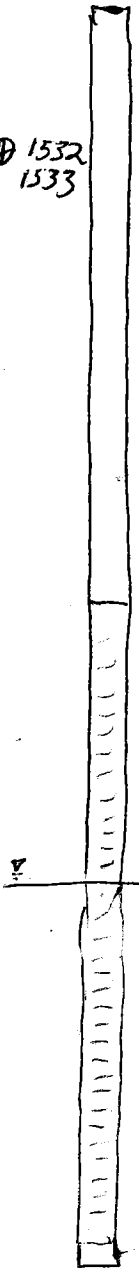
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282.75  
352.75

⊕ - CENTRALIZER

### ESTIMATED ANNULAR MATERIAL RECORD

Project No.: <u>DB18-1157.00</u>	Client:	ADWR Registration No.:
Well ID: <u>MW-11</u>	Date: <u>6/7/19</u>	
Location: <u>CROVIS, NM</u>	Weather: <u>Warm (~85°F); CLEAR, BREEZY</u>	
Geologist: <u>J. FISHER</u>		

#### ANNULAR VOLUME CALCULATIONS

Total Depth of Borehole [T]:	<u>365</u> feet	Total Cased Depth:	<u>361</u> feet
Length of Interval to be filled [L]:	<u>361</u> feet	Rat Hole Volume [R]:	<u>1.87</u> Ft <sup>3</sup>
Borehole Diameter [D]:	<u>9.25</u> inches	Casing Diameter [d]:	<u>5.5</u> inches
Annular Volume (A):	$(D^2 - d^2) \cdot 0.005454 =$		<u>0.301674</u> Ft <sup>3</sup> /Lin. Ft
Expected Calculated Volume = (AxL)+R=	<u>110.77</u>		Ft <sup>3</sup>

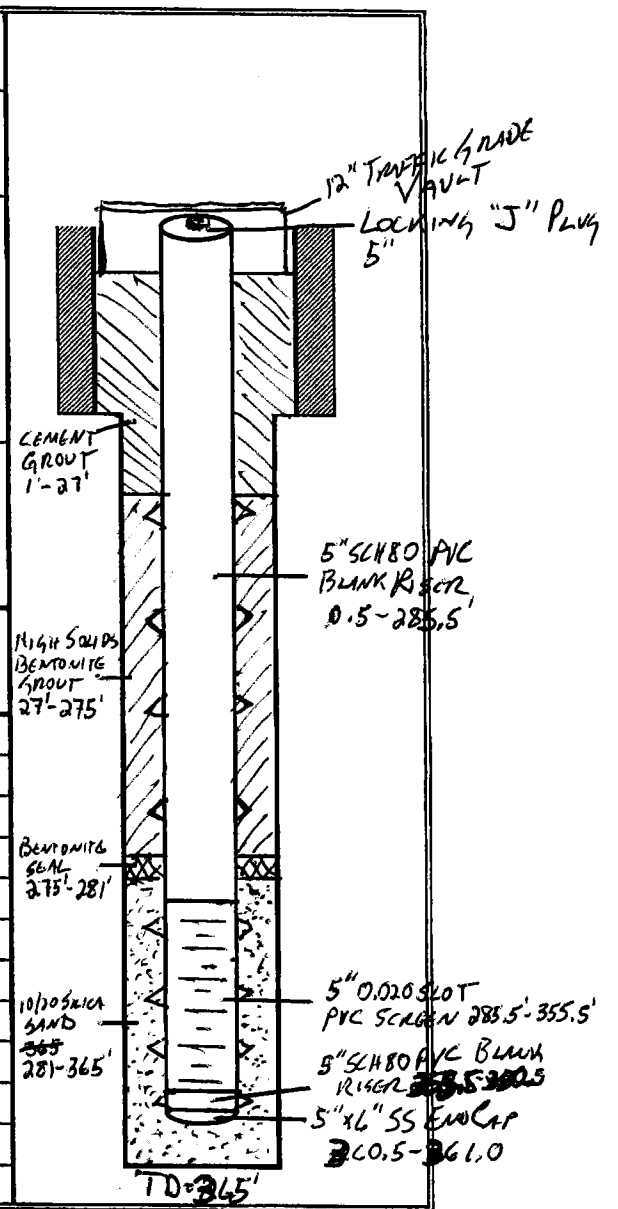
#### ANNULAR MATERIALS TALLY

Type of Annular Material:	<u>SILICA SAND</u>
Type/Size of Container:	<u>50 lb Bags</u>
Measurement Method:	<u>NA</u>

#### EQUATIONS

2,700 lbs. Silica Sand = 1 cubic yard = 27 cubic feet  
<sup>1</sup> Volume of bag (Ft<sup>3</sup>) = bag weight/100  
<sup>2</sup> Calculated depth = Previous Calculated depth (v/A)

No.	✓	Weight of Bag (lbs.)	Volume of Bag (v) (ft <sup>3</sup> )	Total Vol. of Bags (ft <sup>3</sup> )	Calculated Depth (ft bis)	Tagged Depth (ft bis)	Comments
10	✓	50	0.5	5.0	350.6	345.5	SILICA SAND
16	✓			8.0	340.7	335	
22	✓			11.0	330.7	326	
28	✓			14.0	320.8	319	
34	✓			17.0	310.8	310	
40	✓			20.0	300.9	301	
46	✓			23.0	290.0	292	
52	✓			26.0	281.01	283	
54	✓			28.0	274.9	281	
3	✓		0.7	2.1	274.0	275	BENTONITE CHIPS (3/8")



SAND:  $R + L \cdot A = V_{needed} = 26.00 \text{ Ft}^3$

< = CENTRALIZERS





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PIPE TALLY

Project Name.: <u>Former Y</u>	Project No.: <u>D318.1157</u>
Well No.: <u>Rw-2</u>	Date: <u>6/17/19</u>
Location:	Pipe Tally for:
Total Depth: <u>305</u>	Geologist:

Type of Connections:  Welded  T+C  Flush Thread  Other

Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type	Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type
1	✓	4 1/8"	4 1/8"	S.S. CAP	36	✓	10.04	346.94	Blank 4" PVC
2	✓	60 3/8"	64 1/2"	PVC Blank	37	✓	10.05	356.99	"
* 3	✓	10' 3/16"	15' 4"	PVC Screen 0.02	38	✓	10.05	367.04	"
4	✓	10' 5"	25.44	"			Ex-tru Riser		
5	✓	10.04	35.48	"	39	✓	3.02	372.06	
* 6	✓	10.04	45.52	"			Stick up stand for		
7	✓	10.04	55.56	"			6.5 ft.		
8	✓	10.04	65.60	"			(365.5 down hole)		
* 9	✓	10.06	75.66	"					
10	✓	10.04	85.70	PVC Blank					
11	✓	10.05	95.75	"					
12	✓	10.06	105.81	"					
13	✓	10.06	115.87	"					
14	✓	10.04	125.91						
0 * 15	✓	10.05	135.96						
16	✓	10.06	146.02						
17	✓	10.05	156.07						
18	✓	10.04	166.11						
19	✓	10.04	176.15						
20	✓	10.05	186.20						
* 21	✓	10.05	196.25						
22	✓	10.04	206.29						
23	✓	10.05	216.34						
24	✓	10.06	226.40						
25	✓	10.06	236.46						
26	✓	10.04	246.50						
* 27	✓	10.05	256.55						
28	✓	10.04	266.59						
29		10.04	276.63						
30		10.05	286.68						
31		10.04	296.72						
32		10.05	306.77						
* 33		10.04	316.81						
34		10.04	326.85						
35		10.05	336.90						

SUMMARY OF TALLY	
Total length of casing/screen tallied (ft.):	_____
Length of casing cut off after landing (ft.):	_____
Bottom of Casing (feet below land surface):	_____
Screened Interval(s) (ft.bl):	_____
Total feet of blank casing in hole (ft.):	_____

Notes: Measure casing stick-up = (final)

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### ESTIMATED ANNULAR MATERIAL RECORD

Project No.: <u>DB18-1157</u>	Client: <u>PSTB</u>	ADWR Registration No.:
Well ID: <u>RW-2</u>	Date: <u>6/18-6/19/19</u>	
Location: <u>Former Y</u>	Weather: <u>PC, Breezy</u>	
Geologist: <u>JR</u>		

#### ANNULAR VOLUME CALCULATIONS

Total Depth of Borehole [T]:	<u>366</u> feet	Total Cased Depth:	<u>365.5</u> feet
Length of Interval to be filled [L]:	<u>90</u> feet	Rat Hole Volume [R]:	_____ Ft <sup>3</sup>
Borehole Diameter [D]:	<u>9.25</u> inches	Casing Diameter [d]:	<u>4.5" (1)</u> inches
Annular Volume (A):	$(D^2-d^2) 0.005454 =$	<u>0.356</u> Ft <sup>3</sup> /Lin. Ft	<u>2.375 (2)</u>
Expected Calculated Volume = (AxL)+R=	<u>32.4</u>	Ft <sup>3</sup>	<u>2.375(3)</u>

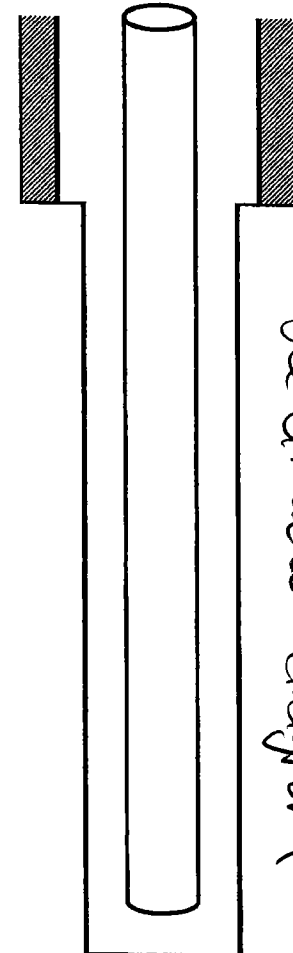
#### ANNULAR MATERIALS TALLY

Type of Annular Material: sand / chip seal  
 Type/Size of Container: 50 lb bags  
 Measurement Method: tag line

#### EQUATIONS

2,700 lbs. Silica Sand = 1 cubic yard = 27 cubic feet  
<sup>1</sup> Volume of bag (Ft<sup>3</sup>) = bag weight/100  
<sup>2</sup> Calculated depth = Previous Calculated depth (v/A)

No.	✓	Weight of Bag (lbs.)	Volume of Bag (v) (ft <sup>3</sup> )	Total Vol. of Bags (ft <sup>3</sup> )	Calculated Depth (ft bls)	Tagged Depth (ft bls)	Comments
15		50	.5	7.5	344	345	12,700 sand
10				5	331		
10				5	318		
10				5	307		
10				5	297		
15				2.5	290		
3				1.5	286	286.4	
4			.69	2.76	278.6	276.3	
4			.69				
							Chip Seal Ender 1 <sup>st</sup> nested casing



See attached diagram









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### PIPE TALLY

Project Name: <u>Former?</u>	Project No.: <u>DB18.1157</u>
Well No.: <u>RW-1</u>	Date: <u>6/27/19</u>
Location:	Pipe Tally for: <u>4" Deep well</u>
Total Depth:	Geologist: <u>PNF</u>

Type of Connections:  Welded  T+C  Flush Thread  Other

Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type	Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type
1	✓	0.34	0.34	end cap	36	✓	10.03	346.54	Blank
2	✓	5.02	5.36	blank/sump	37	✓	10.03	356.57	↓
3	✓	10.03	15.39	Screen	38	✓	10.03	366.60	↓
4	✓	10.03	25.42						
5	✓	10.04	35.46						
6	✓	10.04	45.50						
7	✓	10.04	55.54						
8	✓	10.03	65.57						
9	✓	10.03	75.60						
10	✓	10.04	85.64						
11	✓	10.04	95.68						
12	✓	10.03	105.71	Blank					
13	✓	10.03	115.74						
14	✓	10.03	125.77						
15	✓	10.03	135.80						
16	✓	10.02	145.82						
17	✓	10.03	155.85						
18	✓	10.03	165.88						
19	✓	10.04	175.92						
20	✓	10.03	185.95						
21	✓	10.04	195.99						
22	✓	10.04	206.03						
23	✓	10.03	216.06						
24	✓	10.06	226.12						
25	✓	10.06	236.18						
26	✓	10.03	246.21						
27	✓	10.03	256.24						
28	✓	10.03	266.27						
29	✓	10.04	276.31						
30	✓	10.04	286.35						
31	✓	10.03	296.38						
32	✓	10.04	306.42						
33	✓	10.03	316.45						
34	✓	10.03	326.48						
35	✓	10.03	336.51						

SUMMARY OF TALLY	
Total length of casing/screen tallied (ft.):	<u>366.60</u>
Length of casing cut off after landing (ft.):	<u>5.99</u>
Bottom of Casing (feet below land surface):	<u>360.61</u>
Screened Interval(s) (ft. bis):	
Total feet of blank casing in hole (ft.):	

Notes:

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**PIPE TALLY**

Project Name.: <u>Formerly</u>	Project No.: <u>DB18.1157</u>
Well No.: <u>ZN-1 (intermediate)</u>	Date: <u>6/28/19</u>
Location:	Pipe Tally for:
Total Depth:	Geologist: <u>DMF</u>

Type of Connections:  Welded  T+C  Flush Thread  Other

Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type	Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type
1	✓	0.35	0.35	endcap					
2	✓	10.00	10.35	screen					
3	✓	9.99	20.34						
4	✓	9.99	30.33						
5	✓	9.99	40.32						
6	✓	9.99	50.31						
7	✓	9.99	60.30						
8	✓	9.99	70.29	blank					
9	✓	9.98	80.27						
10	✓	9.98	90.25						
11	✓	9.98	100.23						
12	✓	9.98	110.21						
13	✓	9.98	120.19						
14	✓	9.98	130.17						
15	✓	10.00	140.17						
16	✓	9.99	150.16						
17	✓	9.99	160.15						
18	✓	10.00	170.15						
19	✓	9.99	180.14						
20	✓	9.99	190.13						
21	✓	9.99	200.12						
22	✓	9.99	210.11						
23	✓	9.99	220.10						
24	✓	9.98	230.08						
25	✓	9.98	240.06						
26	✓	9.99	250.05						
27	✓	9.99	260.04						
					<b>SUMMARY OF TALLY</b>				
					Total length of casing/screen tallied (ft.): <u>240.04</u>				
					Length of casing cut off after landing (ft.): <u>24.74</u>				
					Bottom of Casing (feet below land surface): <u>255.3</u>				
					Screened Interval(s) (ft. bis): _____				
					Total feet of blank casing in hole (ft.): _____				

Notes:

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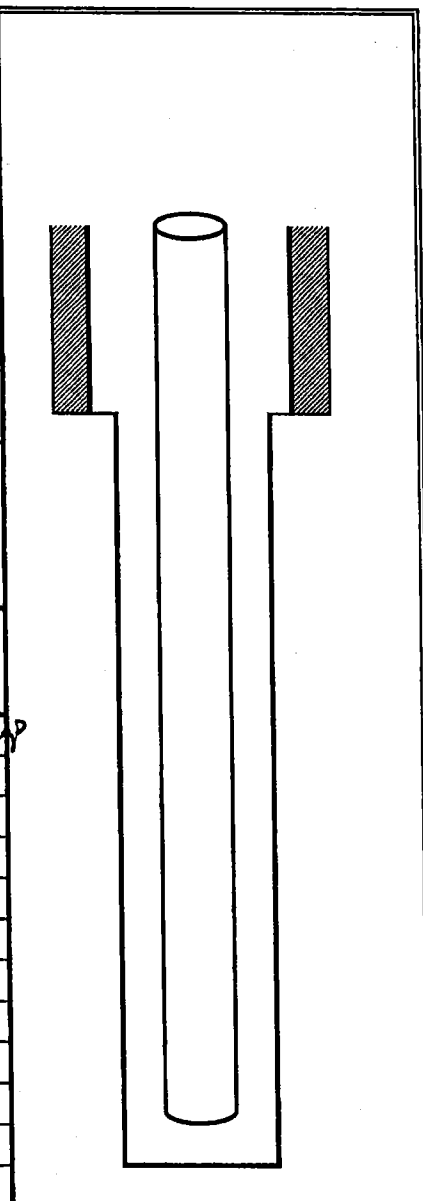
### ESTIMATED ANNULAR MATERIAL RECORD

Project No.: <u>DB18-1157</u>	Client:	ADWR Registration No.:
Well ID: <u>RW-1</u>	Date: <u>6/27/19</u>	
Location:	Weather:	
Geologist:		

ANNULAR VOLUME CALCULATIONS			
Total Depth of Borehole [T]:	<u>36.5</u> feet	Total Cased Depth:	<u>361.33</u> feet
Length of Interval to be filled [L]:	<u>99.3303</u> feet	Rat Hole Volume [R]:	<u>172.18</u> Ft <sup>3</sup>
Borehole Diameter [D]:	<u>9.25</u> inches	Casing Diameter [d]:	<u>6.75</u> inches
Annular Volume (A):	$(D^2 - d^2) 0.005454 =$	<u>0.3562</u> Ft <sup>3</sup> /Lin. Ft	<u>4.5</u>
Expected Calculated Volume = (AxL)+R=	<u>36.2 + 36.46 Ft<sup>3</sup></u>		

ANNULAR MATERIALS TALLY	EQUATIONS
Type of Annular Material: <u>filterpack/chips</u>	2,700 lbs. Silica Sand = 1 cubic yard = 27 cubic feet
Type/Size of Container: <u>50lb sacks</u>	<sup>1</sup> Volume of bag (Ft <sup>3</sup> ) = bag weight/100
Measurement Method: <u>tag line</u>	<sup>2</sup> Calculated depth = Previous Calculated depth (v/A)

No.	✓	Weight of Bag (lbs.)	Volume of Bag (v) (ft <sup>3</sup> )	Total Vol. of Bags (ft <sup>3</sup> )	Calculated Depth (ft bls)	Tagged Depth (ft bls)	Comments
5		50	0.5	2.5	<del>360</del>	349	12x20 SS 3.4 bag <sup>p</sup>
<del>6</del>				3.0	<del>340.6</del>	341	
<del>8</del>				4.0	329.77	330.5	"
<del>8</del>				4.0	319.27	320	
<del>8</del>				4.0	308.77	312.5	
<del>8</del>				4.0	301.27	302.50	
<del>10</del>				5.0	<del>288.47</del>	289.8	
9				4.5	277.17	278.0	
7				3.5	268.17	268.2	
45				<del>2.25</del>	262.59	262	
<del>10</del>			0.69	1.38	258.12	257	denfinit chips



3765-23325 in 3  
 0.2584/164  
 3.167 RA  
 0.205833  
 3.42  
 1.58  
 387

**ESTIMATED ANNULAR MATERIAL RECORD (Continued)**

Project Name: Formerly

Project Number:

Well Number: RW-1 (intermediate)

Date:

Geologist:

PMF

**EQUATIONS**

2,700 lbs. Silica Sand=1 cubic yard=27 cubic ft

Pea gravel: 1yd<sup>3</sup> = ~2700 lbs.

Bentonite bag = .69ft<sup>3</sup>/bag (hydrated)

<sup>1</sup> Volume of bag (Ft<sup>3</sup>) = bag weight/100

<sup>2</sup> Calculated depth=previous calculated depth - (v/A)

258

No.	✓	Weight installed (lbs.)	Volume installed (v) <sup>1</sup> (ft <sup>3</sup> )	Total Vol. installed (ft <sup>3</sup> )	Calculated Depth <sup>2</sup> (ft bls)	Tagged Depth (ft bls)	Type of Annular Material	Type/Size of Container	Measurement Method	Comments
2		<del>3</del>	1	1	254.19	256	SS	50lb bag	tag line	
4		<del>3</del>	2	3	249.79	250.5				
8			4	7	238.08	238				
2			1	8	231.79	237				
3			1.5	9.5	232.33	236				
8			4	13.5	223.58	229				
10			5	18.5	213.47	220.5				
6			3	21.5	211.19	219				
7			3.5	24	203.13	208				
7			3.5	27.5	197.13	202				
4.25			2.93	30.43	192.90	196.5	bentonite chips			

Notes:

7 d

A = ~~6129~~.322







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**PIPE TALLY**

Project Name: <u>FORMER Y</u>	Project No.: <u>DB18-1157</u>
Well No.: <u>MW-12</u>	Date: <u>7/16/19</u>
Location: <u>CLAVIS, NM</u>	Pipe Tally for:
Total Depth:	Geologist: <u>H. Barnes</u>

Type of Connections:  Welded  T+C  Flush Thread  Other

120.7  
306  
306  
306  
306  
305.7  
11  
305.8  
305.9  
.8  
9  
6.1  
6.0  
5.8  
5.7  
.8  
.9  
.0  
11  
.8  
11  
9  
11  
.8  
11

Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type	Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type
1		0.36	0.36	end cap (SS)	36		10.03	346.51	blank
2		5.00	5.36	blank riser	37		10.03	356.54	↓
3		10.05	15.41	0.020" screen	38		10.04	366.58	
4		10.04	25.45						
5		10.03	35.48						
6		10.02	45.50						
7		10.01	55.51						
8		10.03	65.54						
9		10.01	75.55						
10		10.05	85.60	blank					
11		10.04	95.64						
12		10.04	105.68						
13		10.04	115.72						
14		10.04	125.76						
15		10.04	135.80						
16		10.03	145.83						
17		10.03	155.86						
18		10.03	165.89						
19		10.04	175.93						
20		10.03	185.96						
21		10.03	195.99						
22		10.04	206.03						
23		10.04	216.07						
24		10.03	226.10						
25		10.03	236.13						
26		10.03	246.16						
27		10.04	256.20						
28		10.04	266.24						
29		10.04	276.28						
30		10.03	286.31						
31		10.03	296.34						
32		10.04	306.38						
33		10.04	316.42						
34		10.03	326.45						
35		10.03	336.48						

**SUMMARY OF TALLY**

Total length of casing/screen tallied (ft.): \_\_\_\_\_

Length of casing cut off after landing (ft.): \_\_\_\_\_

Bottom of Casing (feet below land surface): \_\_\_\_\_

Screened Interval(s) (ft. bis): \_\_\_\_\_

Total feet of blank casing in hole (ft.): \_\_\_\_\_

Notes: 5.75' stickup XB 4.50' stickup

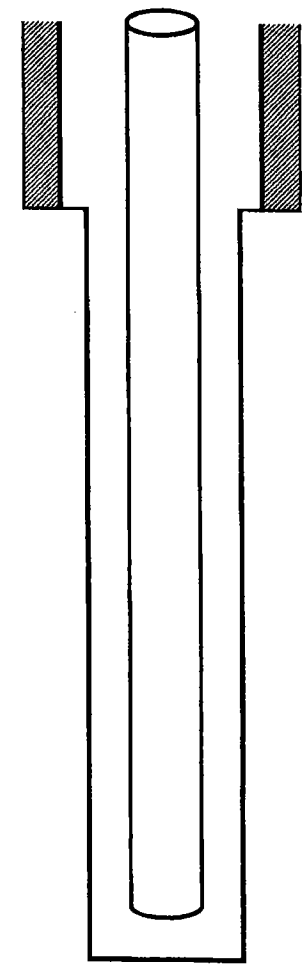
### ESTIMATED ANNULAR MATERIAL RECORD

Project No.: <u>DB18-1157</u>	Client: <u>DBSA</u>	ADWR Registration No.:
Well ID: <u>MW-12</u>	Date: <del>7/17/19</del> <u>7/18/19</u>	
Location: <u>CLOVIS, NM</u>	Weather: <u>clear, hot</u>	
Geologist: <u>H. Barnes</u>		

ANNULAR VOLUME CALCULATIONS			
Total Depth of Borehole [T]:	<del>362</del> <sup>365</sup> <u>362</u> <del>365</del> <sup>5 HB</sup> feet	Total Cased Depth:	<u>362</u> feet
Length of Interval to be filled [L]:	<u>361</u> feet	Rat Hole Volume [R]:	<u>1.40</u> Ft <sup>3</sup>
Borehole Diameter [D]:	<u>9.25</u> inches	Casing Diameter [d]:	<u>5.5</u> inches
Annular Volume (A):	$(D^2 - d^2) \cdot 0.005454 =$		<u>0.30167</u> Ft <sup>3</sup> /Lin. Ft
Expected Calculated Volume = (AxL)+R=			<u>110.91</u> Ft <sup>3</sup>

ANNULAR MATERIALS TALLY	EQUATIONS
Type of Annular Material: <u>Silica Sand - bentonite</u>	2,700 lbs. Silica Sand = 1 cubic yard = 27 cubic feet
Type/Size of Container: <u>50 lb bags</u>	<sup>1</sup> Volume of bag (Ft <sup>3</sup> ) = bag weight/100
Measurement Method: <u>Tagline</u>	<sup>2</sup> Calculated depth = Previous Calculated depth (v/A)

No.	✓	Weight of Bag (lbs.)	Volume of Bag (v) (ft <sup>3</sup> )	Total Vol. of Bags (ft <sup>3</sup> )	Calculated Depth (ft bls)	Tagged Depth (ft bls)	Comments
5		250	2.5	2.5	353.7	356	10170 silica sand ↓
2		100	1.0	3.5	352.7	350	
12		600	6.0	9.5	330.1	329	
18		300	3.0	12.5	319.1	327	
9		450	4.5	17.0	312.1	316.5	
9		450	4.5	21.5	301.6	304	
9		450	4.5	26.0	289.1	297	
8		400	4.0	30.0	283.7	283	
1		50	0.5	30.5	281.4	284	
2			1.38	1.38		276	





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PIPE TALLY

Project Name.: <u>FORMERY</u>	Project No.: <u>DB18.157</u>
Well No.: <u>RW-7R</u>	Date: <u>8/1-2/19</u>
Location: <u>CLOVIS, NM</u>	Pipe Tally for:
Total Depth: <u>363'</u>	Geologist: <u>H. Barnes</u>

Type of Connections:  Welded  T+C  Flush Thread  Other

11'  
152.4  
305.8  
306.2  
306  
306.1  
306.2  
302.8  
306.1  
3  
3  
1  
2  
4  
3  
2  
4  
2  
1  
2  
4  
3  
4  
1  
1  
2  
2  
2  
2  
1  
3  
4  
3  
4

Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type	Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type
1		0.36	0.36	PRD CAP (SS)	36	✓	10.05	346.90	blank case
2		5.01	5.37	blank case	37		10.04	356.94	
3		10.03	15.40	0.020" screen	38		5.01	361.95	351.91
4		10.05	25.45		39		5.01	366.96	356.92
5		10.04	35.49		40		5.02	371.98	361.94
6		10.04	45.53		41		5.00	376.98	366.94
7		10.05	55.58						
8		10.04	65.62						
9		10.03	75.65						
10		10.04	85.69	blank case					
11		10.05	95.74						
12		10.05	105.79						
13		10.04	115.83						
14		10.05	125.88						
15		10.05	135.93						
16		10.05	145.98						
17		10.05	156.03						
18		10.05	166.08						
19		10.04	176.12						
20		10.04	186.16						
21		10.04	196.20						
22		10.05	206.25						
23		10.05	216.30						
24		10.05	226.35						
25		10.04	236.39						
26		10.04	246.43						
27		10.04	256.47						
28		10.04	266.51						
29		10.05	276.56						
30		10.05	286.61						
31		10.04	296.65						
32		10.05	306.70						
33		10.05	316.75						
34		10.05	326.80						
35		10.05	336.85						

3  
2MB  
152.8  
152.8  
152.9  
152.5

**SUMMARY OF TALLY**

Total length of casing/screen tallied (ft.): \_\_\_\_\_

Length of casing cut off after landing (ft.): \_\_\_\_\_

Bottom of Casing (feet below land surface): \_\_\_\_\_

Screened Interval(s) (ft. bls): \_\_\_\_\_

Total feet of blank casing in hole (ft.): \_\_\_\_\_

Notes: 4.50' stickup

### ESTIMATED ANNULAR MATERIAL RECORD

Project No.: <b>DB18.1157</b>	Client: <b>DBSA</b>	ADWR Registration No.:
Well ID: <b>BW-7R</b>	Date: <b>8/2/19</b>	
Location: <b>Clovis, NM</b>	Weather: <b>clear, not</b>	
Geologist: <b>H. Barnes</b>		

**ANNULAR VOLUME CALCULATIONS**

Total Depth of Borehole [T]: <u>365</u> feet	Total Cased Depth: <u>362</u> feet
Length of Interval to be filled [L]: <u>361</u> feet	Rat Hole Volume [R]: <u>1.4</u> Ft <sup>3</sup>
Borehole Diameter [D]: <u>9.25</u> inches	Casing Diameter [d]: <u>5.5</u> inches
Annular Volume (A): $(D^2-d^2) 0.005454 =$ <u>0.30167</u> Ft <sup>3</sup> /Lin. Ft	
Expected Calculated Volume = (AxL)+R=	<u>110.91</u> Ft <sup>3</sup> <i>Sand from 365'</i>

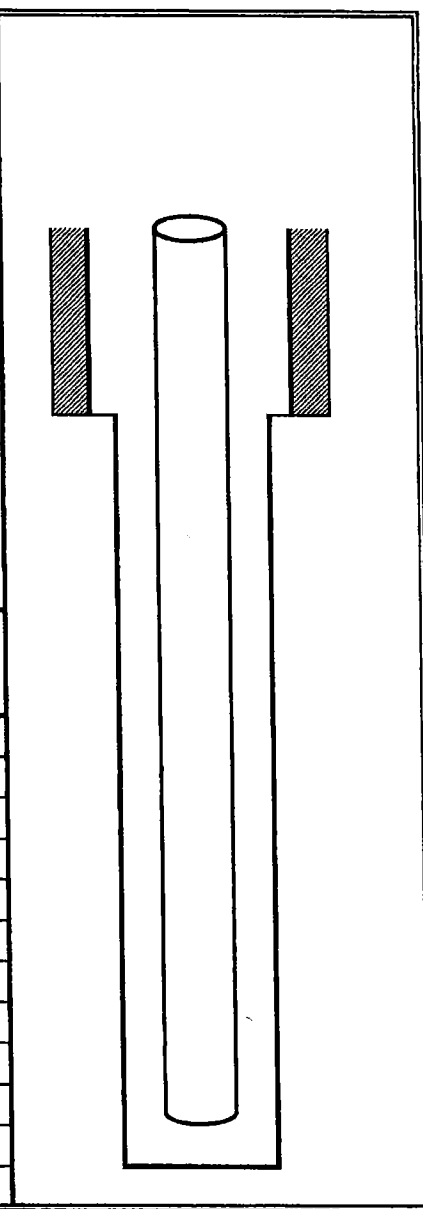
**ANNULAR MATERIALS TALLY**

Type of Annular Material: **Silica sand & bentonite**  
 Type/Size of Container: **50lb bags**  
 Measurement Method: **tagline**

**EQUATIONS**

2,700 lbs. Silica Sand = 1 cubic yard = 27 cubic feet  
<sup>1</sup> Volume of bag (Ft<sup>3</sup>) = bag weight/100  
<sup>2</sup> Calculated depth = Previous Calculated depth (v/A)

No.	✓	Weight of Bag (lbs.)	Volume of Bag (v) (ft <sup>3</sup> )	Total Vol. of Bags (ft <sup>3</sup> )	Calculated Depth (ft bls)	Tagged Depth (ft bls)	Comments
11		650	5.5	5.5	343.8	348	10/20 Silica sand
7		350	3.5	9.0	336.4	338	
7		350	3.5	12.5	326.4	327	
7		350	3.5	16.0	315.4	316	
7		350	3.5	19.5	304.4	306	
7		350	3.5	23.0	294.4	294	
5		250	2.5	25.5	285.7	285	
2		100	1.0	26.5	281.7	282	
2			1.38	1.38		277	bentonite chips



*362 - 287 = 75'*



Daniel B. Stephens  
& Associates, Inc.

**PIPE TALLY**

Project Name.: <u>FORMER V</u>	Project No.: <u>DB 18,115 7</u>
Well No.: <u>MW-13</u>	Date: <u>8/10/19</u>
Location: <u>CLOVIS, NM</u>	Pipe Tally for:
Total Depth: <u>365</u>	Geologist: <u>J. Kuster</u>

Type of Connections:  Welded  T+C  Flush Thread  Other

Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type	Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type
1955 1	✓	0.50	0.50	Plastic End Cap	36	✓	10.04	346.79	< >
< > 2	✓	<del>10.03</del>	5.50	PVC Blank (ump)	37	✓	10.04	356.83	
3	✓	10.03	45.53	PVC screen (0.20)	38	✓	10.04	366.87	
< > 4	✓	10.03	25.56		39	✓	<del>10.04</del>	371.87	1155
5	✓	10.04	35.60						
< > 6	✓	10.04	45.64						
7	✓	10.04	55.68						
8	✓	10.04	65.72						
9	✓	10.03	75.75						
10	✓	10.04	85.79	PVC Blank					
11	✓	10.03	95.82						
< > 12	✓	10.04	105.86						
13	✓	10.04	115.90						
14	✓	10.03	125.93						
15	✓	10.04	135.97						
16	✓	10.03	146.00						
< > 17	✓	10.04	156.04						
18	✓	10.04	166.08						
19	✓	10.03	176.11						
20	✓	10.04	186.15						
21	✓	10.04	196.19						
22	✓	10.04	206.23						
< > 23	✓	10.04	216.27						
24	✓	10.04	226.31						
25	✓	10.04	236.35						
26	✓	10.04	246.39						
27	✓	10.04	256.43						
28	✓	10.04	266.47						
< > 29	✓	10.04	276.51						
30	✓	10.04	286.55						
31	✓	10.04	296.59						
32	✓	10.04	306.63						
33	✓	10.04	316.67						
34	✓	10.04	326.71						
35	✓	10.04	336.75						

SUMMARY OF TALLY	
Total length of casing/screen tallied (ft.):	_____
Length of casing cut off after landing (ft.):	_____
Bottom of Casing (feet below land surface):	_____
Screened Interval(s) (ft.bl):	_____
Total feet of blank casing in hole (ft.):	_____

Notes:

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### ESTIMATED ANNULAR MATERIAL RECORD

Project No.: <u>DB18.1157</u>	Client:	ADWR Registration No.:
Well ID: <u>MW-13</u>	Date: <u>8/10/19</u>	
Location: <u>CLOVIS, NM</u>	Weather: <u>HOT (~100°F), Sunny, Breezy</u>	
Geologist: <u>J. Fisher</u>		

#### ANNULAR VOLUME CALCULATIONS

Total Depth of Borehole [T]:	<u>36.5</u> feet	Total Cased Depth:	<u>362.5</u> feet
Length of Interval to be filled [L]:	<u>SAND 79</u> feet	Rat Hole Volume [R]:	<u>1.17</u> Ft <sup>3</sup>
Borehole Diameter [D]:	<u>9.25</u> inches = <u>0.771ft</u>	Casing Diameter [d]:	<u>5.545</u> inches = <u>0.46ft</u>
Annular Volume (A):	$(D^2 - d^2) \cdot 0.005454 =$	<u>0.302</u>	Ft <sup>3</sup> /Lin. Ft
Expected Calculated Volume = (AxL)+R=	<u>25.002</u>		Ft <sup>3</sup>

#### ANNULAR MATERIALS TALLY

Type of Annular Material:	<u>SILICA SAND</u>
Type/Size of Container:	<u>50 lb Bags</u>
Measurement Method:	<u>TAGLINE</u>

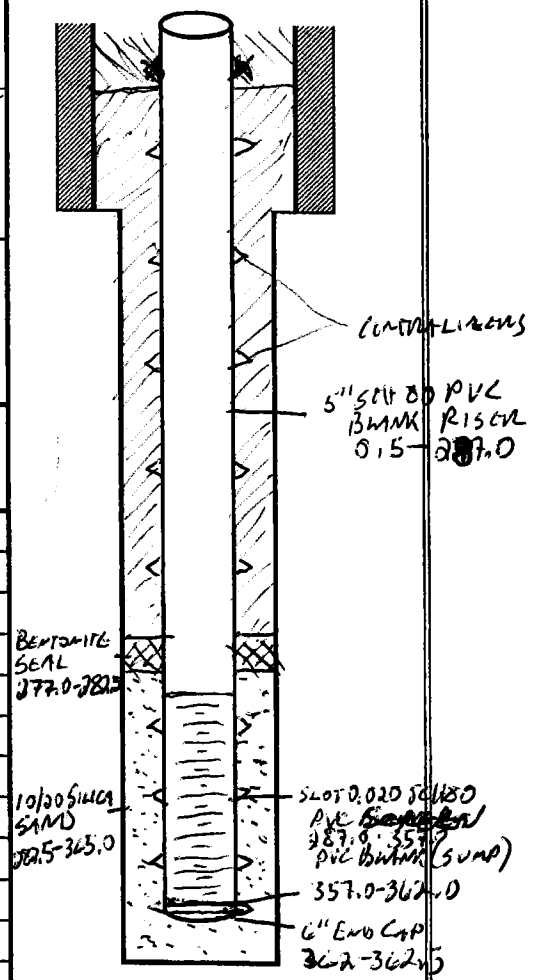
#### EQUATIONS

2,700 lbs. Silica Sand = 1 cubic yard = 27 cubic feet  
<sup>1</sup> Volume of bag (Ft<sup>3</sup>) = bag weight/100  
<sup>2</sup> Calculated depth = Previous Calculated depth (v/A)

No.	✓	Weight of Bag (lbs.)	Volume of Bag (v) (ft <sup>3</sup> )	Total Vol. of Bags (ft <sup>3</sup> )	Calculated Depth (ft bls)	Tagged Depth (ft bls)	Comments
10	✓	50	0.5	5.0	346.6	346	
13	✓			6.5	341	340	
20	✓			10.0	328.4	326	
22	✓			11.0	322.7	324	
30	✓			15.0	310.8	309	
37	✓			18.5	297.4	300	
44	✓			22.0	288.4	287	
47	✓			23.5	282.0	282.5	
2	✓	50	0.7	1.4	277.9	277	

SAND  
↓  
BENTONITE

MW-13 As Built





**Daniel B. Stephens  
& Associates, Inc.**

**PIPE TALLY**

Project Name.: <u>Former</u>	Project No.:
Well No.: <u>2W-3 4"</u>	Date:
Location:	Pipe Tally for:
Total Depth:	Geologist:

Type of Connections:  Welded  T+C  Flush Thread  Other

Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type	Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type
1	✓	0.40	0.40	endcap	36	✓	10.04	346.52	Blank
2	✓	5.02	5.42	blank	37	✓	10.03	356.55	↓
3	✓	10.03	15.45	Screen	38	✓	10.02	366.57	↓
4	✓	10.05	25.50	Blank					
5	✓	10.02	35.52						
6	✓	10.03	45.55						
7	✓	10.03	55.58						
8	✓	10.02	65.60						
9	✓	10.05	75.65						
10	✓	10.03	85.68						
11	✓	10.03	95.71						
12	✓	10.02	105.73						
13	✓	10.03	115.76						
14	✓	10.03	125.79						
15	✓	10.03	135.82						
16	✓	10.03	145.85						
17	✓	10.02	155.87						
18	✓	10.03	165.90						
19	✓	10.03	175.93						
20	✓	10.03	185.96						
21	✓	10.05	196.01						
22	✓	10.02	206.03						
23	✓	10.03	216.06						
24	✓	10.03	226.09						
25	✓	10.04	236.13						
26	✓	10.04	246.17						
27	✓	10.03	256.20						
28	✓	10.03	266.23						
29	✓	10.03	276.26						
30	✓	10.05	286.31	<b>SUMMARY OF TALLY</b> Total length of casing/screen tallied (ft.): <u>366.57'</u> Length of casing cut off after landing (ft.): <u>1.05'</u> Bottom of Casing (feet below land surface): <u>364.92</u> Screened Interval(s) (ft.bl): <u>359.5 - 289.27</u> Total feet of blank casing in hole (ft.): <u>289.27</u> + 5.42 bump					
31	✓	10.03	296.34						
32	✓	10.04	306.38						
33	✓	10.03	316.41						
34	✓	10.04	326.45						
35	✓	10.03	336.48						

Notes:

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**Daniel B. Stephens  
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**PIPE TALLY**

Project Name.: <b>Formery</b>	Project No.:
Well No.: <b>RW-3 Intermediate</b>	Date: <b>8/28/19</b>
Location:	Pipe Tally for: <b>Intermediate 2"</b>
Total Depth:	Geologist: <b>DMF</b>

Type of Connections:  Welded  T+C  Flush Thread  Other

Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type	Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type
1	✓	0.35	0.35	end cap					
2	✓	9.99	10.34	Screen					
3	✓	10.00	20.34						
4	✓	9.99	30.33						
5	✓	9.99	40.32						
6	✓	9.99	50.31						
7	✓	9.99	60.30						
8		10.00	70.30	Blank					
9		10.00	80.30						
10		9.99	90.29						
11		9.99	100.28						
12		9.99	110.27						
13		10.00	120.27						
14		9.99	130.26						
15		9.99	140.25						
16		10.00	150.25						
17		9.99	160.24						
18		10.00	170.24						
19		10.00	180.24						
20		9.99	190.23						
21		10.00	200.23						
22		10.00	210.23						
23		10.00	220.23						
24		10.00	230.23						
25		10.00	240.23						
26		10.00	250.23						
27		10.00	260.23						
28		10.00	270.23						
29		9.99	280.22						
30									

**SUMMARY OF TALLY**

Total length of casing/screen tallied (ft.): 280.22

Length of casing cut off after landing (ft.): 4.94

Bottom of Casing (feet below land surface): 275.28

Screened Interval(s) (ft. bls): 274.93 - 214.98

Total feet of blank casing in hole (ft.): 214.98

Notes:

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ESTIMATED ANNULAR MATERIAL RECORD

1209.61135 m<sup>3</sup>

Vol  
SS = 0.54<sup>3</sup>  
comp = 0.69<sup>3</sup>

Project No.: <b>Formerly</b>	Client: <b>UMED</b>	ADWR Registration No.:
Well ID: <b>RW-3</b>	Date: <b>8/28/19</b>	
Location:	Weather: <b>Overcast / misty</b>	
Geologist: <b>ZNF</b>		

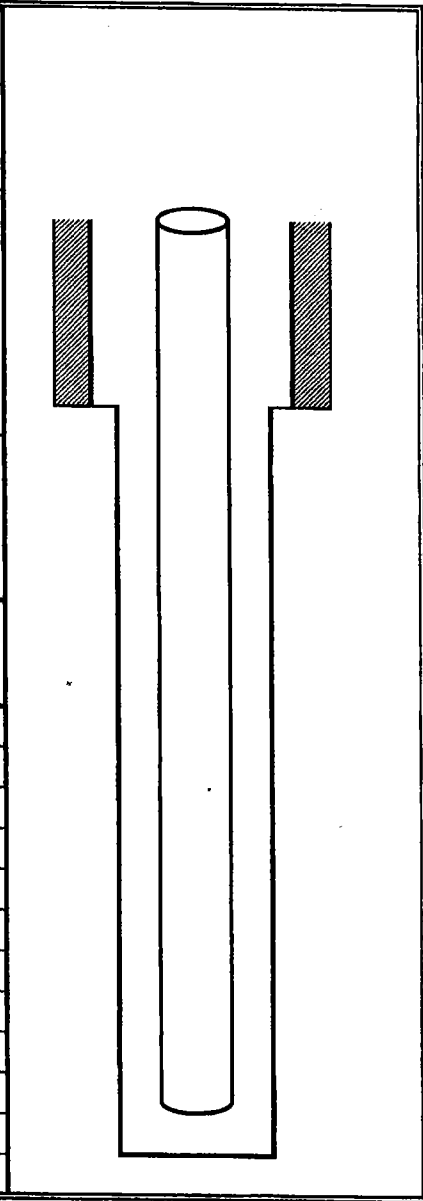
**ANNULAR VOLUME CALCULATIONS**

Total Depth of Borehole [T]: <u>36.5</u> feet	Total Cased Depth: <u>363.5</u> feet
Length of Interval to be filled [L]: <u>83.5</u> <del>85</del> feet	Rat Hole Volume [R]: <u>0.70</u> Ft <sup>3</sup>
Borehole Diameter [D]: <u>9.25</u> inches	Casing Diameter [d]: <u>4.5</u> inches
Annular Volume (A): (D <sup>2</sup> -d <sup>2</sup> ) 0.005454 = <u>0.35621</u> Ft <sup>3</sup> /Lin. Ft	
Expected Calculated Volume = (AxL)+R= <u>30.44</u> Ft <sup>3</sup>	

<b>ANNULAR MATERIALS TALLY</b>	<b>EQUATIONS</b>
Type of Annular Material: <u>Silica sand / perlite</u>	2700 lbs. Silica Sand = 1 cubic yard = 27 cubic feet
Type/Size of Container: <u>50lb sack</u>	<sup>1</sup> Volume of bag (Ft <sup>3</sup> ) = bag weight/100
Measurement Method: <u>tagline</u>	<sup>2</sup> Calculated depth = Previous Calculated depth (v/A)

No.	✓	Weight of Bag (lbs.)	Volume of Bag (v) (ft <sup>3</sup> )	Total Vol. of Bags (ft <sup>3</sup> )	Calculated Depth (ft bis)	Tagged Depth (ft bis)	Comments
5	✓	50lb	2.5	2.5	358		tagline
5	✓		2.5	5.0	351		
2	✓		1.0	6.0	348		
6	✓		3.0	9.0	339.5	339	
8	✓		4.0	13.0	328.5		
8	✓		4.0	17.0	317.5		
7	✓		3.5	20.5	307.7		
5	✓		2.5	23.0	306.6	306	
7	✓		3.5	26.5	296.8	297	
5	✓		2.5	29.0	290	292	
4	✓		2.0	31.0	286	286	
1	✓		0.5	31.5	285	289.5	

2 ✓ 280.5 chips



**ESTIMATED ANNULAR MATERIAL RECORD (Continued)**

Project Name: Former 4

Project Number: \_\_\_\_\_

Well Number: RW-3 Intermediate Date: 8/28/19

Geologist: JNF

**EQUATIONS**

2,700 lbs. Silica Sand=1 cubic yard=27 cubic ft

Pea gravel: 1yd<sup>3</sup> = ~2700 lbs.

Bentonite bag = .69ft<sup>3</sup>/bag (hydrated)

<sup>1</sup> Volume of bag (Ft<sup>3</sup>) = bag weight/100

<sup>2</sup> Calculated depth=previous calculated depth - (v/A)

No.	✓	Weight installed (lbs.)	Volume installed (v) <sup>1</sup> (ft <sup>3</sup> )	Total Vol. installed (ft <sup>3</sup> )	Calculated Depth <sup>2</sup> (ft bls)	Tagged Depth (ft:bls)	Type of Annular Material	Type/Size of Container	Measurement Method	Comments
CALCULATED		<del>3.5</del>	3.5	3.5	270		Sand	50lb	tagline	
			2.0	6.0	263	/				
			2.0	8.0	256	/				
			2.0	11.0	249	/				
			2.0	13.5	242	/				
			2.0	16.0	235	231				
			2.0	18.0	228	214				
			2.0	20.0	220	214				
			2.0	22.0	212	212				
						200		bentonite		

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





Daniel B. Stephens  
& Associates, Inc.

PIPE TALLY

Project Name.: <u>FORMER Y</u>	Project No.: <u>DB18.115 F</u>
Well No.: <u>RW-4</u>	Date: <u>9/9/19</u>
Location: <u>CLAMS, NM</u>	Pipe Tally for: <u>DEEP</u>
Total Depth: <u>365'</u>	Geologist: <u>H. BARNES</u>

Type of Connections:  Welded  T+C  Flush Thread  Other

Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type	Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type
10.5		0.34	0.34	end cap/SS			10.03	346.76	blank
135		4.98	5.32	SCREEN			10.07	356.78	blank
306.4		10.05	15.37	SCREEN			5.02	361.81	↓
306.9		10.07	25.44				5.03	366.84	↓
306.3		10.05	35.49				5.01	371.85	↓
306.4		10.05	45.54						
306.2		10.05	55.59						
306.2		10.04	65.63						
		10.05	75.68	↓					
300.8		10.03	85.71	blank					
.4		10.03	95.74						
.7		10.03	105.77						
.0		10.04	115.81						
.1		10.04	125.85						
.2		10.05	135.90						
.3		10.05	145.95						
.2		10.05	156.00						
.9		10.03	166.03						
.0		10.04	176.07						
.0		10.04	186.11						
.8		10.03	196.14						
.0		10.04	206.18						
.1		10.04	216.22						
.0		10.04	226.26						
.2		10.05	236.31						
.1		10.04	246.35						
.0		10.04	256.39						
.3		10.05	266.44						
.4		10.05	276.49						
.8		10.03	286.52						
.9		10.03	296.55						
.0		10.04	306.59						
.0		10.04	316.63						
.9		10.05	326.68						
.2		10.05	336.73						

SUMMARY OF TALLY	
Total length of casing/screen tallied (ft.):	<u>371.85</u>
Length of casing cut off after landing (ft.):	<u>5.02</u>
Bottom of Casing (feet below land surface):	<u>366.83</u>
Screened Interval(s) (ft.bl):	<u>290 - 360</u>
Total feet of blank casing in hole (ft.):	<u>296.47</u>

Notes: 4.86' stick up 5.02' cut off



Daniel B. Stephens  
& Associates, Inc.

PIPE TALLY

Project Name: Former Y	Project No.: DB18-1157
Well No.: RW-4	Date: 9/10/19
Location: Clous, MM	Pipe Tally for: Intermediate
Total Depth: 275'	Geologist: H. Barnes

Type of Connections:  Welded  T+C  Flush Thread  Other

305.1  
4.8  
4.9  
11.1  
11.1  
7.7  
7.7  
11.1  
11.1  
8.8  
8.8  
5.5  
7.7  
5.5  
5.5  
8.8  
8.8  
9.9  
7.7  
5.5  
8.8  
8.8

Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type	Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type
		0.35	0.35	PVC end cap					
		10.01	10.36	SCREEN					
		10.00	20.36						
		10.00	30.36						
		10.00	40.36						
		10.00	50.36						
		10.00	60.36	HB					
		10.00	70.36	blank					
		10.00	80.36						
		10.00	90.36						
		10.00	100.36						
		10.00	110.36						
		10.00	120.36						
		10.00	130.36						
		10.06	146.36						
		10.00	150.36						
		9.99	160.35						
		10.00	170.35						
		9.99	180.34						
		9.99	190.33						
		9.99	200.32						
		10.00	210.32						
		10.00	220.32						
		10.00	230.32						
		10.00	240.32						
		10.00	250.32						
		9.99	260.31						
		10.00	270.31						
		10.00	280.31						

SUMMARY OF TALLY	
Total length of casing/screen tallied (ft.):	280.31
Length of casing cut off after landing (ft.):	5.05
Bottom of Casing (feet below land surface):	275.26
Screened Interval(s) (ft. bis):	252.75
Total feet of blank casing in hole (ft.):	214.90

Notes: HB, 4.82' snuck up 5.05' cut off













Daniel B. Stephens  
& Associates, Inc.

PIPE TALLY

Project Name.: <u>Formerly</u>	Project No.: <u>2818.1157</u>
Well No.: <u>MW-14</u>	Date: <u>9/16/19</u>
Location:	Pipe Tally for: <u>5" SCH80</u>
Total Depth:	Geologist: <u>DMF</u>

Type of Connections:  Welded  T+C  Flush Thread  Other

Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type	Pipe	✓	Length (ft)	Length Σ (ft)	Pipe Type
1		0.42	0.42	end cap	36		10.04	336.23	
2		5.01	5.43	blank	37		10.03	346.26	
3		10.04	15.47	screen	38		10.03	356.29	
4		10.04	25.51		39		5.00	361.29	
5		10.04	35.55						
6		10.04	45.59						
7		10.05	55.64						
8		10.03	65.67						
9		8.0	73.67	screen					
10		4.99	78.66	<del>screen</del>					
11		10.04	88.70	Blank					
12		10.04	98.74						
13		10.03	108.77						
14		10.04	118.81						
15		10.03	128.84						
16		10.04	138.88						
17		10.04	148.92						
18		10.04	158.96						
19		10.04	169.00						
20		10.03	179.03						
21		10.03	189.06						
22		10.04	199.10						
23		10.03	209.13						
24		10.03	219.16						
25		10.04	229.20						
26		10.04	239.24						
27		10.04	249.28						
28		10.01	259.29						
29		16.0	275.29						
30		10.04	285.33						
31		10.04	295.37						
32		10.0	305.37						
33		10.04	315.41						
34		9.76	325.17						
35		10.00	335.17						

SUMMARY OF TALLY	
Total length of casing/screen tallied (ft.):	<u>361.29</u>
Length of casing cut off after landing (ft.):	<u>5.13</u>
Bottom of Casing (feet below land surface):	<u>356.16</u>
Screened Interval(s) (ft. bis):	<u>280.5 - 350.73</u>
Total feet of blank casing in hole (ft.):	<u>280.5</u> + 5' Sump

Notes:

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### ESTIMATED ANNULAR MATERIAL RECORD

Project No.: <u>288.157</u>	Client:	ADWR Registration No.:
Well ID: <u>mw-14</u>	Date: <u>9/16/19</u>	
Location:	Weather: <u>Clear, warm</u>	
Geologist: <u>PMF</u>		

#### ANNULAR VOLUME CALCULATIONS

Total Depth of Borehole [T]: <u>355 <del>363</del></u> feet	Total Cased Depth: _____ feet
Length of Interval to be filled [L]: <u>277</u> feet	Rat Hole Volume [R]: _____ Ft <sup>3</sup>
Borehole Diameter [D]: <u>9.5</u> inches	Casing Diameter [d]: <u>5</u> inches
Annular Volume (A): $(D^2-d^2) 0.005454 =$ <u>0.3558</u> Ft <sup>3</sup> /Lin. Ft	
Expected Calculated Volume = (AxL)+R=	<u>98.57</u> Ft <sup>3</sup>

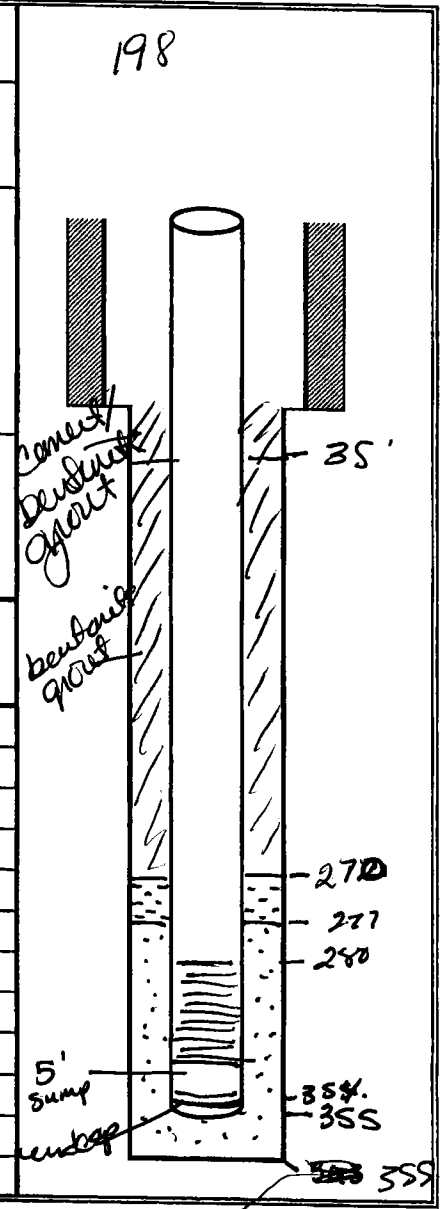
#### ANNULAR MATERIALS TALLY

Type of Annular Material: <u>Silica Sand/bentonite</u>
Type/Size of Container: <u>50 lb bags</u>
Measurement Method: <u>tagline</u>

#### EQUATIONS

2,700 lbs. Silica Sand = 1 cubic yard = 27 cubic feet  
<sup>1</sup> Volume of bag (Ft<sup>3</sup>) = bag weight/100  
<sup>2</sup> Calculated depth = Previous Calculated depth (v/A)

No.	✓	Weight of Bag (lbs.)	Volume of Bag (v) (ft <sup>3</sup> )	Total Vol. of Bags (ft <sup>3</sup> )	Calculated Depth (ft bis)	Tagged Depth (ft bis)	Comments
6.5		50	0.5	3.25	337	<del>393</del>	Sand
6		50	0.5	3.0	335	335	
7		50	0.5	3.5	325	325	
7		50	0.5	3.9	315	315	
<del>6</del>		50	0.5	3.5	<del>305.0</del>	<del>304</del>	
6		50	0.5	3.0	295.5	290	
5		50	0.5	2.5	283	280	
3		50	0.5	1.5	278	277	bentonite
3		50	0.5			270	



#1  
 3 1/2  
 " "  
 #1 #2  
 #1 #2  
 #1 #2  
 #1 #2  
 #1 #2  
 #1 #2  
 #1 #2

7/14/19

J. FISHER

0745 ONSITE FOR WELL DEVELOPMENT.  
WEATHER IS SUNNY, ~71°F, BREEZY.  
YELLOWJACKET CREW IS ONSITE  
PREPARING TO MOB EQUIPMENT  
TO RW-2.

CALIBRATE VSI, 556MPS

pH: ~~4.00~~ 4.00/4.00 @ 23.52°C

7.00/7.00 @ 24.92°C

10.12/10.14 @ 25.30°C

SC: 1413/1413 @ 25.19°C

DO: 654 mmHg @ 22.99°C

COND. SATN = 86.4% @ 23.00°C

[DI] = 4.14 mg/L @ 23.25°C

ORP: 223/223.0 @ 23.67°C

1005 RW-2 DTW = 328,93' bsc

TD = 365,80' bsc

ICV = 2116<sup>±</sup> GAL

NEW TALENTO SAFETY MEETING.

SEE RORY FOR DETAILS.

1035 1ST BILVER

1045 AFTER 2 BILVER (NSM) SWITCH  
TO SURGE BLOCK,

1110 SWITCH TO BILVER

1200 PREPARE TO INSTALL PUMP.

1540 PUMP IS IN TO ~352.5' (INTAKE)

②  
 7/14/19 RW-2 Well Development J  
 TIME Vol (GAL) pH T(°C) SC (mg/L) DO (mg/L) ORP (mV) COMMENTS

TIME	Vol (GAL)	pH	T(°C)	SC (mg/L)	DO (mg/L)	ORP (mV)	COMMENTS
1035	INITIAL	7.28	19.90	551	0.87	-56.4	5.11E020 TURBID
1110	7.5	7.63	19.96	539	0.69	-82.8	SL. HC ODDR
1155	21	7.77	20.02	534	0.38	-149.1	" "

③  
 7/14/19 J

1540	DTW = 329.62
1600	PUMP ON. THE WELL DROGG OUT BEFORE WATER MADE IT TO SURFACE.
1655	WE WERE NEED A CHECK VALVE TO PUMP. TRIP OUT <del>THE</del> PUMP.
1800	PUMP IS OUT. OPPOSITE.

*[A large diagonal line is drawn across the bottom half of the page, with the name "J. J. J. J." written in cursive across it.]*

7/14/19

④

7/15/19 J. FISHER

0730 ON SITE @ MW-11 FOR WELL DEVELOPMENT.

HOLD TALKING STREET MEETING. SET FORM FOR DETAILS. WEATHER IS MILD, ~72°F. P. CLOUDY, B. CALM.

0749 DTW = 325.86

CALIBRATE YSI 556 MP, SN: 13K00928

DO: 6.58, 3 mmHg @ 22.91°C

CALC % SAT'N READINGS = 86.0% @ 22.91°C

[DT] = 4.19 mg/L @ 23.26°C

pH: 4.00/4.00 @ 24.93°C

7.00/7.00 @ 26.44°C

9.98/10.03 @ 26.84°C

SC: 1418/1413  $\frac{\mu S}{cm}$  @ 26.54°C

ORP: 220/220.0 @ 25.14°C

0805 1ST BAILER

0845 DTW = 328.51 AFTER BAILING

~20 GALLONS. SWITCH TO SURGE

BLOCK / SWAB.

0855 PULLED UP THE TRANSDUCER. APPARENTLY

THEY DID NOT STEAL IT. JUST CUT THE

CABLE & TOOK SPOOL.

0925 RESUME BAILING.

1010 DTW = 326.34 AFTER BAILING ~50 GAL.

PUMP DOWN INTO IMPLANT TANK.

⑤

7/15/19 MW-11 WELL DEVELOPMENT J

TIME	VOL (GAL)	pH	T (°C)	SC ( $\frac{\mu S}{cm}$ )	DO ( $\frac{mg}{L}$ )	ORP (mV)	COMMENT
0805	INITIAL	7.93	20.35	956	0.11	-28.5	V. TURBID SAND, NO O2 OR
0825	10	7.81	19.29	983	0.49	-38.6	" "
<del>1220</del>	58	7.58	26.58	840	0.39	-36.8	TURBID, BROWN NO O2 OR
1300	92	7.46	21.18	763	1.13	-48.1	SLT TURBID, NO O2 OR
1310	150	7.35	20.80	767	1.65	-48.5	" "
1322	250	7.37	20.31	753	1.59	-51.5	CLEAR, NO O2 OR
1340	400	7.42	21.10	756			
<del>1348</del>							
1350	465	7.51	21.16	736	2.15	-29.5	CLEAR, NO O2 OR
1401	530	7.42	23.13	767	1.90	-11.4	" "
1424	650	7.53	21.35	775	1.94	-4.5	" "
1442	742	7.47	22.12	791	1.81	-6.3	" "

7/15/19

1070 cont PREPARE TO INSTALL PUMP.  
 1030 CHECK VALVE INSTALLED 1-20' STICK  
 (~21') ABOVE PUMP.  
 1220 PUMP IS IN TO ~358'  
 TAG LINE STICK UP = 23 1/2"  
 1250 DTW = 327.50' bmp. START PUMPING  
 1253 WATER @ SURFACE  
 1300 8.5 GPM DTW = 344' bmp  
~~1320~~ 1327 DECREASE FLOW 8.5 → 5.5  
 1327 1348 5.5 GPM DTW = 343.5  
~~1320~~ 1426 DECREASE FLOW 5.5 → 1.4  
~~1340~~ 1430 DTW = 332  
 1435 OPEN FLOW CONTROL VALVE 1.4 GPM - 10.9 GPM  
 1508 DTW = 351.9 10.5 GPM 1040 GAUGES  
 1514 PORTA Potty CONTRACTOR ON SITE TO  
 CLEAN PORTA-POTTY.  
 1821 DTW = 353.6. TOTALIZER ON STRAPPER  
 = 26,488.  
 1532 DTW = 353.10  
 1551 PUMP OFF. 1,490.53 GALLONS PUMPED  
 1670 AS TOT = 26860  
 1730 STRAPPER OFF. AS TOT = 27184.  
 PREPARE FROG.  
 RUN SE-1 LOG # 390.  
 [Benzene] = 13.27. Wm REQUIRE THROUGH  
 STRAPPER.

7/16/19

S. FISHER

0740 ONSITE. WEATHER IS MILD, PARTLY  
 TO MOSTLY CLOUDY. 75°F.  
 CALIBRATE VSI. 556 MPS  
 SN: 13K100.928  
 DO: 653.5 mmHg  
 COND % SATW RELATIVE = 86.0% @ 25.99°C  
 [DI] = 3.49 mg/L @ 25.87°C  
 pH: 4.00/4.00 @ 26.95°C  
 7.00/7.00 @ 28.16°C  
~~10~~ 9.96/10.00 @ 28.61°C  
 SC: 1413/1413  $\frac{\mu S}{cm}$  @ 27.42°C  
 ORP: 220/220.0 mV @ 26.60°C  
 0815 TRAFFIC CONTROL SET UP.  
 PREPARE TO RAIL RW-1.  
 0845 Rig & Trailer Arrive / in Place.  
 0850 DTW = 328.78' btop.  
 TD = 360' btop  
 0906 BEGIN BAILING RW-1.  
 0945 OFF TO INSTALL DECORS SWITCH TO SWAB.  
 0957 START NEW TEST @ MW-10  
 RL = 325.30' btop  
 1025 START NEW TEST @ MW-11  
 RL = 325.70' btop  
 1032 BILLED 30 GALLONS. Wm INSTALL  
 A PUMP FOR FURTHER DEVELOPMENT



(8)

## RW-1 Well Development

TIME	Vol (GAL)	pH	T(°C)	SC (M <sup>2</sup> /MIN)	DO (L)	ORP (mV)		
0917	INITIAL						Too MURDY	V. TURBID, SL. NC Q202
0940	152	7.83	20.01	561	0.49	-222.6	"	"
1032	130	7.49	19.88	701	2.80	-123.2	TURBID, SL. NC Q202	
1427	197	7.05	22.69	1008	1.50	108.8	SL. TURBID, IT.	
1440	210	7.06	23.19	1001	2.05	112.6	"	"
1506	216.7	7.10	23.67	1012	1.80	129.8	"	"
1520	235.5	7.16	24.27	996	1.71	129.3	SL. TURBID TO CLEAR	"
1527	245.5	7.13	24.83	1002	1.73	191.6	CLEAR,	"
1541	264.5	7.12	25.30	1015	1.32	104.6	"	"
1604	298.2	7.12	25.45	1006	1.77	103.2	"	"

PUMP OFF, 17378 GALLONS PUMPED.

(9)

7/16/19

J. F. H. 2022

1103	PUMP IS READY. BEGIN INSTALLING PUMP & DRAIN PIPE.
	THAT ARE USING A SURFACE PUMP.
1106	INSTALL CHECK VALVE (~20' ABOVE PUMP).
1110	THE CHECK VALVE DOES NOT FIT DOWN THE WELL W/ THE GAUGE LINE. WILL HAVE TO DO THIS WORK W/OUT A GAUGE LINE.
1157	PUMP IS IN TO 356.5'. INSTALL DISCHARGE LINE W/ SAMPLE PORT & FLOW METER.
1206	START PUMP FLOW METER = 124.4 GPM
1211	PUMP OFF. ALLOW TO RECOVER
1232	WATER @ SURFACE CANNOT GET INTERFERENCE PROB TO GO PAST COUPLER IN THE DISCHARGE PIPE.
1255	PUMP ON. FLOW ≈ 2.6 GPM THE DISCHARGE LINE IS LEAKING BEFORE THE FLOW METER. HELPED OF TO GET A BRACKET.
1310	PUMP OFF AGAIN FLOW = 164 GALLONS
1330	PUMP ON

(10)

7/14/19

J. FISHER

1350 PUMP OFF. TOTALIZER 180 GAL.

1444 RESTART PUMP.

1442 PUMP OFF. PUMP PROBABLY RAN DRY.

TOTALIZER ~~211.7~~

1502 RESTART PUMP

1500-1520 PUMPING RATE  $\approx$  1.4 GPM1604 PUMP OFF. DEVELOPMENT CORRECTS.  
173.8 GALLONS PUMPED.1633 START STRIPPER & TANK  
REMAINING WATER IN INFLUENT  
TANK ( $\approx$  575 GALLONS)

STRIPPER TOTALIZER = 28218

1740 STOP TEST ON MW-11 DUCK  
PULL DUCK.1826 RUN BLANK ON FROG.  
LOG # 394.1815 RUN STRIPPER EFFLUENT  
SAMPLE & SE-3 LOG # 395.  
THERE IS  $\sim$  600 GALLONS IN  
SE TANK.1827 BENZENE [I] = 4.16  
RELEASE SE TANK WATER.

1832 RUN BLANK LOG # 396.

1840 PACK UP. 1855 SE TANK EMPTY.

1901 STOPPED & PUMPED DUCK IN  
MW-10 1910 OCCURRED.

(11)

07/17/19

J. FISHER

0740 ON SITE. WEATHER IS MILD ( $\approx$  75°F)  
P. CLOONEY, B. ROBERT.MATT & TRISIAN STILL TRAPPING IN  
PUMP. THEY HAD SOME ISSUES  
WINNING THE PUMP.0830 PREPARE TO INSTALL DUCK  
IN MW-10DTW = 325.34' h<sub>2</sub>O

0900 START NEW TEST

MW-10 STOP TEST 07/17/2019.

0910 PUMP IS IN w/ INFLUENT MW-11  
@ 355.5'. TRANSDUCER IS  
SET @ 351'.

DTW = 326.61' bmp

MP HAS 10 3/8" STICKUP.

0923 START NEW TEST @ MW-11

MW-11 STOP TEST 07/17/2019.

RL = 326.61' bmp

0945 PUMP IS ~~+~~ DRILLER'S PICK ON SITE  
w/ GENERATOR FOR THE PUMP.

CALIBRATE YSI. 556 MP5

SN: 130100928

DO: 753.7 mm Hg

CRIP &amp; SATN = 86.0% @ 26.67%

[DI] = 3.77 mg/L @ 27.85°C

7/17/19 cont

J

YSD CALIBRATION CONT.

pH: 4.00/4.00 @ 28.16°C

7.00/7.00 @ 29.12°C

9.97/10.01 @ 29.20°C

SC: 1413/1413 @ 28.78°C

ORP: 220/220 @ 28.98°C

PUMP 3557522 GALLONS

7.5 HP MOTOR

1050 FLOW MOTOR = 298.9 GALLONS

DTW = 326.61' bmp STRIPPER 28,820

1100 START PUMP

TRIPPED BREAKER

1102 TRY AGAIN

TRIPPED

1110 TRY AGAIN

TRIPPED,

1115 TRY AGAIN

1117 WATER @ SURFACE.

Flow Motor = 339.1

1119 PUMP DROG OUT.

1123 RESTART - 1140 START STRIPPER

456 21.84 7.38 7.79 2.74 58.1

1202 FLOW MOTOR = 573

1222 STRIPPER OFF, ~400 GALLONS

STRIPPER TOTALIZER 28,800

7/17/19

J

STEP TIMES: 1423 → 9 GPM

1723 → 12 GPM

2023 → 15 GPM

1248 850 GALLONS on TOTALIZER  
6 GPM

1314 RUN BLANK in Flow Log # 397

1329 RUN 2<sup>nd</sup> BLANK Log # 398

AS TOTAL = 28980

INlet TANK = ~550 GAL

1332 STRIPPER ON

1355 STRIPPER EFFLUENT SAMPLE COLLECTOR  
RUN SE-4 LOG # 3991359 STRIPPER PUMP OFF. 29362 GAL  
SE TANK @ 800 GALLONS.1405 BENZENE = 10,103. RELEASE  
SE TANK INTO SEWER.

1411 RUN BLANK Log # 400

1423 INCREASE FLOW TO 9 GPM.

1436 ~~PUMP~~ WATER LEVEL IS BELOW  
TRANSducer. Lower Rate, Back to 6 GPM  
Will Allow Well to Recover  
Back to ~342' & Try Again.

1455 INCREASE FLOW.

1500 DROG OUT PUMP AGAIN.  
Reduce to 6 GPM

JF/TG

1506 Lower Flow Rate to ~~36 PM~~ 76 PM

1515 COLLECT INFLUENT SAMPLE  
& STRIPPER EFFLUENT SAMPLE  
RUN INFLUENT SAMPLE LOG #401

BENZENE = OVERRANGE

RUN BLANK LOG #402

RUN 2ND BLANK. LOG #403

1552 STRIPPER TOTALIZER = 30028

2ND BLANK WAS CLEAN.

RUN SE-5 LOG #404

1607 BENZENE @ 15.18, W/L

RECIRCULATE THROUGH STRIPPER  
(~13.3 GPM)

1617 RUN BLANK LOG #405

1637 COLLECT STRIPPER EFF. SAMPLE

RUN SE-6 LOG #406

1645 T. Golden talked w/ Bill @ Albertsons,  
Josh @ Dominis and Ray @ Optical Source

1647 PUMP OFF ON RECI. C.

STOT = 30565 GALLONS

BENZENE = 9.53

RELEASE 800 GALLONS

1645 (cont.) Bill says chile roasting in Albertsons  
parking lot on July 27, 28 so  
vacating on July 22 is perfect timing.

JF/TG

1645 (cont.) through his store. Told Josh  
that schedule delayed until  
around August 4. He says no problem  
Ray says no problem finishing well  
development on July 21 (Sunday).  
Also discussed possible locations for  
buried pipe through his parking  
lot. Ray was very happy with  
our crews and said everyone was  
extremely friendly.

1655 RUN BLANK LOG #407

1706 INCREASE FLOW TO 46 PM

1712 FLOW @ 46 PM

RESUME STRIPPING FROM 30565

1744 PUMP OFF TO STRIPPER. 30974

1757 RECIRCULATE STRIPPER

1849 COLLECT STRIPPER EFFLUENT  
SAMPLE SE-7.

RUN SE-7 LOG #408

BENZENE = 4.66

RELEASE ~500 GALLONS

1903 STRIPPER TOTALIZER = 31796 GALLONS

PUMP OFF.

1906 INCREASE FLOW TO 8 GPM.

1915 W/L DOWN TO DOWN

7/17/19

5

Reduce Flow

1918 PUMP OFF

Flow Meter = ~~52~~ 2528.0 Gallons

A13 Turn on Strapper ~480

Gallons in the Influent

Tank. ~~AS~~ Total @ 31796

1948 Run Blank Log #409

2015 OFFSITE

*Handwritten signature*  
7/17/19

7/18/19

17

J. Fisher

0700 ONSITE - Weather is Mild (~75°F)

P. Cloudy, Breeze Instill

Duck in MW-10.

DTW = 325.27' beoc.

Test is still Running From YSI 10024.

0715 Duck Deployed in MW-10

Program for Pumping MW-11

0743 MW-11 DTW = 326.56

0800 Pump on. ~~AS~~ 46 PM.

AS Total = 32,166 Gallons

0828 AS on.

0915 AS Total = 32559.

AS Pump OFF.

1000 Collect 1st Lab Sample

of CRT

1000 Calibrate YSI

pH 4 4.00 @ 26.15°C

7 7.00 @ 26.82°C

10 10.03 @ 27.07°C

SPC 1413  $\mu$ /cm 145 @ 26.89°C

ORP 220 mV 220.0 @ 26.31°C

1009 AS Total = 32559

Start Strapper

1024 AS Pump OFF AS Tot = 32759

7/12/19 RUN BLANK LOG # 410 J  
 1024 EFFLUENT TANK ~ 700 GALS.  
 COLLECT SAMPLE.  
 1029 RUN SE-8 LOG # 411  
 RECIRCULATE EFFLUENT  
 TANK THROUGH STRIPPER  
 1035 START AS PUMP.  
 1042 RUN BLANK LOG # 412.  
 1056 RUN 2ND BLANK LOG # 413  
 1110 RUN SE SAMPLE SE-9  
 LOG # 414  
 BENZENE = 6.6 ppb.  
 STOP AS PUMP ~~33407~~ 33413  
 RELEASE SE TANK ~ 700 GALS  
 1127 RUN BLANK LOG # 415  
 1138 AS PUMP ON (AS TOT. 33413)  
 1316 AS PUMP OFF AS TOT. 34012  
 1320 RECYCLE SE TANK AS TOT  
 1440 AS PUMP OFF 35130  
 RUN SE 10 LOG # 416  
 BENZENE = 2.41 ppb  
 RELEASE SE TANK ~ 750 GALLONS  
 1448 RUN BLANK LOG # 417  
 1 AS PUMP ON (INFLUENT TANK)  
 SE TANK VALVE CLOSED  
 1530 AS PUMP OFF AS TOT = 35658

7/18/19 J  
 1540 COLLECT INFLUENT SAMPLE @ Wellhead.  
 RUN INFLUENT SAMPLE.  
 IN-2 LOG # 418  
 1552 AS PUMP ON.  
 SE TANK HAS ~ 600 GALLONS.  
 1555 BENZENE OVER RANGE ON IN-2.  
 1559 RUN BLANK LOG # 419  
 1602 AS PUMP OFF AS TOT = 35767  
 PREPARE TO RECIRCULATE.  
 1604 AS PUMP ON (SE TANK RECYC)  
~~1614~~ RUN 2ND BLANK LOG # 420  
 1627 RUN SE-11 LOG # 421  
 BENZENE = 9.66 ppb.  
 RELEASE SE TANK ~ 750 GALLONS  
 AS PUMP OFF AS TOT = 36257  
 1642 RUN BLANK LOG # 422.  
 COLLECT INFLUENT SAMPLE.  
 DILUTE 1 PART INFLUENT; 3 PARTS DI.  
 RUN IN-3 LOG # 423  
 AS PUMP ON (INFLUENT).  
 INFLUENT SAMPLE OVER RANGE BENZENE  
 P/M = 35.81, EB 11.22, T = 4.63  
 1716 RUN BLANK LOG # 424  
 1728 RUN 2ND BLANK LOG # 425  
 1730 AS PUMP OFF AS TOT = 36658

7/18/19

S

1839 RUN 3<sup>RD</sup> BLANK. LOG # 426

1750 COLLECT INF SAMPLE.

PREPARE 9:1 DILUTION

RUN IV-4. LOG # 427

BENZENE = 85.07 ppb

UNDILUTED = 850.07 ppb

1817 RUN BLANK LOG # 428

1828 RUN 2<sup>ND</sup> BLANK LOG # 429

1921 DL TRANSDUCER MTR.

1905 AS PUMP OFF 36986

1910 BEGIN RECIRC IN SE TANK  
AS ON

2000 COLLECT SE SAMPLE SE 12

2005 RUN SE-12 LOG # 430

2016 BENZENE = 5.71 ppb.

RELEASE SE TANK ~ 750 Grams

AS TOT = 37842

2028 RUN BLANK LOG # 431

2100 GAUGE MW-10 &amp; BE-7

2140 OFFSITE

*[Signature]*  
7/18/19

7/19/19

(21)

J. R. HICK

0700 ONSITE. WEATHER IS MILD (~75°F),  
MOSTLY CLEAR, SE. WINDY TO BREEZY.  
STILL MAINTAINING PUMPING RATE  
OF 4 GPM.

PANCH &amp; TRISTAN ARE OFF.

REPLICATION BY MIKE WEBB &  
MATT OVERTON.SE TANK IS FILLING FROM  
INFLUENT TANK.

0840 RUN BLANK LOG # 432

0845 RECIRCULATE SE TANK  
THROUGH STRIPPER.

AS TOT = 44602

AS PUMP ON.

0940 COLLECT SE SAMPLE.

0945 RUN SE-13 LOG # 433

CALIBRATE VSI MMS 556

SN: 13K100928

0957 [BENZENE] = 7.60 ppb.

RELEASE SE TANK ~ 750 Grams

AS PUMP OFF AS TOT = 45638

1006 RUN BLANK LOG # 434

1012 AS PUMP ON (INF TANK).

1115 AS PUMP OFF - 46258

AS PUMP ON (SE RECIRC.)

7/19/19

J

1204 RUN SE-14 Log # 435

1213 [BENZENE] = 9.84 ppb.

RELEASE SE TANK. ~700 GALLONS

1218 RUN BLANK Log # 436.

AS PUMP OFF, AS TOT = 47050

1232 SE TANK EMPTY. CLOSE VALVES  
AS PUMP ON (INT. TANK)

1239 AS PUMP OFF. AS TOT = 47417

1330 OFFSITE.

1430 BACK ON SITE. IT RAINED  
A LITTLE IN THE LAST HALF  
HOUR.

1710 Flow Has Consistently Been  
3.90 GPM in Tray to Under  
IT UP. FOR APPROX 10  
HOURS

1750 LIGHTNING.

1835 AS PUMP HAS BEEN RECIRCULATING  
FOR ALMOST 2 HOURS.

RELEASE SE TANK (750)  
AS TOT = 50682 2000 Collect GW  
SAMPLE

~~1838~~ 2018 RUN BLANK Log # 437

SE TANK HAS BEEN RECIRCULATING;  
FOR 45 MINUTES

2032 RUN SE-15 Log # 438  
[BENZENE] = 13.13 ppb

23

7/19/19

J

CONTINUE TO RECIRCULATE THROUGH  
STRIPPER.

2044 RUN BLANK Log # 439

2100 DL MW-11 TRANSDUCER  
DATA.

2150 COLLECT SE SAMPLE.

2154 RUN SE-16 Log # 440.

2202 BENZENE @ 3.13

RELEASE SE TANK ~750 GALLONS  
AS TOT = 53277

2208 RUN BLANK Log # 441.

2230 DL ~~AW~~ BW 10 TRANSDUCER

2235 OFFSITE

*[Signature]*  
7/19/19



(24)

7/20/19

S. FISHER

0830 ON SITE. WEATHER IS WARM (~75°F)  
CLEAR, BREEZY.

0915 DL MW-11 TRANSDUCER DATA.

LEAKAGE VS 556 MPS.

SN: 13K100928

DO:  $P_b = 651.1 \text{ mmHg}$

CRD % SAT'N REMAINING = 85.7% @ 29.2°C

[DI] =  $3.55 \text{ mg/L}$  @ 27.92°C

pH: 4.00/4.00 @ 27.46°C

7.06/7.06 @ 27.84°C

9.97/10.01 @ 28.50°C

SC: 1413/1413 @ 28.90°C

ORP: 220/220.0 mV @ 29.00°C

1010 START RECIRCULATING SE  
THROUGH STRIPPER.

1057 RUN BLANK LOG # 442

1110 COLLECT SE TANK SAMPLE

RUN SE-17 LOG # 443

1125 [BENZENE] = 14.40 ppb WILL  
CONTINUE RECIRCULATING THROUGH  
TAG STRIPPER

1133 RUN BLANK LOG # 444

1150 COLLECT SE TANK SAMPLE

1152 RUN SE-18 LOG # 445

1202 [BENZENE] = 81.27 ppb.

(25)

F

7/20/19

1204 RELEASE SE TANK (~750 GALLONS)  
AS PUMP OFF AS TOT = 63313.5  
RUN BLANK LOG # 446.

1655 AS PUMP OFF. AS TOT = 66879.0  
MOVE PUMP TO SE TANK  
TO BEGIN RECIRCULATION.

1657 AS PUMP ON. RECIRC.

1757 COLLECT SE TANK SAMPLE.

1800 RUN SE-19 LOG # 447

1805 COLLECT 3<sup>RD</sup> LAB SAMPLE  
MW-11 CRT.

1809 SE-19 [BENZENE] = 13.33 ppb  
WILL CONTINUE TO RECIRC. FOR  
ANOTHER 1/2 HOUR.

1816 RUN BLANK LOG # 448

1827 COLLECT SE TANK SAMPLE

1833 RUN SE-20 LOG # 448

1842 [BENZENE] = 9.92 ppb. AS PUMP OFF.  
RELEASE SE TANK (~750 GALLONS)  
MOVE AS PUMP TO INFLUENT TANK  
AS TOT = 68378.2

1848 RUN BLANK LOG # 450.

2000 PUMP OFF.

MONITOR RECOVERY.

26) 7/20/19

2100 GAUGE OTHER WELLS (BW-7, BW-10)  
2150 DL TRANSDUCER DATA.  
FROM MW-11 DUCER  
& BROMOMETRIC.

95% RECOVERY ACHIEVED IN  
1<sup>ST</sup> 30 MINUTES.

2135 COLLECT SE TANK SAMPLE

2140 RUN SE-21. LOG# 451

2150 [BROMINE] = 7.54 ppb.

RELEASE SE TANK (~750 GALLONS)

AS PUMP OFF

AS TOT = 707/5.9

TOTAL IS ~375 GALLONS

REMAINING IN INFLUENT TANK.

PUMPS WILL START RUN

IT THROUGH THE AS & THEN

RECIRC. FOR ~90 MINUTES

& THEN RELEASE

2205 RUN BUNK. LOG# 452.

2210 DL BW-10 TRANSDUCER.

2215 OFFSITE

*J. Fisher*

7/20/19

27)

7/21/19

J. Fisher

0700 ONSITE. WEATHER IS WARM (~77°F),  
CLEAN, BREEZY. HOLD TALKING SMOKE  
MEETING, SEE FORM FOR DETAILS.  
PREPARE TO PULL PUMP.

0750 DL MW-11 TRANSDUCER DATA.

0805 BEGIN PULLING PUMP

0910 PUMP IS OUT OF THE HOLE,

PREPARE TO MOVE TO RW-2,

0950 PUMP RIG SET UP ON RW-2.

1007 ~~DW-11 MW~~

RW-2 DTW = 328.94

1017 BEGIN INSTALLING PUMP,

CHECK VALVE IS ~1' ABOVE PUMP.

INTAKE WILL BE ~359 1/2' HOC.

CALIBRATE YSI 556 MYS.

SN: 13K100928

DO: P<sub>3</sub> = 652.6 mmHg @ 28.18°C

CH'D 7. SAT'N READING = 85.9% @ 28.20°C

[DI] = 3.50 mg/L @ 28.50°C

pH: 4.00/4.00 @ 25.85°C

7.00/7.00 @ 25.5°C

1000 7.16/7.16 @ 25.46°C

SC: 1413/1413 mg/m @ 26.35°C

ORP: 220/2200 mV @ 27.09°C

1105 PUMP IS IN TO 359.5'

7/24/19

I

1105 Ready to start pumping.  
CANNOT GET WL MOTOR  
Pressure 150'

1107 PUMP ON. FLOW MOTOR:  
16688.8,

1112 Water @ SURFACE

1116 ~5.7 GPM

1125 ~5.7 GPM

1130 OPEN VALVE IN THE WAY.

1138 ~5.6 GPM

1200 5.0 GPM

1211 No longer TURBID.

1242 5.0 GPM

Water is SL. EFFLUESCENT.

1255 PUMP OFF

MOTOR: 17204.4 GALLONS

1313 AS TOT = 72722.7 GALLONS

1315 AS PUMP ON. AS ON.

1325 ~700 GALLONS TRANSFERRED FROM  
PONTIAC TANK TO IMPROVE  
TANK

1354 AS PUMP OFF. AS TOT = 73275.1  
MOVE PUMP INTO SE TANK

1355 AS PUMP ON. REVERSE TANK.

1426 RUN BLANK LOG # 453

RW-2 Well Development

Time	VOL	Flow Motor	pH	T(°C)	SC (µS/cm)	DO (mg/L)	ORP (mV)
1112	16688.8	16713.0	7.42	20.97	642	0.31	-127.0
1126	54.78	16767.0	7.64	21.91	583	2.44	-83.3
1136	133.7	16822.5	7.61	21.27	610	5.26	2.0
1148	196.2	16885.0	7.64	21.08	573	4.41	17.5
1200	-	-	7.61	21.74	621	4.67	31.2
1202	263.7	16952.5		5.27 GPM	166		
1211	309.2	16998.0	7.54	21.14	619	4.93	40.8
1219	346.2	17035.0		SL EFFLUESCENT			
1230	400.2	17086.0	7.65	22.09	630	5.03	41.3
1244	467.5	17156.3	7.61	21.33	622	5.19	48.6
1255	515.6	17204.4		PUMP OFF			

Well Development Complete

1445 COLLECT SE TANK SAMPLE

1447 RUN SE-22 LOG # 454

1456 [BENZENE] = 1.51 ppb.

RELEASE SE TANK. (~700 GALLONS)

AS TOT = 74227.1 GALLONS

1501 RUN BLANK. LOG # 455.

1520 STOP TEST & DL TRANSDUCER  
DOWN ON BW-10.

1545 OPERATE

*Jay [Signature]*

7/24/19

9/16/19

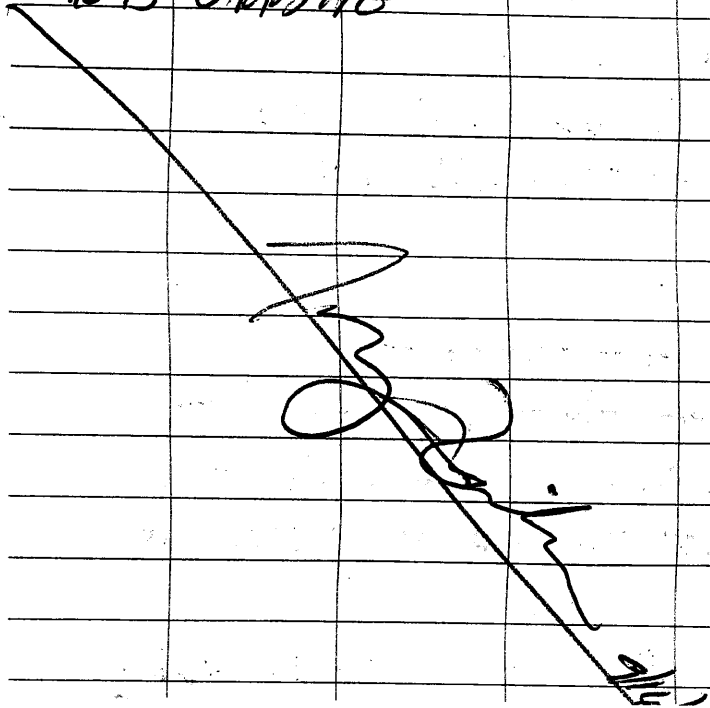
D. Fisher

1340 ONSITE. WEATHER IS WARM (~85°F),  
CLOUDY, BREEZY. ENVIRONMENTALS  
IS ONSITE & HAS THE <sup>NEW</sup> SCRIPPER  
SYSTEM SET UP.

START UP SYSTEM TO TEST.  
EVERYTHING WORKING NOW.

1445 ENVIRONMENTALS OFFSITE. HEAD  
TO HOLD YORK.

1645 ONSITE



9/17/19

J. Fisher

0745 ONSITE. WEATHER IS COOL (~70°F)  
P. CLOUDY, BREEZY,  
CALIBRATE VSI 556 MFS. SEE  
FORM FOR DETAILS.

0947 YJD CROW ONSITE. SET UP  
ON RW-3 FOR DEVELOPMENT.

1015 HOLD TAILGATE STREET MEETING.  
SEE FORM FOR DETAILS.

1030 RW-3 DTW = 378.28' benc  
(500 ft WL METER).

1046 START BUILDING RW-3.

1050 BENCH (10') (3 1/2" x 10') WOULD  
NOT GO PAST 120'. WILL USE  
5' x 3 1/2"

ICV ≈ 23.9 GALLONS

1151 STILL HAVING PROBLEMS GETTING 3 1/2" x 5'  
BELLER DOWN. TAGGED TD - 349'.  
WILL TRY TO USE A SUCTION BELLER  
(3" x ~15')

1220 SUCTION BELLER DID GO ALMOST

9/17/19 RW-3 Well Development

Time	Vol	pH	T(°C)	SC ( $\frac{mg}{cm}$ )	DO ( $\frac{mg}{L}$ )	ORP (mV)	Comments
1102	INITIAL	7.07	20.78	755	0.34	-127.2	TURBID
1130	12	7.35	20.54	739	0.13	-136.8	V. TURBID

RW-4 Well Development

Time	Vol	pH	T(°C)	SC ( $\frac{mg}{cm}$ )	DO ( $\frac{mg}{L}$ )	ORP (mV)	Comments	
1355	INITIAL	Too Muddy		V. Muddy				
1449	25	7.35	20.15	644	1.21	-32.1	V. TURBID	
1118	0933	85	6.82	20.74	922	0.88	54.4	V. TURBID
1115	150	7.20	20.92	836	1.44	51.6	TURBID	
1118	173	7.25	20.87	823	1.21	76.2	S. TURBID	
1003	250	7.27	20.88	821	1.65	87.1	CLAR	

1004 DTW = 332.6

010 300 7.29 20.87 822 1.83 98.5 CLAR

~~1013 STOP PUMPING. PREPARE TO TIE~~

~~OUT PUMP. RW-4 WOULD NOT COME ON.~~

~~1215 PUMP IS OUT. MOB TO MW-14.~~

~~1318 START PUMPING TANK MW-11 (DTW = 318.33) bar~~

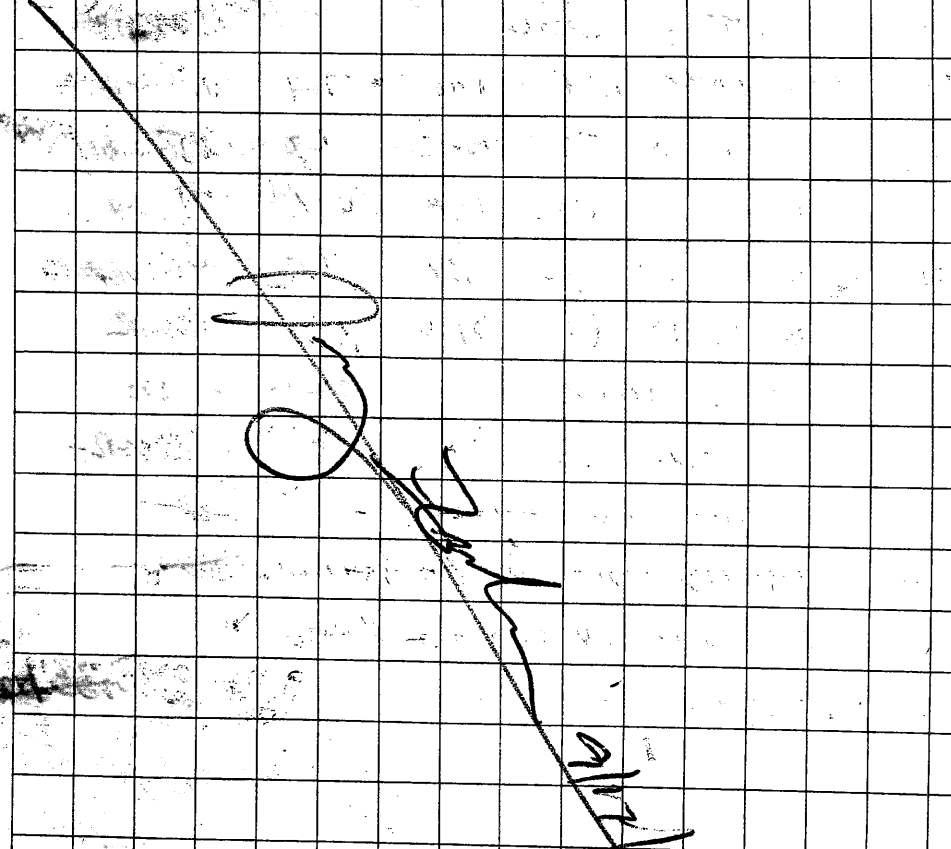
9/17/19

1406 Begin Boring RW-4

1415 10' Bore Well not to go past 120'. Will try 5' Bore

1507 Bore ~ 80 GALLONS. Will Pump Tomorrow.

1715 ORKING



J. Pinner

1/2/19  
 0700 onsite weather is cool (~60°F)  
 Sunny, Breezy. Hold Permit  
 Safety Meeting. See Form For  
 Details. Prepare to Insist  
 Pump.  
 0745 Begin Trenching in Pump.  
 0930 Pump @ 350'. Start Pumping  
 1013 Stop Pumping. Prepare to Strip out  
 Pump. RW-4 Well Dev. Complete  
 1215 Pump is out. MOB to MW-14  
 1318 DTW=318.33. Start Pumping  
 MW-14 (10' below).  
 1348 ~55 Gallons Bailed. Switch to  
 SWAB.  
 1415 Switch to Bailer.  
 1435 Bailed Total of 85 Gallons. So  
 Prepare to Insist Pump.  
 1600 Pump is in to 345'.  
 1605 DTW=318.35' bto c  
 1607 Start Pumping

9/1/19 MW-14 Well Development 8

Time	Vol	pH	T(°C)	SC(%)	DO(%)	ORP(mV)	Comments
1512	100L	7.91	20.28	663	2.68	77.9	SL TURBID
1536	55	7.80	19.82	551	2.73	40.0	V TURBID
1629	70	7.80	20.24	555	4.20	29.9	V TURBID
1608	80	7.73	22.96	554	4.55	35.5	V TURBID
1619	120	7.72	21.01	549	2.76	9.8	TURBID
1629	150	7.67	21.03	553	3.51	28.9	SL TURBID
1635	210	7.64	20.97	557	4.70	43.2	SL TURBID
1640	240	7.65	21.11	556	3.14	55.8	SL TURBID
1709	300	7.74	20.98	564	4.20	57.6	SL TURBID
1717	365	7.67	20.88	561	4.08	60.6	SL TURBID
1724	400	7.66	20.87	559	3.78	63.1	SL TURBID
1732	430	7.67	20.86	560	4.07	65.4	Clear
1738	460	7.69	20.80	559	4.21	68.5	Clear

9/18/19

F

1744 Begin Pumping Pump

1835 Pump is out

1845 OFFSITE

*Handwritten scribbles and a diagonal line across the page.*

*9/18/19*

9/19/19

J. P. Fish

0740 ONSITE. WEATHER IS COOL (~70°F),

P. CLOUDY, BREEZY. HOLD TRAINING

STAFF MEETING. SEE FORM FOR DETAILS.

SET UP ON MW-12. CALIBRATE

YS2. SEE FORM FOR DETAILS

0815 DTW = 328.57' bgs.

TD = ~~359' bgs~~ 359.60' bgs

0835 Start Bailing MW-12.

0900 ~ 35 GALLONS BAILER SWITCH

TO SWAB.

0940 RESUME BAILING.

1031 LOTS OF SAND. 100 GALLONS BAILER

1120 BAILING COMPLETE @ ~140 GALLONS

PREPARE TO RUN STRIPPER W/

THROUGH AIR STRIPPER.

80454 GALLONS CURRENT READING.

~~1240~~ START STRIPPER 800 GALLONS

CURRENTLY IN INFLUENT TANK.

1303 RUN LOG BLANK SAMPLE ON FROG

LOG # 541.

MW-12 Well Development 5

Time	Vol	pH	T(°C)	SC( $\frac{mg}{L}$ )	DO( $\frac{mg}{L}$ )	ORP(mV)		
0835	INITIAL	6.98	19.18	807	0.20	-106.2	V-TURBID	
0856	25	7.33	19.21	789	1.87	-51.2	V-TURBID	
0947	53	7.35	19.30	753	0.89	-57.6	V-TURBID	
1008	75	7.46	19.29	754	1.36	-22.1	V-TURBID	
1031	100	7.48	19.23	793	5.38	13.0	SAND V-TURBID	
1100	125	7.52	19.37	775	3.67	17.6	V-TURBID	
1130	140	BUILDING COMPLETE						
1630	150	7.42	20.69	708	2.81	48.2	TURBID	
1643	250	7.35	20.48	767	2.41	121.5	S-TURBID	
1654	300	7.28	20.37	761	1.86	66.3	CLEAR	
1702	330	7.30	20.36	762	1.69	62.6	CLEAR	
1708	360	7.29	20.35	765	1.54	62.1	CLEAR	
1715	410	PUMP OFF. DEVELOPMENT COMPLETE.						

2/20/19

J. Fisher

0738	ONSET. WATER IS COLD (46.5°F), OVERCAST, LIGHT RAIN. HOLD TANK SAFETY MEETING. SEE FORM FOR DETAILS. BEGIN PULLING PUMP @ 0740.						
0831	PUMP IS OUT. PREPARE TO MOVE TO MW-13.						
0854	MW-13 DTW = 326.74' btoe TD = 354.0						
0905	START PULLING MW-13						
1001	PULLED 115 GALLONS SO FAR STILL MAKING A LITTLE SAND.						
1021	TD = 357.6' btoe. SWITCH TO SURFS.						
1103	TD = 357.1' btoe. SWITCH BACK TO BENCH						
1215	BUILDING COMPLETE @ 275 GALLONS. PREPARE TO INJECT PUMP.						
1357	RUN BLANK LOG # 542						
1402	RUN BTEX ROTATION TIME CHECK. LOG # 543						



9/20/19 MW-13 Wastewater Treatment 3

TIME	Vol(L)	pH	T(°C)	SC( $\frac{mg}{L}$ )	DO( $\frac{mg}{L}$ )	ORP(mV)	Comments
0909	INITIAL		7.00	MURDY			V. MURDY SAND
0931	40	7.58	19.73	689	3.21	-8.7	V. TURBID
0949	70	7.54	19.70	757	4.70	6.9	SAND V. TURBID
1000	110	7.54	19.76	754	4.64	16.6	SAND V. TURBID
1016	160	7.63	19.72	699	4.11	19.5	SAND V. TURBID
1114	180	7.47	19.58	780	2.37	-0.3	SAND V. TURBID
1135	220	7.64	19.42	731	4.25	14.0	SAND V. TURBID
1210	275	7.70	19.77	722	4.05	26.2	V. TURBID
1445	275	7.63	20.55	785	0.14	15.9	V. TURBID
1451	325	7.54	20.93	796	3.23	33.3	TURBID
1458	400	7.43	20.71	787	3.40	32.4	S. TURBID
1509	450	7.42	20.73	787	2.71	42.5	S. TURBID
1524	505	7.43	20.72	791	4.07	54.7	CLEAR
1533	575	7.43	20.74	788	4.16	62.6	CLEAR
1558	675	7.44	20.78	785	2.93	63.4	CLEAR
1611	725	7.42	20.70	779	3.15	65.7	CLEAR
1615							PUMP OFF

9/20/19 3

1446							FLOW RATE $\approx$ 6.6 GPM
1455							RUN BLANK # LOG # 546
1540							COLLECT SAMPLE FROM STRIPPER EFFLUENT TANK. TANK @ $\approx$ 700 GALLONS
1546							RUN SE-2B LOG # 547
1556							[BENZENE] = 4.51 PPB
							RELEASE $\approx$ 700 GALLONS
1604							RUN BLANK LOG # 548
1615							PUMP OFF. PREPARE TO RUN THE PUMP
1730							PUMP IS OUT. TRANSFER WATER TO INFLUENT TANK.
1800							OFFSITE

Z. Jones

9/21/19 J. Fisher

0725 ON SITE. Weather is Cool (~65°F),  
overcast, Calm. Hold Tailgate  
Safety Meeting, See Form  
For Details, Calculate YSL.  
See Form For Details.  
Set up on BW-7R.

0730 BW-7R DTW = 327.80' btoe  
TD = 353.3

0800 Start Stripper. 81261.0 GALLONS

0914 Stripper Off. 81885.5 GALLONS

0930 Banded 110 GALLONS. Still  
making some sand.  
TD = 360.9' btoe

1003 Run Blank Log # 549  
SE-24 sample collected  
@ ~0920.

1008 Switch to SWAB, ~170 GALLONS  
Banded so far.

1035 Run Blank Log # 550.

1040 Switch Back to Bailer  
TD = 360.8' btoe

1101 Run Blank Log # 551.

1113 Run SE-24 Log # 552.  
[Benzene] = 1.74 ppb

9/21/19 BW-7R Well Development

0819

TIME	Volume	pH	T(°C)	SC (mg/L)	DO (mg/L)	ORP (mV)	Comments
0819	Initial	7.10	19.16	732	0.04	-107.7	V. Turb
0843	50	7.33	19.19	704	1.99	-28.8	V. Turb
0937	115	7.50	19.21	752	5.32	5.9	SAND V. TURB
0959	165	7.13	19.27	869	4.54	50.6	TURBID
1105	<del>200</del> <sup>190</sup>	7.48	19.49	855	6.18	35.1	V. TURB
Bailing Complete @ 2 PRODUCTIONS.							
K11							
1328	200	7.15	21.13	843	4.98	30.4	V. TURB
Decreased flow rate to ~4.5 GPM							
1340	270	7.30	21.19	893	2.43	48.1	TURBID
1422	360	7.22	22.06	889	1.73	59.3	Clear
1431	375	7.22	22.30	897	2.02	70.1	Clear
Pumping Complete							

9/21/19

5

1105 Pumping Complete ~ 190 Gallons

Pressure to Influent Pump.

1303 Strippor on (81885.5)

Approx 400 Gallons Remains in Influent Tank.

1315 Transfer ~ 190 Gallons to Influent Tank.

Pump is in 90 350'

1327 Start Pumping. ~ 6 GPM

1347 Run Blank Log # 553.

AS Pump off, 82388.1 Gallons

1359 Collect SE Sample (SE-25)  
~ 650 Gallons in SE Tank.

1402 Run Blank Log # 554

1408 Break @ BW-712 Had to shut off Pump for a few minutes to let it recover.

Now Pumping @ ~ 2.8 GPM

1432 Pumping Complete. Transfer Water to Influent Tank

1440 Run SE-25 Log # 555

1458 Run Blank Log # 556.

1509 Run Blank Log # 557.

1511 AS Pump off, Influent Tank

9/21/19

6

1522 Run Blank Log # 558.

1539 Run SE-26 Log # 559.

[Benzene] = 698, Release ~ 650 Gallons.

1558 Run Blank Log # 560.

1611 Run Blank Log # 561.

PACK UP

17035 OPPOSITE

~~Site~~

9/21/19

10/17/19

D. FISHER

0815 ON SITE. WATER IS COOL (~50°F)  
 CLEAR, BREEZY. HOLD TREATMENT  
 SPECIAL MEETING. SEE FORM  
 FOR DETAILS.

0840 SET UP ON RW-3 TO TRY  
 TO REMOVE SAND W/ SUCTION  
 BLOWER. PRESSURE TANK IS  
 IN PLACE.

0900 RW-3 DTW = 327.96' base.  
 RUN TREATMENT SAND @ ~349.5'

0915 BEGIN BLOWING W/ SUCTION  
 BLOWER.  
 COMPLETE VSP

pH: 4.00 / 4.00 @ 25.16°C  
 7.00 / 7.00 @ 26.20°C  
 10.00 / 10.06 @ 24.60°C  
 SC: 1413 / 1413 @ 24.50°C  
 DO: P<sub>B</sub> = 150.8 mg/L @ 26.34°C  
 CAL'D Y. SAT'N READING = 85.71 @ 26.50°C

10/17/19 RW-3 Well Development

Time	Vol	pH	T(°C)	SC (mg/L)	DO (mg/L)	ORP (mV)	Comments
1356	60	7.11	19.85	908	7.55	30.1	SAND, 1
1323	100	7.09	19.08	946	5.81	30.6	SAND, 1
1355	130	7.26	19.03	920	5.72	36.3	SAND, 1
1422	160	7.24	18.97	897		32.5	SAND, 1
10/18 0850	170	7.09	19.48	964	3.00	102.7	SATURATED, 1
0902	230	7.15	20.65	920	2.57	-22.3	LOW PH
0924	380	7.17	20.78	891	1.54	-44.4	"
0945	475	7.16	20.60	878	1.63	-49.2	"
1013	610	7.18	20.77	871	1.79	-34.4	"
1030	690	7.21	20.80	867	1.57	-38.2	"
1050	810	7.19	20.80	866	1.67	-34.1	"
1052	PUMP OFF. DEVELOPMENT COMPLETE						

10/18/19

S-Pump

0700 ONSITE, WATER IS COOL (~80°F),  
P. LOUVOY, CEM. HOLD TALKING  
SAFETY MEETING. SEE FORM FOR  
DETAILS.

0715 Prepare to install Pump.  
CRIBSITE YSD 556 MPS.  
SNI

pH: 4.00/4.00 @ 23.10°C  
7.05/7.00 @ 22.96°C  
10.00/10.00 @ 23.05°C  
SC: 1413/1413 @ 22.67°C  
DO:  $P_8 = 651.2 \text{ mmHg}$   
CAL'D V. STD Deviation = 85.17 @ 24.8°C  
[DI] = 5.31 mg/l @ 24.12°C  
ORP: 220/220.0 mV @ 25.16°C

0830 PUMP IS IN TO ~355'

0845 TOTALIZER = 58257.2 GALLONS  
START PUMP

0848 WATER @ SURFACE.  
PUMPING RATE = 5.26 PM

10/18/19

5

1030 58778.5, DTW = 330.35

1050 58898, DTW = 330.37

1052 PUMP OFF  
TOTALIZER = 58900.6  
Prepare to pull Pump.

1140 PUMP IS OUT. MOVE EQUIPMENT  
& PREPARE TO RELOG BW-7.

1220 BW-7, DTW = 327.37' bosc

1250 BW-7 SCREEN IS BROKEN  
~2.5' ABOVE WATER (324.82' bosc)  
BOTTOM = 78" BELOW WATER  
→ 320.87' bosc

1310 TRIP CAMERA OUT. MOVE TO RW-3

1330 RW-3, DTW = 327.86' bosc  
BOTTOM/SAND @ 34.3' BELOW  
WATER (362.1' bosc)  
SUMP STARTS @ 358.6' bosc

1430 OFFSITE

mostly cloudy, 85°, 10-15 mph <sup>Former V</sup>  
9-16-19

- 0700 Load up e lab
  - 1200 N cylinders (4 - 200cf) e  
CES - Tailgate Safety
  - 1300 - interface probe from Peltize
  - 1310 - Arrive e Bldg. 3, set up  
- calibrate meter
  - 1448 start pump
  - 1500 Jeremy onsite
  - 1535 collect Bldg. 3
  - 1615 Decan w/ 2.5 gal DI/Liquinox  
move to Bldg 1
  - 1715 - collect Bldg 1  
Decan w/ 2.5 gal DI/Liquinox
  - 1738 - Move to Bldg 6  
(Car parked on Bldg-2)
  - 1918 - Collect Bldg 6  
store gear  
Decan w/ 2.5 gal
  - 19:50 To Harbor Freight for  
clamp 3
  - 20:45 check in e hotel after  
security gear / trailer
- ~~York Morgan~~
- p/lu  
4/cyl

Former Y Station 9-17-19

Partly Cloudy High 86° 10 mph

0715 - Leave hotel

0742 - Leave Cesco w/ 3 new  
cylinders of N - (they ordered  
@ 0730)

0747 - Arrive @ BW-2

Tailgate Safety

Calibrate meter - set up

0938 - Collect BW-2

1015 - Arrive @ BW-9

1145 - Collect BW-9

1215 - Arrive BW-10

- Jeremy Fisher - problems @ RW-13  
w/ Sand & casing - Don't sample for  
now - talk w/ PM

1358 - Collect BW-10

1425 - Leave site to Cesco for

4 more N cylinders

1502 - Set up @ BW-4

1652 - Collect BW-4

- Devon pump w/  $\geq 2.5$  gallons  
& Liqueinox (here & all wells so far)

- Stowed gear

1730 - Leave site.

1745 - unload @ hotel

~~Yield Pump~~

PM  
7 cyl

Former Y Station

9-18-19

York Morgan

Mostly Sunny - High 87° 5 mph

- 0700 - Leave hotel

- Set up @ MW-12 - learn it has  
not been developed yet

- Move to MW-11

- To Harbor Freight for a 15/16"  
socket to open well @ MW-11

- Tailgate Safety

- Calibrate meter

- 11:20 - sample MW-11 after a  
106 gallon purge

- 11:42 - Leave site to Cesco  
for 4 more cylinders

Discussing with PM & Cesco  
manager re: order more cylinders.  
Asked for 30 more to be  
delivered Friday 9-20-19

- 12:45 set up @ BW-7

- 1330 collect BW-7

- 1400 Move to BW-8, good discussion  
w/ Ray - manager of Optical Source

- 1540 collect BW-8

- To Cesco for 2 more cylinders

- 1630 - finish @ Cesco

- 1650 - ice & drinking water
- 1710 - 1745 - Break
- 1800 - setting up @ RW-2
- 2005 - Collect RW-2
- extra thorough Decon of pump in preparation for MW-14 tomorrow. 10 gal DI/Soap & 10 gal DI rinse
- Decont'd pump w/ 2.5 gal DI/Soap on all other wells
- 2044 - Leave site
- 2100 - Unload @ hotel

6 cyl  
Plu  
today

yes

Sunny - 11/20 or becoming cloudy w/ rain  
Severe T-storms & Lightning 9.19.19

- 0730 - Leave hotel
- 0740 - Set up @ MW-14
- 1045 - Collect MW-14 - early because Nitrogen cylinders running low
- Tailgate & calibration of Meter
- 1114 - Leave MW-14 to Cesco
- Plu 4 more N cylinders - only 2 left in warehouse
- ~~Tom to P~~
- 1220 - Return to site
- Move wet truck & pump onto median @ RW-1 - photos to Tom
- 1250 - Start pumping RW-1
- 1350 - Stop pumping - wait for severe T-storm & lightning to pass
- 1502 - Resume pumping
- 1538 - Collect RW-1 sample, Decon
- 1610 - Back to CESCO for 2 more cylinders
- 1640 - Check w/ Jeremy - crew still developing MW-14 - storm delays
- 1650 - Set up @ RW-4
- More storm delays - lightning
- 1820 - Sample RW-4, Decon, back down gear
- 1854 - Leave site

Plu 6 N cylinders



Former Y - York Morgan 9-20-19

Rain & cool temps in morning  
Then mostly sunny, High 81 W 15 mph  
0745. Leave hotel - late waiting for  
rain to slow

Calibrate meter Tailgate safety

0810 - Set up Bennett pump @ RW-3

1000 - collect RW-3

move to RW-5

1030. Finish building PSH from

RW-5 0.95 gallon + water

Stored in bucket w/ a lid

- Meet w/ Jeremy & MW-13 developer

- To CESCO for 3 cylinders

Their truck just arrived

- 1400 Set up & MW-12

- 1640 collect MW-12 (6 VOA Vials)

- Decon w/ Liquinox & 2.5 gallons DZ

Note I used Liquinox & 10 gallons DZ  
before starting MW-12

- 1730 - Leave site after Decon

~~York Morgan~~

P/W 3  
cyl

Y. Morgan

9-21-19

Mostly Cloudy, 70°, 10mph wind

- 0700 Load truck, check out of  
hotel Fuel, ice

- 0800 Pick up 1 N cylinder &  
CESCO

- 0815. Arrive onsite - meet Jeremy

- 0830 - Set up & MW-13

- Chain of custody  
QA paperwork

- 1050 Collect sample @ MW-13

Therapy Decon 10 gal Soap/DI &  
10 gal DI

- Store gear. Decon 4.5L & Introduce  
probe

- 1145 - return 3 cylinders  
to CESCO

- 1200 - onsite to sign samples over  
to Jeremy

P/W 1  
cylinder  
27 total  
cyl. neos



**GROUNDWATER ELEVATION DATA SHEET**

Project Name: Former Y Station  
 Project #: DB18.1157.00.SI019.0004  
 Project Manager: Tom Golden

Sampler: York Morgan  
 Sample Date: 9-16-19 - 9-21-19  
 Sheet # 1 of 2

Well ID	Depth to NAPL	Depth to Water	Total Depth	Comments: (well dia., sampled, condition)	
Bw-1	N/A	328.85	341.70 <del>345</del>	sampled w/ Bennett 9-16-19	
Bw-3	↓	328.11	344.80	↓	
Bw-6		329.18	350.5		
Bw-2		328.98	345		9-17-19
Bw-9		327.14	347.6		↓
Bw-10		325.30	351.2		
Bw-4		328.59	349.40		↓
Mw-11		325.85	360.5		9-18-19
Bw-7		327.39	332.7		↓
Bw-8		327.99	351.8		
RW-2		328.97	360.0 <sup>365</sup>		
Mw-14		318.03	360.0		9-19-19
RW-1		328.84	360		↓
RW-4		328.48	360		
RW-3		327.95	360		

Comments:





Daniel B. Stephens & Associates, Inc.

**GROUNDWATER METER CALIBRATION SHEET**

Project Name: Former Y Station

Sampler: York Morgan

Project #: DB18.1157.00.SI019.0004

Date: 9-17-19

Project Manager: Tom Golden

0830

<u>pH</u>	<u>Temp (°C)</u>	<u>Comments</u>
(4) 4.12 / 4.01	22.0	
(7) 6.99 - OK	21.8	
(10) 10.05 / 10.00	21.8	
<u>SpCon (µs/cm)</u>	<u>Temp (°C)</u>	<u>Comments</u>
(1413) 1402 / 1413	21.2	
<u>ORP (mv)</u>	<u>Temp (°C)</u>	<u>Comments</u>
225.3 / 220.0	21.4	
<u>Dissolved O<sub>2</sub></u>	<u>Temp (°C)</u>	<u>Comments</u>
(%) 86.9	25.2	1/4" in cap
(mg/L) 5.22	24.0	post-cal reading w/ cap full
<u>Pressure</u>	<u>Temp (°C)</u>	<u>Comments</u>
(mmHg) 653.5	24.0	

Comments:

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Daniel B. Stephens & Associates, Inc.

### GROUNDWATER METER CALIBRATION SHEET

Project Name: Former Y Station

Sampler: York Morgan

Project #: DB18.1157.00.SI019.0004

Date: 9-18-19

Project Manager: Tom Golden

pH	Temp (°C)	Comments
(4) 3.98 / 3.99	20.7	
(7) 6.98 / 7.0	20.9	
(10) 10.03 / 10.02	20.8	
SpCon (µs/cm)	Temp (°C)	Comments
(1413) 1419 / 1413	20.6	
ORP (mv)	Temp (°C)	Comments
20.5 / 20.0	20.5	
Dissolved O <sub>2</sub>	Temp (°C)	Comments
(%) 84.6	21.2	1/4" water
(mg/L) 5.21	23.6	Full cup
Pressure	Temp (°C)	Comments
(mmHg) 652.8	16.8	

Comments:

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Daniel B. Stephens & Associates, Inc.

### GROUNDWATER METER CALIBRATION SHEET

Project Name: Former Y Station

Sampler: York Morgan

Project #: DB18.1157.00.SI019.0004 Date: 9-19-19

Project Manager: Tom Golden

<u>pH</u>	<u>Temp (°C)</u>	<u>Comments</u>
(4) 3.91 / 4.0	20.7	
(7) 6.98 / 7.0	20.8	
(10) 10.01	20.7	
<u>SpCon (µs/cm)</u>	<u>Temp (°C)</u>	<u>Comments</u>
(1413) 1430 / 1413	20.9	
<u>ORP (mv)</u>	<u>Temp (°C)</u>	<u>Comments</u>
29.7	20.8	
<u>Dissolved O<sub>2</sub></u>	<u>Temp (°C)</u>	<u>Comments</u>
(%) 77.1 / 88.5	21.5	1/4" DI water
(mg/L) <del>5.0</del> 4.92	21.0	Full cap - DI
<u>Pressure</u>	<u>Temp (°C)</u>	<u>Comments</u>
(mmHg) 652.8	20.9	

Comments:

1/5I Port w/ Flow cell



Daniel B. Stephens & Associates, Inc.

### GROUNDWATER METER CALIBRATION SHEET

Project Name: Former Y Station

Sampler: York Morgan

Project #: DB18.1157.00.SI019.0004 Date: 9-20-19

Project Manager: Tom Golden

<u>pH</u>	<u>Temp (°C)</u>	<u>Comments</u>
(4) 3.97	18.3	
(7) 7.08	18.2	
(10) 10.01	18.4	
<u>SpCon (µs/cm)</u>	<u>Temp (°C)</u>	<u>Comments</u>
(1413) 1514 / 1413	18.4	
<u>ORP (mv)</u>	<u>Temp (°C)</u>	<u>Comments</u>
224 / 220	17.9	
<u>Dissolved O<sub>2</sub></u>	<u>Temp (°C)</u>	<u>Comments</u>
(%) 74.9 / 85.5	19.9	1/4" DI
(mg/L) 6.20	17.9	Full
<u>Pressure</u>	<u>Temp (°C)</u>	<u>Comments</u>
(mmHg) 650.6	19.9	

Comments:

Day 5 w/ Bennett Pump



Daniel B. Stephens & Associates, Inc.

**GROUNDWATER METER CALIBRATION SHEET**

Project Name: Fornes V Sampler: V. Morgan  
 Project #: DB18, 1157.00 S1019.0004 Date: 9-21-19  
 Project Manager: T. Golden

pH	Temp (°C)	Comments
(4) 3.99	21.0	
(7) 6.94 / 7.01	20.9	
(10) 1002	20.8	
SpCon (µs/cm)	Temp (°C)	Comments
(1413) 1298 / 1413	20.9	
ORP (mv)	Temp (°C)	Comments
215.3 / 220	20.4	
Dissolved O <sub>2</sub>	Temp (°C)	Comments
(%) <del>85.7</del> / 85.7	20.6	Reading very low at first, difficult to cal.
(mg/L) 4.86	20.6	
Pressure	Temp (°C)	Comments
(mmHg) 652.9	20.6	

Comments:

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### BW-6 Groundwater Sampling Data Sheet

Well identification <b>BW-6</b>	Date: <b>9-16-19</b>
Sample identification <b>BW-6</b>	Sample time: <b>1800 / 1918</b>
Project: <b>Former Y Station Remedial Action</b>	Project # <b>DB18.1157.00</b>
Field personnel: <b>Y. Morgan</b>	Field book #: <b>New</b>
Casing diameter/type: <b>5" SCH 80 PVC</b>	Initial DTW @ TOC: <b>329.18</b>
Water Level Indicator: <b>Sol. Interface</b>	Water quality meter: <b>VSI Pro Plus w/ flow thru</b>
Purge Volume (3CV) : Water Column = $\frac{21.30}{x 3 CV = 63.9}$ x 1.02 gallons/foot = <b>21.75</b> gal gallons	
Equip Type : <b>Bennett</b>	
Pump placement (feet bgs): <b>342</b>	
Pump Start time: <b>1805</b>	Pump Stop time: <b>1920</b>

*No odor/color Non-turbid*

Time	Total Q (gallons)	Q Rate (gpm)	Temp (°C)	pH	Specific Conductance (µS/cm)	DO (mg/L)	ORP (mV)
1811	1	~0.8	25.3	7.12	<del>889</del> 909	7.44	230.9
1836	25	~1.0	20.2	7.29	882	6.31	207.4
1856	45	~1.0	20.0	7.29	884	13.16	202.3
1916	65	~1.0	20.1	7.39	885	6.24	200.4
1918 -	6160	Sample					

*bubbles in cell*







### BW-9 Groundwater Sampling Data Sheet

Well identification <b>BW-9</b>	Date: <b>9.17.19</b>
Sample identification <b>BW-9</b>	Sample time: <b>1039 / 1145</b>
Project: <b>Former Y Station Remedial Action</b>	Project # <b>DB18.1157.00</b>
Field personnel: <b>York Morgan</b>	Field book #: <b>New</b>
Casing diameter/type: <b>4" SCH 80 PVC</b> <span style="margin-left: 50px;"><b>TD = 342.6</b></span>	Initial DTW @ TOC: <b>327.74</b>
Water Level Indicator: <b>Sol. Interface</b>	Water quality meter: <b>VSI Pro Plus - Flow through</b>
Purge Volume (3CV) : Water Column = $\frac{19.86}{3} \times 0.653 \text{ gallons/foot} = 12.97 \text{ gal}$ x 3 CV = <b>38.9</b> gallons	
Equip Type : <b>Bennett</b>	
Pump placement (feet bgs): <b>340'</b>	
Pump Start time: <b>10:57</b>	Pump Stop time: <b>11:58</b>

Time	Total Q (gallons)	Q Rate (gpm)	Temp (°C)	pH	Specific Conductance (µS/cm)	DO (mg/L)	ORP (mV)
1101	1	~1.0	25.0	6.96	1000	9.84	228.6
1114	13	1.0	24.2	7.13	962	6.03	196.2
1129	26	~0.9	20.8	7.20	959	8.57	175.9
1144	39.0	~0.9	20.7	7.21	959	5.78	205.0
1145	Collect	Sample					

bubbles



### MW-11 Groundwater Sampling Data Sheet

Well identification <b>MW-11</b>	Date: <b>9-18-19</b>
Sample identification <b>MW-11</b>	Sample time: <b>0850 / 11:20</b>
Project: <b>Former Y Station Remedial Action</b>	Project # <b>DB18.1157.00</b>
Field personnel: <b>V. Morgan</b>	Field book #: <b>New</b>
Casing diameter/type: <b>5" SCH 80 PVC</b> <span style="margin-left: 50px;"><b>TD = 360.5</b></span>	Initial DTW @ TOC: <b>325.85</b>
Water Level Indicator: <b>Solinst Interface</b>	Water quality meter: <b>YSI Pro + w/ Flow cell</b>
Purge Volume (3CV) : Water Column = $\frac{34.65}{x 3 CV} = 106.03$ gallons $\times 1.02 \text{ gallons/foot} = 35.34 \text{ gal}$	
Equip Type : <b>Bennett</b>	
Pump placement (feet bgs): <b>350</b>	
Pump Start time: <b>0909</b>	Pump Stop time: <b>11:25</b>

*Moderate petroleum odor*

Time	Total Q (gallons)	Q Rate (gpm)	Temp (°C)	pH	Specific Conductance (µS/cm)	DO (mg/L)	ORP (mV)
0913	1	~1.0	21.4	7.36	892	13.27	-132.0
0937	17	~1.0	20.6	7.44	876	0.21	-145.7
10:00	34.5	~1.0	20.2	7.43	848	1.04	-136.2
10:40	69	~1.0	20.6	7.44	829	0.50	-123.6
11:20	106	~1.0	20.7	7.43	827	1.34	-116.2
	<i>→ collect sample</i>					1.08	
					<i>Fluctuating</i>		







<sup>-1</sup>  
RW Groundwater Sampling Data Sheet

Well identification <del>RW-2</del> RW-1	Date: 9-19-19
Sample identification <del>RW-2</del> RW-1	Sample time: 12:45 / 15:38
Project: Former Y Station Remedial Action	Project # DB18.1157.00
Field personnel: V. Rogers	Field book #: New
Casing diameter/type: 4" SCH 80 PVC TD: 360.00	Initial DTW @ TOC: 328.84
Water Level Indicator:	Water quality meter: YSI Pro + w/ Flow cell
Purge Volume (3CV) : Water Column = $\frac{31.16}{3} \times 0.653$ gallons/foot = 20.35 gal x 3 CV = 61.0 gallons	
Equip Type: Bennett	
Pump placement (feet bgs): 345'	
Pump Start time: 12:50	Pump Stop time: 15:40

Time	Total Q (gallons)	Q Rate (gpm)	Temp (°C)	pH	Specific Conductance (µS/cm)	DO (mg/L)	ORP (mV)
12:57	1	~1.0	28.0	7.35	574	11.14	43.6
13:38	31	~1.0	20.2	7.10	947	2.57	-85.7
1350 15:50	41	Shut down	for lightning				
15:02		Resume	starting	pumping	after storm		
15:07	41	~1.0	19.5	7.20	927	2.72	-75.3
15:14	51	~0.9	19.1	7.17	928	2.63	-71.1
15:37	66	~0.9	19.0	7.21	902	3.31	-67.6
15:38	Collected sample						











Daniel B. Stephens & Associates, Inc.

### GROUNDWATER METER CALIBRATION SHEET

Project Name: Former Y Station

Sampler: York Morgan

Project #: DB18.1157.00.SI019.0004

Date: 9-16-19

Project Manager: Tom Golden

pH	Temp (°C)	Comments
(4) 4.07/4.00	23.7	
(7) 7.03/7.03	24.6	
(10) 10.10/10.01	24.0	
SpCon (µs/cm)	Temp (°C)	Comments
(1413) 1406/1413	24.5	
ORP (mv)	Temp (°C)	Comments
205.8/200	24.7	
Dissolved O <sub>2</sub>	Temp (°C)	Comments
(%) 91.2	28.0	1/4" ΔI in cup
(mg/L) 5.03	29.8	w/ cup full of ΔI
Pressure	Temp (°C)	Comments
(mmHg) 653.0	24.6	

Comments: VSI Professional Plus w/ flow thru cell

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**Appendix C**  
**Photographic**  
**Documentation**



1. Drill rig set up for monitor well MW-11 (view to west)



2. Mud box delivery (view to southwest)





3. Drilling and well construction materials in the laydown yard (view to southeast)



4. Filling water tank from the city hydrant (view to southwest)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





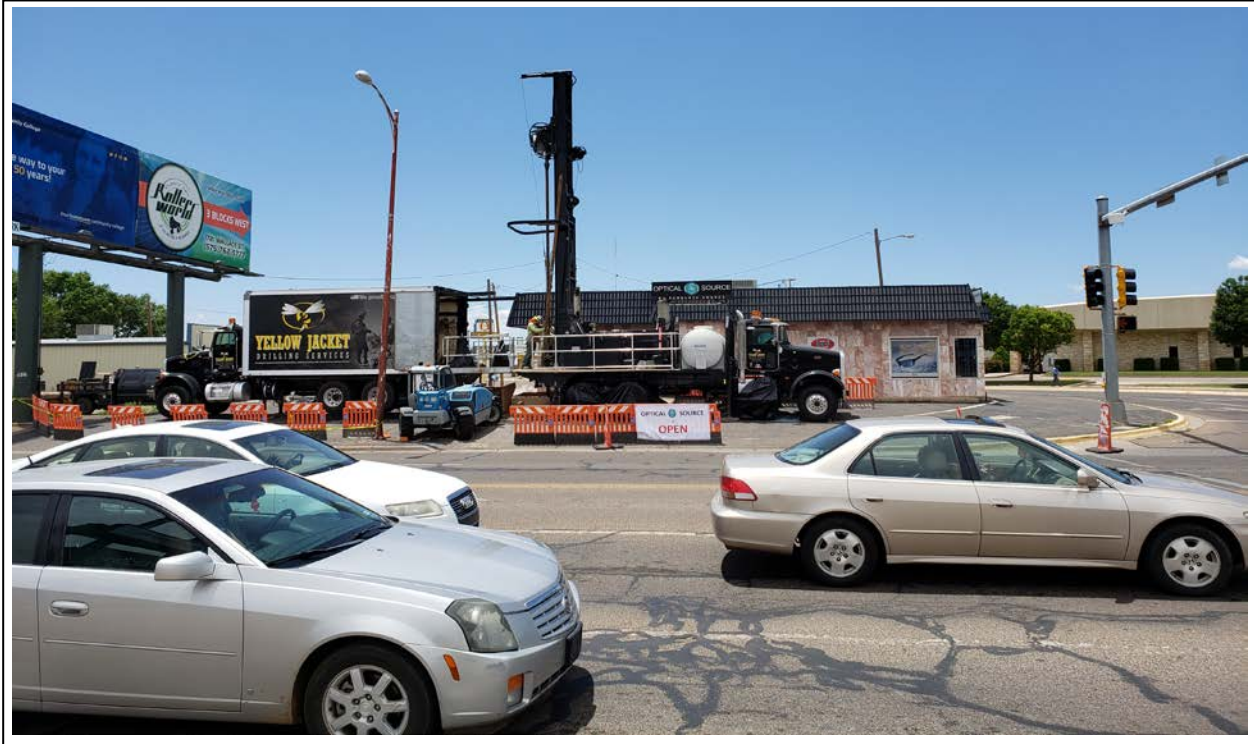
5. 4-inch well screen staged for well construction



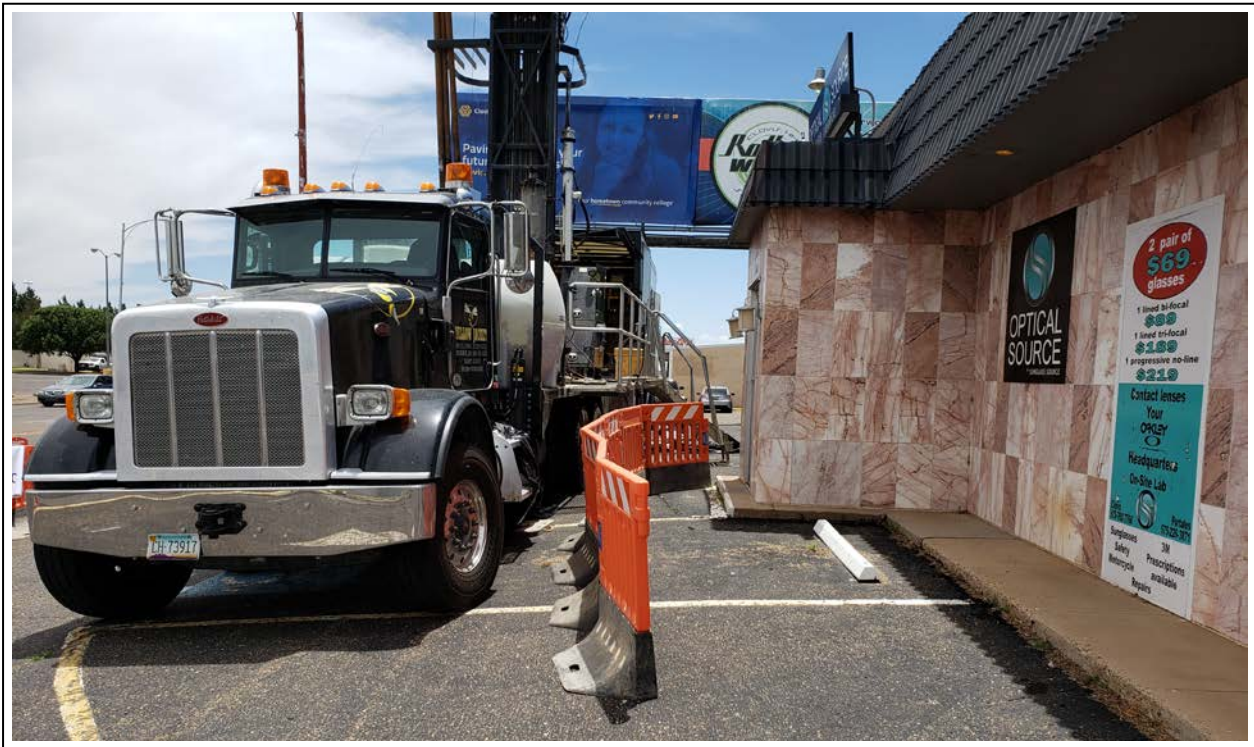
6. MW-11 well pad and vault completion (view to south)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





7. Rig and box truck set up for drilling RW-2 at the Optical Source store (view to east)



8. Access provided for the Optical Source store (view to south)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**







9. Moving sonic casing during night shift drilling of RW-2 (view to east)



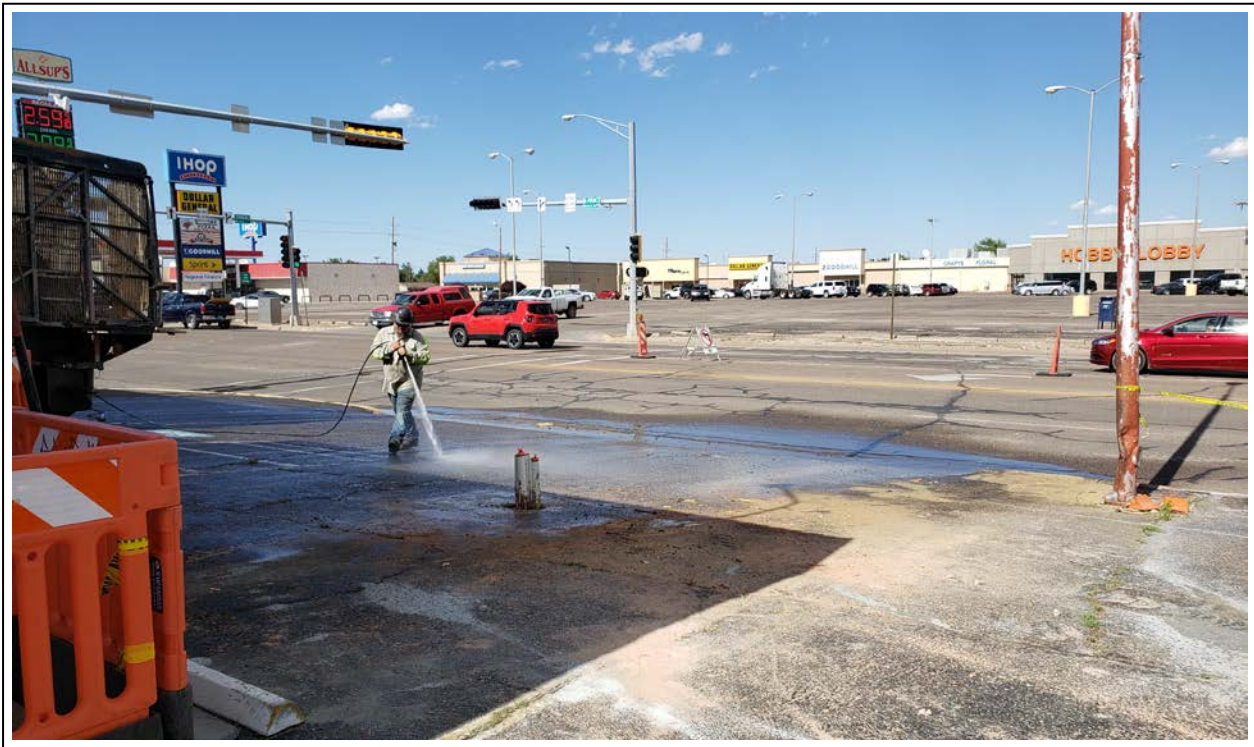
10. Overnight drilling at RW-2 (view to southwest)

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CLOVIS, NEW MEXICO  
**Photographs**





11. Sonic core cuttings for RW-2 (view to west)



12. Pressure washing the Optical Source parking area prior to installation of the well pad and vault for RW-2 (view to northeast)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





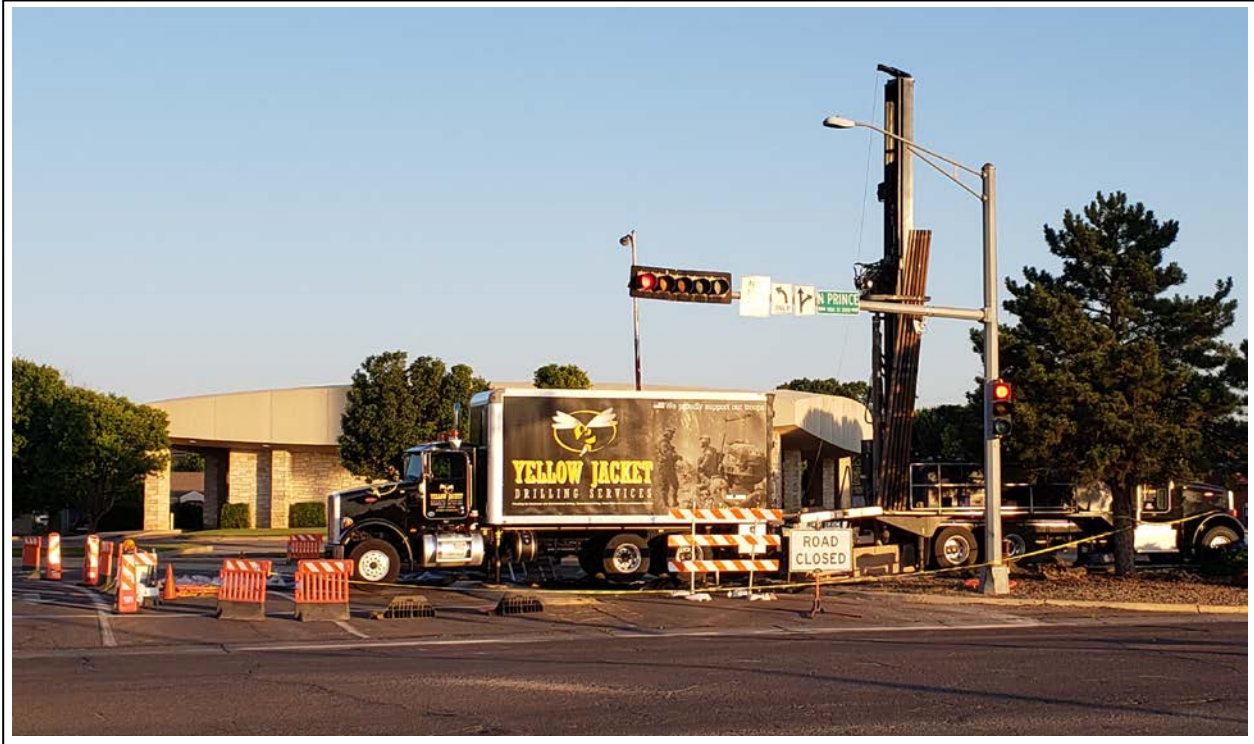
13. Removing asphalt for the RW-2 well pad completion (view to north)



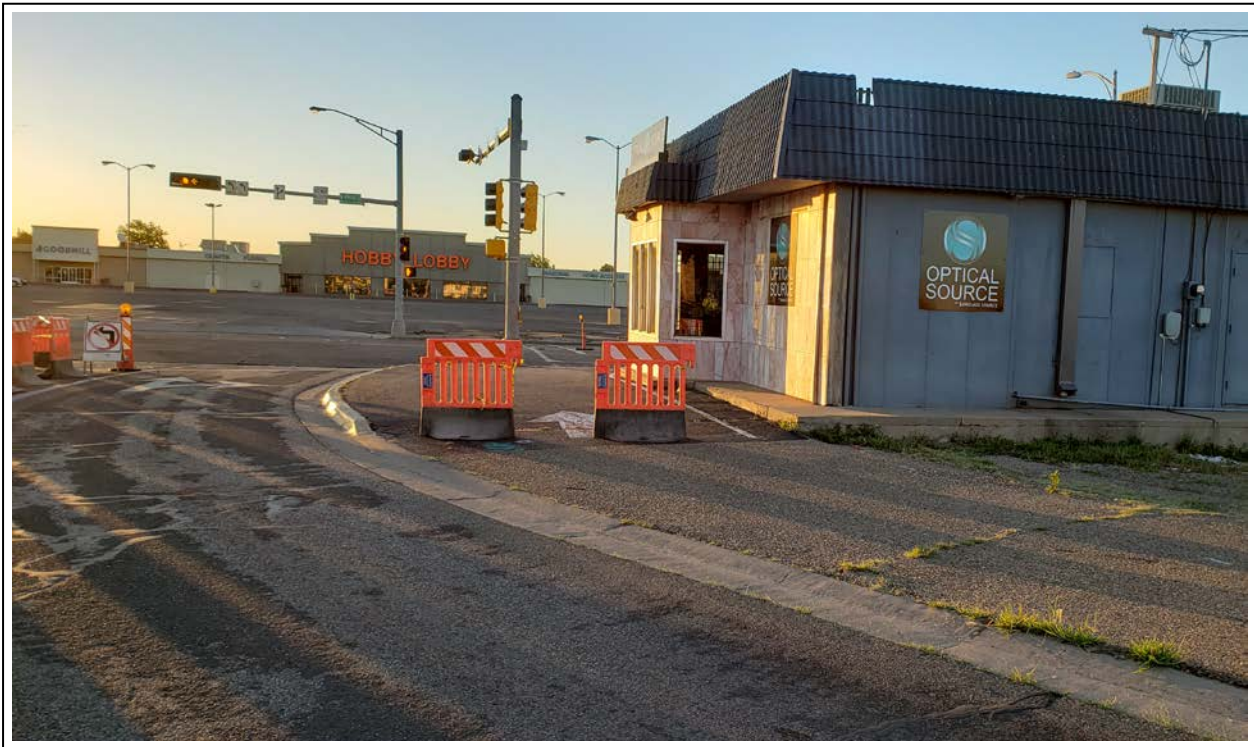
14. Well pad and vault completion at RW-2 (view to west)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





15. Rig and box truck set up for drilling RW-1 with traffic control restricting the left turn lanes from Commerce Way onto N. Prince Street (view to west)



16. Traffic control set up to stop drivers from cutting through the Optical Source property (view to east)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





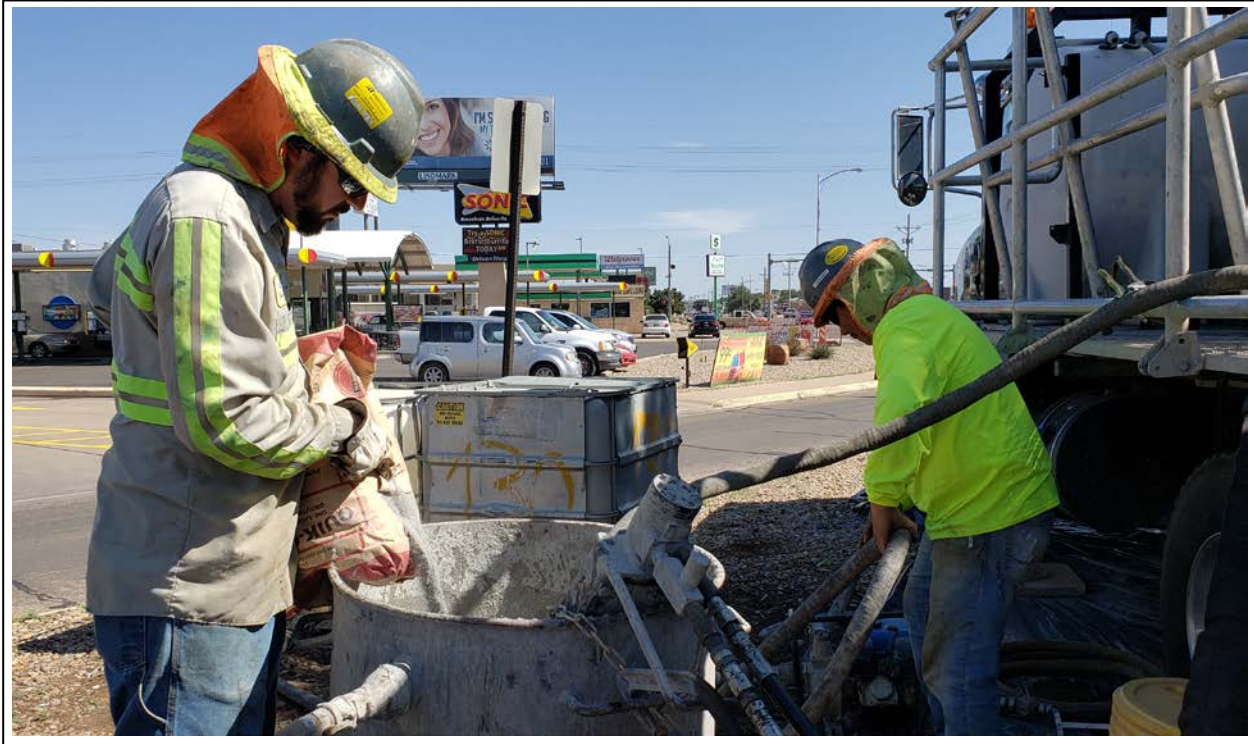
17. Well materials and sonic casing staged in the work zone in the westbound lane of Commerce Way (view to north)



18. Removing sonic casing in preparation for casing installation at RW-1 (view to north)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





19. Mixing high solids bentonite grout for RW-1 (view to north)



20. RW-1 shallow, intermediate, and deep wells installed before vault completion (view to northwest)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





21. Well pad during installation at RW-1 (view to northwest)



22. The location of MW-12 prior to drilling activities (view to north)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





23. Power washing the parking area following drilling at MW-12 (view to west)



24. Well pad and vault completion at MW-12(view to north)







25. Rig and box truck set up for drilling at BW-7R (view to north)



26. Sonic core cuttings for BW-7R and mud box placement (view to southwest)





27. Asphalt removed for completion of the well pad at BW-7R (view to northwest)



28. Well pad completion at BW-7R with barriers to protect the curing concrete (view to northwest)

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CLOVIS, NEW MEXICO  
**Photographs**





29. Plastic sheeting to contain cuttings and minimize clean-up after drilling is completed at MW-13 (view to south)



30. Utility clearance with a hand-auger prior to drilling at MW-13 (view to north)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





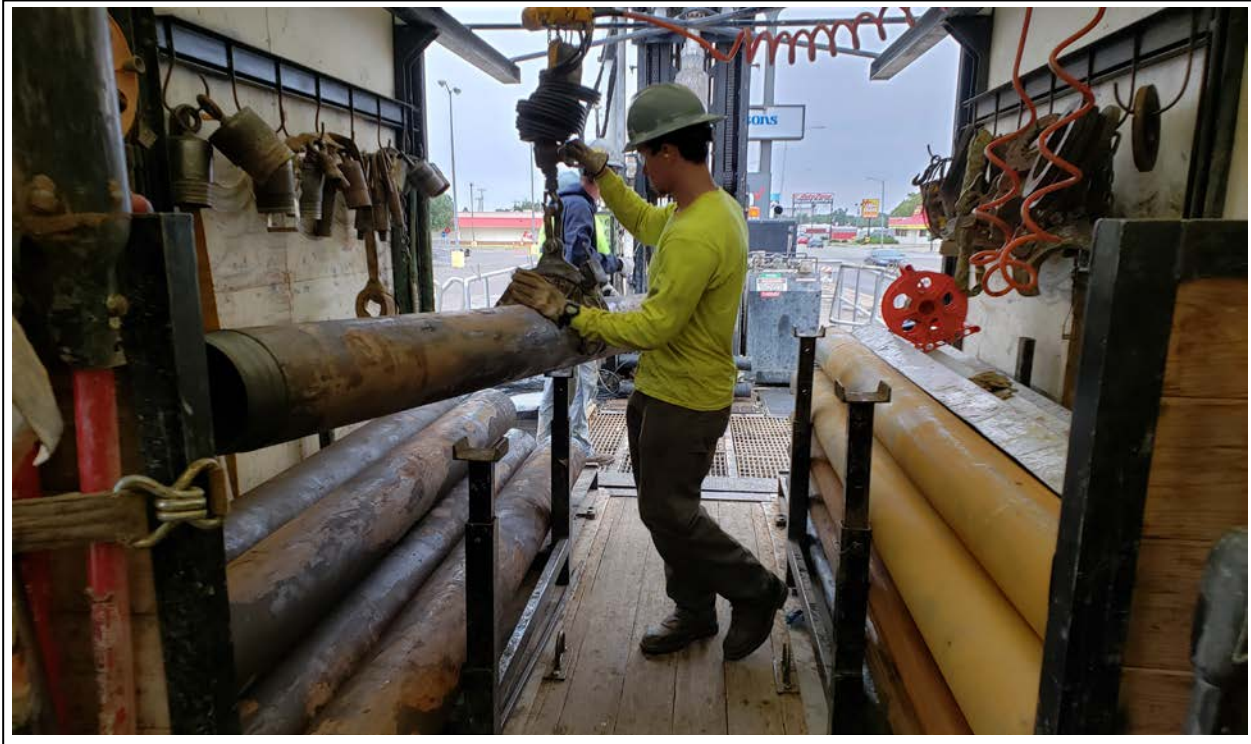
31. Traffic control closing for shopping center entrance across from Commerce Way for installation of RW-3 (view to west)



32. Placement of the hopper to contain cuttings from RW-3 (view to northwest)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





33. Removal of sonic casing during annular materials installation for RW-3 (view to south)



34. Installation of 2-inch screen for RW-3 (view to south)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





35. Rig and box truck set up for drilling of RW-4, leaving access to the ATM (view to south)



36. Mixing concrete for the well pad at RW-4 (view to southwest)





37. Loading sonic casing into the box truck during drilling at MW-14 (view to west)



38. Delivery of an empty mud box with a full one awaiting removal (view to south)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





39. Preparing to remove sonic casing at MW-14 (view to west)



40. Attaching a centralizer to the 5-inch well casing for MW-14 (view to southwest)







41. Traffic control for MW-14 (view to north on N. Lea Street)



42. Traffic control for MW-14 (view to south on N. Lea Street)

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





43. Saw-cutting asphalt for well pad at MW-14 (view to west)



44. Well pad and vault completion at MW-14 (view to northwest)





45. Dummy for 5-inch well casing



46. Dummy for 4-inch well casing

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





47. Dummies with threads cut off and edges beveled to prevent damage to PVC casing



48. Dummies with welded loops for lifting with rig cables

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





49. Installation of the development pump at RW-2



50. Development rig set up at RW-2

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**





51. Development of MW-13

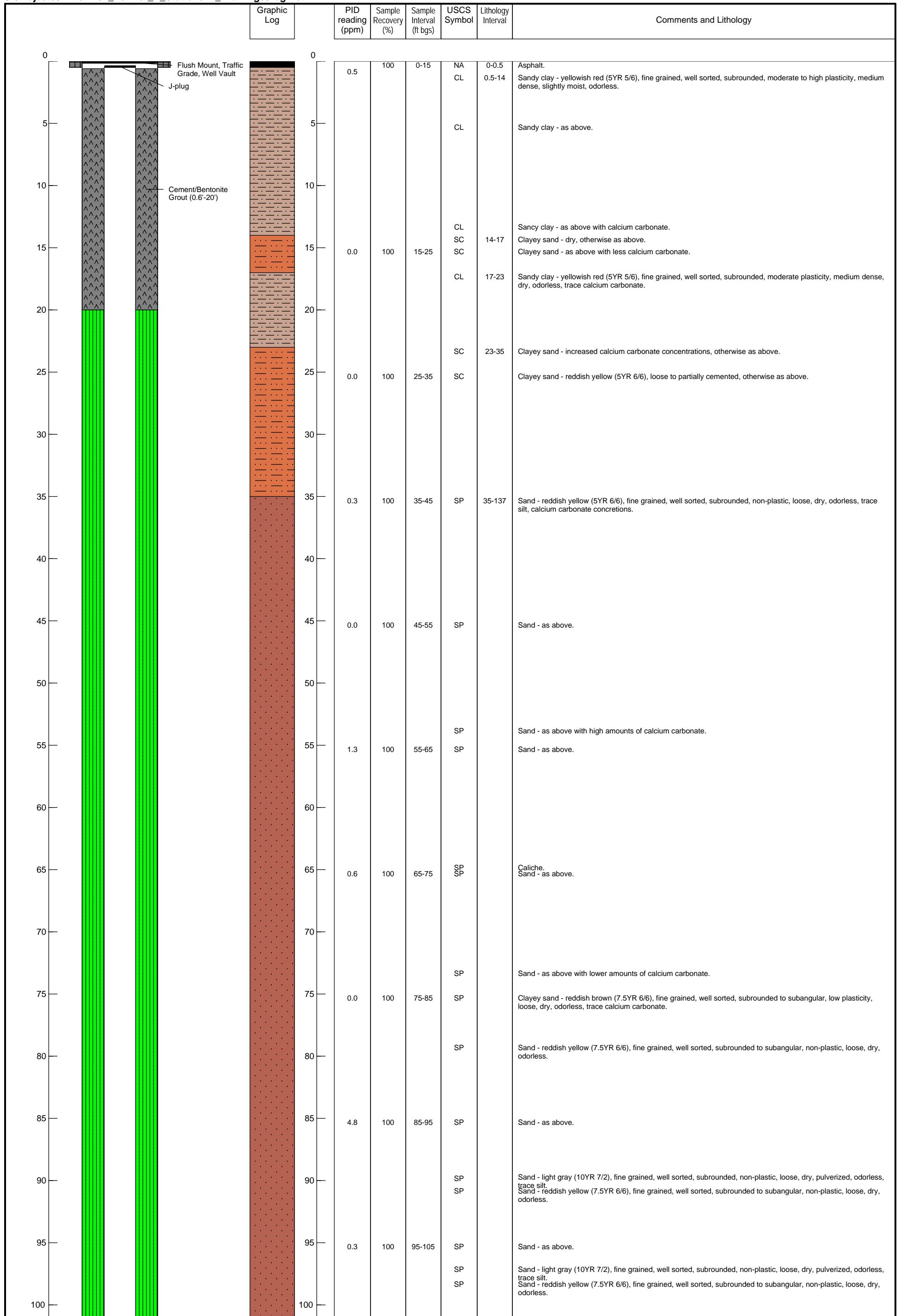


52. Development of MW-11

FORMER Y STATION STATE LEAD SITE  
CLOVIS, NEW MEXICO  
**Photographs**



**Appendix D**  
**Well Diagrams**



Geologist: H. Barnes  
 Driller: Yellow Jacket Drilling  
 Date completed: 8/4/19

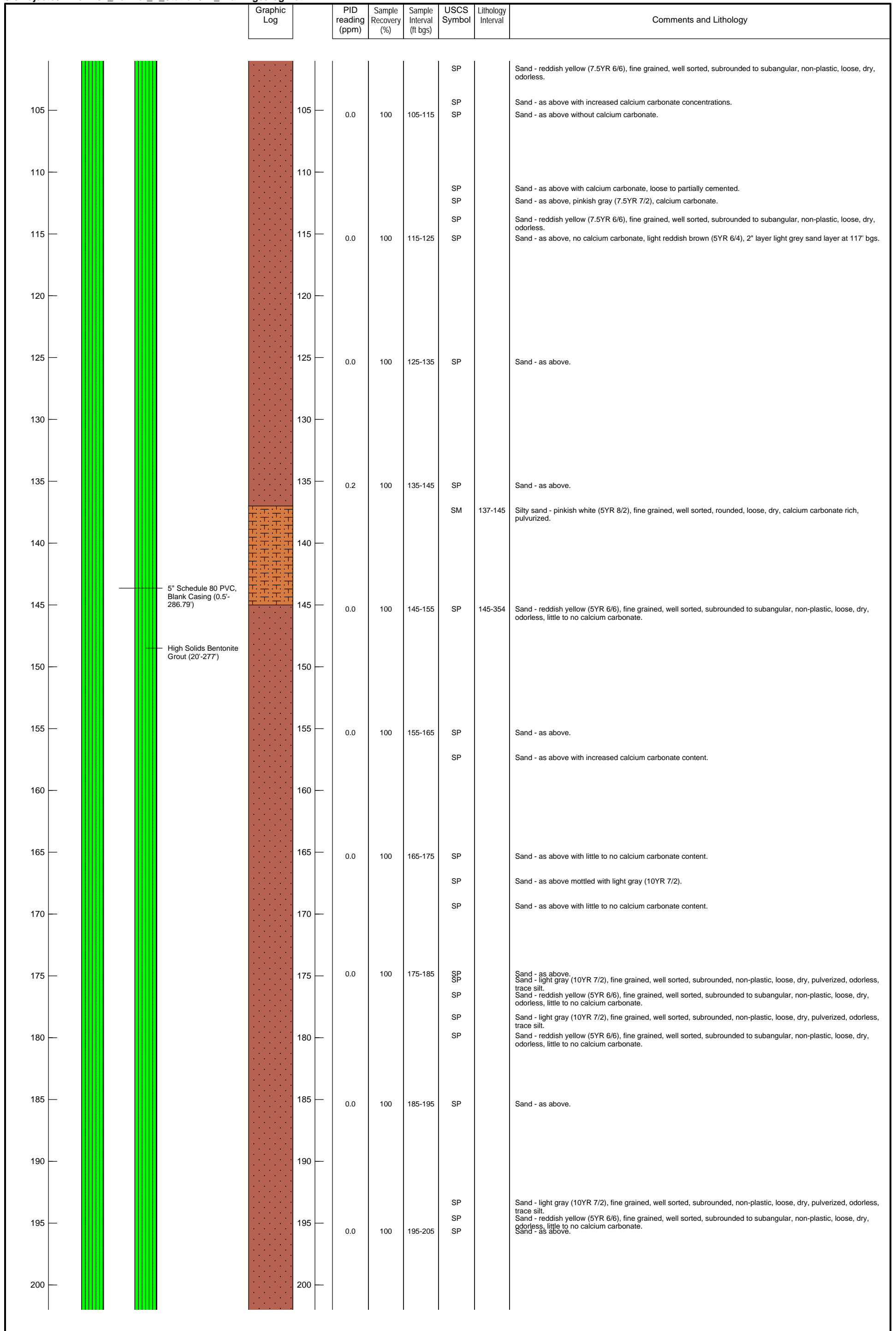
Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 124529      Elevation: 4277.44  
 Easting: 884291.12

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 BW-7R**







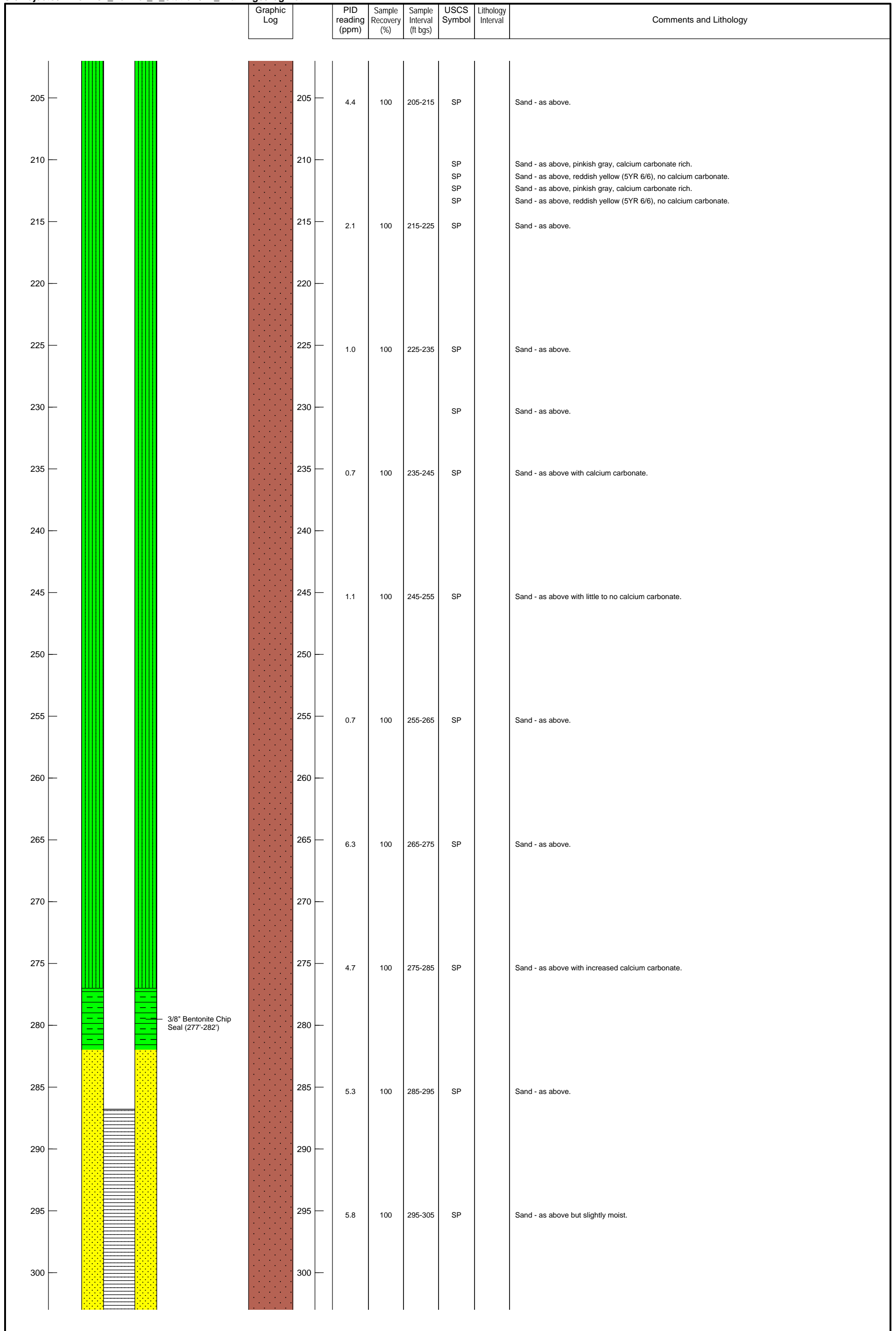
Geologist: H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 7/20/19  
 Well completion date: 8/4/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245210.02 Elevation: 4277.44  
 Easting: 884291.06

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 BW-7R**





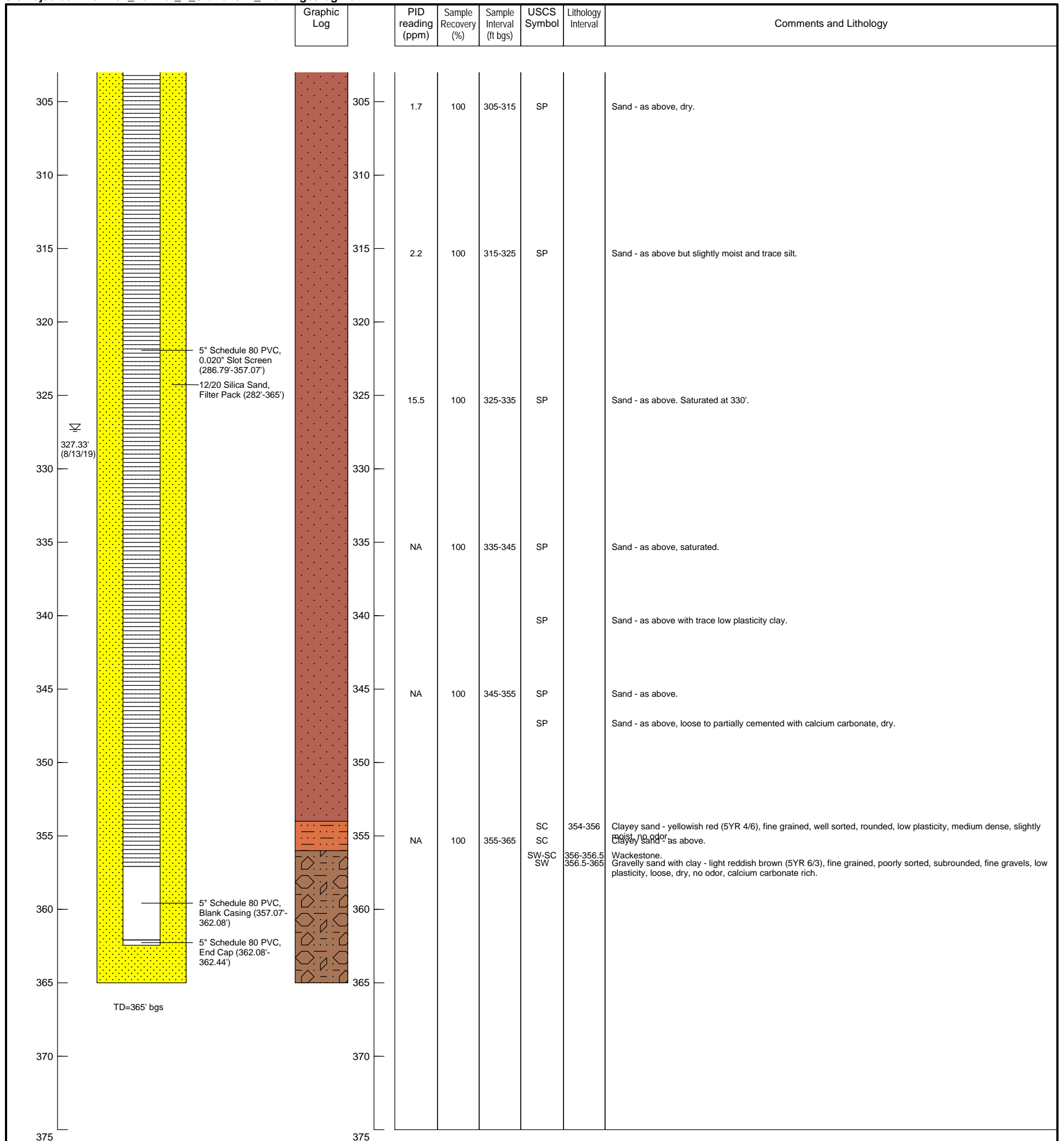
Geologist: H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 7/20/19  
 Well completion date: 8/4/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245210.02      Elevation: 4277.44  
 Easting: 884291.06

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 BW-7R**





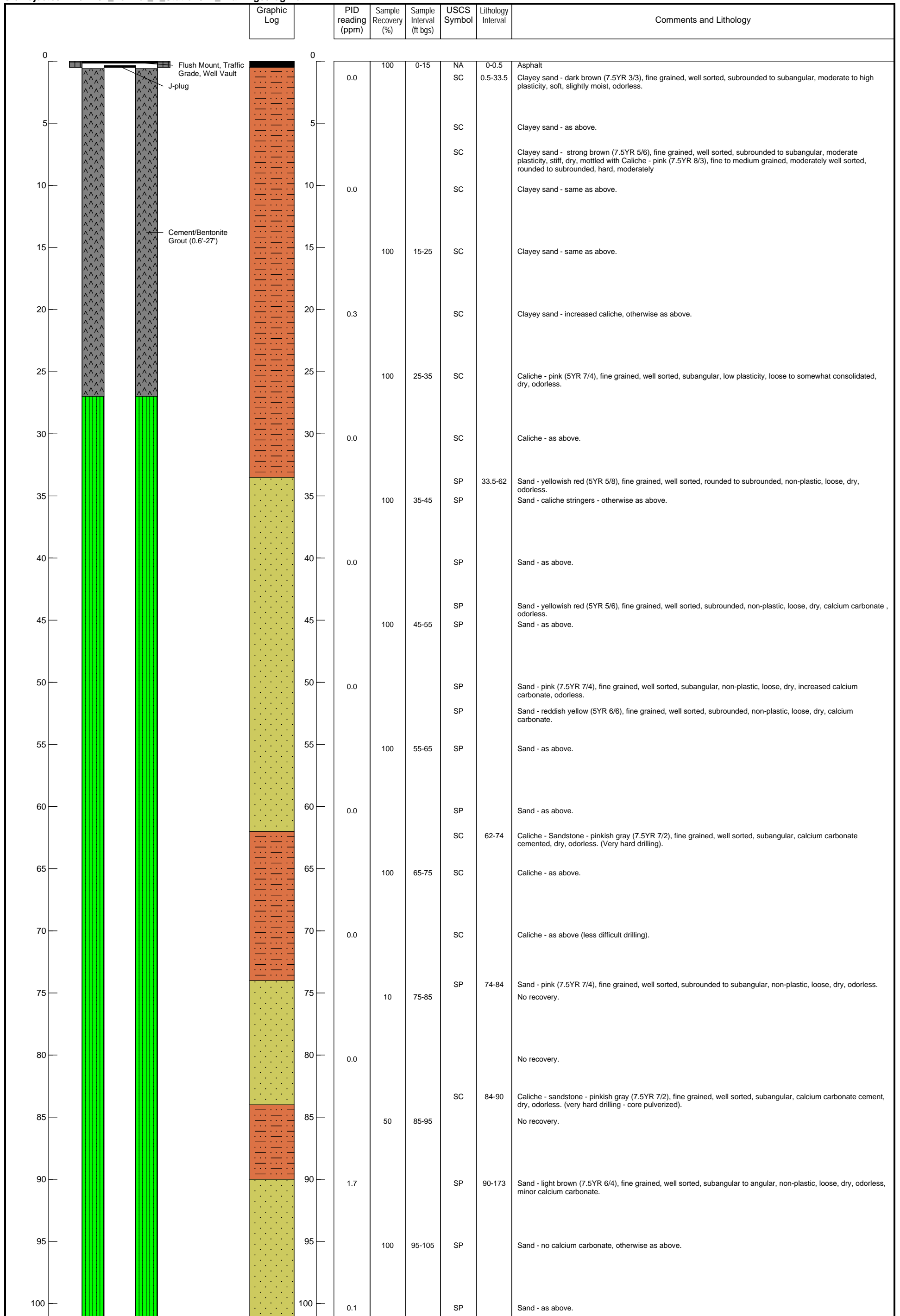
Geologist: H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 7/20/19  
 Well completion date: 8/4/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245210.02      Elevation: 4277.44  
 Easting: 884291.06

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 BW-7R**





Geologist: P. Feltman and J. Fisher  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 5/29/19  
 Well completion date: 6/8/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1244812.45 Elevation: 4274.64  
 Easting: 884412.98

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-11**



Graphic Log		PID reading (ppm)	Sample Recovery (%)	Sample Interval (ft bgs)	USCS Symbol	Lithology Interval	Comments and Lithology
	105			105-115	SP		Sand with clay - pink (7.5YR 7/4), fine grained, well sorted, subangular to angular, low plasticity, loose, dry, odorless. (water added for drilling).
	110	6.0			SP		Sand - as above.
	115			115-125	SP		Sand - light brown (7.5YR 6/3), fine grained, well sorted, subrounded to subangular, non-plastic, loose, dry.
	120	0.8			SP		Sand - as above.
	125			125-135	SP		Sand - as above.
	130	0.4			SP		Sand - as above.
	135			135-145	SP		Sand - as above.
	140	1.0			SP		Sand - calcium carbonate, otherwise as above. (Driller reports hard drilling)
	145			145-155	SP		Sand - light brown (7.5YR 6/3), fine grained, well sorted, subrounded to subangular, non-plastic, loose, dry.
	150	0.4			SP		Sand - as above.
	155			155-165	SP		Sand - as above.
	160	3.3			SP		Sand - as above.
	165			165-175	SP		Sand with clay - brown (7.5YR 5/4), fine grained, well sorted, subangular to angular, low to moderate plasticity, loose, dry, odorless.
	170	0.1			SP		Sand - as above.
	175			175-185	SM	173-188.5	Silty sand - pink (7.5YR 7/4), fine grained, well sorted, subrounded, non-plastic, loose, slightly moist, odorless.
	180	0.5			SM		Silty sand - subrounded to angular, otherwise as above.
	185			185-195	SM		Silty sand - as above.
	190	0.0			SP	188.5-360	Silty sand - very dark grayish brown (10YR 3/2), fine grained, well sorted, subrounded to subangular, low plasticity, possibly cemented (pulverized), slightly moist, odorless, no calcium carbonate.
	195			195-205	SP		Sand - light brown (7.5YR 6/4), fine grained, well sorted, subangular, non-plastic, loose, slightly moist, odorless.
	200	0.3			SP		Sand - as above.

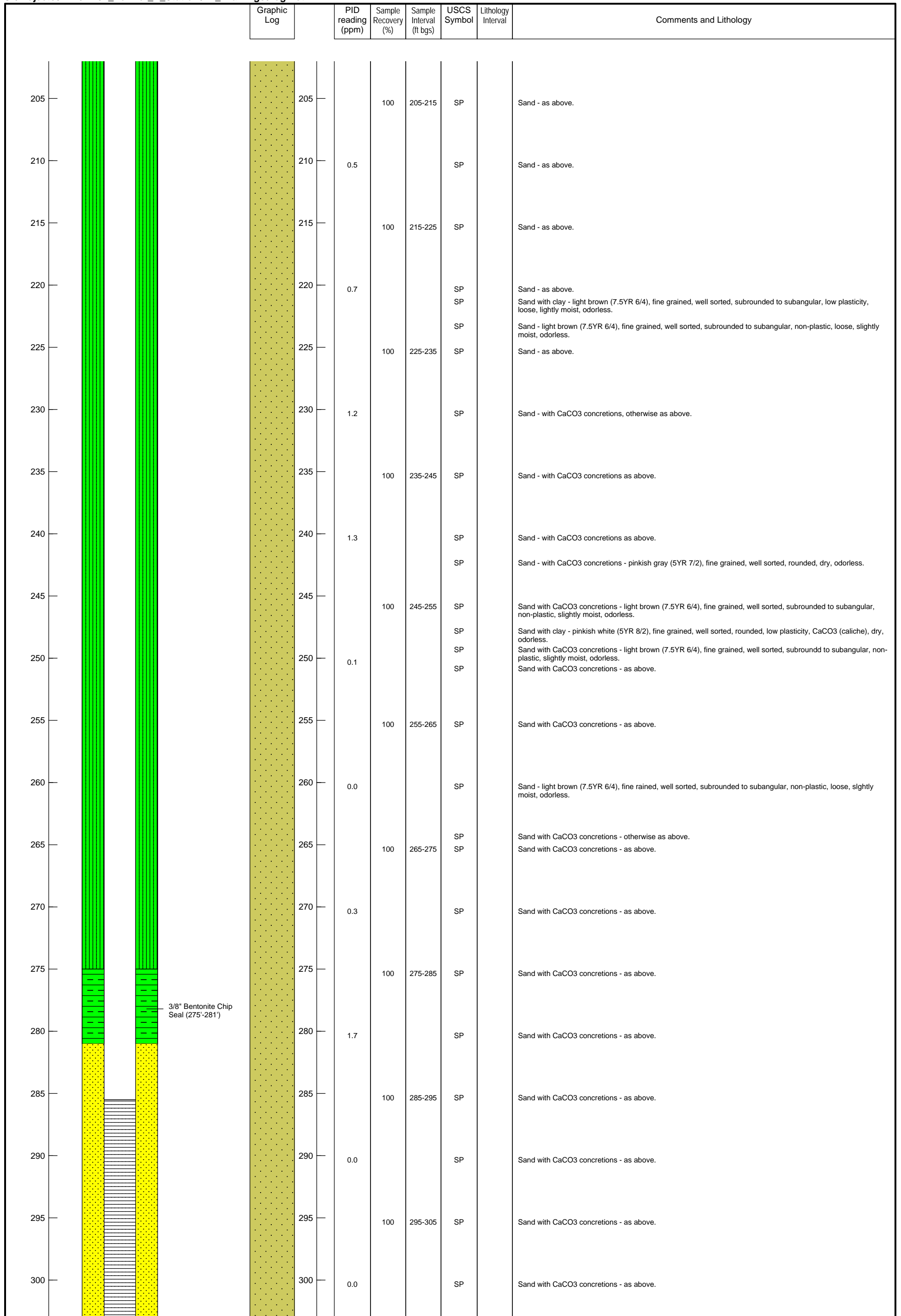
Geologist: P. Feltman and J. Fisher  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 5/29/19  
 Well completion date: 6/8/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1244812.45 Elevation: 4274.64  
 Easting: 884412.98

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-11**





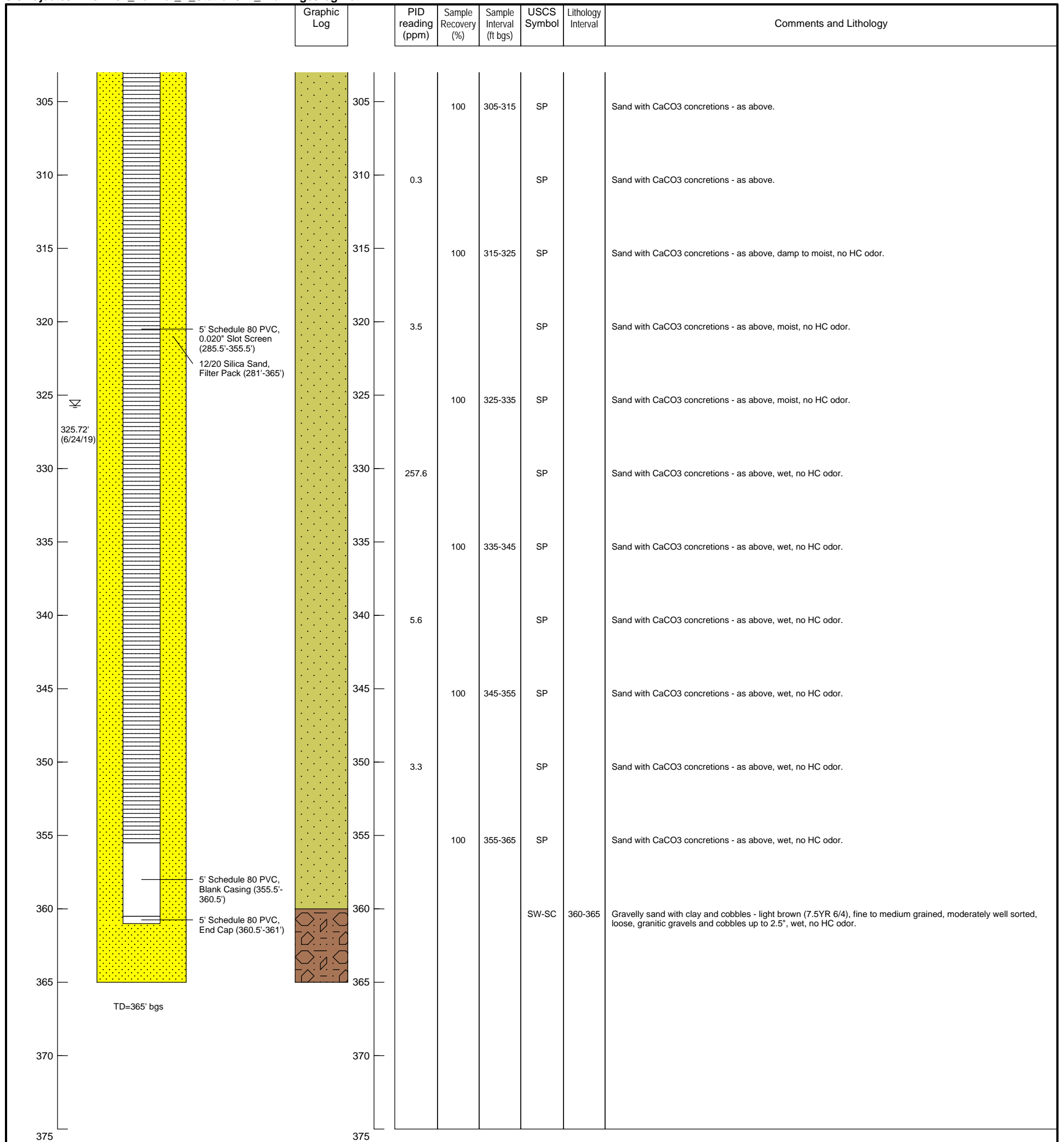
Geologist: P. Feltman and J. Fisher  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 5/29/19  
 Well completion date: 6/8/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1244812.45      Elevation: 4274.64  
 Easting: 884412.98

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-11**





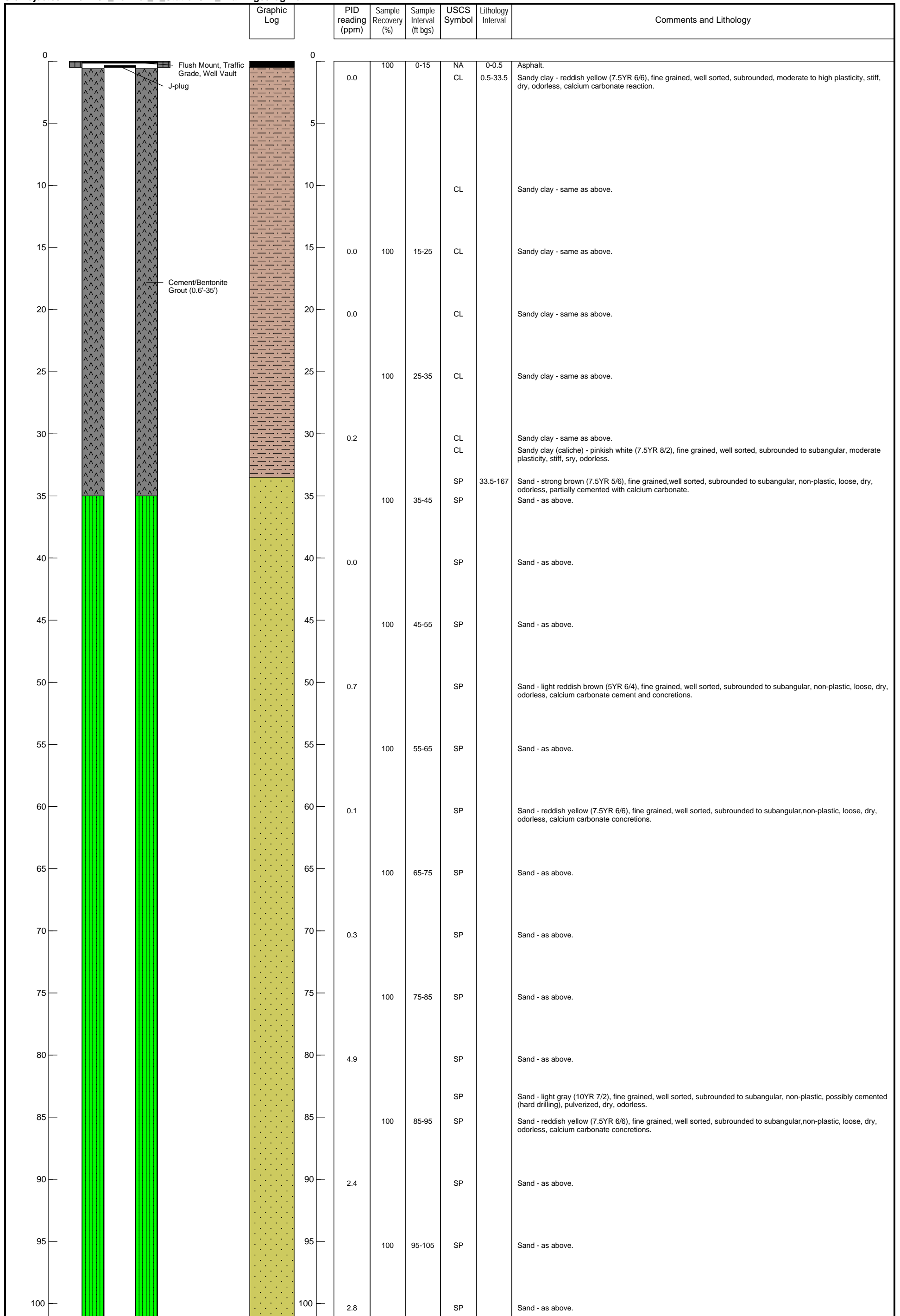
Geologist: P. Feltman and J. Fisher  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 5/29/19  
 Well completion date: 6/8/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1244812.45      Elevation: 4274.64  
 Easting: 884412.98

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-11**





Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 7/9/19 Well completion date: 7/20/19

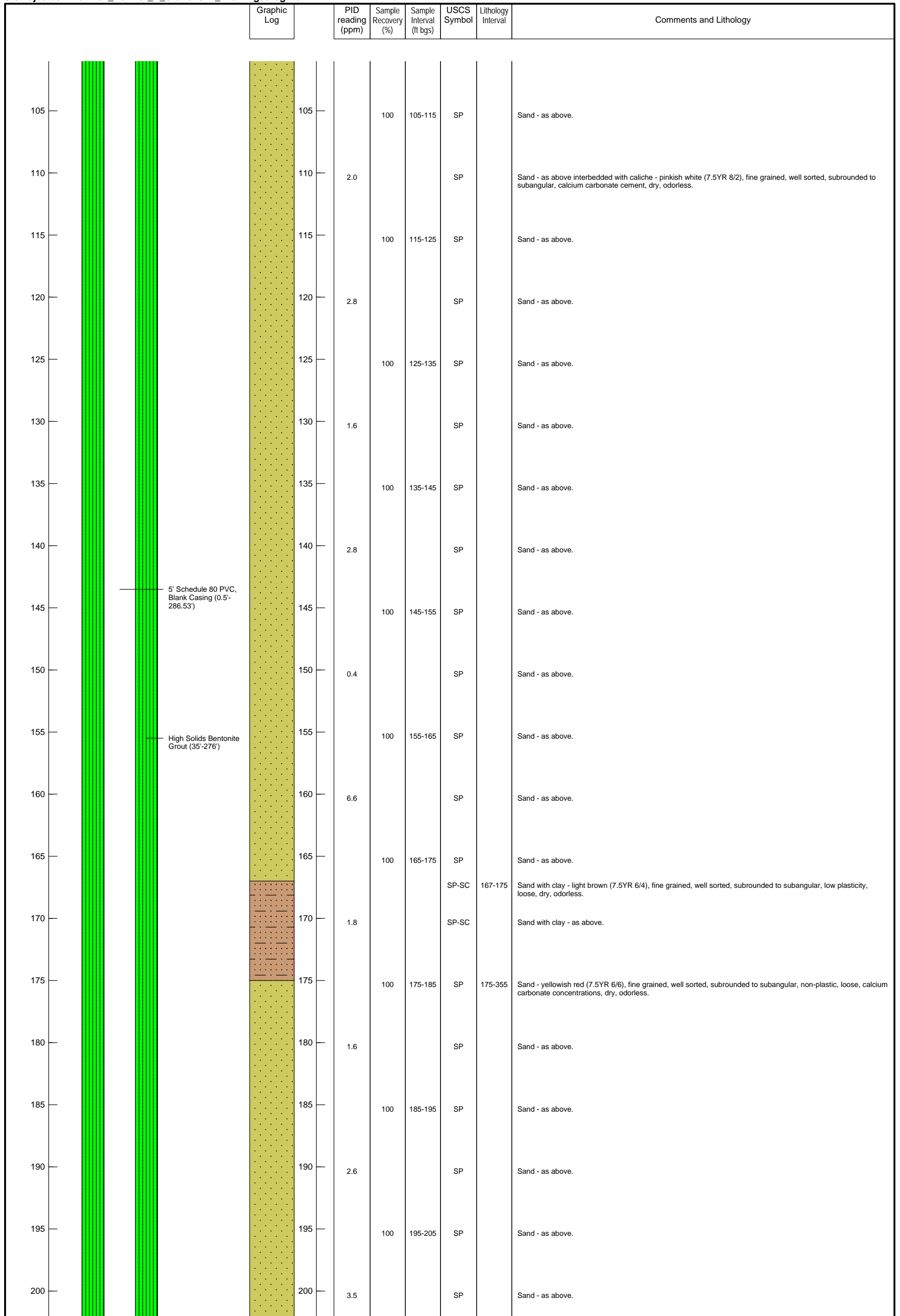
Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245128.28 Elevation: 4277.60  
 Easting: 884520.19

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-12**







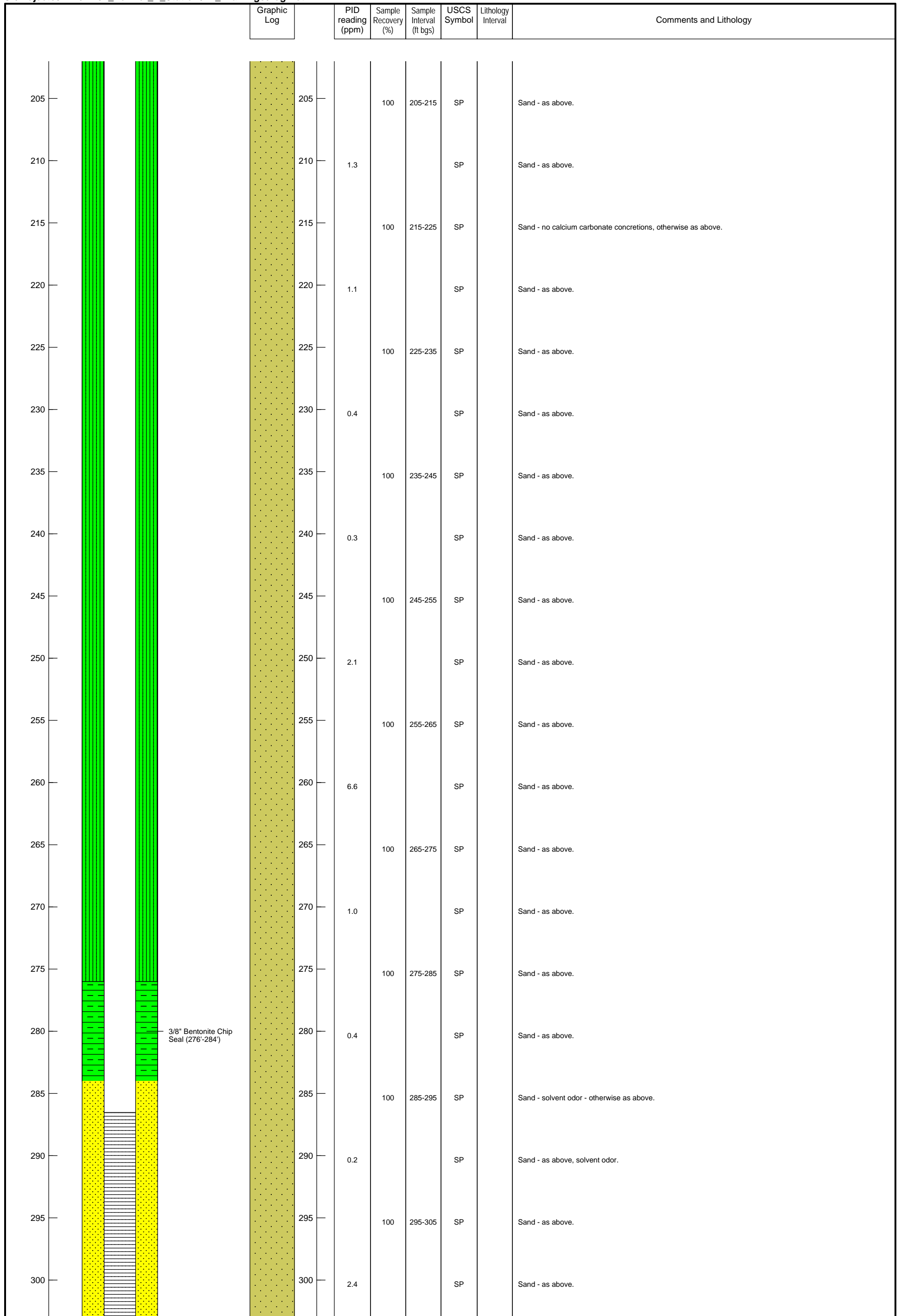
Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 7/9/19 Well completion date: 7/20/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245128.28 Elevation: 4277.60  
 Easting: 884520.19

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-12**





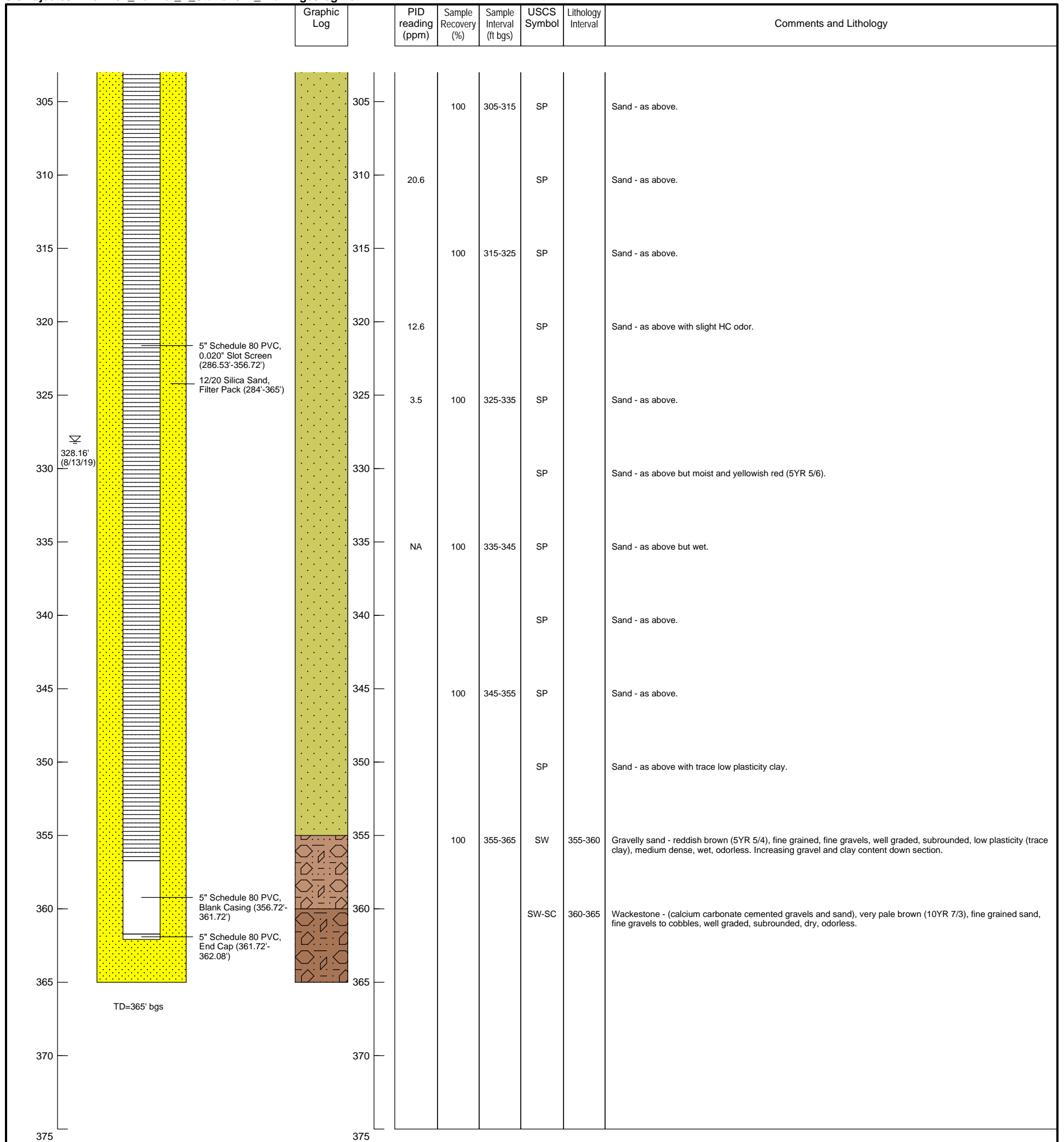
Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 7/9/19 Well completion date: 7/20/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245128.28 Elevation: 4277.60  
 Easting: 884520.19

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-12**





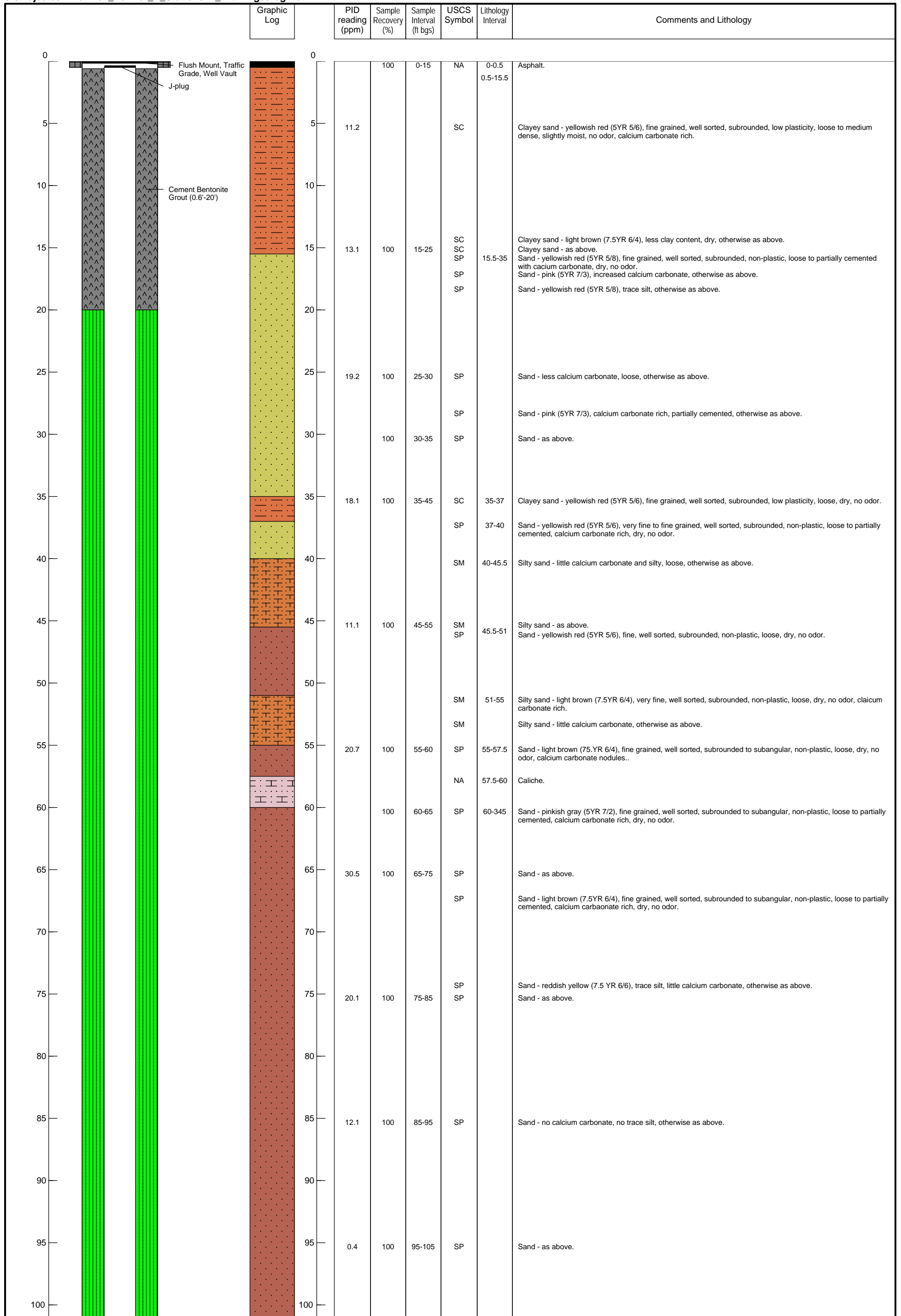
Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 7/9/19 Well completion date: 7/20/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245128.28 Elevation: 4277.60  
 Easting: 884520.19

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-12**





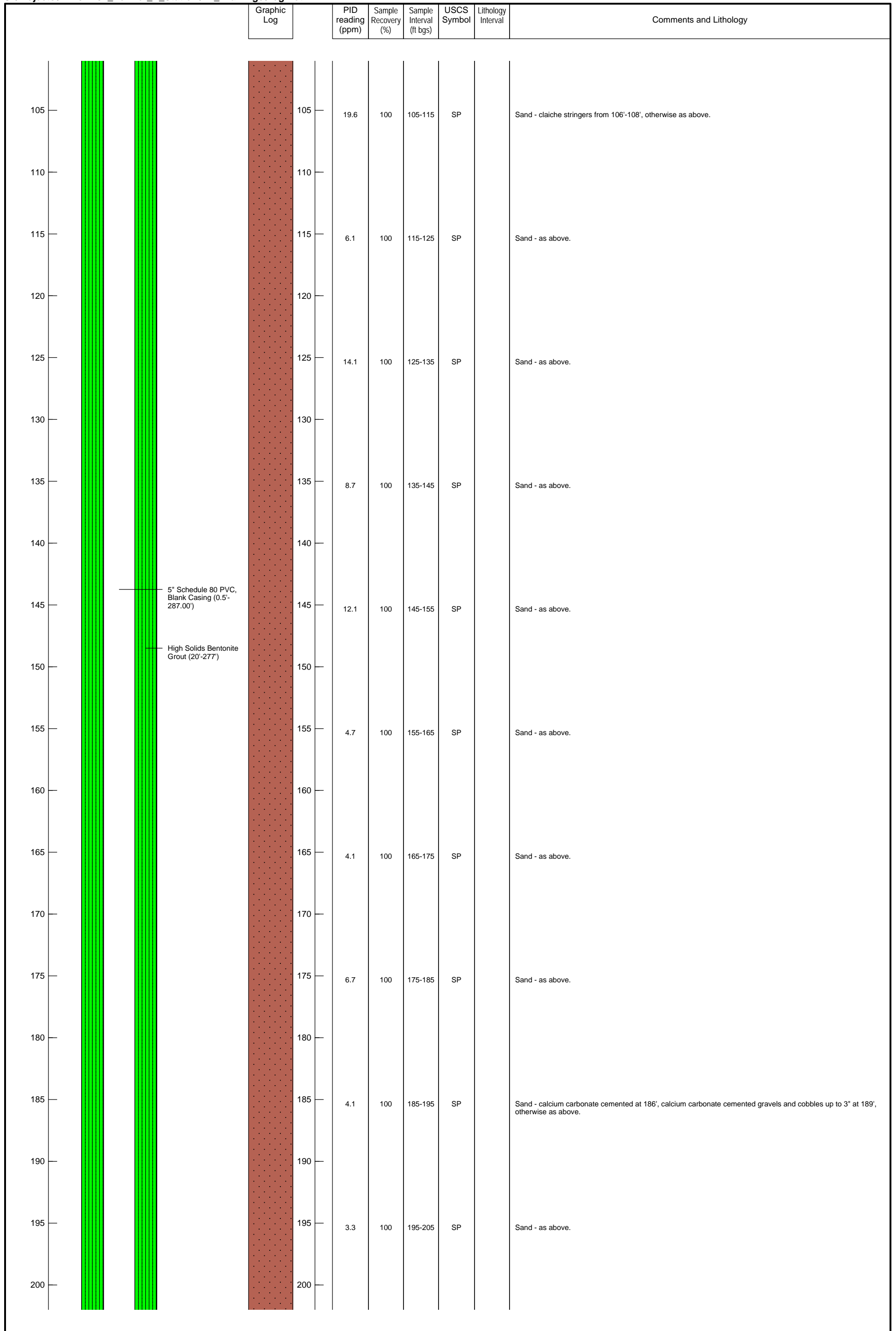
Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 8/4/19  
 Well completion date: 8/13/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1244960.74      Elevation: 4275.82  
 Easting: 884269.96

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-13**





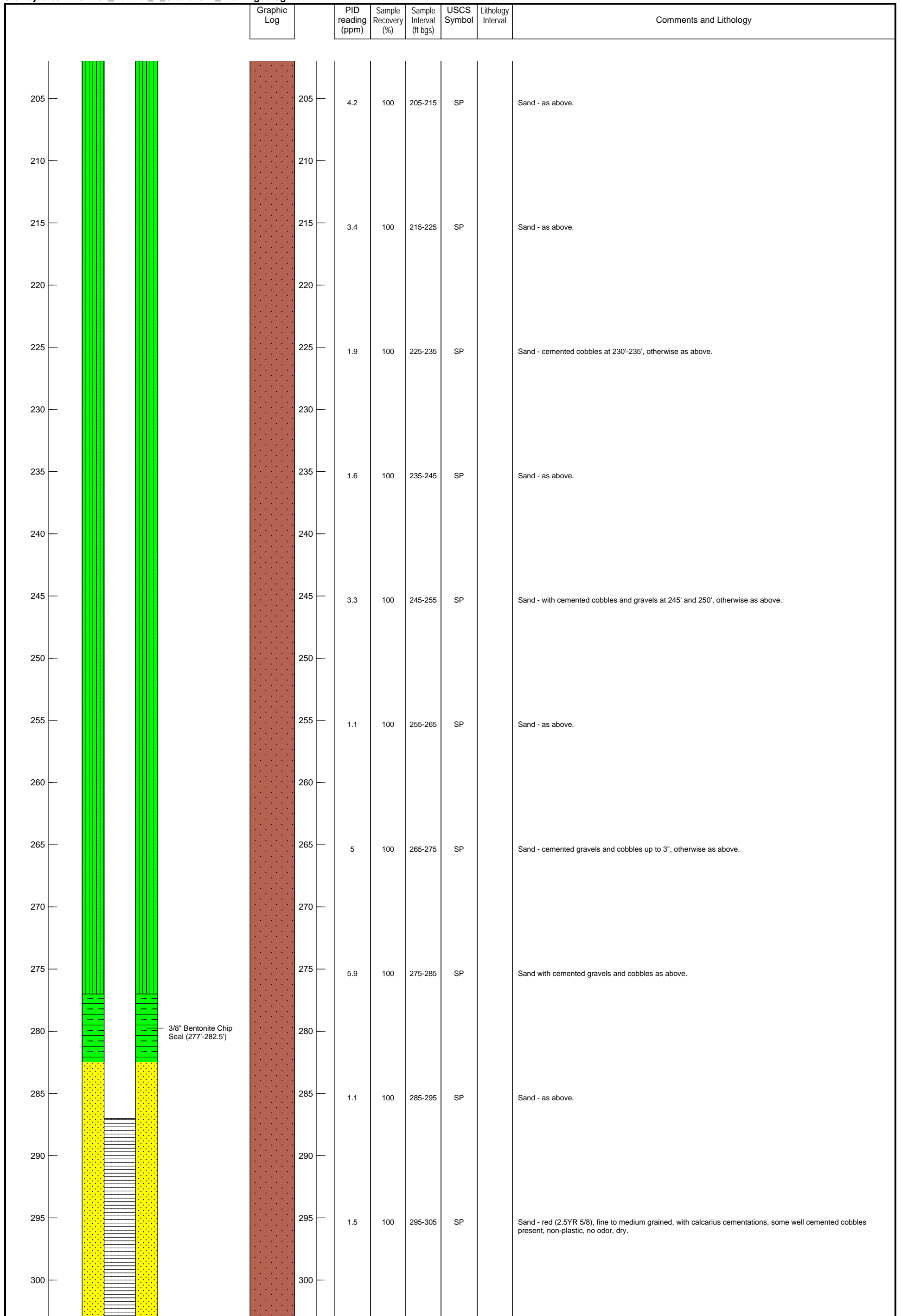
Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 8/4/19  
 Well completion date: 8/13/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1244960.74      Elevation: 4275.82  
 Easting: 884269.96

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-13**





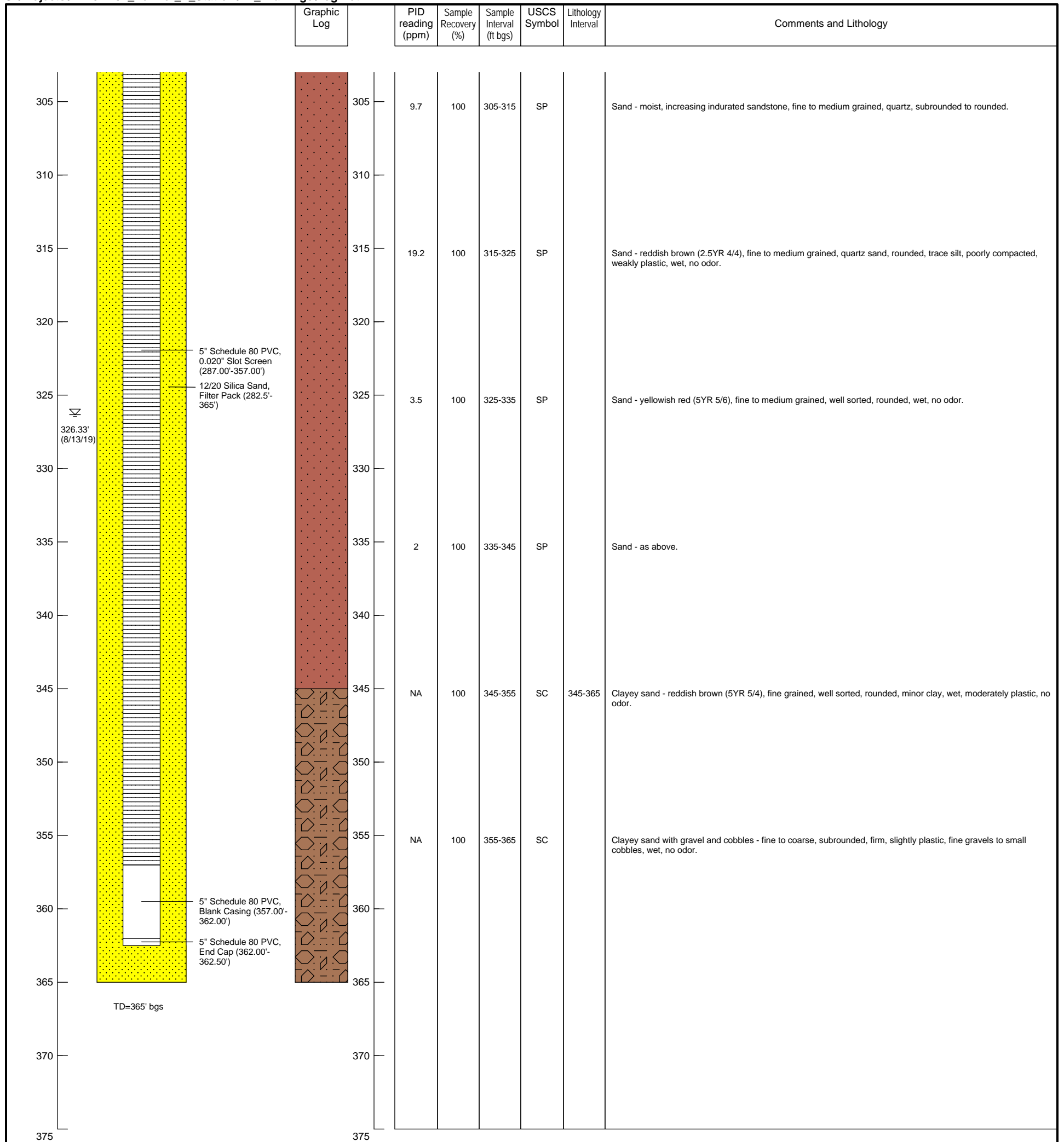
Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 8/4/19  
 Well completion date: 8/13/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1244960.74      Elevation: 4275.82  
 Easting: 884269.96

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-13**





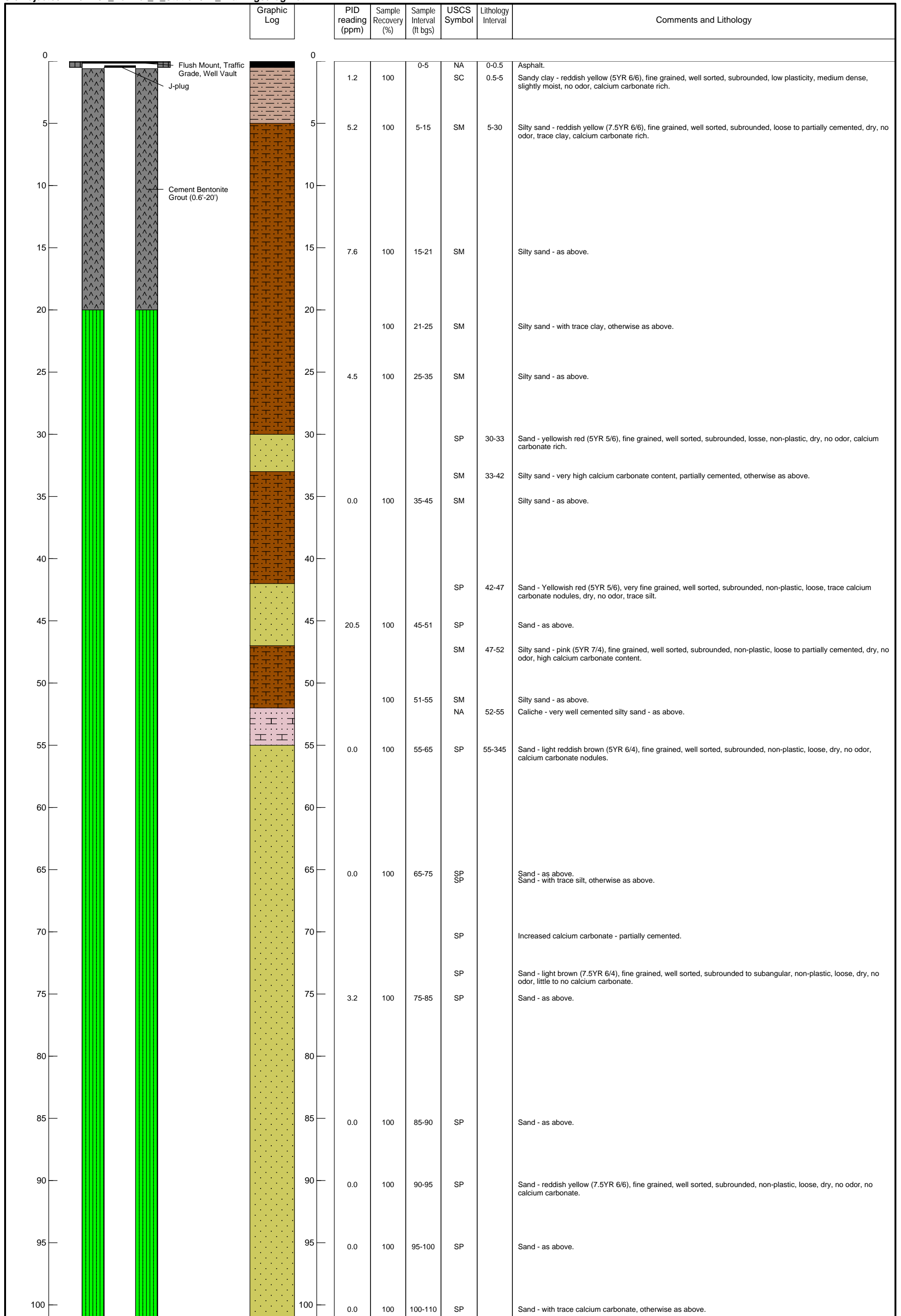
Geologist: P. Feltman and J. Fisher  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 8/4/19  
 Well completion date: 8/13/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1244960.74      Elevation: 4275.82  
 Easting: 884269.96

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-13**





Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 9/18/19  
 Well completion date: 9/18/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1244158.25 Elevation: 4265.25  
 Easting: 884570.99

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-14**





Graphic Log		PID reading (ppm)	Sample Recovery (%)	Sample Interval (ft bgs)	USCS Symbol	Lithology Interval	Comments and Lithology
105							
110		0.6	100	110-115	SP		Sand - with trace silt, otherwise as above.
115		0.0	100	115-125	SP		Sand - with occasional caliche layer (<2-in thick), otherwise as above.
120							
125		0.2	100	125-128	SP		Sand - as above.
130							
135							
140							
145		4.6	100	135-145	SP		Sand - with less calcium carbonate, otherwise as above.
150							
155							
160							
165							
170							
175							
180							
185							
190							
195							
200							

5" Schedule 80 PVC, Blank Casing (0.5'-280.50')

High Solids Bentonite Grout (20'-270')

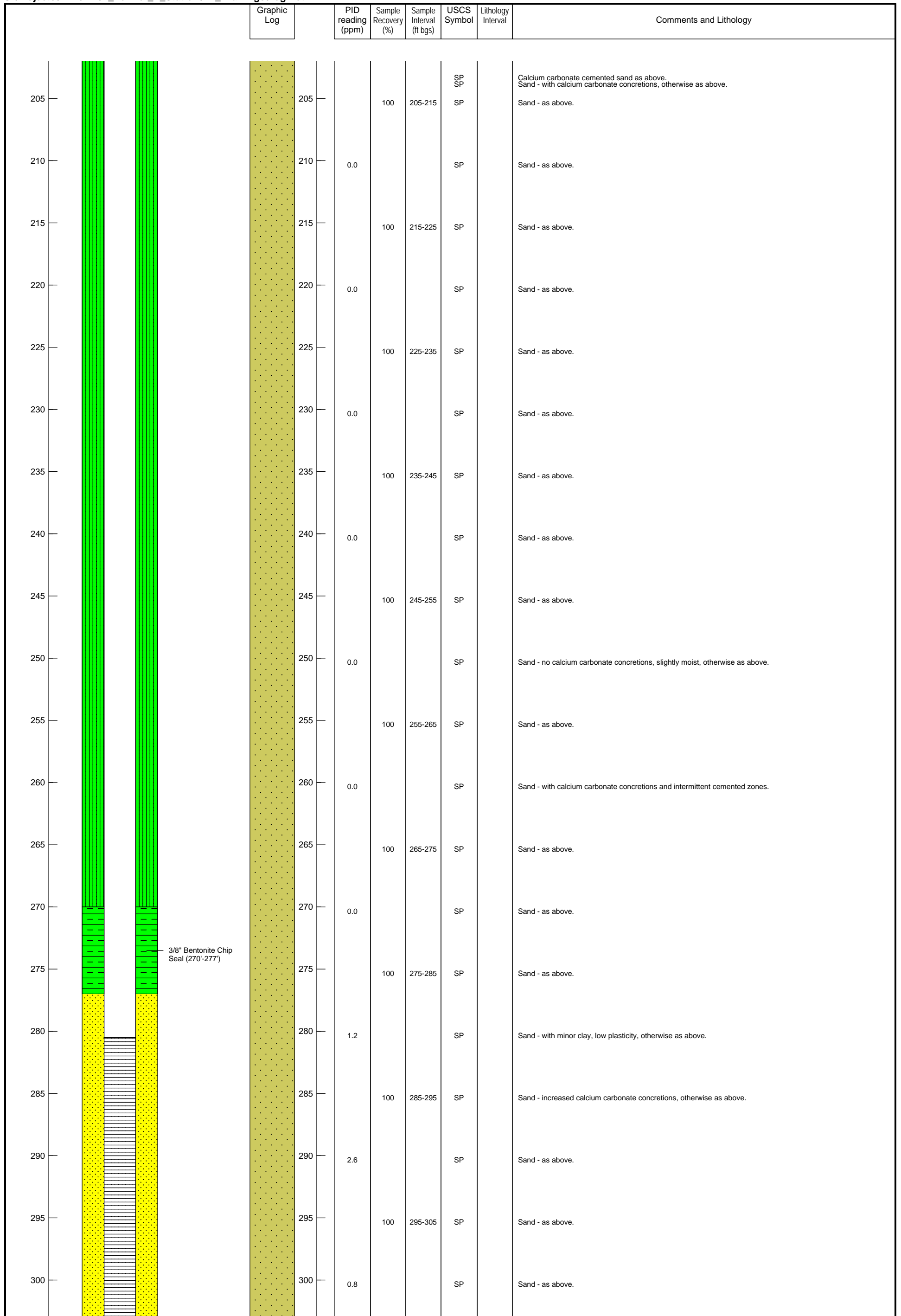
Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 9/18/19  
 Well completion date: 9/18/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245210.02 Elevation: 4265.25  
 Easting: 884570.99

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-14**





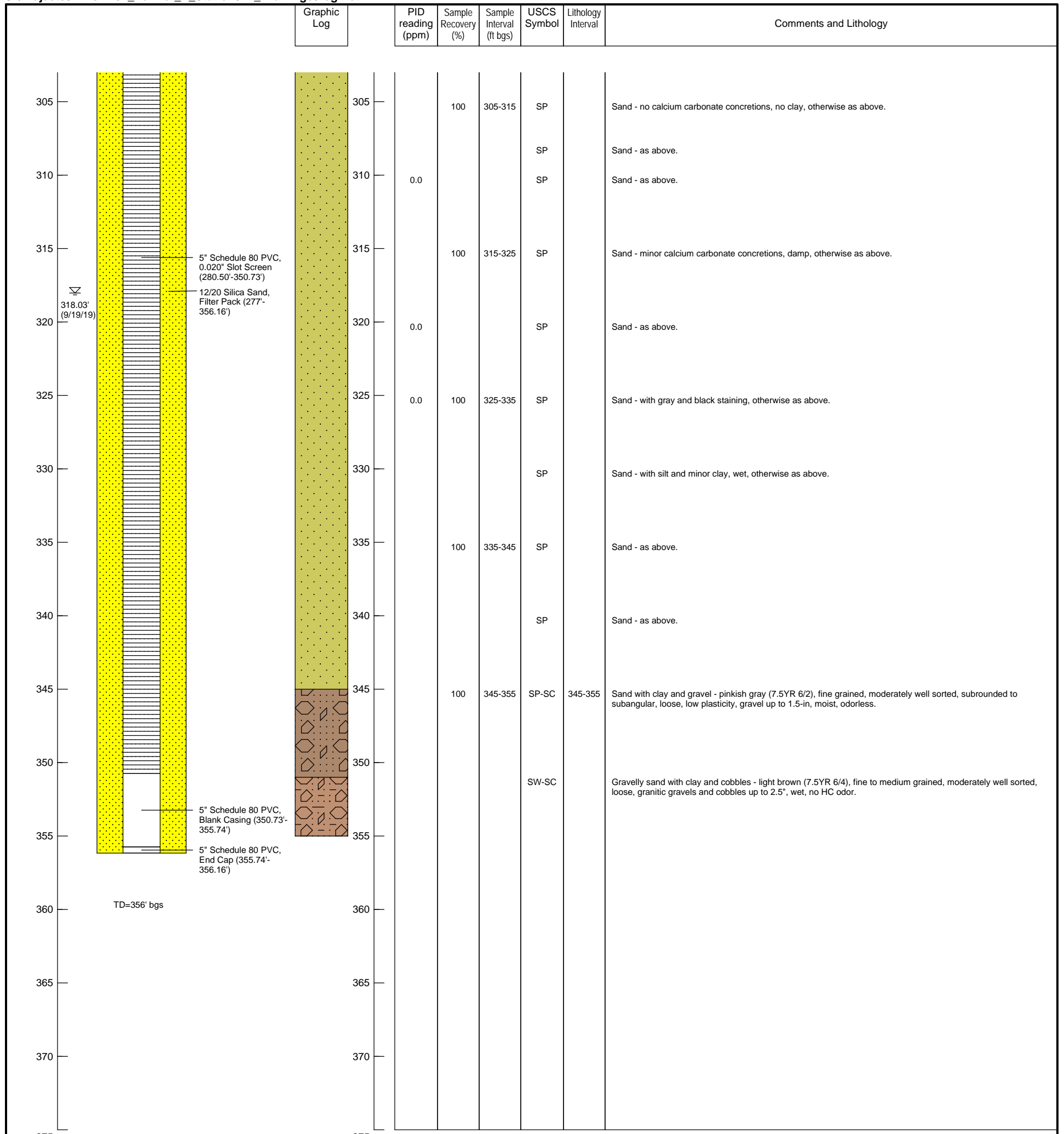
Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 9/18/19  
 Well completion date: 9/18/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1244158.25      Elevation: 4265.25  
 Easting: 884570.99

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-14**





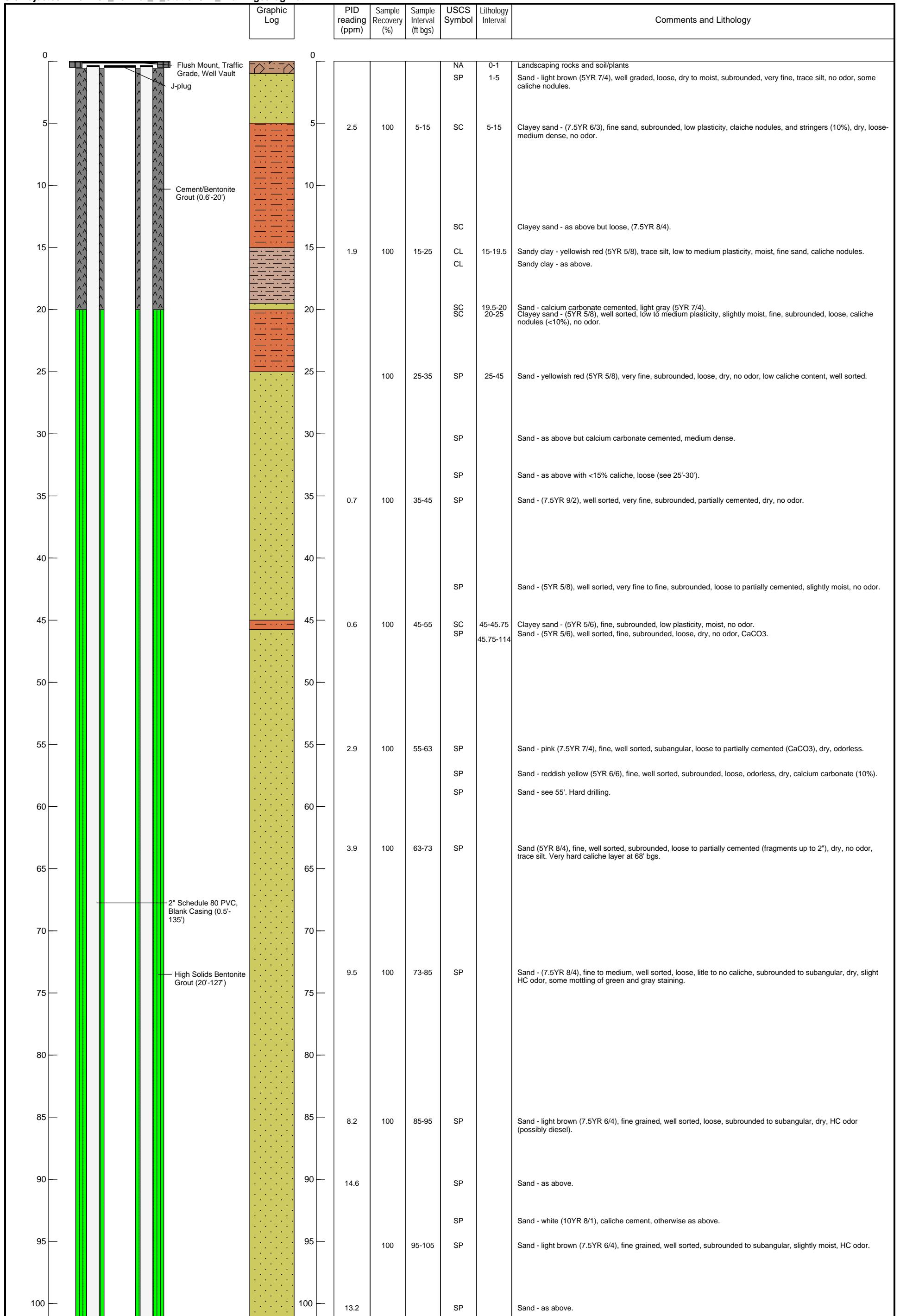
Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 9/18/19  
 Well completion date: 9/18/19

Drilling method: Sonic  
 Borehole diameter: 9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1244158.25      Elevation: 4265.25  
 Easting: 884570.99

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 MW-14**





Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 6/20/19  
 Well completion date: 6/29/19

Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245546.79 Elevation: 4280.00  
 Easting: 884125.45

FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-1



Graphic Log		PID reading (ppm)	Sample Recovery (%)	Sample Interval (ft bgs)	USCS Symbol	Lithology Interval	Comments and Lithology	
105								
105		100		105-115	SP		Sand - as above.	
110			12.2			SP		Sand - as above.
115						NA	114-115	Caliche - pinkish white (7.5YR 8/2), fine grained, well sorted, subrounded, calcium carbonate cemented, dry, odorless.
115			100		115-125	SP	115-281	Sand - light brown (7.5YR 6/4), fine grained, well sorted, subrounded to subangular, slightly moist, HC odor, minor staining.
120			31.8			SP		Sand - as above.
125			100		125-135	SP		Sand - as above.
130			19			SP		Sand - as above.
135			100		135-145	SP		Sand - as above.
140			9.8			SP		Sand - as above.
145			100		145-155	SP		Sand - light brown (7.5YR 6/4), fine grained, well sorted, subrounded to subangular, non-plastic, minor clay, loose, slightly moist, HC odor.
150			39.1			SP		Sand - as above.
155			100		155-165	SP		Sand - as above.
160			4			SP		Sand - with calcium carbonate concretions, otherwise as above.
165			100		165-175	SP		Sand - as above.
170			110.9			SP		Sand - as above.
175			100		175-185	SP		Sand - light brown (7.5YR 6/4), fine grained, well sorted, subrounded to subangular, non-plastic, loose, slightly moist, HC odor. Sand - as above.
180			109.9			SP		Sand - as above.
185			100		185-195	SP		Sand - as above.
190			383			SP		Sand - as above.
195		100		195-205	SP		Sand - calcium carbonate concretions, otherwise as above.	
200		72			SP		Sand - as above.	

Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 6/20/19  
 Well completion date: 6/29/19

Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245546.79      Elevation: 4280.00  
 Easting: 884125.45

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-1**



Graphic Log		PID reading (ppm)	Sample Recovery (%)	Sample Interval (ft bgs)	USCS Symbol	Lithology Interval	Comments and Lithology	
	205		100	205-215	SP		Sand - as above.	
	210	100.5			SP		Sand - as above.	
	215		100	215-225	SP		Sand - as above.	
	220	284.6			SP		Sand - with calcium carbonate concretions, otherwise as above.	
	225		100	225-235	SP		Sand - as above.	
	230	247.1			SP		Sand - as above.	
	235		100	235-245	SP		Sand - as above.	
	240	64.3			SP		Sand with minor clay - light brown (7.5YR 6/4), fine grained, well sorted, subrounded to subangular, low plasticity, loose, slightly moist, HC odor.	
	245		100	245-255	SP		Sand with minor clay - as above.	
	250	138.6			SP		Sand with minor clay - as above.	
	255		100	255-265	SP		Sand with minor clay - as above.	
	260	41.5			SP		Sand with calcium carbonate concretions - light brown (7.5YR 6/4), fine grained well sorted, subrounded to subangular, non-plastic, loose, slightly moist, HC odor.	
	265		50	265-273	SP		Sand with calcium carbonate concretions - as above.	
	270				NA		No recovery.	
	275	>15,000		100	273-280	SP		Sand with calcium carbonate concretions - as above.
	280	>15,000		100	280-285	SP		Sand with calcium carbonate concretions - as above.
285		100	285-295	SP		Sand - staining brown (7.5YR 5/3), otherwise as above.		
290	492.1			SP		Sand - continued staining and HC odor, as above.		
295		100	295-305	SP		Sand - continued staining and HC odor, as above.		
300	>15,000			SP		Sand with calcium carbonate concretions - light brown (7.5YR 6/4), fine grained, well sorted, subrounded to subangular, non-plastic, loose, moist, HC odor.		

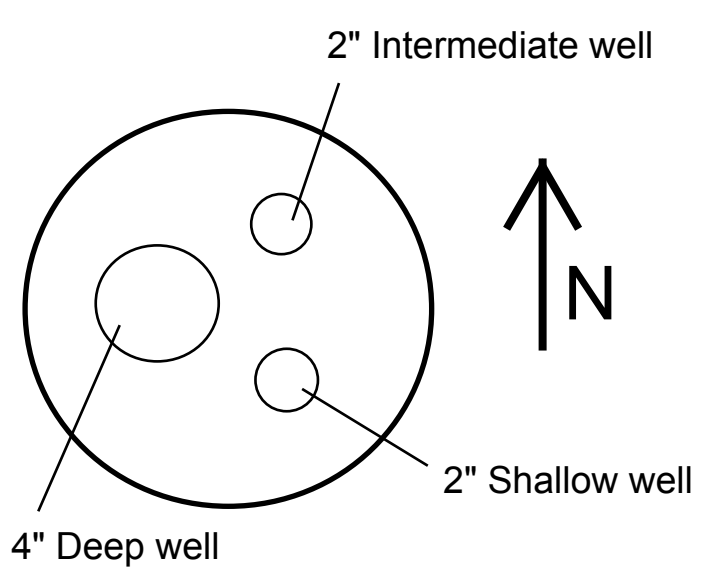
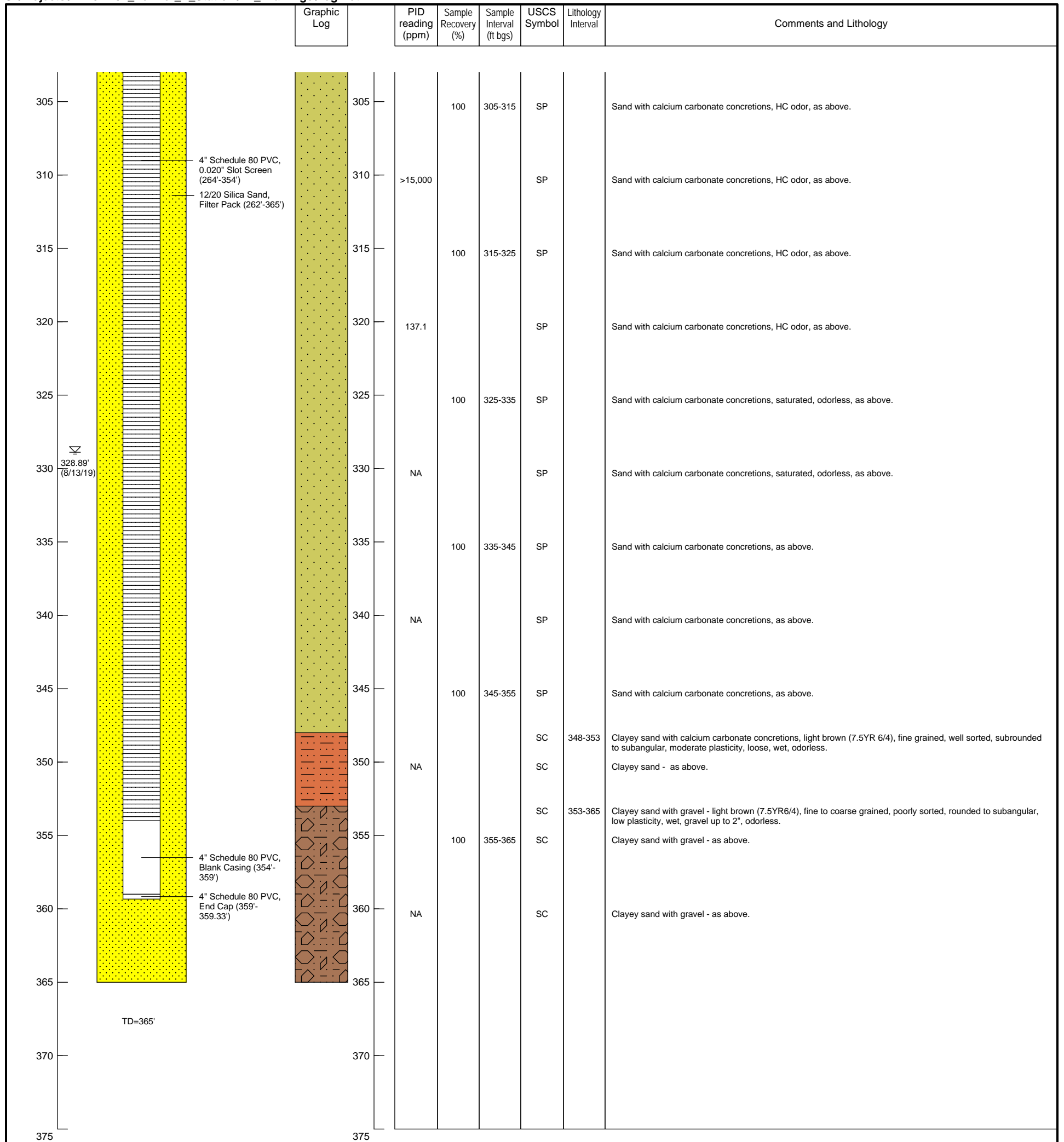
Geologist: P. Feltman and H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 6/20/19  
 Well completion date: 6/29/19

Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245546.79 Elevation: 4280.00  
 Easting: 884125.45

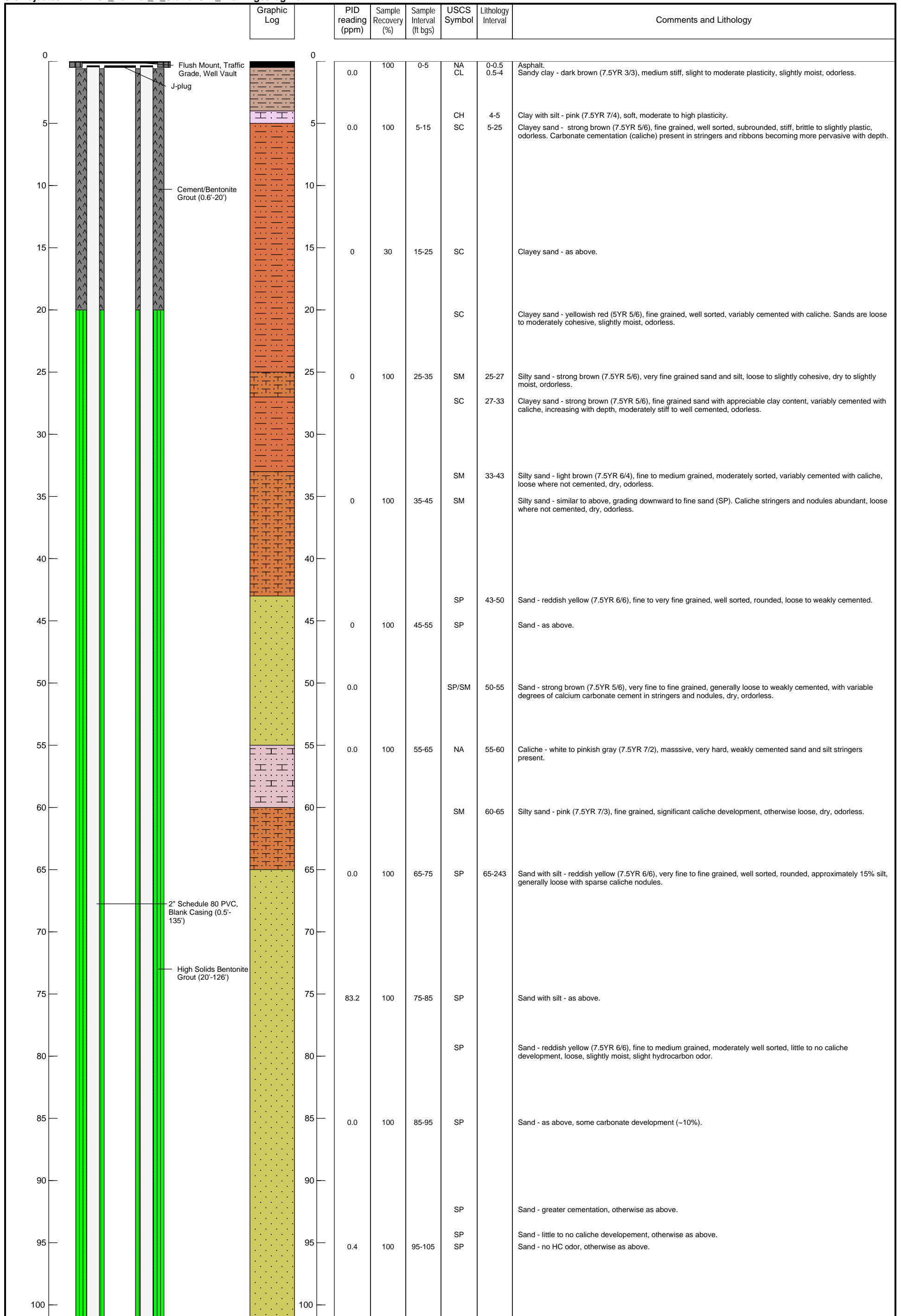
**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-1**





Geologist: P. Feltman and H. Barnes      Drilling method: Sonic      DTW= Depth to water measured below top of casing (feet)  
 Driller: Yellow Jacket Drilling      Borehole diameter: 10.25"/9.5"      New Mexico State Plane East NAD83  
 Drilling start date: 6/20/19      Sampling method: Sonic core      Northing: 1245546.79      Elevation: 4280.00  
 Well completion date: 6/29/19      Easting: 884125.45

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-1**



Geologist: H. Barnes and J. Raucci  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 6/15/19  
 Well completion date: 6/19/19

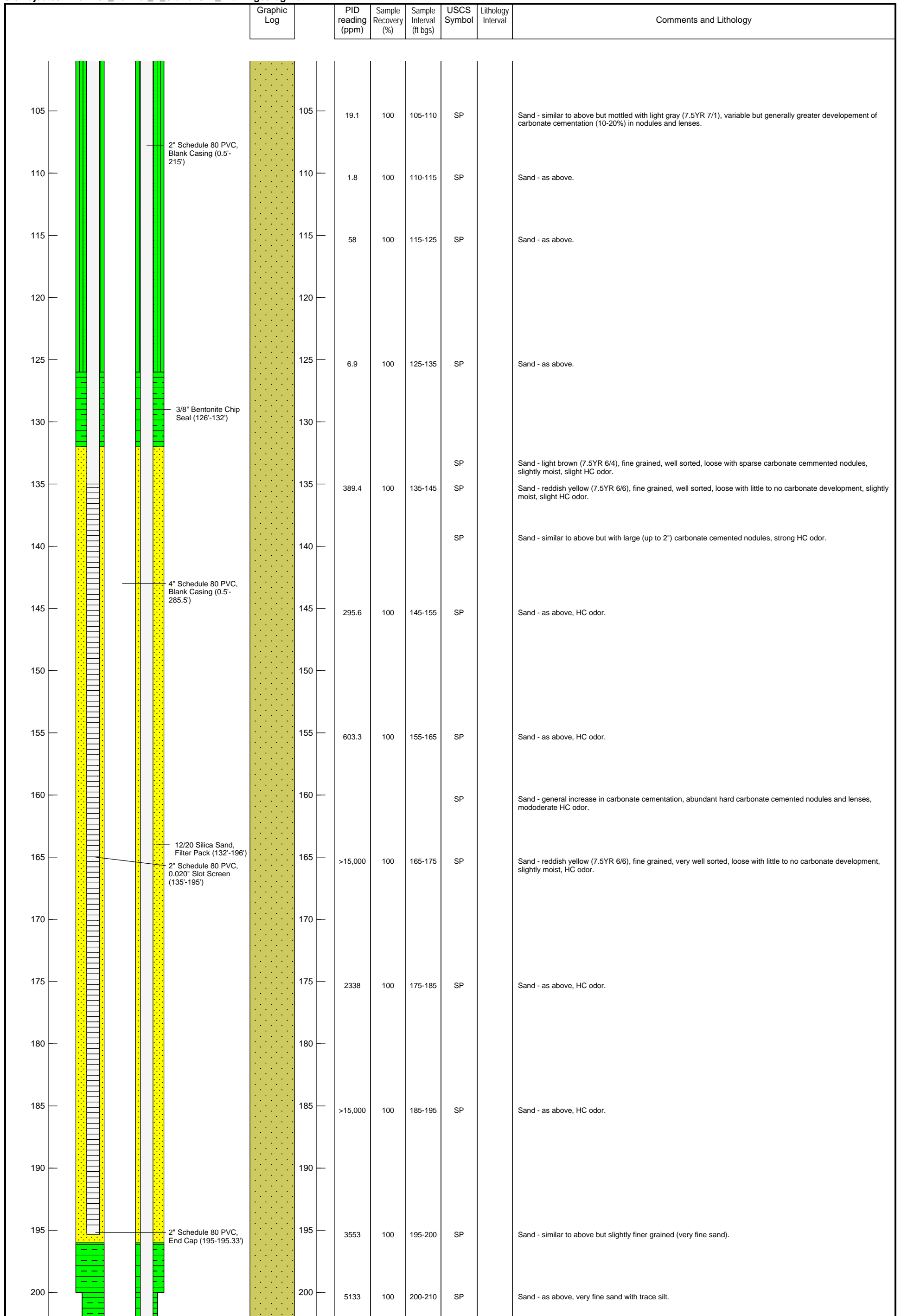
Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 124516.83 Elevation: 4279.70  
 Easting: 884140.96

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-2**







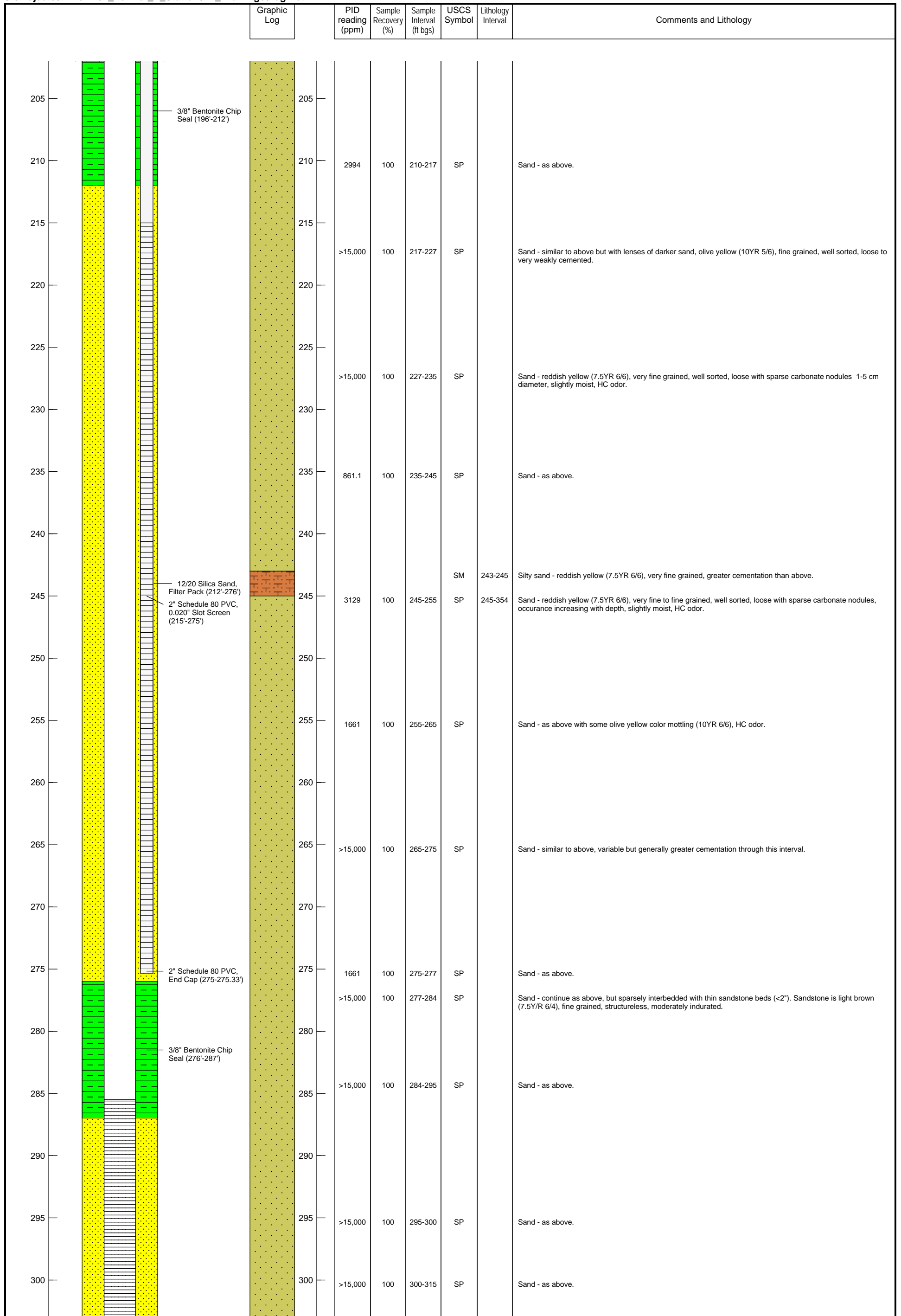
Geologist: H. Barnes and J. Raucci  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 6/15/19  
 Well completion date: 6/19/19

Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 124516.83 Elevation: 4279.70  
 Easting: 884140.96

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-2**





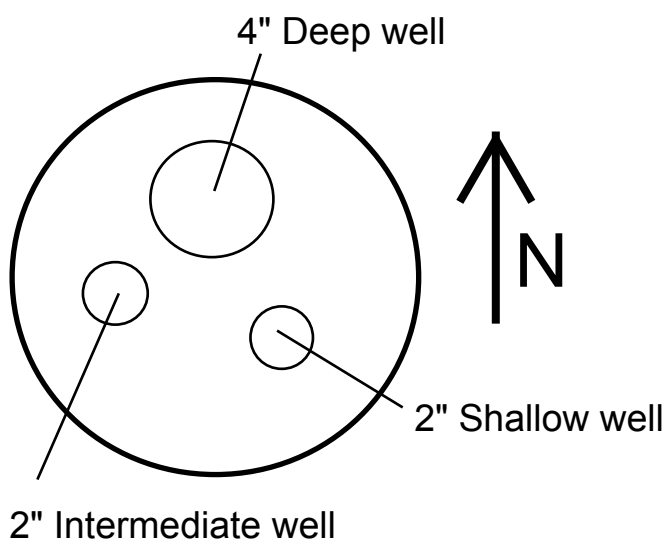
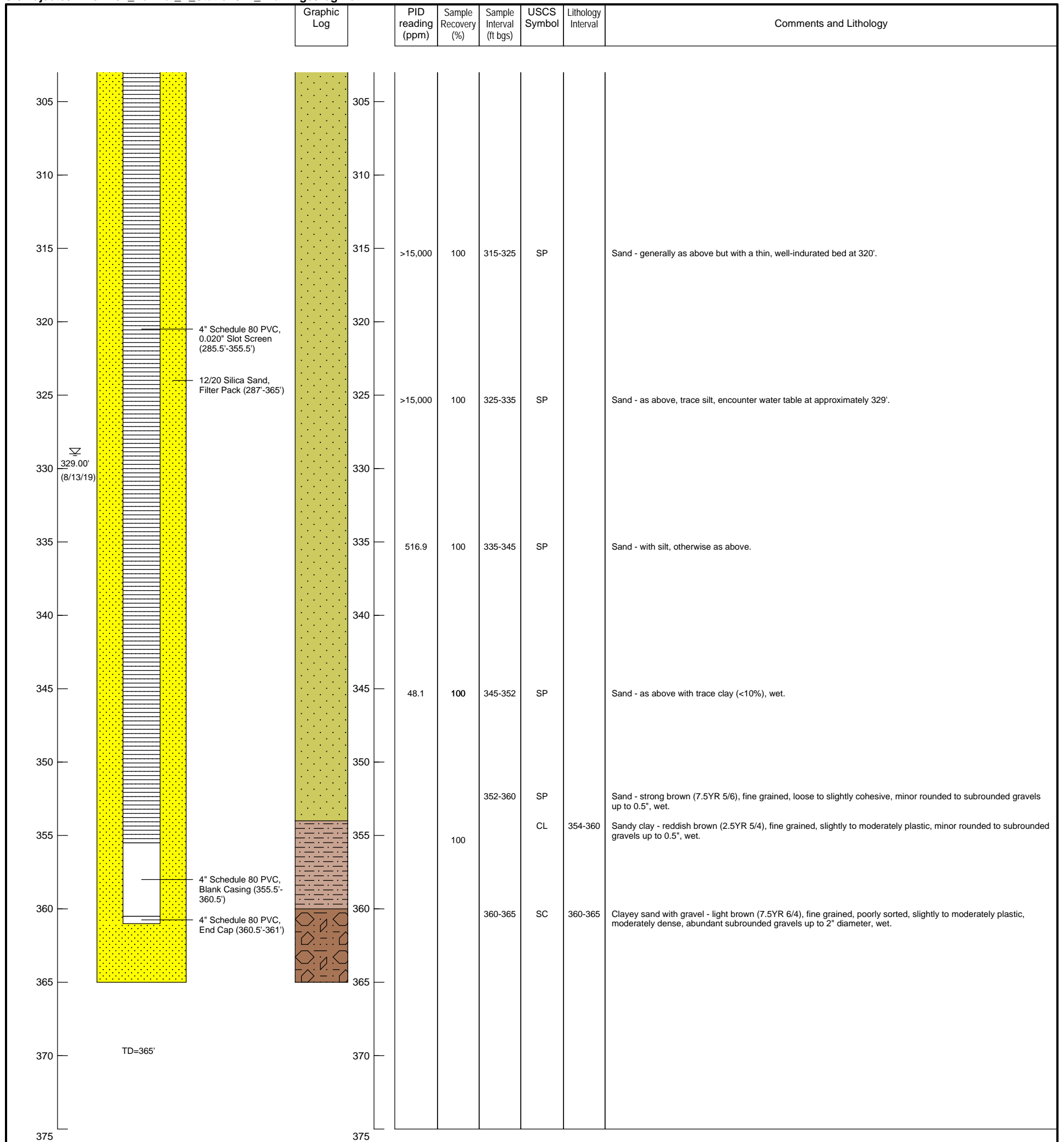
Geologist: H. Barnes and J. Raucci  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 6/15/19  
 Well completion date: 6/19/19

Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 124516.83      Elevation: 4279.70  
 Easting: 884140.96

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-2**





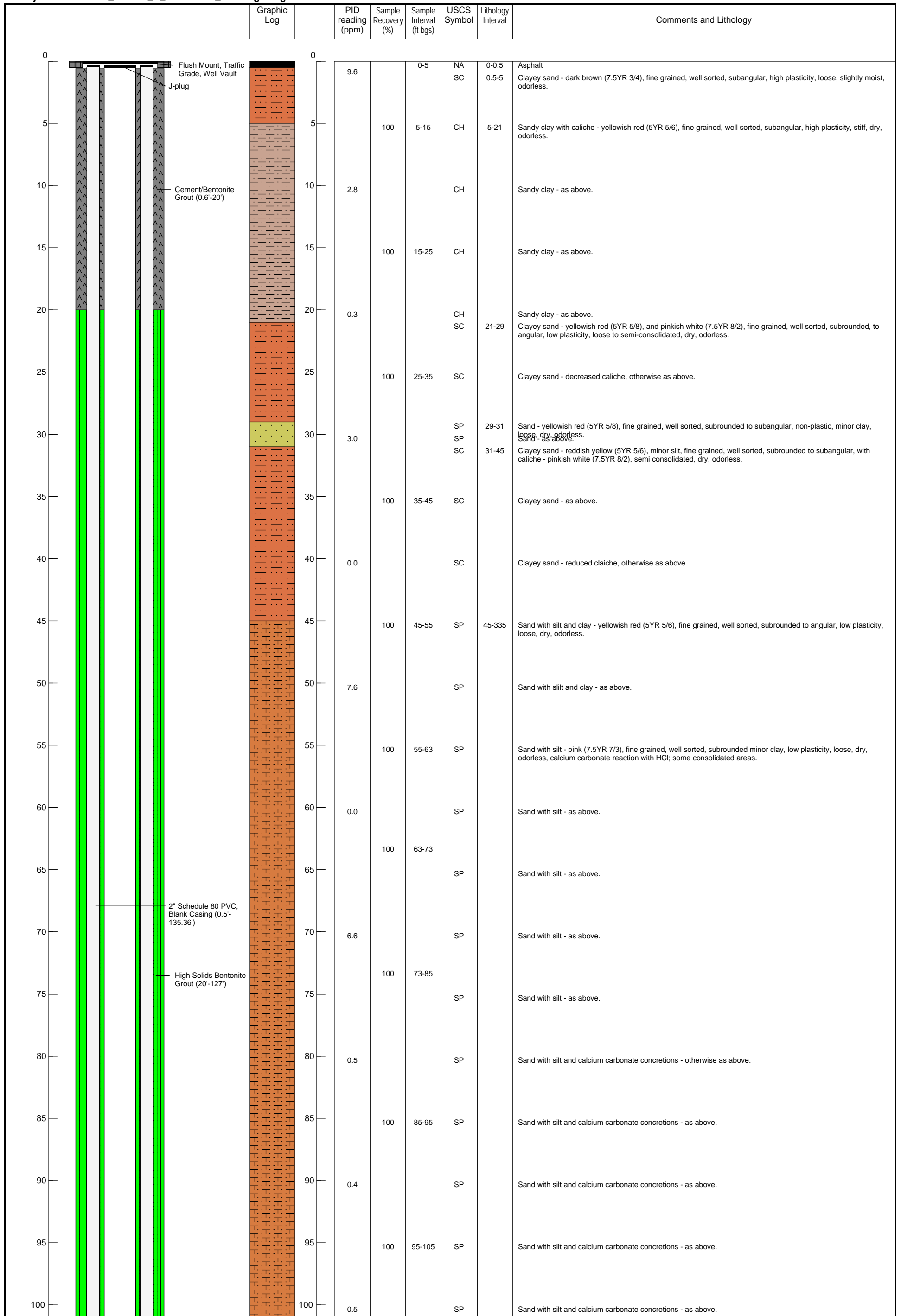
Geologist: H. Barnes and J. Raucci  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 6/15/19  
 Well completion date: 6/19/19

Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 124516.83      Elevation: 4279.70  
 Easting: 884140.96

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-2**





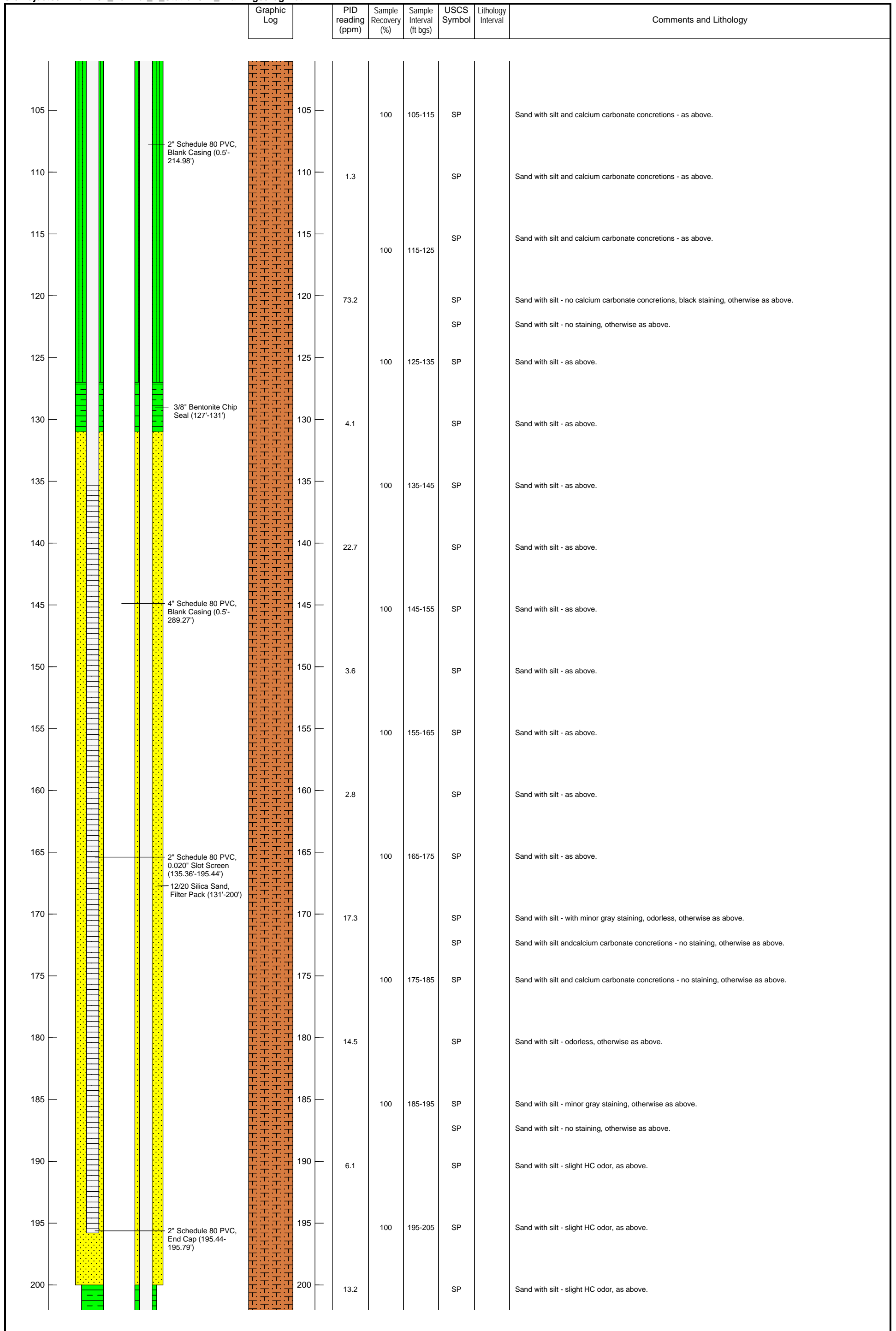
Geologist: P. Feltman  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 8/30/19  
 Well completion date: 8/30/19

Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245486.71 Elevation: 4278.78  
 Easting: 884251.49

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-3**





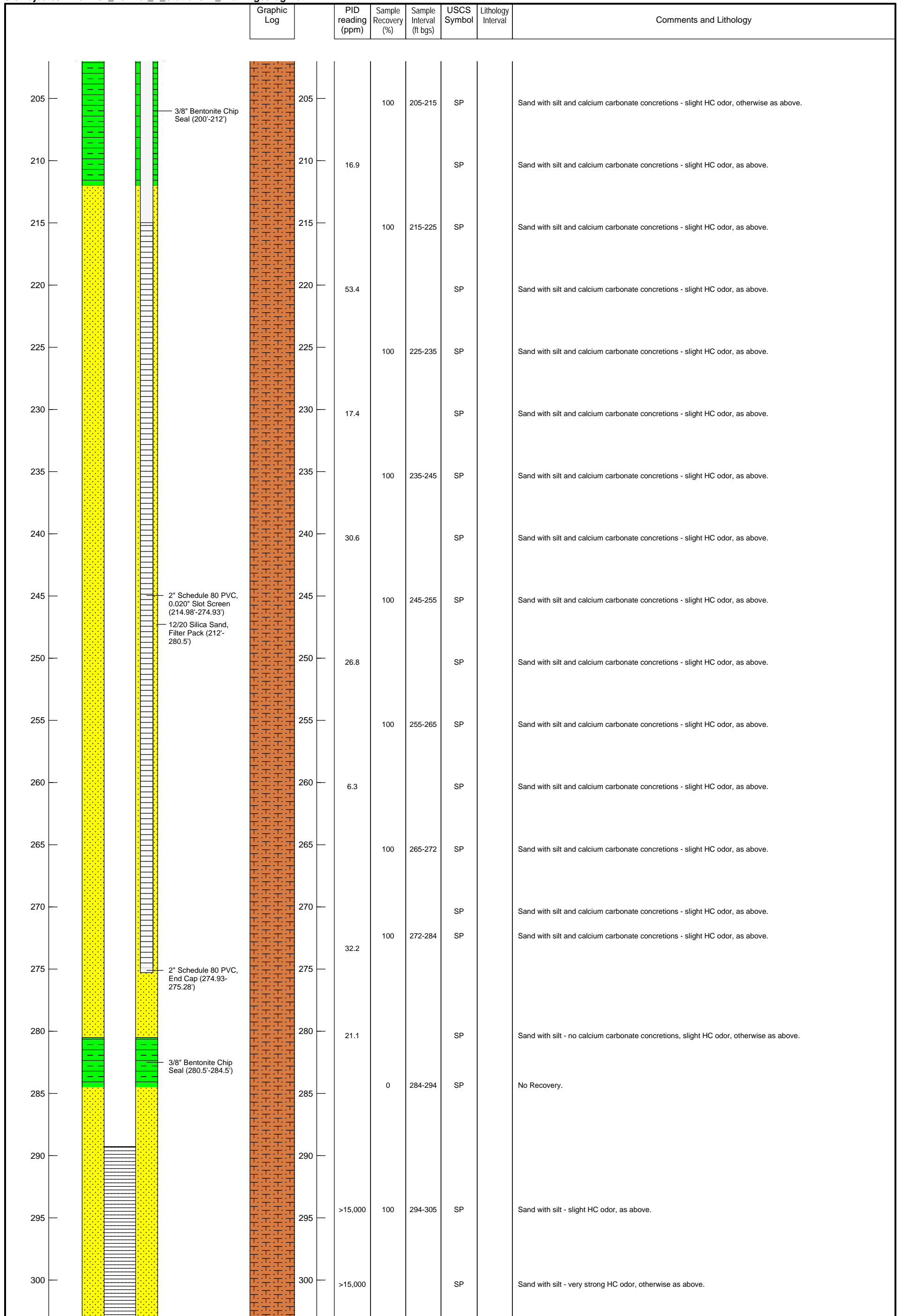
Geologist: P. Feltman  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 8/30/19  
 Well completion date: 8/30/19

Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245486.71 Elevation: 4278.78  
 Easting: 884251.49

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-3**





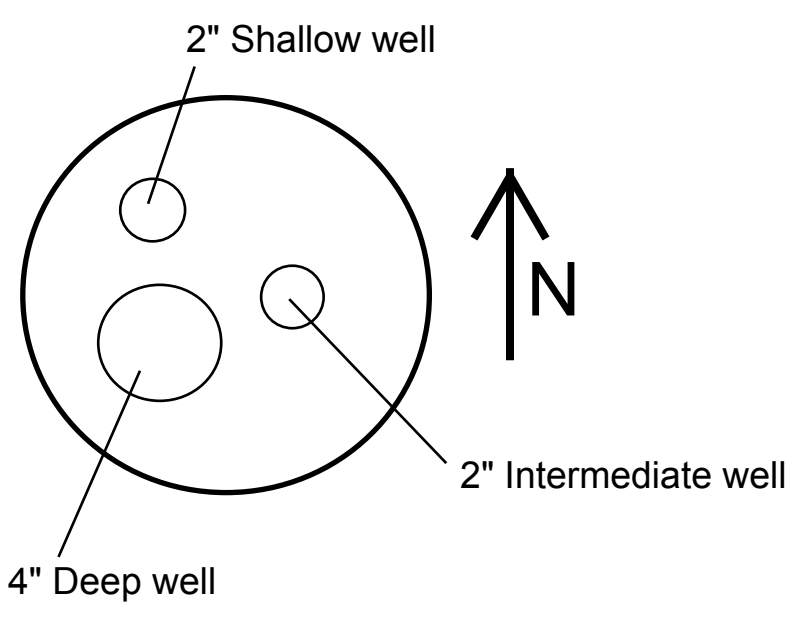
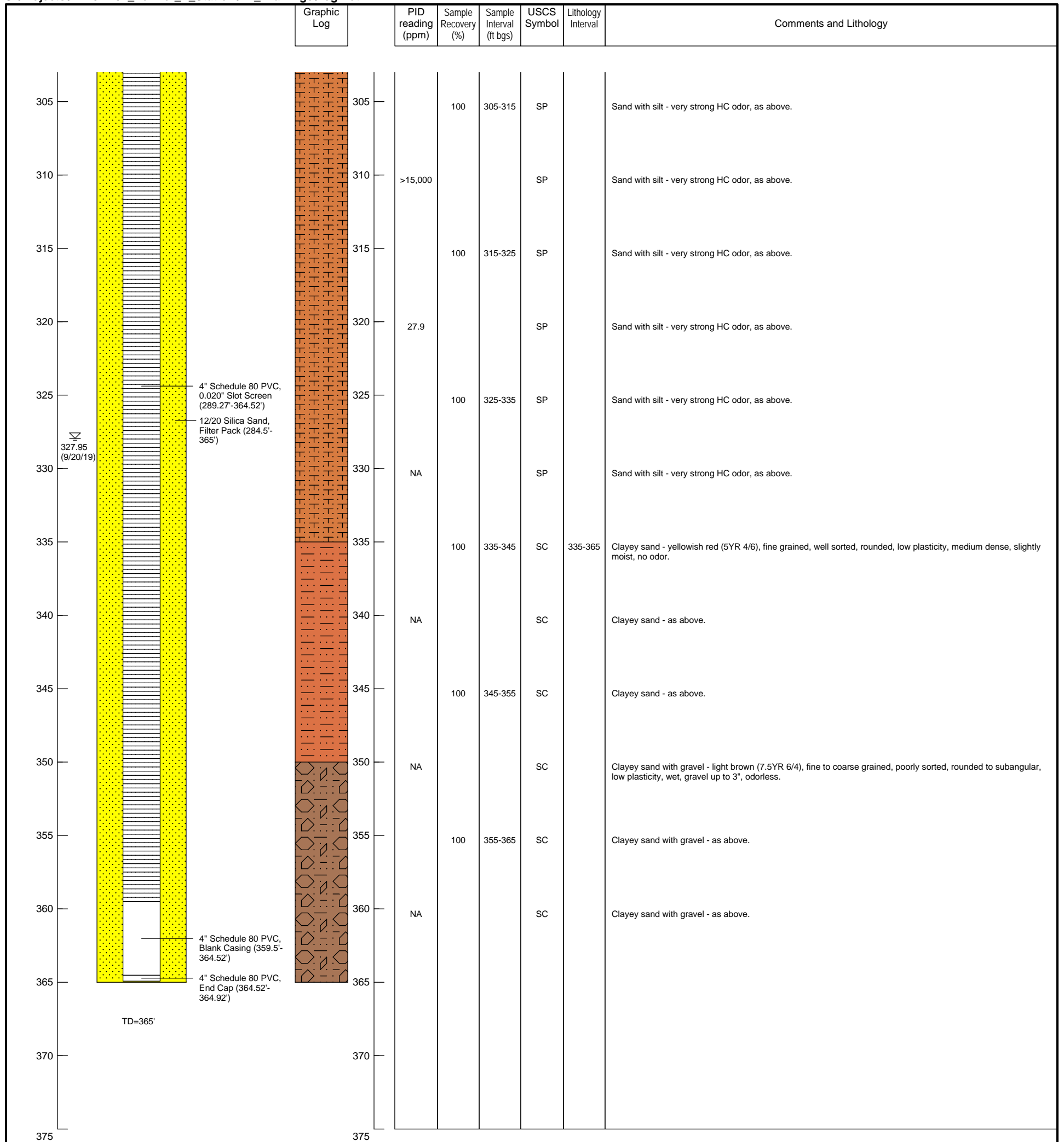
Geologist: P. Feltman  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 8/30/19  
 Well completion date: 8/30/19

Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245486.71 Elevation: 4278.78  
 Easting: 884251.49

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-3**



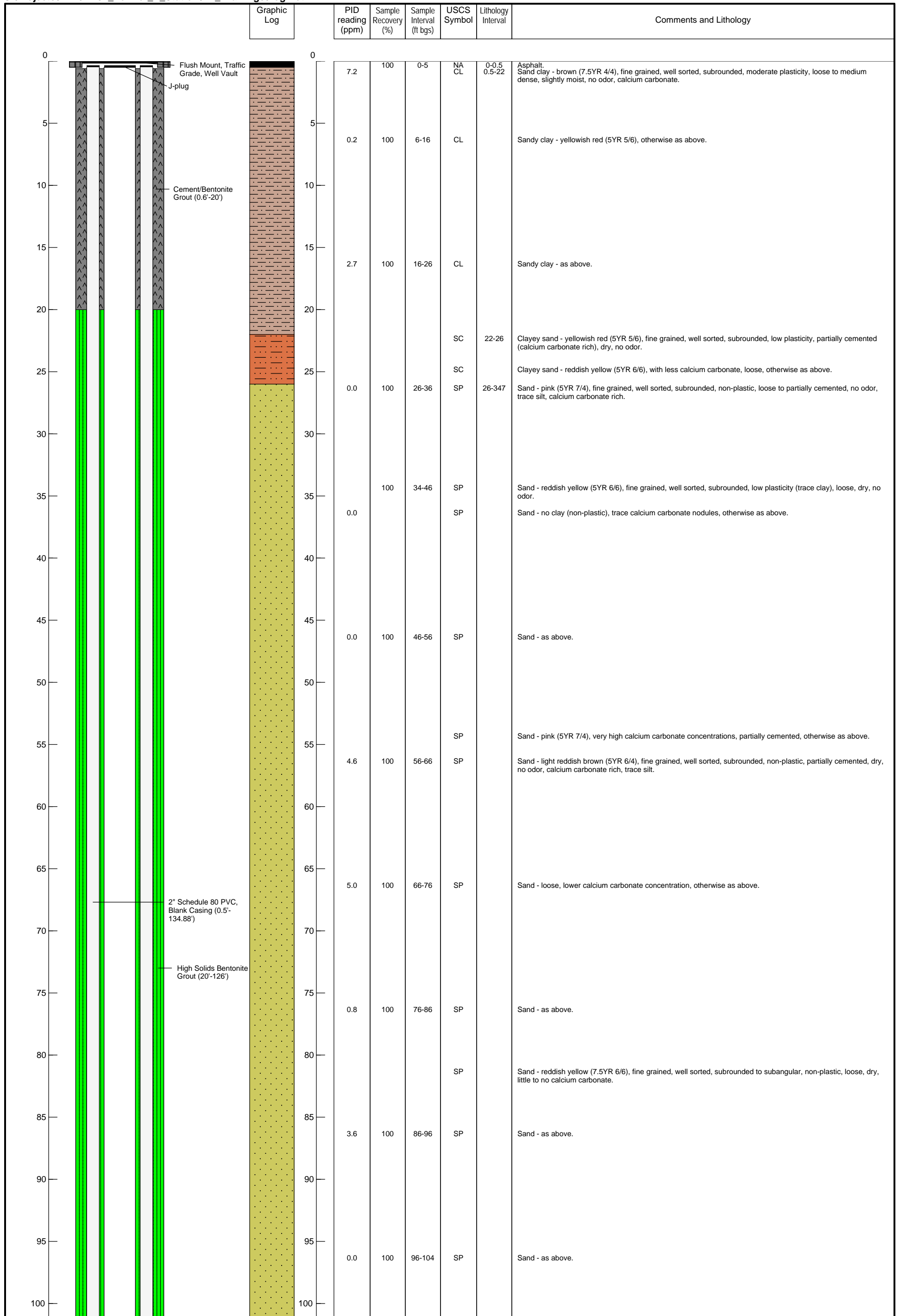


Geologist: P. Feltman  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 8/30/19  
 Well completion date: 8/30/19

Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245486.71      Elevation: 4278.78  
 Easting: 884251.49

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-3**



Geologist: H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 9/9/19  
 Well completion date: 9/9/19

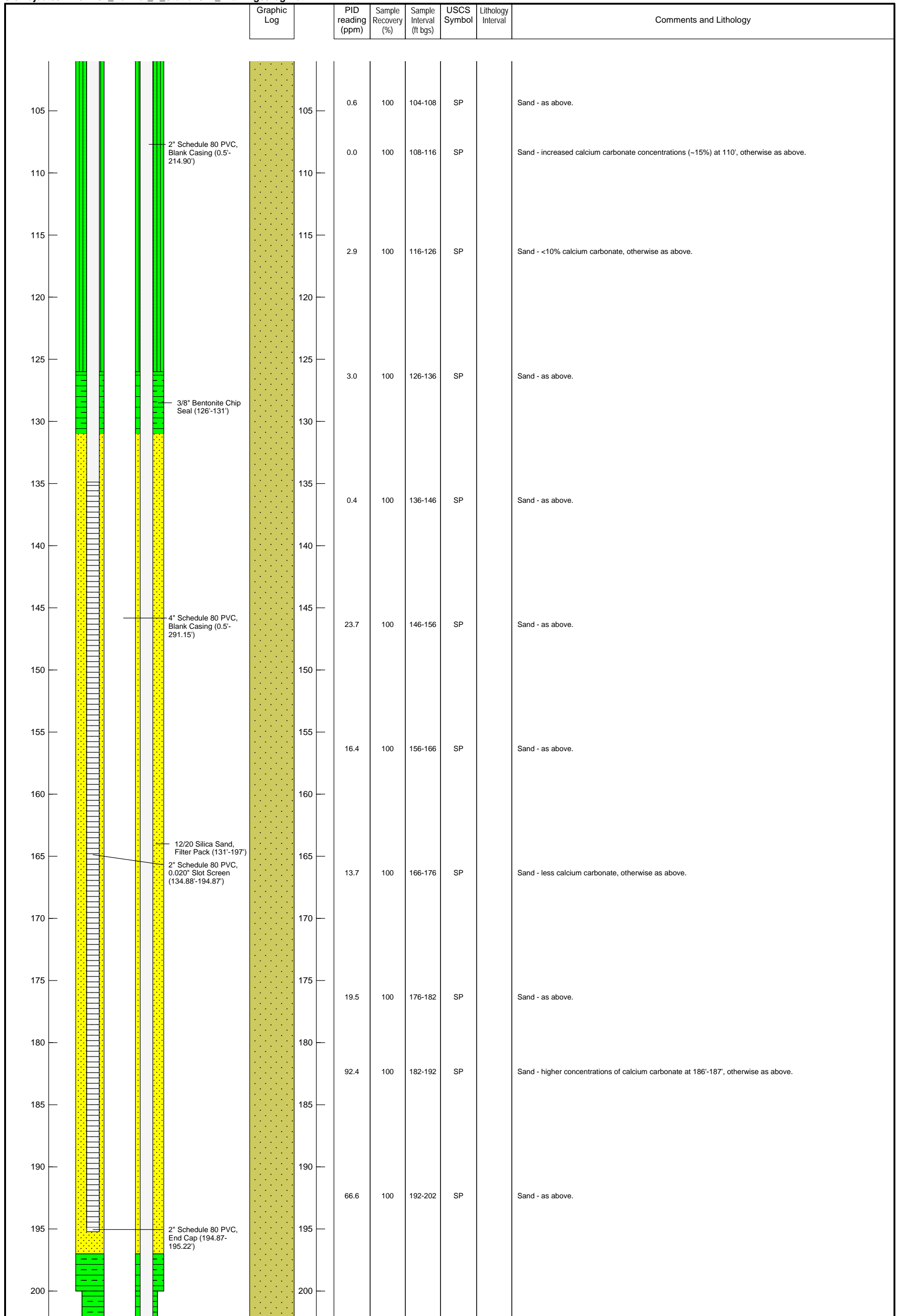
Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245346.00 Elevation: 4278.84  
 Easting: 884279.77

FORMER Y STATION  
 CLOVIS, NEW MEXICO  
**RW-4**







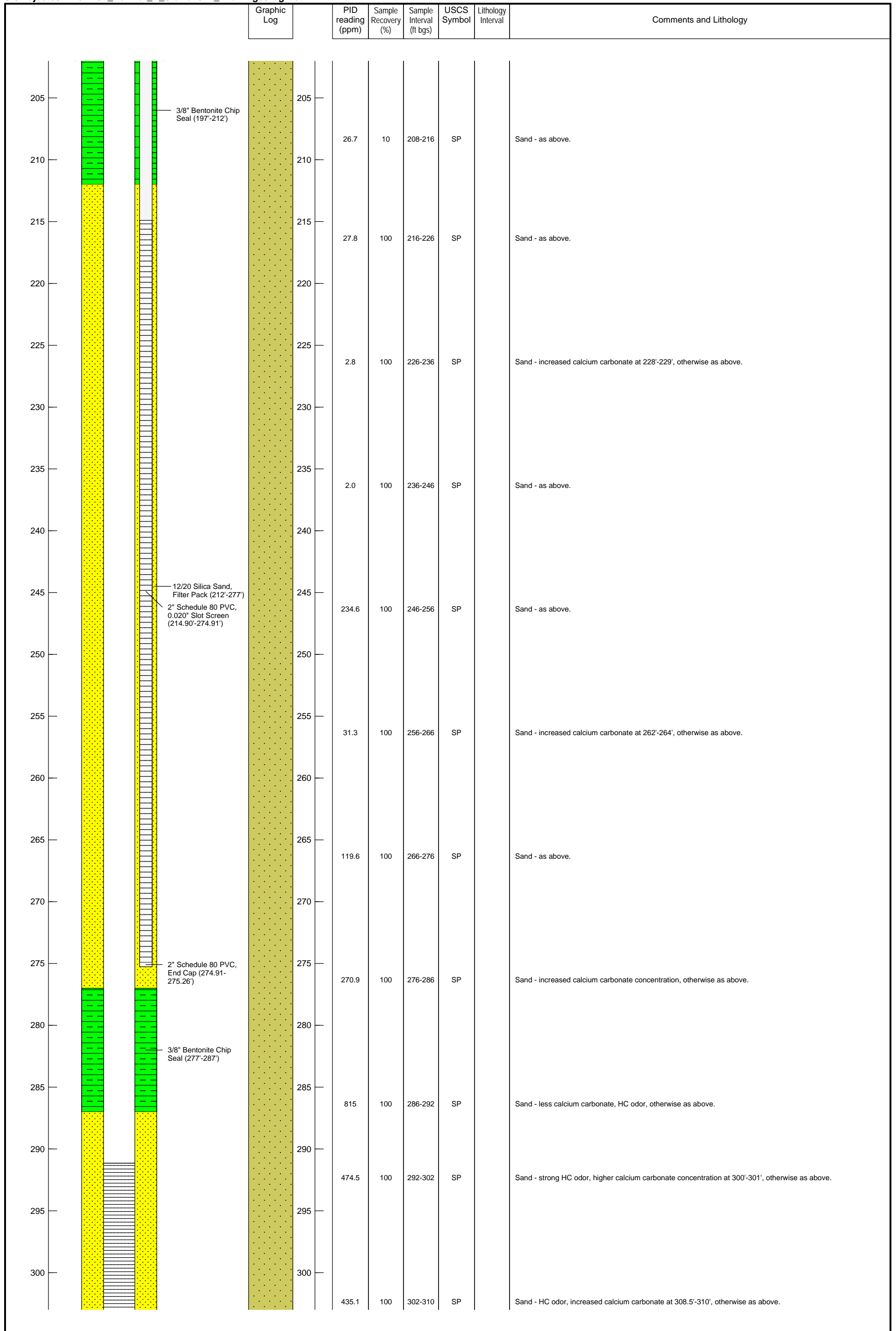
Geologist: H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 9/9/19  
 Well completion date: 9/9/19

Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245346.00 Elevation: 4278.84  
 Easting: 884279.77

FORMER Y STATION  
 CLOVIS, NEW MEXICO  
**RW-4**





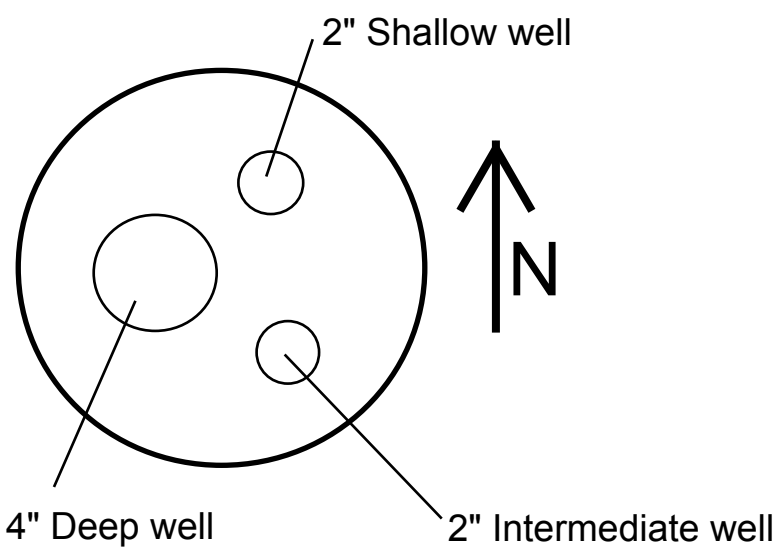
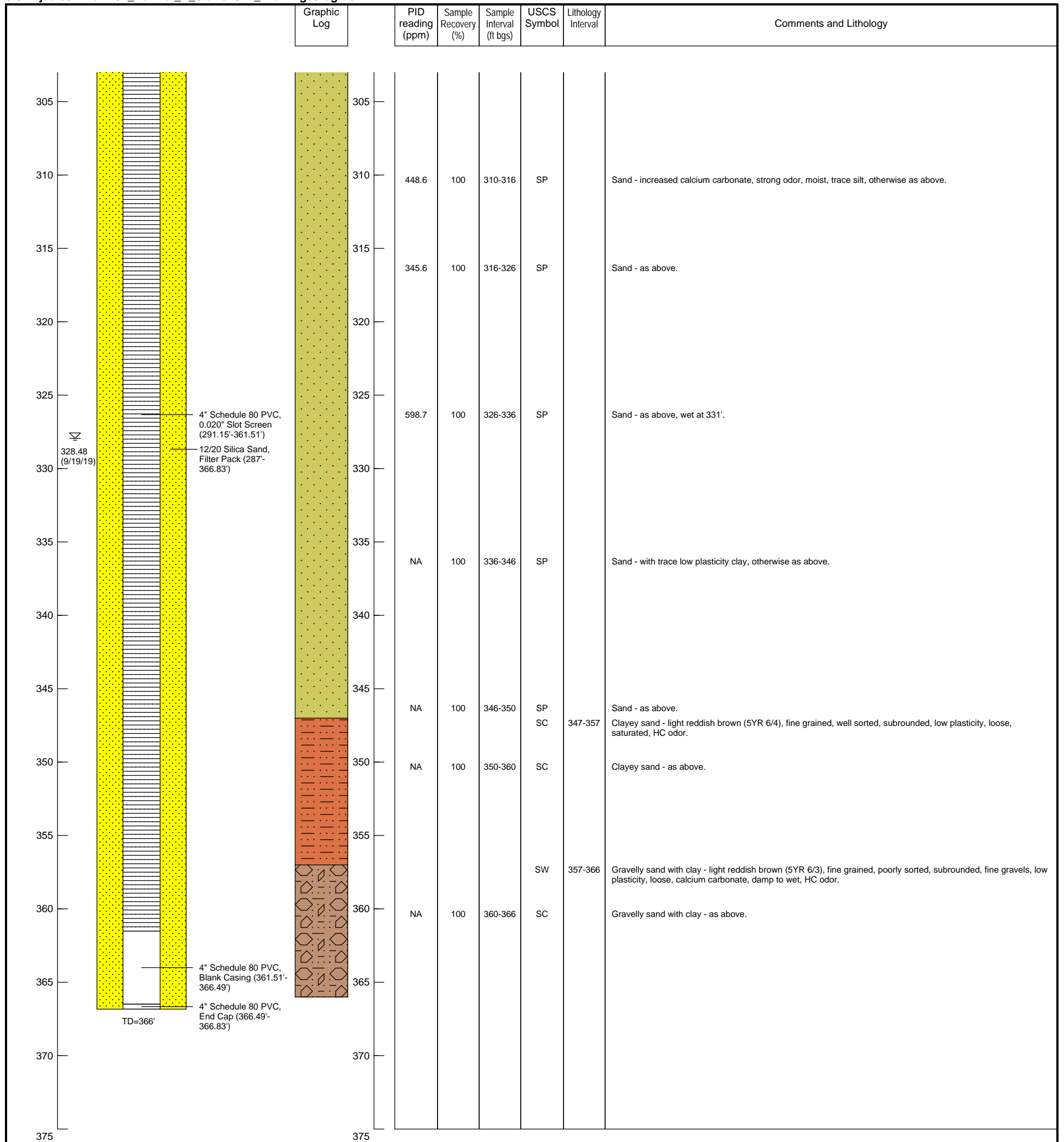
Geologist: H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 9/9/19  
 Well completion date: 9/9/19

Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245346.00 Elevation: 4278.84  
 Easting: 884279.77

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-4**





Geologist: H. Barnes  
 Driller: Yellow Jacket Drilling  
 Drilling start date: 9/9/19  
 Well completion date: 9/9/19

Drilling method: Sonic  
 Borehole diameter: 10.25"/9.5"  
 Sampling method: Sonic core

DTW= Depth to water measured below top of casing (feet)  
 New Mexico State Plane East NAD83  
 Northing: 1245346.00      Elevation: 4278.84  
 Easting: 884279.77

**FORMER Y STATION  
 CLOVIS, NEW MEXICO  
 RW-4**



**Appendix E**  
**Laboratory Reports**

**Soil**



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

August 02, 2019

Tom Golden

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX: (505) 822-8877

RE: Former Y

OrderNo.: 1907E04

Dear Tom Golden:

Hall Environmental Analysis Laboratory received 4 sample(s) on 7/26/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907E04

Date Reported: 8/2/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-12 AW1

**Project:** Former Y

**Collection Date:** 7/16/2019 7:00:00 AM

**Lab ID:** 1907E04-001

**Matrix:** MEOH (SOIL)

**Received Date:** 7/26/2019 11:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	0.043	0.015		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Toluene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Ethylbenzene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Methyl tert-butyl ether (MTBE)	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,2,4-Trimethylbenzene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,3,5-Trimethylbenzene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,2-Dichloroethane (EDC)	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,2-Dibromoethane (EDB)	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Naphthalene	ND	0.062		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1-Methylnaphthalene	ND	0.12		mg/Kg	1	7/30/2019 11:57:22 AM	46422
2-Methylnaphthalene	ND	0.12		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Acetone	ND	0.46		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Bromobenzene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Bromodichloromethane	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Bromoform	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Bromomethane	ND	0.093		mg/Kg	1	7/30/2019 11:57:22 AM	46422
2-Butanone	ND	0.31		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Carbon disulfide	ND	0.31		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Carbon tetrachloride	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Chlorobenzene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Chloroethane	ND	0.062		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Chloroform	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Chloromethane	ND	0.093		mg/Kg	1	7/30/2019 11:57:22 AM	46422
2-Chlorotoluene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
4-Chlorotoluene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
cis-1,2-DCE	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
cis-1,3-Dichloropropene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,2-Dibromo-3-chloropropane	ND	0.062		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Dibromochloromethane	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Dibromomethane	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,2-Dichlorobenzene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,3-Dichlorobenzene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,4-Dichlorobenzene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Dichlorodifluoromethane	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,1-Dichloroethane	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,1-Dichloroethene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,2-Dichloropropane	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,3-Dichloropropane	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
2,2-Dichloropropane	ND	0.062		mg/Kg	1	7/30/2019 11:57:22 AM	46422

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907E04

Date Reported: 8/2/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-12 AW1

**Project:** Former Y

**Collection Date:** 7/16/2019 7:00:00 AM

**Lab ID:** 1907E04-001

**Matrix:** MEOH (SOIL)

**Received Date:** 7/26/2019 11:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.062		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Hexachlorobutadiene	ND	0.062		mg/Kg	1	7/30/2019 11:57:22 AM	46422
2-Hexanone	ND	0.31		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Isopropylbenzene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
4-Isopropyltoluene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
4-Methyl-2-pentanone	ND	0.31		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Methylene chloride	ND	0.093		mg/Kg	1	7/30/2019 11:57:22 AM	46422
n-Butylbenzene	ND	0.093		mg/Kg	1	7/30/2019 11:57:22 AM	46422
n-Propylbenzene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
sec-Butylbenzene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Styrene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
tert-Butylbenzene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,1,1,2-Tetrachloroethane	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,1,2,2-Tetrachloroethane	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Tetrachloroethene (PCE)	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
trans-1,2-DCE	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
trans-1,3-Dichloropropene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,2,3-Trichlorobenzene	ND	0.062		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,2,4-Trichlorobenzene	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,1,1-Trichloroethane	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,1,2-Trichloroethane	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Trichloroethene (TCE)	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Trichlorofluoromethane	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
1,2,3-Trichloropropane	ND	0.062		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Vinyl chloride	ND	0.031		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Xylenes, Total	ND	0.062		mg/Kg	1	7/30/2019 11:57:22 AM	46422
Surr: Dibromofluoromethane	90.0	70-130		%Rec	1	7/30/2019 11:57:22 AM	46422
Surr: 1,2-Dichloroethane-d4	88.0	70-130		%Rec	1	7/30/2019 11:57:22 AM	46422
Surr: Toluene-d8	97.6	70-130		%Rec	1	7/30/2019 11:57:22 AM	46422
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	7/30/2019 11:57:22 AM	46422

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907E04

Date Reported: 8/2/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: BW-7R 95'

Project: Former Y

Collection Date: 7/21/2019 1:30:00 PM

Lab ID: 1907E04-002

Matrix: MEOH (SOIL)

Received Date: 7/26/2019 11:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.014		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Toluene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Ethylbenzene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Methyl tert-butyl ether (MTBE)	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,2,4-Trimethylbenzene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,3,5-Trimethylbenzene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,2-Dichloroethane (EDC)	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,2-Dibromoethane (EDB)	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Naphthalene	ND	0.055		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1-Methylnaphthalene	ND	0.11		mg/Kg	1	7/30/2019 7:21:55 PM	46422
2-Methylnaphthalene	ND	0.11		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Acetone	ND	0.41		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Bromobenzene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Bromodichloromethane	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Bromoform	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Bromomethane	ND	0.082		mg/Kg	1	7/30/2019 7:21:55 PM	46422
2-Butanone	ND	0.27		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Carbon disulfide	ND	0.27		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Carbon tetrachloride	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Chlorobenzene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Chloroethane	ND	0.055		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Chloroform	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Chloromethane	ND	0.082		mg/Kg	1	7/30/2019 7:21:55 PM	46422
2-Chlorotoluene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
4-Chlorotoluene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
cis-1,2-DCE	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
cis-1,3-Dichloropropene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,2-Dibromo-3-chloropropane	ND	0.055		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Dibromochloromethane	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Dibromomethane	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,2-Dichlorobenzene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,3-Dichlorobenzene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,4-Dichlorobenzene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Dichlorodifluoromethane	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,1-Dichloroethane	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,1-Dichloroethene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,2-Dichloropropane	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,3-Dichloropropane	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
2,2-Dichloropropane	ND	0.055		mg/Kg	1	7/30/2019 7:21:55 PM	46422

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907E04

Date Reported: 8/2/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: BW-7R 95'

Project: Former Y

Collection Date: 7/21/2019 1:30:00 PM

Lab ID: 1907E04-002

Matrix: MEOH (SOIL)

Received Date: 7/26/2019 11:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.055		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Hexachlorobutadiene	ND	0.055		mg/Kg	1	7/30/2019 7:21:55 PM	46422
2-Hexanone	ND	0.27		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Isopropylbenzene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
4-Isopropyltoluene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
4-Methyl-2-pentanone	ND	0.27		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Methylene chloride	ND	0.082		mg/Kg	1	7/30/2019 7:21:55 PM	46422
n-Butylbenzene	ND	0.082		mg/Kg	1	7/30/2019 7:21:55 PM	46422
n-Propylbenzene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
sec-Butylbenzene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Styrene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
tert-Butylbenzene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,1,1,2-Tetrachloroethane	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,1,2,2-Tetrachloroethane	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Tetrachloroethene (PCE)	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
trans-1,2-DCE	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
trans-1,3-Dichloropropene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,2,3-Trichlorobenzene	ND	0.055		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,2,4-Trichlorobenzene	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,1,1-Trichloroethane	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,1,2-Trichloroethane	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Trichloroethene (TCE)	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Trichlorofluoromethane	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
1,2,3-Trichloropropane	ND	0.055		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Vinyl chloride	ND	0.027		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Xylenes, Total	ND	0.055		mg/Kg	1	7/30/2019 7:21:55 PM	46422
Surr: Dibromofluoromethane	92.7	70-130		%Rec	1	7/30/2019 7:21:55 PM	46422
Surr: 1,2-Dichloroethane-d4	91.5	70-130		%Rec	1	7/30/2019 7:21:55 PM	46422
Surr: Toluene-d8	94.5	70-130		%Rec	1	7/30/2019 7:21:55 PM	46422
Surr: 4-Bromofluorobenzene	94.6	70-130		%Rec	1	7/30/2019 7:21:55 PM	46422

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907E04

Date Reported: 8/2/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-7R 145'

**Project:** Former Y

**Collection Date:** 7/22/2019 9:25:00 AM

**Lab ID:** 1907E04-003

**Matrix:** MEOH (SOIL)

**Received Date:** 7/26/2019 11:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.015		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Toluene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Ethylbenzene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Methyl tert-butyl ether (MTBE)	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,2,4-Trimethylbenzene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,3,5-Trimethylbenzene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,2-Dichloroethane (EDC)	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,2-Dibromoethane (EDB)	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Naphthalene	ND	0.061		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1-Methylnaphthalene	ND	0.12		mg/Kg	1	7/30/2019 8:50:05 PM	46422
2-Methylnaphthalene	ND	0.12		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Acetone	ND	0.45		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Bromobenzene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Bromodichloromethane	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Bromoform	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Bromomethane	ND	0.091		mg/Kg	1	7/30/2019 8:50:05 PM	46422
2-Butanone	ND	0.30		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Carbon disulfide	ND	0.30		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Carbon tetrachloride	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Chlorobenzene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Chloroethane	ND	0.061		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Chloroform	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Chloromethane	ND	0.091		mg/Kg	1	7/30/2019 8:50:05 PM	46422
2-Chlorotoluene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
4-Chlorotoluene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
cis-1,2-DCE	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
cis-1,3-Dichloropropene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,2-Dibromo-3-chloropropane	ND	0.061		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Dibromochloromethane	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Dibromomethane	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,2-Dichlorobenzene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,3-Dichlorobenzene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,4-Dichlorobenzene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Dichlorodifluoromethane	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,1-Dichloroethane	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,1-Dichloroethene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,2-Dichloropropane	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,3-Dichloropropane	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
2,2-Dichloropropane	ND	0.061		mg/Kg	1	7/30/2019 8:50:05 PM	46422

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907E04

Date Reported: 8/2/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-7R 145'

**Project:** Former Y

**Collection Date:** 7/22/2019 9:25:00 AM

**Lab ID:** 1907E04-003

**Matrix:** MEOH (SOIL) **Received Date:** 7/26/2019 11:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.061		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Hexachlorobutadiene	ND	0.061		mg/Kg	1	7/30/2019 8:50:05 PM	46422
2-Hexanone	ND	0.30		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Isopropylbenzene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
4-Isopropyltoluene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
4-Methyl-2-pentanone	ND	0.30		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Methylene chloride	ND	0.091		mg/Kg	1	7/30/2019 8:50:05 PM	46422
n-Butylbenzene	ND	0.091		mg/Kg	1	7/30/2019 8:50:05 PM	46422
n-Propylbenzene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
sec-Butylbenzene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Styrene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
tert-Butylbenzene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,1,1,2-Tetrachloroethane	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,1,2,2-Tetrachloroethane	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Tetrachloroethene (PCE)	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
trans-1,2-DCE	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
trans-1,3-Dichloropropene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,2,3-Trichlorobenzene	ND	0.061		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,2,4-Trichlorobenzene	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,1,1-Trichloroethane	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,1,2-Trichloroethane	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Trichloroethene (TCE)	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Trichlorofluoromethane	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
1,2,3-Trichloropropane	ND	0.061		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Vinyl chloride	ND	0.030		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Xylenes, Total	ND	0.061		mg/Kg	1	7/30/2019 8:50:05 PM	46422
Surr: Dibromofluoromethane	89.7	70-130		%Rec	1	7/30/2019 8:50:05 PM	46422
Surr: 1,2-Dichloroethane-d4	83.9	70-130		%Rec	1	7/30/2019 8:50:05 PM	46422
Surr: Toluene-d8	94.9	70-130		%Rec	1	7/30/2019 8:50:05 PM	46422
Surr: 4-Bromofluorobenzene	95.2	70-130		%Rec	1	7/30/2019 8:50:05 PM	46422

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907E04

Date Reported: 8/2/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MEOH Blank

**Project:** Former Y

**Collection Date:**

**Lab ID:** 1907E04-004

**Matrix:** MEOH BLAN

**Received Date:** 7/26/2019 11:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Toluene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Ethylbenzene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Naphthalene	ND	0.10		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1-Methylnaphthalene	ND	0.20		mg/Kg	1	7/30/2019 9:19:20 PM	46422
2-Methylnaphthalene	ND	0.20		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Acetone	ND	0.75		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Bromobenzene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Bromodichloromethane	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Bromoform	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Bromomethane	ND	0.15		mg/Kg	1	7/30/2019 9:19:20 PM	46422
2-Butanone	ND	0.50		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Carbon disulfide	ND	0.50		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Carbon tetrachloride	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Chlorobenzene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Chloroethane	ND	0.10		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Chloroform	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Chloromethane	ND	0.15		mg/Kg	1	7/30/2019 9:19:20 PM	46422
2-Chlorotoluene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
4-Chlorotoluene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
cis-1,2-DCE	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Dibromochloromethane	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Dibromomethane	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,1-Dichloroethane	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,1-Dichloroethene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,2-Dichloropropane	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,3-Dichloropropane	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
2,2-Dichloropropane	ND	0.10		mg/Kg	1	7/30/2019 9:19:20 PM	46422

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907E04

Date Reported: 8/2/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MEOH Blank

**Project:** Former Y

**Collection Date:**

**Lab ID:** 1907E04-004

**Matrix:** MEOH BLAN

**Received Date:** 7/26/2019 11:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Hexachlorobutadiene	ND	0.10		mg/Kg	1	7/30/2019 9:19:20 PM	46422
2-Hexanone	ND	0.50		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Isopropylbenzene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
4-Isopropyltoluene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Methylene chloride	ND	0.15		mg/Kg	1	7/30/2019 9:19:20 PM	46422
n-Butylbenzene	ND	0.15		mg/Kg	1	7/30/2019 9:19:20 PM	46422
n-Propylbenzene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
sec-Butylbenzene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Styrene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
tert-Butylbenzene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
trans-1,2-DCE	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Trichlorofluoromethane	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Vinyl chloride	ND	0.050		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Xylenes, Total	ND	0.10		mg/Kg	1	7/30/2019 9:19:20 PM	46422
Surr: Dibromofluoromethane	88.7	70-130		%Rec	1	7/30/2019 9:19:20 PM	46422
Surr: 1,2-Dichloroethane-d4	84.2	70-130		%Rec	1	7/30/2019 9:19:20 PM	46422
Surr: Toluene-d8	95.6	70-130		%Rec	1	7/30/2019 9:19:20 PM	46422
Surr: 4-Bromofluorobenzene	90.6	70-130		%Rec	1	7/30/2019 9:19:20 PM	46422

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1907E04

02-Aug-19

Client: Daniel B. Stephens &amp; Assoc.

Project: Former Y

Sample ID: <b>mb-46422</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>46422</b>	RunNo: <b>61761</b>								
Prep Date: <b>7/26/2019</b>	Analysis Date: <b>7/30/2019</b>	SeqNo: <b>2093709</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1907E04

02-Aug-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>mb-46422</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>46422</b>		RunNo: <b>61761</b>							
Prep Date: <b>7/26/2019</b>	Analysis Date: <b>7/30/2019</b>		SeqNo: <b>2093709</b>		Units: <b>mg/Kg</b>					
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.46		0.5000		92.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		88.0	70	130			
Surr: Toluene-d8	0.47		0.5000		94.0	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.9	70	130			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>ics-46422</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>46422</b>		RunNo: <b>61761</b>							
Prep Date: <b>7/26/2019</b>	Analysis Date: <b>7/30/2019</b>		SeqNo: <b>2093710</b>		Units: <b>mg/Kg</b>					
Benzene	1.1	0.025	1.000	0	107	70	130			
Toluene	0.95	0.050	1.000	0	95.4	70	130			
Chlorobenzene	0.90	0.050	1.000	0	89.6	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1907E04

02-Aug-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>Ics-46422</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>46422</b>	RunNo: <b>61761</b>								
Prep Date: <b>7/26/2019</b>	Analysis Date: <b>7/30/2019</b>	SeqNo: <b>2093710</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.84	0.050	1.000	0	84.0	50.8	164			
Trichloroethene (TCE)	0.85	0.050	1.000	0	85.1	70	130			
Surr: Dibromofluoromethane	0.44		0.5000		87.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		89.1	70	130			
Surr: Toluene-d8	0.47		0.5000		94.0	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.6	70	130			

Sample ID: <b>1907e04-002ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>BW-7R 95'</b>	Batch ID: <b>46422</b>	RunNo: <b>61761</b>								
Prep Date:	Analysis Date: <b>7/30/2019</b>	SeqNo: <b>2093713</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.62	0.014	0.5473	0	112	68.9	131			
Toluene	0.53	0.027	0.5473	0	97.6	64.3	137			
Chlorobenzene	0.50	0.027	0.5473	0	92.0	65.9	143			
1,1-Dichloroethene	0.56	0.027	0.5473	0	102	53.4	150			
Trichloroethene (TCE)	0.49	0.027	0.5473	0	89.6	70	130			
Surr: Dibromofluoromethane	0.24		0.2736		85.9	70	130			
Surr: 1,2-Dichloroethane-d4	0.24		0.2736		86.3	70	130			
Surr: Toluene-d8	0.26		0.2736		96.6	70	130			
Surr: 4-Bromofluorobenzene	0.26		0.2736		96.2	70	130			

Sample ID: <b>1907e04-002amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>BW-7R 95'</b>	Batch ID: <b>46422</b>	RunNo: <b>61761</b>								
Prep Date:	Analysis Date: <b>7/30/2019</b>	SeqNo: <b>2093715</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.57	0.014	0.5473	0	104	68.9	131	8.08	20	
Toluene	0.52	0.027	0.5473	0	94.8	64.3	137	2.93	20	
Chlorobenzene	0.50	0.027	0.5473	0	90.9	65.9	143	1.21	20	
1,1-Dichloroethene	0.54	0.027	0.5473	0	98.1	53.4	150	4.31	20	
Trichloroethene (TCE)	0.47	0.027	0.5473	0	85.7	70	130	4.41	20	
Surr: Dibromofluoromethane	0.23		0.2736		84.2	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.24		0.2736		87.1	70	130	0	0	
Surr: Toluene-d8	0.26		0.2736		93.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.26		0.2736		96.2	70	130	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

**Sample Log-In Check List**

Client Name: **DBS**

Work Order Number: **1907E04**

RcptNo: **1**

Received By: **Erin Melendrez** **7/26/2019 11:37:00 AM**



Completed By: **Yazmine Garduno** **7/26/2019 2:38:45 PM**



Reviewed By: **DAD 7/26/19**

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? Client

**Log In**

3. Was an attempt made to cool the samples? Yes  No  NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
5. Sample(s) in proper container(s)? Yes  No
6. Sufficient sample volume for indicated test(s)? Yes  No
7. Are samples (except VOA and ONG) properly preserved? Yes  No
8. Was preservative added to bottles? Yes  No  NA
9. VOA vials have zero headspace? Yes  No  No VOA Vials
10. Were any sample containers received broken? Yes  No
11. Does paperwork match bottle labels? Yes  No   
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes  No
13. Is it clear what analyses were requested? Yes  No
14. Were all holding times able to be met? Yes  No   
 (If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: **ENM 7/26/19**

**Special Handling (if applicable)**

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:

**17. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.6	Good	Yes			





Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

August 09, 2019

Tom Golden

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX: (505) 822-8877

RE: Former Y

OrderNo.: 1908243

Dear Tom Golden:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/6/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908243

Date Reported: 8/9/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: BW-7R 275'

Project: Former Y

Collection Date: 7/30/2019 5:20:00 PM

Lab ID: 1908243-001

Matrix: MEOH (SOIL)

Received Date: 8/6/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	0.017		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Toluene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Ethylbenzene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Methyl tert-butyl ether (MTBE)	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,2,4-Trimethylbenzene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,3,5-Trimethylbenzene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,2-Dichloroethane (EDC)	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,2-Dibromoethane (EDB)	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Naphthalene	ND	0.070		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1-Methylnaphthalene	ND	0.14		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
2-Methylnaphthalene	ND	0.14		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Acetone	ND	0.52		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Bromobenzene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Bromodichloromethane	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Bromoform	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Bromomethane	ND	0.10		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
2-Butanone	ND	0.35		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Carbon disulfide	ND	0.35		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Carbon tetrachloride	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Chlorobenzene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Chloroethane	ND	0.070		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Chloroform	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Chloromethane	ND	0.10		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
2-Chlorotoluene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
4-Chlorotoluene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
cis-1,2-DCE	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
cis-1,3-Dichloropropene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,2-Dibromo-3-chloropropane	ND	0.070		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Dibromochloromethane	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Dibromomethane	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,2-Dichlorobenzene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,3-Dichlorobenzene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,4-Dichlorobenzene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Dichlorodifluoromethane	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,1-Dichloroethane	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,1-Dichloroethene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,2-Dichloropropane	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,3-Dichloropropane	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
2,2-Dichloropropane	ND	0.070		mg/Kg	1	8/8/2019 1:50:14 AM	S61975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908243

Date Reported: 8/9/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: BW-7R 275'

Project: Former Y

Collection Date: 7/30/2019 5:20:00 PM

Lab ID: 1908243-001

Matrix: MEOH (SOIL) Received Date: 8/6/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	0.070		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Hexachlorobutadiene	ND	0.070		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
2-Hexanone	ND	0.35		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Isopropylbenzene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
4-Isopropyltoluene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
4-Methyl-2-pentanone	ND	0.35		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Methylene chloride	ND	0.10		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
n-Butylbenzene	ND	0.10		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
n-Propylbenzene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
sec-Butylbenzene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Styrene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
tert-Butylbenzene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,1,1,2-Tetrachloroethane	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,1,2,2-Tetrachloroethane	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Tetrachloroethene (PCE)	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
trans-1,2-DCE	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
trans-1,3-Dichloropropene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,2,3-Trichlorobenzene	ND	0.070		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,2,4-Trichlorobenzene	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,1,1-Trichloroethane	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,1,2-Trichloroethane	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Trichloroethene (TCE)	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Trichlorofluoromethane	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
1,2,3-Trichloropropane	ND	0.070		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Vinyl chloride	ND	0.035		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Xylenes, Total	ND	0.070		mg/Kg	1	8/8/2019 1:50:14 AM	S61975
Surr: Dibromofluoromethane	99.6	70-130		%Rec	1	8/8/2019 1:50:14 AM	S61975
Surr: 1,2-Dichloroethane-d4	91.5	70-130		%Rec	1	8/8/2019 1:50:14 AM	S61975
Surr: Toluene-d8	95.0	70-130		%Rec	1	8/8/2019 1:50:14 AM	S61975
Surr: 4-Bromofluorobenzene	93.6	70-130		%Rec	1	8/8/2019 1:50:14 AM	S61975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908243

Date Reported: 8/9/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: BW-7R 330'

Project: Former Y

Collection Date: 7/31/2019 4:05:00 PM

Lab ID: 1908243-002

Matrix: MEOH (SOIL) Received Date: 8/6/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	0.015		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Toluene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Ethylbenzene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Methyl tert-butyl ether (MTBE)	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,2,4-Trimethylbenzene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,3,5-Trimethylbenzene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,2-Dichloroethane (EDC)	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,2-Dibromoethane (EDB)	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Naphthalene	ND	0.059		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1-Methylnaphthalene	ND	0.12		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
2-Methylnaphthalene	ND	0.12		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Acetone	ND	0.45		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Bromobenzene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Bromodichloromethane	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Bromoform	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Bromomethane	ND	0.089		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
2-Butanone	ND	0.30		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Carbon disulfide	ND	0.30		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Carbon tetrachloride	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Chlorobenzene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Chloroethane	ND	0.059		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Chloroform	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Chloromethane	ND	0.089		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
2-Chlorotoluene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
4-Chlorotoluene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
cis-1,2-DCE	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
cis-1,3-Dichloropropene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,2-Dibromo-3-chloropropane	ND	0.059		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Dibromochloromethane	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Dibromomethane	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,2-Dichlorobenzene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,3-Dichlorobenzene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,4-Dichlorobenzene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Dichlorodifluoromethane	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,1-Dichloroethane	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,1-Dichloroethene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,2-Dichloropropane	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,3-Dichloropropane	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
2,2-Dichloropropane	ND	0.059		mg/Kg	1	8/8/2019 2:19:03 AM	S61975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908243

Date Reported: 8/9/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-7R 330'

**Project:** Former Y

**Collection Date:** 7/31/2019 4:05:00 PM

**Lab ID:** 1908243-002

**Matrix:** MEOH (SOIL) **Received Date:** 8/6/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	0.059		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Hexachlorobutadiene	ND	0.059		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
2-Hexanone	ND	0.30		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Isopropylbenzene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
4-Isopropyltoluene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
4-Methyl-2-pentanone	ND	0.30		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Methylene chloride	ND	0.089		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
n-Butylbenzene	ND	0.089		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
n-Propylbenzene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
sec-Butylbenzene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Styrene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
tert-Butylbenzene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,1,1,2-Tetrachloroethane	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,1,2,2-Tetrachloroethane	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Tetrachloroethene (PCE)	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
trans-1,2-DCE	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
trans-1,3-Dichloropropene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,2,3-Trichlorobenzene	ND	0.059		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,2,4-Trichlorobenzene	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,1,1-Trichloroethane	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,1,2-Trichloroethane	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Trichloroethene (TCE)	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Trichlorofluoromethane	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
1,2,3-Trichloropropane	ND	0.059		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Vinyl chloride	ND	0.030		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Xylenes, Total	ND	0.059		mg/Kg	1	8/8/2019 2:19:03 AM	S61975
Surr: Dibromofluoromethane	101	70-130		%Rec	1	8/8/2019 2:19:03 AM	S61975
Surr: 1,2-Dichloroethane-d4	90.5	70-130		%Rec	1	8/8/2019 2:19:03 AM	S61975
Surr: Toluene-d8	92.4	70-130		%Rec	1	8/8/2019 2:19:03 AM	S61975
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	8/8/2019 2:19:03 AM	S61975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908243

Date Reported: 8/9/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-13 65'

**Project:** Former Y

**Collection Date:** 8/4/2019 5:10:00 PM

**Lab ID:** 1908243-003

**Matrix:** MEOH (SOIL)

**Received Date:** 8/6/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	0.020		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Toluene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Ethylbenzene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Methyl tert-butyl ether (MTBE)	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,2,4-Trimethylbenzene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,3,5-Trimethylbenzene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,2-Dichloroethane (EDC)	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,2-Dibromoethane (EDB)	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Naphthalene	ND	0.080		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1-Methylnaphthalene	ND	0.16		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
2-Methylnaphthalene	ND	0.16		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Acetone	ND	0.60		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Bromobenzene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Bromodichloromethane	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Bromoform	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Bromomethane	ND	0.12		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
2-Butanone	ND	0.40		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Carbon disulfide	ND	0.40		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Carbon tetrachloride	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Chlorobenzene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Chloroethane	ND	0.080		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Chloroform	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Chloromethane	ND	0.12		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
2-Chlorotoluene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
4-Chlorotoluene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
cis-1,2-DCE	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
cis-1,3-Dichloropropene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,2-Dibromo-3-chloropropane	ND	0.080		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Dibromochloromethane	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Dibromomethane	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,2-Dichlorobenzene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,3-Dichlorobenzene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,4-Dichlorobenzene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Dichlorodifluoromethane	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,1-Dichloroethane	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,1-Dichloroethene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,2-Dichloropropane	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,3-Dichloropropane	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
2,2-Dichloropropane	ND	0.080		mg/Kg	1	8/8/2019 2:47:57 AM	S61975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908243

Date Reported: 8/9/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-13 65'

**Project:** Former Y

**Collection Date:** 8/4/2019 5:10:00 PM

**Lab ID:** 1908243-003

**Matrix:** MEOH (SOIL) **Received Date:** 8/6/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	0.080		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Hexachlorobutadiene	ND	0.080		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
2-Hexanone	ND	0.40		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Isopropylbenzene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
4-Isopropyltoluene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
4-Methyl-2-pentanone	ND	0.40		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Methylene chloride	ND	0.12		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
n-Butylbenzene	ND	0.12		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
n-Propylbenzene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
sec-Butylbenzene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Styrene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
tert-Butylbenzene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,1,1,2-Tetrachloroethane	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,1,2,2-Tetrachloroethane	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Tetrachloroethene (PCE)	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
trans-1,2-DCE	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
trans-1,3-Dichloropropene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,2,3-Trichlorobenzene	ND	0.080		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,2,4-Trichlorobenzene	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,1,1-Trichloroethane	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,1,2-Trichloroethane	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Trichloroethene (TCE)	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Trichlorofluoromethane	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
1,2,3-Trichloropropane	ND	0.080		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Vinyl chloride	ND	0.040		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Xylenes, Total	ND	0.080		mg/Kg	1	8/8/2019 2:47:57 AM	S61975
Surr: Dibromofluoromethane	101	70-130		%Rec	1	8/8/2019 2:47:57 AM	S61975
Surr: 1,2-Dichloroethane-d4	93.3	70-130		%Rec	1	8/8/2019 2:47:57 AM	S61975
Surr: Toluene-d8	95.7	70-130		%Rec	1	8/8/2019 2:47:57 AM	S61975
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	8/8/2019 2:47:57 AM	S61975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908243

Date Reported: 8/9/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MeOH Blank

**Project:** Former Y

**Collection Date:**

**Lab ID:** 1908243-004

**Matrix:** MEOH BLAN

**Received Date:** 8/6/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Toluene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Naphthalene	ND	0.10		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1-Methylnaphthalene	ND	0.20		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
2-Methylnaphthalene	ND	0.20		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Acetone	ND	0.75		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Bromobenzene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Bromodichloromethane	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Bromoform	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Bromomethane	ND	0.15		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
2-Butanone	ND	0.50		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Carbon disulfide	ND	0.50		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Carbon tetrachloride	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Chlorobenzene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Chloroethane	ND	0.10		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Chloroform	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Chloromethane	ND	0.15		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
2-Chlorotoluene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
4-Chlorotoluene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
cis-1,2-DCE	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Dibromochloromethane	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Dibromomethane	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,1-Dichloroethane	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,1-Dichloroethene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,2-Dichloropropane	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,3-Dichloropropane	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
2,2-Dichloropropane	ND	0.10		mg/Kg	1	8/8/2019 3:16:47 AM	S61975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908243

Date Reported: 8/9/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MeOH Blank

**Project:** Former Y

**Collection Date:**

**Lab ID:** 1908243-004

**Matrix:** MEOH BLAN

**Received Date:** 8/6/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	0.10		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Hexachlorobutadiene	ND	0.10		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
2-Hexanone	ND	0.50		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Isopropylbenzene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
4-Isopropyltoluene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Methylene chloride	ND	0.15		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
n-Butylbenzene	ND	0.15		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
n-Propylbenzene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
sec-Butylbenzene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Styrene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
tert-Butylbenzene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
trans-1,2-DCE	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Trichlorofluoromethane	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Vinyl chloride	ND	0.050		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Xylenes, Total	ND	0.10		mg/Kg	1	8/8/2019 3:16:47 AM	S61975
Surr: Dibromofluoromethane	100	70-130		%Rec	1	8/8/2019 3:16:47 AM	S61975
Surr: 1,2-Dichloroethane-d4	88.1	70-130		%Rec	1	8/8/2019 3:16:47 AM	S61975
Surr: Toluene-d8	95.0	70-130		%Rec	1	8/8/2019 3:16:47 AM	S61975
Surr: 4-Bromofluorobenzene	97.3	70-130		%Rec	1	8/8/2019 3:16:47 AM	S61975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1908243

09-Aug-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: Volatiles								
Client ID: LCSS	Batch ID: S61975	RunNo: 61975								
Prep Date:	Analysis Date: 8/7/2019	SeqNo: 2102117	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.3	70	130			
Toluene	0.97	0.050	1.000	0	97.2	70	130			
Chlorobenzene	0.97	0.050	1.000	0	97.5	70	130			
1,1-Dichloroethene	0.93	0.050	1.000	0	93.3	50.8	164			
Trichloroethene (TCE)	0.97	0.050	1.000	0	96.8	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		93.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.2	70	130			
Surr: Toluene-d8	0.46		0.5000		92.4	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.7	70	130			

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles								
Client ID: PBS	Batch ID: S61975	RunNo: 61975								
Prep Date:	Analysis Date: 8/7/2019	SeqNo: 2102118	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1908243

09-Aug-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>rb</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>S61975</b>		RunNo: <b>61975</b>							
Prep Date:	Analysis Date: <b>8/7/2019</b>		SeqNo: <b>2102118</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1908243

09-Aug-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>rb</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>S61975</b>		RunNo: <b>61975</b>							
Prep Date:	Analysis Date: <b>8/7/2019</b>		SeqNo: <b>2102118</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.47		0.5000		93.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.0	70	130			
Surr: Toluene-d8	0.49		0.5000		97.0	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.5	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
 D Sample Diluted Due to Matrix  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 PQL Practical Quantitative Limit  
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 P Sample pH Not In Range  
 RL Reporting Limit

**Sample Log-In Check List**

Client Name: DBS

Work Order Number: 1908243

RcptNo: 1

Received By: Erin Melendrez 8/6/2019 10:15:00 AM

*EM*

Completed By: Erin Melendrez 8/6/2019 11:53:41 AM

*EM*

Reviewed By: DAD 8/6/19

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? Client

**Log In**

3. Was an attempt made to cool the samples? Yes  No  NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
5. Sample(s) in proper container(s)? Yes  No
6. Sufficient sample volume for indicated test(s)? Yes  No
7. Are samples (except VOA and ONG) properly preserved? Yes  No
8. Was preservative added to bottles? Yes  No  NA
9. VOA vials have zero headspace? Yes  No  No VOA Vials
10. Were any sample containers received broken? Yes  No
11. Does paperwork match bottle labels? Yes  No
- (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes  No
13. Is it clear what analyses were requested? Yes  No
14. Were all holding times able to be met? Yes  No
- (If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: *Dm 8/6/19*

**Special Handling (if applicable)**

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:

**17. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.9	Good	Not Present			







Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

June 07, 2019

Tom Golden

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX (505) 822-8877

RE: Formery

OrderNo.: 1906175

Dear Tom Golden:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/5/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906175

Date Reported: 6/7/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-11 (280-290)

**Project:** Formery

**Collection Date:** 6/3/2019 1:40:00 PM

**Lab ID:** 1906175-001

**Matrix:** MEOH (SOIL) **Received Date:** 6/5/2019 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 6010B: SOIL METALS</b>							Analyst: <b>ELS</b>
Lead	0.88	0.42		mg/Kg	1	6/7/2019 8:09:23 AM	45432
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.019		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Toluene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Ethylbenzene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Methyl tert-butyl ether (MTBE)	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,2,4-Trimethylbenzene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,3,5-Trimethylbenzene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,2-Dichloroethane (EDC)	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,2-Dibromoethane (EDB)	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Naphthalene	ND	0.075		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1-Methylnaphthalene	ND	0.15		mg/Kg	1	6/5/2019 11:29:33 PM	45359
2-Methylnaphthalene	ND	0.15		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Acetone	ND	0.56		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Bromobenzene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Bromodichloromethane	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Bromoform	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Bromomethane	ND	0.11		mg/Kg	1	6/5/2019 11:29:33 PM	45359
2-Butanone	ND	0.37		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Carbon disulfide	ND	0.37		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Carbon tetrachloride	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Chlorobenzene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Chloroethane	ND	0.075		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Chloroform	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Chloromethane	ND	0.11		mg/Kg	1	6/5/2019 11:29:33 PM	45359
2-Chlorotoluene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
4-Chlorotoluene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
cis-1,2-DCE	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
cis-1,3-Dichloropropene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,2-Dibromo-3-chloropropane	ND	0.075		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Dibromochloromethane	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Dibromomethane	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,2-Dichlorobenzene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,3-Dichlorobenzene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,4-Dichlorobenzene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Dichlorodifluoromethane	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,1-Dichloroethane	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,1-Dichloroethene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,2-Dichloropropane	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906175

Date Reported: 6/7/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-11 (280-290)

Project: Formery

Collection Date: 6/3/2019 1:40:00 PM

Lab ID: 1906175-001

Matrix: MEOH (SOIL) Received Date: 6/5/2019 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
2,2-Dichloropropane	ND	0.075		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,1-Dichloropropene	ND	0.075		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Hexachlorobutadiene	ND	0.075		mg/Kg	1	6/5/2019 11:29:33 PM	45359
2-Hexanone	ND	0.37		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Isopropylbenzene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
4-Isopropyltoluene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
4-Methyl-2-pentanone	ND	0.37		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Methylene chloride	ND	0.11		mg/Kg	1	6/5/2019 11:29:33 PM	45359
n-Butylbenzene	ND	0.11		mg/Kg	1	6/5/2019 11:29:33 PM	45359
n-Propylbenzene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
sec-Butylbenzene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Styrene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
tert-Butylbenzene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,1,1,2-Tetrachloroethane	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,1,2,2-Tetrachloroethane	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Tetrachloroethene (PCE)	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
trans-1,2-DCE	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
trans-1,3-Dichloropropene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,2,3-Trichlorobenzene	ND	0.075		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,2,4-Trichlorobenzene	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,1,1-Trichloroethane	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,1,2-Trichloroethane	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Trichloroethene (TCE)	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Trichlorofluoromethane	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
1,2,3-Trichloropropane	ND	0.075		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Vinyl chloride	ND	0.037		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Xylenes, Total	ND	0.075		mg/Kg	1	6/5/2019 11:29:33 PM	45359
Surr: Dibromofluoromethane	78.4	70-130		%Rec	1	6/5/2019 11:29:33 PM	45359
Surr: 1,2-Dichloroethane-d4	95.7	70-130		%Rec	1	6/5/2019 11:29:33 PM	45359
Surr: Toluene-d8	98.2	70-130		%Rec	1	6/5/2019 11:29:33 PM	45359
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	6/5/2019 11:29:33 PM	45359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906175

07-Jun-19

**Client:** Daniel B. Stephens & Assoc.  
**Project:** Formery

Sample ID: <b>mb-45359</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>45359</b>	RunNo: <b>60422</b>								
Prep Date: <b>6/4/2019</b>	Analysis Date: <b>6/6/2019</b>	SeqNo: <b>2044074</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906175

07-Jun-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Formerly

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>mb-45359</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>45359</b>		RunNo: <b>60422</b>							
Prep Date: <b>6/4/2019</b>	Analysis Date: <b>6/6/2019</b>		SeqNo: <b>2044074</b>		Units: <b>mg/Kg</b>					
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.39		0.5000		78.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		91.6	70	130			
Surr: Toluene-d8	0.47		0.5000		94.1	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.5	70	130			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>ics-45359</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>45359</b>		RunNo: <b>60422</b>							
Prep Date: <b>6/4/2019</b>	Analysis Date: <b>6/6/2019</b>		SeqNo: <b>2044075</b>		Units: <b>mg/Kg</b>					
Benzene	0.98	0.025	1.000	0	97.9	70	130			
Toluene	0.92	0.050	1.000	0	92.2	70	130			
Chlorobenzene	0.95	0.050	1.000	0	95.4	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906175

07-Jun-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Formery

Sample ID: <b>Ics-45359</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>45359</b>	RunNo: <b>60422</b>								
Prep Date: <b>6/4/2019</b>	Analysis Date: <b>6/6/2019</b>	SeqNo: <b>2044075</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.95	0.050	1.000	0	94.8	50.8	164			
Trichloroethene (TCE)	0.83	0.050	1.000	0	82.8	70	130			
Surr: Dibromofluoromethane	0.39		0.5000		77.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.5	70	130			
Surr: Toluene-d8	0.51		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		88.6	70	130			

**Qualifiers:**

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                  |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits      |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                          |
| PQL Practical Quantitative Limit                        | RL Reporting Limit                                |
| S % Recovery outside of range due to dilution or matrix |   |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906175

07-Jun-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Formery

Sample ID: <b>LCS-45432</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 6010B: Soil Metals</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>45432</b>	RunNo: <b>60467</b>								
Prep Date: <b>6/6/2019</b>	Analysis Date: <b>6/7/2019</b>	SeqNo: <b>2045460</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	25	0.25	25.00	0	102	80	120			

Sample ID: <b>MB-45432</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 6010B: Soil Metals</b>								
Client ID: <b>PBS</b>	Batch ID: <b>45432</b>	RunNo: <b>60467</b>								
Prep Date: <b>6/6/2019</b>	Analysis Date: <b>6/7/2019</b>	SeqNo: <b>2045462</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.25								

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit



**Sample Log-In Check List**

Client Name: DBS Work Order Number: 1906175 RcptNo: 1

Received By: Erin Melendrez 6/5/2019 11:00:00 AM *EM*  
 Completed By: Erin Melendrez 6/5/2019 11:26:54 AM *EM*  
 Reviewed By: *LB* 6/5/19

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? Client

**Log In**

3. Was an attempt made to cool the samples? Yes  No  NA   
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA   
 5. Sample(s) in proper container(s)? Yes  No   
 6. Sufficient sample volume for indicated test(s)? Yes  No   
 7. Are samples (except VOA and ONG) properly preserved? Yes  No   
 8. Was preservative added to bottles? Yes  No  NA   
 9. VOA vials have zero headspace? Yes  No  No VOA Vials   
 10. Were any sample containers received broken? Yes  No   
 11. Does paperwork match bottle labels? Yes  No   
 (Note discrepancies on chain of custody)  
 12. Are matrices correctly identified on Chain of Custody? Yes  No   
 13. Is it clear what analyses were requested? Yes  No   
 14. Were all holding times able to be met? Yes  No   
 (If no, notify customer for authorization.)

# of preserved bottles checked for pH:          *Thm*  
 (<2 or >12 unless noted) *6-5-19*  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
 By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person  
 Regarding: \_\_\_\_\_  
 Client Instructions: \_\_\_\_\_

16. Additional remarks:

**17. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Not Present			

# Chain-of-Custody Record

Client: DBSA

Mailing Address: 4020 Academy Rd NE SH00

Phone #: 87109  
822-9400

email or Fax#: tgolden@geo-logic

QA/QC Package:  
 Standard  Level 4 (Full Validation)

Accreditation:  Az Compliance  
 NELAC  Other \_\_\_\_\_

EDD (Type) \_\_\_\_\_

Turn-Around Time:  
 Standard  Rush 48 hr.

Project Name: Formerly

Project #: DB18.1157.00.SIO19.4

Project Manager: T. Golden

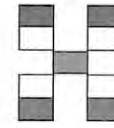
Sampler: P. Feltman  
On Ice:  Yes  No

# of Coolers: 1

Cooler Temp (including CF): 1.6 + 0.5 = 2.1°C

Date	Time	Matrix	Sample Name
<u>6/3/19</u>	<u>1340</u>	<u>Soil</u>	<u>MW-11 (280-290)</u>
<u>PAF</u> <u>6/4/19</u>			

Container Type and #	Preservative Type	HEAL No.
<u>1 jar/2rids</u>	<u>none / MeOH</u>	<u>1906175</u>



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
									<u>8260B</u>
									<u>8270</u>

Date: 6/5/19 Time: 1100 Relinquished by: Patricia Feltman

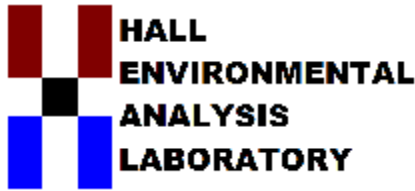
Received by: [Signature] Via: CTD Date: 6/5/19 Time: 1100

Remarks:

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished by: \_\_\_\_\_

Received by: \_\_\_\_\_ Via: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Remarks:



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

June 06, 2019

Tom Golden

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX (505) 822-8877

RE: Former Y

OrderNo.: 1906188

Dear Tom Golden:

Hall Environmental Analysis Laboratory received 3 sample(s) on 6/5/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink that reads 'John Caldwell'.

John Caldwell

Supervisor

4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906188

Date Reported: 6/6/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-11 (20-30)

Project: Former Y

Collection Date: 5/30/2019 9:00:00 AM

Lab ID: 1906188-001

Matrix: MEOH (SOIL) Received Date: 6/5/2019 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.018		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Toluene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Ethylbenzene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Methyl tert-butyl ether (MTBE)	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,2,4-Trimethylbenzene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,3,5-Trimethylbenzene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,2-Dichloroethane (EDC)	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,2-Dibromoethane (EDB)	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Naphthalene	ND	0.072		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1-Methylnaphthalene	ND	0.14		mg/Kg	1	6/6/2019 3:57:33 AM	45359
2-Methylnaphthalene	ND	0.14		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Acetone	ND	0.54		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Bromobenzene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Bromodichloromethane	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Bromoform	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Bromomethane	ND	0.11		mg/Kg	1	6/6/2019 3:57:33 AM	45359
2-Butanone	ND	0.36		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Carbon disulfide	ND	0.36		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Carbon tetrachloride	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Chlorobenzene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Chloroethane	ND	0.072		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Chloroform	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Chloromethane	ND	0.11		mg/Kg	1	6/6/2019 3:57:33 AM	45359
2-Chlorotoluene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
4-Chlorotoluene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
cis-1,2-DCE	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
cis-1,3-Dichloropropene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,2-Dibromo-3-chloropropane	ND	0.072		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Dibromochloromethane	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Dibromomethane	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,2-Dichlorobenzene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,3-Dichlorobenzene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,4-Dichlorobenzene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Dichlorodifluoromethane	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,1-Dichloroethane	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,1-Dichloroethene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,2-Dichloropropane	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,3-Dichloropropane	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
2,2-Dichloropropane	ND	0.072		mg/Kg	1	6/6/2019 3:57:33 AM	45359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906188

Date Reported: 6/6/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-11 (20-30)

Project: Former Y

Collection Date: 5/30/2019 9:00:00 AM

Lab ID: 1906188-001

Matrix: MEOH (SOIL) Received Date: 6/5/2019 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.072		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Hexachlorobutadiene	ND	0.072		mg/Kg	1	6/6/2019 3:57:33 AM	45359
2-Hexanone	ND	0.36		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Isopropylbenzene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
4-Isopropyltoluene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
4-Methyl-2-pentanone	ND	0.36		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Methylene chloride	ND	0.11		mg/Kg	1	6/6/2019 3:57:33 AM	45359
n-Butylbenzene	ND	0.11		mg/Kg	1	6/6/2019 3:57:33 AM	45359
n-Propylbenzene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
sec-Butylbenzene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Styrene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
tert-Butylbenzene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,1,1,2-Tetrachloroethane	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,1,2,2-Tetrachloroethane	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Tetrachloroethene (PCE)	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
trans-1,2-DCE	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
trans-1,3-Dichloropropene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,2,3-Trichlorobenzene	ND	0.072		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,2,4-Trichlorobenzene	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,1,1-Trichloroethane	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,1,2-Trichloroethane	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Trichloroethene (TCE)	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Trichlorofluoromethane	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
1,2,3-Trichloropropane	ND	0.072		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Vinyl chloride	ND	0.036		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Xylenes, Total	ND	0.072		mg/Kg	1	6/6/2019 3:57:33 AM	45359
Surr: Dibromofluoromethane	74.8	70-130		%Rec	1	6/6/2019 3:57:33 AM	45359
Surr: 1,2-Dichloroethane-d4	92.0	70-130		%Rec	1	6/6/2019 3:57:33 AM	45359
Surr: Toluene-d8	96.4	70-130		%Rec	1	6/6/2019 3:57:33 AM	45359
Surr: 4-Bromofluorobenzene	93.4	70-130		%Rec	1	6/6/2019 3:57:33 AM	45359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906188

Date Reported: 6/6/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-11 (110-120)

Project: Former Y

Collection Date: 5/31/2019 2:00:00 PM

Lab ID: 1906188-002

Matrix: MEOH (SOIL) Received Date: 6/5/2019 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.013		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Toluene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Ethylbenzene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Methyl tert-butyl ether (MTBE)	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,2,4-Trimethylbenzene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,3,5-Trimethylbenzene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,2-Dichloroethane (EDC)	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,2-Dibromoethane (EDB)	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Naphthalene	ND	0.052		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1-Methylnaphthalene	ND	0.10		mg/Kg	1	6/6/2019 4:27:41 AM	45359
2-Methylnaphthalene	ND	0.10		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Acetone	ND	0.39		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Bromobenzene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Bromodichloromethane	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Bromoform	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Bromomethane	ND	0.077		mg/Kg	1	6/6/2019 4:27:41 AM	45359
2-Butanone	ND	0.26		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Carbon disulfide	ND	0.26		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Carbon tetrachloride	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Chlorobenzene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Chloroethane	ND	0.052		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Chloroform	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Chloromethane	ND	0.077		mg/Kg	1	6/6/2019 4:27:41 AM	45359
2-Chlorotoluene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
4-Chlorotoluene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
cis-1,2-DCE	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
cis-1,3-Dichloropropene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,2-Dibromo-3-chloropropane	ND	0.052		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Dibromochloromethane	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Dibromomethane	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,2-Dichlorobenzene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,3-Dichlorobenzene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,4-Dichlorobenzene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Dichlorodifluoromethane	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,1-Dichloroethane	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,1-Dichloroethene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,2-Dichloropropane	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,3-Dichloropropane	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
2,2-Dichloropropane	ND	0.052		mg/Kg	1	6/6/2019 4:27:41 AM	45359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906188

Date Reported: 6/6/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-11 (110-120)

Project: Former Y

Collection Date: 5/31/2019 2:00:00 PM

Lab ID: 1906188-002

Matrix: MEOH (SOIL) Received Date: 6/5/2019 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.052		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Hexachlorobutadiene	ND	0.052		mg/Kg	1	6/6/2019 4:27:41 AM	45359
2-Hexanone	ND	0.26		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Isopropylbenzene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
4-Isopropyltoluene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
4-Methyl-2-pentanone	ND	0.26		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Methylene chloride	ND	0.077		mg/Kg	1	6/6/2019 4:27:41 AM	45359
n-Butylbenzene	ND	0.077		mg/Kg	1	6/6/2019 4:27:41 AM	45359
n-Propylbenzene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
sec-Butylbenzene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Styrene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
tert-Butylbenzene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,1,1,2-Tetrachloroethane	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,1,2,2-Tetrachloroethane	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Tetrachloroethene (PCE)	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
trans-1,2-DCE	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
trans-1,3-Dichloropropene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,2,3-Trichlorobenzene	ND	0.052		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,2,4-Trichlorobenzene	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,1,1-Trichloroethane	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,1,2-Trichloroethane	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Trichloroethene (TCE)	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Trichlorofluoromethane	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
1,2,3-Trichloropropane	ND	0.052		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Vinyl chloride	ND	0.026		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Xylenes, Total	ND	0.052		mg/Kg	1	6/6/2019 4:27:41 AM	45359
Surr: Dibromofluoromethane	76.5	70-130		%Rec	1	6/6/2019 4:27:41 AM	45359
Surr: 1,2-Dichloroethane-d4	93.7	70-130		%Rec	1	6/6/2019 4:27:41 AM	45359
Surr: Toluene-d8	94.2	70-130		%Rec	1	6/6/2019 4:27:41 AM	45359
Surr: 4-Bromofluorobenzene	92.6	70-130		%Rec	1	6/6/2019 4:27:41 AM	45359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906188

Date Reported: 6/6/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MeOH Blank

Project: Former Y

Collection Date:

Lab ID: 1906188-003

Matrix: MEOH BLAN

Received Date: 6/5/2019 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Toluene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Ethylbenzene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Naphthalene	ND	0.10		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1-Methylnaphthalene	ND	0.20		mg/Kg	1	6/6/2019 4:57:42 AM	45359
2-Methylnaphthalene	ND	0.20		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Acetone	ND	0.75		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Bromobenzene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Bromodichloromethane	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Bromoform	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Bromomethane	ND	0.15		mg/Kg	1	6/6/2019 4:57:42 AM	45359
2-Butanone	ND	0.50		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Carbon disulfide	ND	0.50		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Carbon tetrachloride	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Chlorobenzene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Chloroethane	ND	0.10		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Chloroform	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Chloromethane	ND	0.15		mg/Kg	1	6/6/2019 4:57:42 AM	45359
2-Chlorotoluene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
4-Chlorotoluene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
cis-1,2-DCE	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Dibromochloromethane	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Dibromomethane	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,1-Dichloroethane	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,1-Dichloroethene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,2-Dichloropropane	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,3-Dichloropropane	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
2,2-Dichloropropane	ND	0.10		mg/Kg	1	6/6/2019 4:57:42 AM	45359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906188

Date Reported: 6/6/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MeOH Blank

**Project:** Former Y

**Collection Date:**

**Lab ID:** 1906188-003

**Matrix:** MEOH BLAN

**Received Date:** 6/5/2019 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Hexachlorobutadiene	ND	0.10		mg/Kg	1	6/6/2019 4:57:42 AM	45359
2-Hexanone	ND	0.50		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Isopropylbenzene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
4-Isopropyltoluene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Methylene chloride	ND	0.15		mg/Kg	1	6/6/2019 4:57:42 AM	45359
n-Butylbenzene	ND	0.15		mg/Kg	1	6/6/2019 4:57:42 AM	45359
n-Propylbenzene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
sec-Butylbenzene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Styrene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
tert-Butylbenzene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
trans-1,2-DCE	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Trichlorofluoromethane	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Vinyl chloride	ND	0.050		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Xylenes, Total	ND	0.10		mg/Kg	1	6/6/2019 4:57:42 AM	45359
Surr: Dibromofluoromethane	79.9	70-130		%Rec	1	6/6/2019 4:57:42 AM	45359
Surr: 1,2-Dichloroethane-d4	93.0	70-130		%Rec	1	6/6/2019 4:57:42 AM	45359
Surr: Toluene-d8	91.8	70-130		%Rec	1	6/6/2019 4:57:42 AM	45359
Surr: 4-Bromofluorobenzene	89.1	70-130		%Rec	1	6/6/2019 4:57:42 AM	45359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906188

06-Jun-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID	mb-45359	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID:	45359	RunNo:	60422					
Prep Date:	6/4/2019	Analysis Date:	6/6/2019	SeqNo:	2044074	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
 D Sample Diluted Due to Matrix  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 PQL Practical Quantitative Limit  
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 P Sample pH Not In Range  
 RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906188

06-Jun-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID	mb-45359		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles				
Client ID:	PBS		Batch ID:	45359		RunNo:	60422				
Prep Date:	6/4/2019		Analysis Date:	6/6/2019		SeqNo:	2044074		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
1,1-Dichloropropene	ND	0.10									
Hexachlorobutadiene	ND	0.10									
2-Hexanone	ND	0.50									
Isopropylbenzene	ND	0.050									
4-Isopropyltoluene	ND	0.050									
4-Methyl-2-pentanone	ND	0.50									
Methylene chloride	ND	0.15									
n-Butylbenzene	ND	0.15									
n-Propylbenzene	ND	0.050									
sec-Butylbenzene	ND	0.050									
Styrene	ND	0.050									
tert-Butylbenzene	ND	0.050									
1,1,1,2-Tetrachloroethane	ND	0.050									
1,1,2,2-Tetrachloroethane	ND	0.050									
Tetrachloroethene (PCE)	ND	0.050									
trans-1,2-DCE	ND	0.050									
trans-1,3-Dichloropropene	ND	0.050									
1,2,3-Trichlorobenzene	ND	0.10									
1,2,4-Trichlorobenzene	ND	0.050									
1,1,1-Trichloroethane	ND	0.050									
1,1,2-Trichloroethane	ND	0.050									
Trichloroethene (TCE)	ND	0.050									
Trichlorofluoromethane	ND	0.050									
1,2,3-Trichloropropane	ND	0.10									
Vinyl chloride	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: Dibromofluoromethane	0.39		0.5000		78.5	70	130				
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		91.6	70	130				
Surr: Toluene-d8	0.47		0.5000		94.1	70	130				
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.5	70	130				

Sample ID	ics-45359		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles				
Client ID:	LCSS		Batch ID:	45359		RunNo:	60422				
Prep Date:	6/4/2019		Analysis Date:	6/6/2019		SeqNo:	2044075		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.98	0.025	1.000	0	97.9	70	130				
Toluene	0.92	0.050	1.000	0	92.2	70	130				
Chlorobenzene	0.95	0.050	1.000	0	95.4	70	130				

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906188

06-Jun-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID	<b>Ics-45359</b>		SampType:	<b>LCS</b>		TestCode:	<b>EPA Method 8260B: Volatiles</b>				
Client ID:	<b>LCSS</b>		Batch ID:	<b>45359</b>		RunNo:	<b>60422</b>				
Prep Date:	<b>6/4/2019</b>		Analysis Date:	<b>6/6/2019</b>		SeqNo:	<b>2044075</b>		Units: <b>mg/Kg</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
1,1-Dichloroethene	0.95	0.050	1.000	0	94.8	50.8	164				
Trichloroethene (TCE)	0.83	0.050	1.000	0	82.8	70	130				
Surr: Dibromofluoromethane	0.39		0.5000		77.7	70	130				
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.5	70	130				
Surr: Toluene-d8	0.51		0.5000		101	70	130				
Surr: 4-Bromofluorobenzene	0.44		0.5000		88.6	70	130				

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
 D Sample Diluted Due to Matrix  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 PQL Practical Quantitative Limit  
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 P Sample pH Not In Range  
 RL Reporting Limit



Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87109  
 TEL: 505-343-3973 FAX: 505-343-4107  
 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: **DBS**

Work Order Number: **1906188**

RcptNo: **1**

Received By: **Erin Melendrez** 6/5/2019 11:00:00 AM *EM*  
 Completed By: **Erin Melendrez** 6/5/2019 1:22:47 PM *EM*  
 Reviewed By: *LB* 6/5/19

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? Client

### Log In

3. Was an attempt made to cool the samples? Yes  No  NA   
 4. Were all samples received at a temperature of >0° C to 6.0°C? Yes  No  NA   
 5. Sample(s) in proper container(s)? Yes  No   
 6. Sufficient sample volume for indicated test(s)? Yes  No   
 7. Are samples (except VOA and ONG) properly preserved? Yes  No   
 8. Was preservative added to bottles? Yes  No  NA   
 9. VOA vials have zero headspace? Yes  No  No VOA Vials   
 10. Were any sample containers received broken? Yes  No   
 11. Does paperwork match bottle labels?  
 (Note discrepancies on chain of custody) Yes  No   
 12. Are matrices correctly identified on Chain of Custody? Yes  No   
 13. Is it clear what analyses were requested? Yes  No   
 14. Were all holding times able to be met?  
 (if no, notify customer for authorization) Yes  No

# of preserved bottles checked for pH: *7/11/19*  
 Adjusted? *6-5-19*  
 Checked by \_\_\_\_\_

### Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Not Present			

# Chain-of-Custody Record

Client: DBSA

Mailing Address: 10100 Academy Rd. NE Ste 100

ABQ 87109

Phone #: 505-822-9400

email or Fax#: tgolden@geo-logic.com

QA/QC Package:  
 Standard       Level 4 (Full Validation)

Accreditation:     Az Compliance

NELAC       Other

EDD (Type)

Turn-Around Time:

Standard       Rush

Project Name:

Former Y

Project #:

DB18.1157

Project Manager:

T. Golden

Sampler: P. Keltman

On site:     Yes       No

# of Coolers: 1

Cooler Temp (including CF): 1.6 to 0.5 = 2.1°C



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975    Fax 505-345-4107

### Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MIRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)				
5/30/19	0900	Soil	MW-11 (20-30)	11oz/2vials	none/meth	-001														
5/31/19	1400	Soil	MW-11 (110-120)	"	"	-002														
<del>6/1/19</del>	<del>1340</del>	<del>Soil</del>	<del>MW-11 (230-240)</del>	<del>"</del>	<del>"</del>	<del>-003</del>														
			Tip Blank	1 vial	meth	-003														
<p><del>FOR</del>                  6/14/19</p>																				

Date: 6/5/19 Time: 1100 Relinquished by: Peter Keltman

Received by: Lita Via: COO Date: 6/5/19 Time: 1100

Remarks:

Date:    Time:    Relinquished by:

Received by:    Via:    Date:    Time:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly marked on the analytical report.



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

June 17, 2019

Tom Golden

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX: (505) 822-8877

RE: Former Y

OrderNo.: 1906495

Dear Tom Golden:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/10/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906495

Date Reported: 6/17/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-11 @ 332'

Project: Former Y

Collection Date: 6/4/2019 3:05:00 PM

Lab ID: 1906495-001

Matrix: MEOH (SOIL) Received Date: 6/10/2019 12:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	0.67	0.013		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Toluene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Ethylbenzene	0.055	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Methyl tert-butyl ether (MTBE)	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,2,4-Trimethylbenzene	0.038	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,3,5-Trimethylbenzene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,2-Dichloroethane (EDC)	0.031	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,2-Dibromoethane (EDB)	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Naphthalene	ND	0.052		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1-Methylnaphthalene	ND	0.10		mg/Kg	1	6/13/2019 7:08:22 PM	45509
2-Methylnaphthalene	ND	0.10		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Acetone	ND	0.39		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Bromobenzene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Bromodichloromethane	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Bromoform	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Bromomethane	ND	0.078		mg/Kg	1	6/13/2019 7:08:22 PM	45509
2-Butanone	ND	0.26		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Carbon disulfide	ND	0.26		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Carbon tetrachloride	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Chlorobenzene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Chloroethane	ND	0.052		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Chloroform	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Chloromethane	ND	0.078		mg/Kg	1	6/13/2019 7:08:22 PM	45509
2-Chlorotoluene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
4-Chlorotoluene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
cis-1,2-DCE	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
cis-1,3-Dichloropropene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,2-Dibromo-3-chloropropane	ND	0.052		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Dibromochloromethane	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Dibromomethane	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,2-Dichlorobenzene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,3-Dichlorobenzene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,4-Dichlorobenzene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Dichlorodifluoromethane	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,1-Dichloroethane	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,1-Dichloroethene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,2-Dichloropropane	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,3-Dichloropropane	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
2,2-Dichloropropane	ND	0.052		mg/Kg	1	6/13/2019 7:08:22 PM	45509

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906495

Date Reported: 6/17/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-11 @ 332'

Project: Former Y

Collection Date: 6/4/2019 3:05:00 PM

Lab ID: 1906495-001

Matrix: MEOH (SOIL) Received Date: 6/10/2019 12:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.052		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Hexachlorobutadiene	ND	0.052		mg/Kg	1	6/13/2019 7:08:22 PM	45509
2-Hexanone	ND	0.26		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Isopropylbenzene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
4-Isopropyltoluene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
4-Methyl-2-pentanone	ND	0.26		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Methylene chloride	ND	0.078		mg/Kg	1	6/13/2019 7:08:22 PM	45509
n-Butylbenzene	ND	0.078		mg/Kg	1	6/13/2019 7:08:22 PM	45509
n-Propylbenzene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
sec-Butylbenzene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Styrene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
tert-Butylbenzene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,1,1,2-Tetrachloroethane	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,1,2,2-Tetrachloroethane	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Tetrachloroethene (PCE)	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
trans-1,2-DCE	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
trans-1,3-Dichloropropene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,2,3-Trichlorobenzene	ND	0.052		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,2,4-Trichlorobenzene	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,1,1-Trichloroethane	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,1,2-Trichloroethane	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Trichloroethene (TCE)	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Trichlorofluoromethane	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
1,2,3-Trichloropropane	ND	0.052		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Vinyl chloride	ND	0.026		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Xylenes, Total	0.22	0.052		mg/Kg	1	6/13/2019 7:08:22 PM	45509
Surr: Dibromofluoromethane	80.1	70-130		%Rec	1	6/13/2019 7:08:22 PM	45509
Surr: 1,2-Dichloroethane-d4	91.8	70-130		%Rec	1	6/13/2019 7:08:22 PM	45509
Surr: Toluene-d8	97.3	70-130		%Rec	1	6/13/2019 7:08:22 PM	45509
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	6/13/2019 7:08:22 PM	45509

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906495

Date Reported: 6/17/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** meOH Blank

**Project:** Former Y

**Collection Date:**

**Lab ID:** 1906495-002

**Matrix:** MEOH BLAN

**Received Date:** 6/10/2019 12:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Toluene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Ethylbenzene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Naphthalene	ND	0.10		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1-Methylnaphthalene	ND	0.20		mg/Kg	1	6/13/2019 7:38:12 PM	45509
2-Methylnaphthalene	ND	0.20		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Acetone	ND	0.75		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Bromobenzene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Bromodichloromethane	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Bromoform	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Bromomethane	ND	0.15		mg/Kg	1	6/13/2019 7:38:12 PM	45509
2-Butanone	ND	0.50		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Carbon disulfide	ND	0.50		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Carbon tetrachloride	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Chlorobenzene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Chloroethane	ND	0.10		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Chloroform	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Chloromethane	ND	0.15		mg/Kg	1	6/13/2019 7:38:12 PM	45509
2-Chlorotoluene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
4-Chlorotoluene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
cis-1,2-DCE	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Dibromochloromethane	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Dibromomethane	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,1-Dichloroethane	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,1-Dichloroethene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,2-Dichloropropane	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,3-Dichloropropane	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
2,2-Dichloropropane	ND	0.10		mg/Kg	1	6/13/2019 7:38:12 PM	45509

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906495

Date Reported: 6/17/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: meOH Blank

Project: Former Y

Collection Date:

Lab ID: 1906495-002

Matrix: MEOH BLAN

Received Date: 6/10/2019 12:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Hexachlorobutadiene	ND	0.10		mg/Kg	1	6/13/2019 7:38:12 PM	45509
2-Hexanone	ND	0.50		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Isopropylbenzene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
4-Isopropyltoluene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Methylene chloride	ND	0.15		mg/Kg	1	6/13/2019 7:38:12 PM	45509
n-Butylbenzene	ND	0.15		mg/Kg	1	6/13/2019 7:38:12 PM	45509
n-Propylbenzene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
sec-Butylbenzene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Styrene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
tert-Butylbenzene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
trans-1,2-DCE	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Trichlorofluoromethane	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Vinyl chloride	ND	0.050		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Xylenes, Total	ND	0.10		mg/Kg	1	6/13/2019 7:38:12 PM	45509
Surr: Dibromofluoromethane	74.3	70-130		%Rec	1	6/13/2019 7:38:12 PM	45509
Surr: 1,2-Dichloroethane-d4	87.6	70-130		%Rec	1	6/13/2019 7:38:12 PM	45509
Surr: Toluene-d8	95.1	70-130		%Rec	1	6/13/2019 7:38:12 PM	45509
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	6/13/2019 7:38:12 PM	45509

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906495

17-Jun-19

Client: Daniel B. Stephens &amp; Assoc.

Project: Former Y

Sample ID: <b>mb-45509</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>45509</b>	RunNo: <b>60641</b>								
Prep Date: <b>6/11/2019</b>	Analysis Date: <b>6/13/2019</b>	SeqNo: <b>2051873</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906495

17-Jun-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>mb-45509</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>45509</b>		RunNo: <b>60641</b>							
Prep Date: <b>6/11/2019</b>	Analysis Date: <b>6/13/2019</b>		SeqNo: <b>2051873</b>		Units: <b>mg/Kg</b>					
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.40		0.5000		79.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.3	70	130			
Surr: Toluene-d8	0.48		0.5000		96.7	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.4	70	130			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>lcs-45509</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>45509</b>		RunNo: <b>60641</b>							
Prep Date: <b>6/11/2019</b>	Analysis Date: <b>6/13/2019</b>		SeqNo: <b>2051874</b>		Units: <b>mg/Kg</b>					
Benzene	0.98	0.025	1.000	0	98.4	70	130			
Toluene	0.88	0.050	1.000	0	87.8	70	130			
Chlorobenzene	0.91	0.050	1.000	0	90.6	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906495

17-Jun-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>Ics-45509</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>45509</b>		RunNo: <b>60641</b>							
Prep Date: <b>6/11/2019</b>	Analysis Date: <b>6/13/2019</b>		SeqNo: <b>2051874</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.91	0.050	1.000	0	90.9	50.8	164			
Trichloroethene (TCE)	0.80	0.050	1.000	0	79.5	70	130			
Surr: Dibromofluoromethane	0.39		0.5000		78.0	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.1	70	130			
Surr: Toluene-d8	0.50		0.5000		99.8	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		101	70	130			

### Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Limit
S % Recovery outside of range due to dilution or matrix	

# Sample Log-In Check List

Client Name: DBS

Work Order Number: 1906495

RcptNo: 1

Received By: Erin Melendrez

6/10/2019 12:05:00 PM

*EM*

Completed By: Erin Melendrez

6/10/2019 12:36:41 PM

*EM*

Reviewed By:

*EM*

*6/10/19*

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present

2. How was the sample delivered? Client

**Log In**

3. Was an attempt made to cool the samples? Yes  No  NA

4. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA

5. Sample(s) in proper container(s)? Yes  No

6. Sufficient sample volume for indicated test(s)? Yes  No

7. Are samples (except VOA and ONG) properly preserved? Yes  No

8. Was preservative added to bottles? Yes  No  NA

9. VOA vials have zero headspace? Yes  No  No VOA Vials

10. Were any sample containers received broken? Yes  No

11. Does paperwork match bottle labels? Yes  No   
 (Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes  No

13. Is it clear what analyses were requested? Yes  No

14. Were all holding times able to be met? Yes  No   
 (If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)

Adjusted? \_\_\_\_\_

Checked by: \_\_\_\_\_

*Thm*  
*6-10-19*

**Special Handling (if applicable)**

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_

By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

**17. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Not Present			







Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

July 24, 2019

Tom Golden

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX (505) 822-8877

RE: Former Y

OrderNo.: 1907787

Dear Tom Golden:

Hall Environmental Analysis Laboratory received 4 sample(s) on 7/16/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907787

Date Reported: 7/24/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-12 (80-85)

Project: Former Y

Collection Date: 7/9/2019 5:00:00 PM

Lab ID: 1907787-001

Matrix: MEOH (SOIL) Received Date: 7/16/2019 3:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	0.019		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Toluene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Ethylbenzene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Methyl tert-butyl ether (MTBE)	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,2,4-Trimethylbenzene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,3,5-Trimethylbenzene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,2-Dichloroethane (EDC)	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,2-Dibromoethane (EDB)	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Naphthalene	ND	0.077		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1-Methylnaphthalene	ND	0.15		mg/Kg	1	7/19/2019 3:20:46 PM	46240
2-Methylnaphthalene	ND	0.15		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Acetone	ND	0.58		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Bromobenzene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Bromodichloromethane	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Bromoform	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Bromomethane	ND	0.12		mg/Kg	1	7/19/2019 3:20:46 PM	46240
2-Butanone	ND	0.39		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Carbon disulfide	ND	0.39		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Carbon tetrachloride	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Chlorobenzene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Chloroethane	ND	0.077		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Chloroform	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Chloromethane	ND	0.12		mg/Kg	1	7/19/2019 3:20:46 PM	46240
2-Chlorotoluene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
4-Chlorotoluene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
cis-1,2-DCE	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
cis-1,3-Dichloropropene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,2-Dibromo-3-chloropropane	ND	0.077		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Dibromochloromethane	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Dibromomethane	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,2-Dichlorobenzene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,3-Dichlorobenzene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,4-Dichlorobenzene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Dichlorodifluoromethane	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,1-Dichloroethane	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,1-Dichloroethene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,2-Dichloropropane	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,3-Dichloropropane	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
2,2-Dichloropropane	ND	0.077		mg/Kg	1	7/19/2019 3:20:46 PM	46240

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907787

Date Reported: 7/24/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-12 (80-85)

**Project:** Former Y

**Collection Date:** 7/9/2019 5:00:00 PM

**Lab ID:** 1907787-001

**Matrix:** MEOH (SOIL) **Received Date:** 7/16/2019 3:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	0.077		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Hexachlorobutadiene	ND	0.077		mg/Kg	1	7/19/2019 3:20:46 PM	46240
2-Hexanone	ND	0.39		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Isopropylbenzene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
4-Isopropyltoluene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
4-Methyl-2-pentanone	ND	0.39		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Methylene chloride	ND	0.12		mg/Kg	1	7/19/2019 3:20:46 PM	46240
n-Butylbenzene	ND	0.12		mg/Kg	1	7/19/2019 3:20:46 PM	46240
n-Propylbenzene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
sec-Butylbenzene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Styrene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
tert-Butylbenzene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,1,1,2-Tetrachloroethane	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,1,2,2-Tetrachloroethane	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Tetrachloroethene (PCE)	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
trans-1,2-DCE	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
trans-1,3-Dichloropropene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,2,3-Trichlorobenzene	ND	0.077		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,2,4-Trichlorobenzene	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,1,1-Trichloroethane	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,1,2-Trichloroethane	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Trichloroethene (TCE)	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Trichlorofluoromethane	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
1,2,3-Trichloropropane	ND	0.077		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Vinyl chloride	ND	0.039		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Xylenes, Total	ND	0.077		mg/Kg	1	7/19/2019 3:20:46 PM	46240
Surr: Dibromofluoromethane	86.6	70-130		%Rec	1	7/19/2019 3:20:46 PM	46240
Surr: 1,2-Dichloroethane-d4	85.2	70-130		%Rec	1	7/19/2019 3:20:46 PM	46240
Surr: Toluene-d8	102	70-130		%Rec	1	7/19/2019 3:20:46 PM	46240
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	7/19/2019 3:20:46 PM	46240

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907787

Date Reported: 7/24/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-12 (160-165)

Project: Former Y

Collection Date: 7/12/2019 4:30:00 PM

Lab ID: 1907787-002

Matrix: MEOH (SOIL) Received Date: 7/16/2019 3:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	0.018		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Toluene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Ethylbenzene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Methyl tert-butyl ether (MTBE)	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,2,4-Trimethylbenzene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,3,5-Trimethylbenzene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,2-Dichloroethane (EDC)	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,2-Dibromoethane (EDB)	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Naphthalene	ND	0.073		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1-Methylnaphthalene	ND	0.15		mg/Kg	1	7/19/2019 3:49:41 PM	46240
2-Methylnaphthalene	ND	0.15		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Acetone	ND	0.55		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Bromobenzene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Bromodichloromethane	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Bromoform	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Bromomethane	ND	0.11		mg/Kg	1	7/19/2019 3:49:41 PM	46240
2-Butanone	ND	0.37		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Carbon disulfide	ND	0.37		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Carbon tetrachloride	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Chlorobenzene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Chloroethane	ND	0.073		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Chloroform	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Chloromethane	ND	0.11		mg/Kg	1	7/19/2019 3:49:41 PM	46240
2-Chlorotoluene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
4-Chlorotoluene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
cis-1,2-DCE	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
cis-1,3-Dichloropropene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,2-Dibromo-3-chloropropane	ND	0.073		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Dibromochloromethane	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Dibromomethane	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,2-Dichlorobenzene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,3-Dichlorobenzene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,4-Dichlorobenzene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Dichlorodifluoromethane	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,1-Dichloroethane	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,1-Dichloroethene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,2-Dichloropropane	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,3-Dichloropropane	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
2,2-Dichloropropane	ND	0.073		mg/Kg	1	7/19/2019 3:49:41 PM	46240

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907787

Date Reported: 7/24/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-12 (160-165)

Project: Former Y

Collection Date: 7/12/2019 4:30:00 PM

Lab ID: 1907787-002

Matrix: MEOH (SOIL) Received Date: 7/16/2019 3:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	0.073		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Hexachlorobutadiene	ND	0.073		mg/Kg	1	7/19/2019 3:49:41 PM	46240
2-Hexanone	ND	0.37		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Isopropylbenzene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
4-Isopropyltoluene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
4-Methyl-2-pentanone	ND	0.37		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Methylene chloride	ND	0.11		mg/Kg	1	7/19/2019 3:49:41 PM	46240
n-Butylbenzene	ND	0.11		mg/Kg	1	7/19/2019 3:49:41 PM	46240
n-Propylbenzene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
sec-Butylbenzene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Styrene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
tert-Butylbenzene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,1,1,2-Tetrachloroethane	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,1,2,2-Tetrachloroethane	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Tetrachloroethene (PCE)	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
trans-1,2-DCE	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
trans-1,3-Dichloropropene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,2,3-Trichlorobenzene	ND	0.073		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,2,4-Trichlorobenzene	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,1,1-Trichloroethane	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,1,2-Trichloroethane	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Trichloroethene (TCE)	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Trichlorofluoromethane	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
1,2,3-Trichloropropane	ND	0.073		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Vinyl chloride	ND	0.037		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Xylenes, Total	ND	0.073		mg/Kg	1	7/19/2019 3:49:41 PM	46240
Surr: Dibromofluoromethane	85.6	70-130		%Rec	1	7/19/2019 3:49:41 PM	46240
Surr: 1,2-Dichloroethane-d4	85.2	70-130		%Rec	1	7/19/2019 3:49:41 PM	46240
Surr: Toluene-d8	104	70-130		%Rec	1	7/19/2019 3:49:41 PM	46240
Surr: 4-Bromofluorobenzene	94.8	70-130		%Rec	1	7/19/2019 3:49:41 PM	46240

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907787

Date Reported: 7/24/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-12 (200-205)

Project: Former Y

Collection Date: 7/13/2019 2:00:00 PM

Lab ID: 1907787-003

Matrix: MEOH (SOIL)

Received Date: 7/16/2019 3:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	0.019		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Toluene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Ethylbenzene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Methyl tert-butyl ether (MTBE)	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,2,4-Trimethylbenzene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,3,5-Trimethylbenzene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,2-Dichloroethane (EDC)	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,2-Dibromoethane (EDB)	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Naphthalene	ND	0.078		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1-Methylnaphthalene	ND	0.16		mg/Kg	1	7/19/2019 4:18:40 PM	46240
2-Methylnaphthalene	ND	0.16		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Acetone	ND	0.58		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Bromobenzene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Bromodichloromethane	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Bromoform	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Bromomethane	ND	0.12		mg/Kg	1	7/19/2019 4:18:40 PM	46240
2-Butanone	ND	0.39		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Carbon disulfide	ND	0.39		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Carbon tetrachloride	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Chlorobenzene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Chloroethane	ND	0.078		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Chloroform	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Chloromethane	ND	0.12		mg/Kg	1	7/19/2019 4:18:40 PM	46240
2-Chlorotoluene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
4-Chlorotoluene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
cis-1,2-DCE	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
cis-1,3-Dichloropropene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,2-Dibromo-3-chloropropane	ND	0.078		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Dibromochloromethane	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Dibromomethane	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,2-Dichlorobenzene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,3-Dichlorobenzene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,4-Dichlorobenzene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Dichlorodifluoromethane	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,1-Dichloroethane	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,1-Dichloroethene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,2-Dichloropropane	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,3-Dichloropropane	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
2,2-Dichloropropane	ND	0.078		mg/Kg	1	7/19/2019 4:18:40 PM	46240

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907787

Date Reported: 7/24/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-12 (200-205)

Project: Former Y

Collection Date: 7/13/2019 2:00:00 PM

Lab ID: 1907787-003

Matrix: MEOH (SOIL)

Received Date: 7/16/2019 3:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	0.078		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Hexachlorobutadiene	ND	0.078		mg/Kg	1	7/19/2019 4:18:40 PM	46240
2-Hexanone	ND	0.39		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Isopropylbenzene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
4-Isopropyltoluene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
4-Methyl-2-pentanone	ND	0.39		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Methylene chloride	ND	0.12		mg/Kg	1	7/19/2019 4:18:40 PM	46240
n-Butylbenzene	ND	0.12		mg/Kg	1	7/19/2019 4:18:40 PM	46240
n-Propylbenzene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
sec-Butylbenzene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Styrene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
tert-Butylbenzene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,1,1,2-Tetrachloroethane	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,1,2,2-Tetrachloroethane	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Tetrachloroethene (PCE)	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
trans-1,2-DCE	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
trans-1,3-Dichloropropene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,2,3-Trichlorobenzene	ND	0.078		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,2,4-Trichlorobenzene	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,1,1-Trichloroethane	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,1,2-Trichloroethane	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Trichloroethene (TCE)	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Trichlorofluoromethane	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
1,2,3-Trichloropropane	ND	0.078		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Vinyl chloride	ND	0.039		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Xylenes, Total	ND	0.078		mg/Kg	1	7/19/2019 4:18:40 PM	46240
Surr: Dibromofluoromethane	85.6	70-130		%Rec	1	7/19/2019 4:18:40 PM	46240
Surr: 1,2-Dichloroethane-d4	83.0	70-130		%Rec	1	7/19/2019 4:18:40 PM	46240
Surr: Toluene-d8	101	70-130		%Rec	1	7/19/2019 4:18:40 PM	46240
Surr: 4-Bromofluorobenzene	95.1	70-130		%Rec	1	7/19/2019 4:18:40 PM	46240

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907787

Date Reported: 7/24/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MeOH Blank

**Project:** Former Y

**Collection Date:**

**Lab ID:** 1907787-004

**Matrix:** MEOH BLAN

**Received Date:** 7/16/2019 3:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Toluene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Ethylbenzene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Naphthalene	ND	0.10		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1-Methylnaphthalene	ND	0.20		mg/Kg	1	7/19/2019 4:47:38 PM	46240
2-Methylnaphthalene	ND	0.20		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Acetone	ND	0.75		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Bromobenzene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Bromodichloromethane	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Bromoform	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Bromomethane	ND	0.15		mg/Kg	1	7/19/2019 4:47:38 PM	46240
2-Butanone	ND	0.50		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Carbon disulfide	ND	0.50		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Carbon tetrachloride	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Chlorobenzene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Chloroethane	ND	0.10		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Chloroform	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Chloromethane	ND	0.15		mg/Kg	1	7/19/2019 4:47:38 PM	46240
2-Chlorotoluene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
4-Chlorotoluene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
cis-1,2-DCE	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Dibromochloromethane	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Dibromomethane	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,1-Dichloroethane	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,1-Dichloroethene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,2-Dichloropropane	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,3-Dichloropropane	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
2,2-Dichloropropane	ND	0.10		mg/Kg	1	7/19/2019 4:47:38 PM	46240

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907787

Date Reported: 7/24/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MeOH Blank

**Project:** Former Y

**Collection Date:**

**Lab ID:** 1907787-004

**Matrix:** MEOH BLAN

**Received Date:** 7/16/2019 3:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	0.10		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Hexachlorobutadiene	ND	0.10		mg/Kg	1	7/19/2019 4:47:38 PM	46240
2-Hexanone	ND	0.50		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Isopropylbenzene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
4-Isopropyltoluene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Methylene chloride	ND	0.15		mg/Kg	1	7/19/2019 4:47:38 PM	46240
n-Butylbenzene	ND	0.15		mg/Kg	1	7/19/2019 4:47:38 PM	46240
n-Propylbenzene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
sec-Butylbenzene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Styrene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
tert-Butylbenzene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
trans-1,2-DCE	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Trichlorofluoromethane	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Vinyl chloride	ND	0.050		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Xylenes, Total	ND	0.10		mg/Kg	1	7/19/2019 4:47:38 PM	46240
Surr: Dibromofluoromethane	85.9	70-130		%Rec	1	7/19/2019 4:47:38 PM	46240
Surr: 1,2-Dichloroethane-d4	84.9	70-130		%Rec	1	7/19/2019 4:47:38 PM	46240
Surr: Toluene-d8	104	70-130		%Rec	1	7/19/2019 4:47:38 PM	46240
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	7/19/2019 4:47:38 PM	46240

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1907787

24-Jul-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>ics-46240</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>46240</b>		RunNo: <b>61539</b>							
Prep Date: <b>7/17/2019</b>	Analysis Date: <b>7/19/2019</b>		SeqNo: <b>2085945</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.025	1.000	0	81.6	70	130			
Toluene	0.96	0.050	1.000	0	96.5	70	130			
Chlorobenzene	0.94	0.050	1.000	0	93.7	70	130			
1,1-Dichloroethene	0.71	0.050	1.000	0	71.3	50.8	164			
Trichloroethene (TCE)	0.75	0.050	1.000	0	74.6	70	130			
Surr: Dibromofluoromethane	0.42		0.5000		83.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.42		0.5000		83.2	70	130			
Surr: Toluene-d8	0.49		0.5000		98.5	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.5	70	130			

Sample ID: <b>mb-46240</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>46240</b>		RunNo: <b>61539</b>							
Prep Date: <b>7/17/2019</b>	Analysis Date: <b>7/19/2019</b>		SeqNo: <b>2085946</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1907787

24-Jul-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>mb-46240</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>46240</b>	RunNo: <b>61539</b>								
Prep Date: <b>7/17/2019</b>	Analysis Date: <b>7/19/2019</b>	SeqNo: <b>2085946</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1907787

24-Jul-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>mb-46240</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>46240</b>		RunNo: <b>61539</b>							
Prep Date: <b>7/17/2019</b>	Analysis Date: <b>7/19/2019</b>		SeqNo: <b>2085946</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.43		0.5000		85.8	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.8	70	130			
Surr: Toluene-d8	0.50		0.5000		100	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.8	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
 D Sample Diluted Due to Matrix  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 PQL Practical Quantitative Limit  
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 P Sample pH Not In Range  
 RL Reporting Limit

**Sample Log-In Check List**

Client Name: **DBS** Work Order Number: **1907787** RcptNo: 1

Received By: **Isaiah Ortiz** 7/16/2019 3:45:00 PM  
 Completed By: **Erin Melendrez** 7/16/2019 4:55:31 PM  
 Reviewed By: **ENM** 7/17/19

*I-Ortiz*  
*EM*

*LB: mg 07/17/19*

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? Client

**Log In**

3. Was an attempt made to cool the samples? Yes  No  NA   
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA   
 5. Sample(s) in proper container(s)? Yes  No   
 6. Sufficient sample volume for indicated test(s)? Yes  No   
 7. Are samples (except VOA and ONG) properly preserved? Yes  No   
 8. Was preservative added to bottles? Yes  No  NA   
 9. VOA vials have zero headspace? Yes  No  No VOA Vials   
 10. Were any sample containers received broken? Yes  No   
 11. Does paperwork match bottle labels? Yes  No   
 (Note discrepancies on chain of custody)  
 12. Are matrices correctly identified on Chain of Custody? Yes  No   
 13. Is it clear what analyses were requested? Yes  No   
 14. Were all holding times able to be met? Yes  No   
 (If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

*mg 07/17*

**Special Handling (if applicable)**

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
 By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person  
 Regarding: \_\_\_\_\_  
 Client Instructions: \_\_\_\_\_

16. Additional remarks:

**17. Cooler Information**

Cooler No.	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Not Present			

# Chain-of-Custody Record

Client: DBSA

Mailing Address: WBO Academy Rd NE

Ste 100 ABC 87109

Phone #: 822-9400

email or Fax#: tgolden@geo-10910

QA/QC Package:  
 Standard  Level 4 (Full Validation)

Accreditation:  Az Compliance

NELAC  Other

EDD (Type)

Turn-Around Time:

Standard  Rush

Project Name: Former Y

Project #: DB18.1157

Project Manager: T. Golden

Sampler: F. Feltman

On Ice:  Yes  No

# of Coolers: 1

Cooler Temp (including CP): 24+0.2 (C) 2.6°

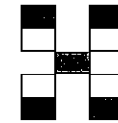
Container Type and #

Preservative Type

HEAL No. 1907787

Date	Time	Matrix	Sample Name
7/9/19	7:00	So. 1	MW-12 (80-85)
7/12/19	11:30	So. 1	MW-12 (110-115)
7/13/19	14:00	So. 1	MW-12 (200-205)
			Trip Blank

Container Type and #	Preservative Type	HEAL No.
2 vials / jar	meoth / nmo	-001
↓	↓	-002
↓	↓	-003
vial	meoth	-004



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
									8260 B

Date: 7/16/19 Time: 15:45 Relinquished by: [Signature]

Received by: [Signature] Via: COO Date: 7/16/19 Time: 15:45

Remarks:

Date: Time: Relinquished by:

Received by: Via: Date: Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report..



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

August 22, 2019

Tom Golden

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX: (505) 822-8877

RE: Former Y Station

OrderNo.: 1908920

Dear Tom Golden:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/14/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908920

Date Reported: 8/22/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-13@195'

**Project:** Former Y Station

**Collection Date:** 8/7/2019 9:35:00 AM

**Lab ID:** 1908920-001

**Matrix:** MEOH (SOIL) **Received Date:** 8/14/2019 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	0.015		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Toluene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Ethylbenzene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Methyl tert-butyl ether (MTBE)	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,2,4-Trimethylbenzene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,3,5-Trimethylbenzene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,2-Dichloroethane (EDC)	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,2-Dibromoethane (EDB)	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Naphthalene	ND	0.061		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1-Methylnaphthalene	ND	0.12		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
2-Methylnaphthalene	ND	0.12		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Acetone	ND	0.46		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Bromobenzene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Bromodichloromethane	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Bromoform	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Bromomethane	ND	0.091		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
2-Butanone	ND	0.30		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Carbon disulfide	ND	0.30		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Carbon tetrachloride	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Chlorobenzene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Chloroethane	ND	0.061		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Chloroform	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Chloromethane	ND	0.091		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
2-Chlorotoluene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
4-Chlorotoluene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
cis-1,2-DCE	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
cis-1,3-Dichloropropene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,2-Dibromo-3-chloropropane	ND	0.061		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Dibromochloromethane	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Dibromomethane	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,2-Dichlorobenzene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,3-Dichlorobenzene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,4-Dichlorobenzene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Dichlorodifluoromethane	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,1-Dichloroethane	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,1-Dichloroethene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,2-Dichloropropane	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,3-Dichloropropane	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
2,2-Dichloropropane	ND	0.061		mg/Kg	1	8/16/2019 9:07:52 PM	A62224

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908920

Date Reported: 8/22/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-13@195'

**Project:** Former Y Station

**Collection Date:** 8/7/2019 9:35:00 AM

**Lab ID:** 1908920-001

**Matrix:** MEOH (SOIL) **Received Date:** 8/14/2019 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	0.061		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Hexachlorobutadiene	ND	0.061		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
2-Hexanone	ND	0.30		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Isopropylbenzene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
4-Isopropyltoluene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
4-Methyl-2-pentanone	ND	0.30		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Methylene chloride	ND	0.091		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
n-Butylbenzene	ND	0.091		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
n-Propylbenzene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
sec-Butylbenzene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Styrene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
tert-Butylbenzene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,1,1,2-Tetrachloroethane	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,1,2,2-Tetrachloroethane	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Tetrachloroethene (PCE)	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
trans-1,2-DCE	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
trans-1,3-Dichloropropene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,2,3-Trichlorobenzene	ND	0.061		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,2,4-Trichlorobenzene	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,1,1-Trichloroethane	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,1,2-Trichloroethane	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Trichloroethene (TCE)	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Trichlorofluoromethane	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
1,2,3-Trichloropropane	ND	0.061		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Vinyl chloride	ND	0.030		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Xylenes, Total	ND	0.061		mg/Kg	1	8/16/2019 9:07:52 PM	A62224
Surr: Dibromofluoromethane	97.8	70-130		%Rec	1	8/16/2019 9:07:52 PM	A62224
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%Rec	1	8/16/2019 9:07:52 PM	A62224
Surr: Toluene-d8	97.8	70-130		%Rec	1	8/16/2019 9:07:52 PM	A62224
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	8/16/2019 9:07:52 PM	A62224

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908920

Date Reported: 8/22/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-13@295'

Project: Former Y Station

Collection Date: 8/8/2019 10:15:00 AM

Lab ID: 1908920-002

Matrix: MEOH (SOIL) Received Date: 8/14/2019 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	0.019		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Toluene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Ethylbenzene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Methyl tert-butyl ether (MTBE)	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,2,4-Trimethylbenzene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,3,5-Trimethylbenzene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,2-Dichloroethane (EDC)	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,2-Dibromoethane (EDB)	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Naphthalene	ND	0.077		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1-Methylnaphthalene	ND	0.15		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
2-Methylnaphthalene	ND	0.15		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Acetone	ND	0.58		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Bromobenzene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Bromodichloromethane	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Bromoform	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Bromomethane	ND	0.12		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
2-Butanone	ND	0.38		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Carbon disulfide	ND	0.38		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Carbon tetrachloride	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Chlorobenzene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Chloroethane	ND	0.077		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Chloroform	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Chloromethane	ND	0.12		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
2-Chlorotoluene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
4-Chlorotoluene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
cis-1,2-DCE	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
cis-1,3-Dichloropropene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,2-Dibromo-3-chloropropane	ND	0.077		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Dibromochloromethane	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Dibromomethane	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,2-Dichlorobenzene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,3-Dichlorobenzene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,4-Dichlorobenzene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Dichlorodifluoromethane	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,1-Dichloroethane	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,1-Dichloroethene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,2-Dichloropropane	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,3-Dichloropropane	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
2,2-Dichloropropane	ND	0.077		mg/Kg	1	8/16/2019 9:36:32 PM	A62224

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908920

Date Reported: 8/22/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-13@295'

Project: Former Y Station

Collection Date: 8/8/2019 10:15:00 AM

Lab ID: 1908920-002

Matrix: MEOH (SOIL) Received Date: 8/14/2019 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	0.077		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Hexachlorobutadiene	ND	0.077		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
2-Hexanone	ND	0.38		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Isopropylbenzene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
4-Isopropyltoluene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
4-Methyl-2-pentanone	ND	0.38		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Methylene chloride	ND	0.12		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
n-Butylbenzene	ND	0.12		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
n-Propylbenzene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
sec-Butylbenzene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Styrene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
tert-Butylbenzene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,1,1,2-Tetrachloroethane	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,1,2,2-Tetrachloroethane	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Tetrachloroethene (PCE)	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
trans-1,2-DCE	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
trans-1,3-Dichloropropene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,2,3-Trichlorobenzene	ND	0.077		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,2,4-Trichlorobenzene	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,1,1-Trichloroethane	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,1,2-Trichloroethane	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Trichloroethene (TCE)	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Trichlorofluoromethane	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
1,2,3-Trichloropropane	ND	0.077		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Vinyl chloride	ND	0.038		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Xylenes, Total	ND	0.077		mg/Kg	1	8/16/2019 9:36:32 PM	A62224
Surr: Dibromofluoromethane	95.5	70-130		%Rec	1	8/16/2019 9:36:32 PM	A62224
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%Rec	1	8/16/2019 9:36:32 PM	A62224
Surr: Toluene-d8	97.8	70-130		%Rec	1	8/16/2019 9:36:32 PM	A62224
Surr: 4-Bromofluorobenzene	95.0	70-130		%Rec	1	8/16/2019 9:36:32 PM	A62224

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908920

Date Reported: 8/22/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-13@327'

Project: Former Y Station

Collection Date: 8/9/2019 2:05:00 PM

Lab ID: 1908920-003

Matrix: MEOH (SOIL)

Received Date: 8/14/2019 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	0.043	0.032		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Toluene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Ethylbenzene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Methyl tert-butyl ether (MTBE)	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,2,4-Trimethylbenzene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,3,5-Trimethylbenzene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,2-Dichloroethane (EDC)	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,2-Dibromoethane (EDB)	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Naphthalene	ND	0.13		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1-Methylnaphthalene	ND	0.25		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
2-Methylnaphthalene	ND	0.25		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Acetone	ND	0.95		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Bromobenzene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Bromodichloromethane	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Bromoform	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Bromomethane	ND	0.19		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
2-Butanone	ND	0.63		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Carbon disulfide	ND	0.63		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Carbon tetrachloride	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Chlorobenzene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Chloroethane	ND	0.13		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Chloroform	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Chloromethane	ND	0.19		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
2-Chlorotoluene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
4-Chlorotoluene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
cis-1,2-DCE	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
cis-1,3-Dichloropropene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,2-Dibromo-3-chloropropane	ND	0.13		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Dibromochloromethane	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Dibromomethane	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,2-Dichlorobenzene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,3-Dichlorobenzene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,4-Dichlorobenzene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Dichlorodifluoromethane	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,1-Dichloroethane	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,1-Dichloroethene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,2-Dichloropropane	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,3-Dichloropropane	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
2,2-Dichloropropane	ND	0.13		mg/Kg	2	8/16/2019 10:05:15 PM	A62224

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908920

Date Reported: 8/22/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-13@327'

Project: Former Y Station

Collection Date: 8/9/2019 2:05:00 PM

Lab ID: 1908920-003

Matrix: MEOH (SOIL)

Received Date: 8/14/2019 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	0.13		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Hexachlorobutadiene	ND	0.13		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
2-Hexanone	ND	0.63		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Isopropylbenzene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
4-Isopropyltoluene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
4-Methyl-2-pentanone	ND	0.63		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Methylene chloride	ND	0.19		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
n-Butylbenzene	ND	0.19		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
n-Propylbenzene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
sec-Butylbenzene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Styrene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
tert-Butylbenzene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,1,1,2-Tetrachloroethane	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,1,2,2-Tetrachloroethane	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Tetrachloroethene (PCE)	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
trans-1,2-DCE	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
trans-1,3-Dichloropropene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,2,3-Trichlorobenzene	ND	0.13		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,2,4-Trichlorobenzene	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,1,1-Trichloroethane	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,1,2-Trichloroethane	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Trichloroethene (TCE)	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Trichlorofluoromethane	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
1,2,3-Trichloropropane	ND	0.13		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Vinyl chloride	ND	0.063		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Xylenes, Total	ND	0.13		mg/Kg	2	8/16/2019 10:05:15 PM	A62224
Surr: Dibromofluoromethane	98.1	70-130		%Rec	2	8/16/2019 10:05:15 PM	A62224
Surr: 1,2-Dichloroethane-d4	95.4	70-130		%Rec	2	8/16/2019 10:05:15 PM	A62224
Surr: Toluene-d8	104	70-130		%Rec	2	8/16/2019 10:05:15 PM	A62224
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	2	8/16/2019 10:05:15 PM	A62224

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1908920

22-Aug-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y Station

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: Volatiles							
Client ID: LCSS	Batch ID: A62224		RunNo: 62224							
Prep Date:	Analysis Date: 8/16/2019		SeqNo: 2113308		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.4	68	135			
Toluene	1.1	0.050	1.000	0	105	70	130			
Chlorobenzene	1.0	0.050	1.000	0	105	70	130			
1,1-Dichloroethene	0.98	0.050	1.000	0	97.7	51.1	139			
Trichloroethene (TCE)	0.93	0.050	1.000	0	93.1	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		93.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.6	70	130			
Surr: Toluene-d8	0.49		0.5000		98.0	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		100	70	130			

Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8260B: Volatiles							
Client ID: PBS	Batch ID: A62224		RunNo: 62224							
Prep Date:	Analysis Date: 8/16/2019		SeqNo: 2113309		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
 D Sample Diluted Due to Matrix  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 PQL Practical Quantitative Limit  
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 P Sample pH Not In Range  
 RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1908920

22-Aug-19

Client: Daniel B. Stephens &amp; Assoc.

Project: Former Y Station

Sample ID: <b>rb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>A62224</b>	RunNo: <b>62224</b>								
Prep Date:	Analysis Date: <b>8/16/2019</b>	SeqNo: <b>2113309</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1908920

22-Aug-19

Client: Daniel B. Stephens &amp; Assoc.

Project: Former Y Station

Sample ID: <b>rb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>A62224</b>	RunNo: <b>62224</b>								
Prep Date:	Analysis Date: <b>8/16/2019</b>	SeqNo: <b>2113309</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.45		0.5000		90.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		95.2	70	130			
Surr: Toluene-d8	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.5	70	130			

Sample ID: <b>ics-46816</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>46816</b>	RunNo: <b>62224</b>								
Prep Date: <b>8/15/2019</b>	Analysis Date: <b>8/17/2019</b>	SeqNo: <b>2113421</b>			Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.50		0.5000		99.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		95.5	70	130			
Surr: Toluene-d8	0.48		0.5000		96.0	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.7	70	130			

Sample ID: <b>mb-46816</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>46816</b>	RunNo: <b>62224</b>								
Prep Date: <b>8/15/2019</b>	Analysis Date: <b>8/17/2019</b>	SeqNo: <b>2113425</b>			Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.50		0.5000		101	70	130			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.5	70	130			
Surr: Toluene-d8	0.51		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.5	70	130			

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit





Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87109  
 TEL: 505-345-3975 FAX: 505-345-4107  
 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: DBS

Work Order Number: 1908920

RcptNo: 1

Received By: Erin Melendrez 8/14/2019 2:30:00 PM

Completed By: Yazmine Garduno 8/16/2019 9:32:26 AM

Reviewed By: ENH 8/16/19

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? Client

### Log In

3. Was an attempt made to cool the samples? Yes  No  NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
5. Sample(s) in proper container(s)? Yes  No
6. Sufficient sample volume for indicated test(s)? Yes  No
7. Are samples (except VOA and ONG) properly preserved? Yes  No
8. Was preservative added to bottles? Yes  No  NA
9. VOA vials have zero headspace? Yes  No  No VOA Vials
10. Were any sample containers received broken? Yes  No
11. Does paperwork match bottle labels? Yes  No   
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes  No
13. Is it clear what analyses were requested? Yes  No
14. Were all holding times able to be met? Yes  No   
 (If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)

Adjusted? \_\_\_\_\_

Checked by: DAD 8/16/19

### Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:		Date:	
By Whom:		Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:			
Client Instructions:			

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good				

# Chain-of-Custody Record

Client: **DBSA**

Mailing Address: **6020 ALBUQUERQUE NE SUITE 100  
ALBUQUERQUE, NM 87109**

Phone #: **505-877-9400**

email or Fax#: **tgolden@geo-kyic.com**

QA/QC Package:

Standard  Level 4 (Full Validation)

Accreditation:  Az Compliance

NELAC  Other

EDD (Type)

Turn-Around Time:

Standard  Rush

Project Name:

**FORNER V STATION**

Project #:

**DB18.1157.05.MW19.03**

Project Manager:

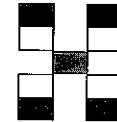
**TOM GOLDEN**

Sampler: **J. Fisher / M. Zardeck**

On Ice:  Yes  No

# of Coolers: **1**

Cooler Temp (including CF): **18+0 (CF) = 1.8°C**



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8/7/19	0935	Soil	MW-13 @ 195'	1-512 2-VIALS	MeOH	1908020 -001										
8/8/19	1015	↓	MW-13 @ 295'	↓	↓	-002										
8/9/19	1405	↓	MW-13 @ 327'	↓	↓	-003										
			MeOH BLANK	1-VIAL	MeOH	-004										

*[Signature]* 8/9/19

Date: 8/14/19 Time: 1430 Relinquished by: *[Signature]* DBSA  
 Received by: *[Signature]* Via: CDO Date: 8/14/19 Time: 1430

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

September 26, 2019

Tom Golden

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX:

RE: Former Y

OrderNo.: 1909A75

Dear Tom Golden:

Hall Environmental Analysis Laboratory received 4 sample(s) on 9/19/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909A75

Date Reported: 9/26/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-14 (170-175)

Project: Former Y

Collection Date: 9/13/2019 2:00:00 PM

Lab ID: 1909A75-001

Matrix: MEOH (SOIL)

Received Date: 9/19/2019 2:27:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.021		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Toluene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Ethylbenzene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Methyl tert-butyl ether (MTBE)	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,2,4-Trimethylbenzene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,3,5-Trimethylbenzene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,2-Dichloroethane (EDC)	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,2-Dibromoethane (EDB)	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Naphthalene	ND	0.084		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1-Methylnaphthalene	ND	0.17		mg/Kg	1	9/20/2019 6:43:12 PM	47598
2-Methylnaphthalene	ND	0.17		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Acetone	ND	0.63		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Bromobenzene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Bromodichloromethane	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Bromoform	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Bromomethane	ND	0.13		mg/Kg	1	9/20/2019 6:43:12 PM	47598
2-Butanone	ND	0.42		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Carbon disulfide	ND	0.42		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Carbon tetrachloride	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Chlorobenzene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Chloroethane	ND	0.084		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Chloroform	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Chloromethane	ND	0.13		mg/Kg	1	9/20/2019 6:43:12 PM	47598
2-Chlorotoluene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
4-Chlorotoluene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
cis-1,2-DCE	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
cis-1,3-Dichloropropene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,2-Dibromo-3-chloropropane	ND	0.084		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Dibromochloromethane	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Dibromomethane	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,2-Dichlorobenzene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,3-Dichlorobenzene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,4-Dichlorobenzene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Dichlorodifluoromethane	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,1-Dichloroethane	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,1-Dichloroethene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,2-Dichloropropane	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,3-Dichloropropane	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
2,2-Dichloropropane	ND	0.084		mg/Kg	1	9/20/2019 6:43:12 PM	47598

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909A75

Date Reported: 9/26/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-14 (170-175)

**Project:** Former Y

**Collection Date:** 9/13/2019 2:00:00 PM

**Lab ID:** 1909A75-001

**Matrix:** MEOH (SOIL) **Received Date:** 9/19/2019 2:27:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.084		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Hexachlorobutadiene	ND	0.084		mg/Kg	1	9/20/2019 6:43:12 PM	47598
2-Hexanone	ND	0.42		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Isopropylbenzene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
4-Isopropyltoluene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
4-Methyl-2-pentanone	ND	0.42		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Methylene chloride	ND	0.13		mg/Kg	1	9/20/2019 6:43:12 PM	47598
n-Butylbenzene	ND	0.13		mg/Kg	1	9/20/2019 6:43:12 PM	47598
n-Propylbenzene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
sec-Butylbenzene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Styrene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
tert-Butylbenzene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,1,1,2-Tetrachloroethane	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,1,2,2-Tetrachloroethane	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Tetrachloroethene (PCE)	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
trans-1,2-DCE	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
trans-1,3-Dichloropropene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,2,3-Trichlorobenzene	ND	0.084		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,2,4-Trichlorobenzene	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,1,1-Trichloroethane	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,1,2-Trichloroethane	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Trichloroethene (TCE)	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Trichlorofluoromethane	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
1,2,3-Trichloropropane	ND	0.084		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Vinyl chloride	ND	0.042		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Xylenes, Total	ND	0.084		mg/Kg	1	9/20/2019 6:43:12 PM	47598
Surr: Dibromofluoromethane	97.2	70-130		%Rec	1	9/20/2019 6:43:12 PM	47598
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	1	9/20/2019 6:43:12 PM	47598
Surr: Toluene-d8	99.3	70-130		%Rec	1	9/20/2019 6:43:12 PM	47598
Surr: 4-Bromofluorobenzene	87.9	70-130		%Rec	1	9/20/2019 6:43:12 PM	47598

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909A75

Date Reported: 9/26/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-14 (290-295)

Project: Former Y

Collection Date: 9/15/2019 8:45:00 AM

Lab ID: 1909A75-002

Matrix: MEOH (SOIL)

Received Date: 9/19/2019 2:27:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.017		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Toluene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Ethylbenzene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Methyl tert-butyl ether (MTBE)	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,2,4-Trimethylbenzene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,3,5-Trimethylbenzene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,2-Dichloroethane (EDC)	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,2-Dibromoethane (EDB)	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Naphthalene	ND	0.068		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1-Methylnaphthalene	ND	0.14		mg/Kg	1	9/20/2019 7:12:31 PM	47598
2-Methylnaphthalene	ND	0.14		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Acetone	ND	0.51		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Bromobenzene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Bromodichloromethane	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Bromoform	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Bromomethane	ND	0.10		mg/Kg	1	9/20/2019 7:12:31 PM	47598
2-Butanone	ND	0.34		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Carbon disulfide	ND	0.34		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Carbon tetrachloride	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Chlorobenzene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Chloroethane	ND	0.068		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Chloroform	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Chloromethane	ND	0.10		mg/Kg	1	9/20/2019 7:12:31 PM	47598
2-Chlorotoluene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
4-Chlorotoluene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
cis-1,2-DCE	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
cis-1,3-Dichloropropene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,2-Dibromo-3-chloropropane	ND	0.068		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Dibromochloromethane	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Dibromomethane	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,2-Dichlorobenzene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,3-Dichlorobenzene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,4-Dichlorobenzene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Dichlorodifluoromethane	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,1-Dichloroethane	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,1-Dichloroethene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,2-Dichloropropane	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,3-Dichloropropane	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
2,2-Dichloropropane	ND	0.068		mg/Kg	1	9/20/2019 7:12:31 PM	47598

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909A75

Date Reported: 9/26/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-14 (290-295)

**Project:** Former Y

**Collection Date:** 9/15/2019 8:45:00 AM

**Lab ID:** 1909A75-002

**Matrix:** MEOH (SOIL) **Received Date:** 9/19/2019 2:27:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.068		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Hexachlorobutadiene	ND	0.068		mg/Kg	1	9/20/2019 7:12:31 PM	47598
2-Hexanone	ND	0.34		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Isopropylbenzene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
4-Isopropyltoluene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
4-Methyl-2-pentanone	ND	0.34		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Methylene chloride	ND	0.10		mg/Kg	1	9/20/2019 7:12:31 PM	47598
n-Butylbenzene	ND	0.10		mg/Kg	1	9/20/2019 7:12:31 PM	47598
n-Propylbenzene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
sec-Butylbenzene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Styrene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
tert-Butylbenzene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,1,1,2-Tetrachloroethane	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,1,2,2-Tetrachloroethane	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Tetrachloroethene (PCE)	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
trans-1,2-DCE	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
trans-1,3-Dichloropropene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,2,3-Trichlorobenzene	ND	0.068		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,2,4-Trichlorobenzene	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,1,1-Trichloroethane	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,1,2-Trichloroethane	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Trichloroethene (TCE)	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Trichlorofluoromethane	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
1,2,3-Trichloropropane	ND	0.068		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Vinyl chloride	ND	0.034		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Xylenes, Total	ND	0.068		mg/Kg	1	9/20/2019 7:12:31 PM	47598
Surr: Dibromofluoromethane	101	70-130		%Rec	1	9/20/2019 7:12:31 PM	47598
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%Rec	1	9/20/2019 7:12:31 PM	47598
Surr: Toluene-d8	101	70-130		%Rec	1	9/20/2019 7:12:31 PM	47598
Surr: 4-Bromofluorobenzene	89.5	70-130		%Rec	1	9/20/2019 7:12:31 PM	47598

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909A75

Date Reported: 9/26/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-14 (320)

Project: Former Y

Collection Date: 9/15/2019 3:20:00 PM

Lab ID: 1909A75-003

Matrix: MEOH (SOIL)

Received Date: 9/19/2019 2:27:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.016		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Toluene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Ethylbenzene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Methyl tert-butyl ether (MTBE)	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,2,4-Trimethylbenzene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,3,5-Trimethylbenzene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,2-Dichloroethane (EDC)	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,2-Dibromoethane (EDB)	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Naphthalene	ND	0.065		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1-Methylnaphthalene	ND	0.13		mg/Kg	1	9/20/2019 7:41:38 PM	47598
2-Methylnaphthalene	ND	0.13		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Acetone	ND	0.49		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Bromobenzene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Bromodichloromethane	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Bromoform	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Bromomethane	ND	0.098		mg/Kg	1	9/20/2019 7:41:38 PM	47598
2-Butanone	ND	0.33		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Carbon disulfide	ND	0.33		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Carbon tetrachloride	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Chlorobenzene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Chloroethane	ND	0.065		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Chloroform	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Chloromethane	ND	0.098		mg/Kg	1	9/20/2019 7:41:38 PM	47598
2-Chlorotoluene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
4-Chlorotoluene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
cis-1,2-DCE	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
cis-1,3-Dichloropropene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,2-Dibromo-3-chloropropane	ND	0.065		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Dibromochloromethane	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Dibromomethane	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,2-Dichlorobenzene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,3-Dichlorobenzene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,4-Dichlorobenzene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Dichlorodifluoromethane	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,1-Dichloroethane	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,1-Dichloroethene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,2-Dichloropropane	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,3-Dichloropropane	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
2,2-Dichloropropane	ND	0.065		mg/Kg	1	9/20/2019 7:41:38 PM	47598

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909A75

Date Reported: 9/26/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-14 (320)

**Project:** Former Y

**Collection Date:** 9/15/2019 3:20:00 PM

**Lab ID:** 1909A75-003

**Matrix:** MEOH (SOIL)

**Received Date:** 9/19/2019 2:27:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.065		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Hexachlorobutadiene	ND	0.065		mg/Kg	1	9/20/2019 7:41:38 PM	47598
2-Hexanone	ND	0.33		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Isopropylbenzene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
4-Isopropyltoluene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
4-Methyl-2-pentanone	ND	0.33		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Methylene chloride	ND	0.098		mg/Kg	1	9/20/2019 7:41:38 PM	47598
n-Butylbenzene	ND	0.098		mg/Kg	1	9/20/2019 7:41:38 PM	47598
n-Propylbenzene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
sec-Butylbenzene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Styrene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
tert-Butylbenzene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,1,1,2-Tetrachloroethane	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,1,2,2-Tetrachloroethane	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Tetrachloroethene (PCE)	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
trans-1,2-DCE	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
trans-1,3-Dichloropropene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,2,3-Trichlorobenzene	ND	0.065		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,2,4-Trichlorobenzene	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,1,1-Trichloroethane	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,1,2-Trichloroethane	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Trichloroethene (TCE)	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Trichlorofluoromethane	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
1,2,3-Trichloropropane	ND	0.065		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Vinyl chloride	ND	0.033		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Xylenes, Total	ND	0.065		mg/Kg	1	9/20/2019 7:41:38 PM	47598
Surr: Dibromofluoromethane	101	70-130		%Rec	1	9/20/2019 7:41:38 PM	47598
Surr: 1,2-Dichloroethane-d4	99.3	70-130		%Rec	1	9/20/2019 7:41:38 PM	47598
Surr: Toluene-d8	101	70-130		%Rec	1	9/20/2019 7:41:38 PM	47598
Surr: 4-Bromofluorobenzene	86.8	70-130		%Rec	1	9/20/2019 7:41:38 PM	47598

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909A75

26-Sep-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>mb-47598</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>47598</b>	RunNo: <b>63092</b>								
Prep Date: <b>9/19/2019</b>	Analysis Date: <b>9/20/2019</b>	SeqNo: <b>2152073</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
 D Sample Diluted Due to Matrix  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 PQL Practical Quantitative Limit  
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 P Sample pH Not In Range  
 RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909A75

26-Sep-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>mb-47598</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>47598</b>		RunNo: <b>63092</b>							
Prep Date: <b>9/19/2019</b>	Analysis Date: <b>9/20/2019</b>		SeqNo: <b>2152073</b>		Units: <b>mg/Kg</b>					
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.50		0.5000		100	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.51		0.5000		103	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		85.9	70	130			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>ics-47598</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>47598</b>		RunNo: <b>63092</b>							
Prep Date: <b>9/19/2019</b>	Analysis Date: <b>9/20/2019</b>		SeqNo: <b>2152074</b>		Units: <b>mg/Kg</b>					
Benzene	1.1	0.025	1.000	0	107	68	135			
Toluene	0.95	0.050	1.000	0	95.3	70	130			
Chlorobenzene	0.93	0.050	1.000	0	92.8	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909A75

26-Sep-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>Ics-47598</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>47598</b>		RunNo: <b>63092</b>							
Prep Date: <b>9/19/2019</b>	Analysis Date: <b>9/20/2019</b>		SeqNo: <b>2152074</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.80	0.050	1.000	0	80.1	51.1	139			
Trichloroethene (TCE)	0.88	0.050	1.000	0	87.7	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		99.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.49		0.5000		97.9	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		85.7	70	130			

### Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Limit
S % Recovery outside of range due to dilution or matrix	

**Sample Log-In Check List**

Client Name: DBS

Work Order Number: 1909A75

RcptNo: 1

Received By: Anne Thorne

9/19/2019 2:27:00 PM

*Anne Thorne*

Completed By: Yazmine Garduno

9/19/2019 4:05:56 PM

*Yazmine Garduno*

Reviewed By: ENM

9/19/19

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? Client

**Log In**

3. Was an attempt made to cool the samples? Yes  No  NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
5. Sample(s) in proper container(s)? Yes  No
6. Sufficient sample volume for indicated test(s)? Yes  No
7. Are samples (except VOA and ONG) properly preserved? Yes  No
8. Was preservative added to bottles? Yes  No  NA
9. VOA vials have zero headspace? Yes  No  No VOA Vials
10. Were any sample containers received broken? Yes  No
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes  No
12. Are matrices correctly identified on Chain of Custody? Yes  No
13. Is it clear what analyses were requested? Yes  No
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes  No

# of preserved bottles checked for pH:  
 Adjusted? 50  
 Checked by: 9.19.19

**Special Handling (if applicable)**

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: \_\_\_\_\_ Date \_\_\_\_\_  
 By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person  
 Regarding: \_\_\_\_\_  
 Client Instructions: \_\_\_\_\_

16. Additional remarks:

**Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.2	Good				

# Chain-of-Custody Record

Client: DBSA

Mailing Address: Academy TELAF  
Ste 100 ABCD 87111

Phone #: 822-9400

email or Fax#: +golden@geo-logic

QA/QC Package:  Standard  Level 4 (Full Validation)

Accreditation:  Az Compliance  NELAC  Other \_\_\_\_\_

EDD (Type) \_\_\_\_\_

Turn-Around Time:  Standard  Rush \_\_\_\_\_

Project Name: Former Y

Project #: DB18.1157.00.mw019.5

Project Manager: T. Colder

Sampler: P. Feltman

On Ice:  Yes  No

# of Coolers: 1 CE

Cooler Temp (including CF): 3.1 to 3.2 (°C)

HEAL No. 1901A7S

Container Type and # 2 vials jar

Preservative Type meth none

Date Time Matrix Sample Name

9/13/19 1400 Soil mw-14 (170-175)

9/15/19 0845 ↓ mw-14 (290-295)

9/15/19 1520 ↓ mw-14 (320)

Trip Blank

1 vial meth

PAF

Date: 9/19/19 Time: 1427 Relinquished by: [Signature]

Received by: [Signature] Via: 2 Date: 09/19/19 Time: 1427

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished by: \_\_\_\_\_

Received by: \_\_\_\_\_ Via: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
									<u>8260 B</u>



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

July 08, 2019

Tom Golden

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX (505) 822-8877

RE: Former Y

OrderNo.: 1906F46

Dear Tom Golden:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/27/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906F46

Date Reported: 7/8/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-1 (90-100)

**Project:** Former Y

**Collection Date:** 6/20/2019 4:30:00 PM

**Lab ID:** 1906F46-001

**Matrix:** MEOH (SOIL)

**Received Date:** 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.016		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Toluene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Ethylbenzene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Methyl tert-butyl ether (MTBE)	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,2,4-Trimethylbenzene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,3,5-Trimethylbenzene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,2-Dichloroethane (EDC)	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,2-Dibromoethane (EDB)	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Naphthalene	ND	0.066		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1-Methylnaphthalene	ND	0.13		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
2-Methylnaphthalene	ND	0.13		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Acetone	ND	0.49		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Bromobenzene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Bromodichloromethane	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Bromoform	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Bromomethane	ND	0.099		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
2-Butanone	ND	0.33		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Carbon disulfide	ND	0.33		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Carbon tetrachloride	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Chlorobenzene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Chloroethane	ND	0.066		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Chloroform	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Chloromethane	ND	0.099		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
2-Chlorotoluene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
4-Chlorotoluene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
cis-1,2-DCE	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
cis-1,3-Dichloropropene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,2-Dibromo-3-chloropropane	ND	0.066		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Dibromochloromethane	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Dibromomethane	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,2-Dichlorobenzene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,3-Dichlorobenzene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,4-Dichlorobenzene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Dichlorodifluoromethane	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,1-Dichloroethane	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,1-Dichloroethene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,2-Dichloropropane	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,3-Dichloropropane	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
2,2-Dichloropropane	ND	0.066		mg/Kg	1	7/4/2019 7:47:24 AM	S61138

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906F46

Date Reported: 7/8/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-1 (90-100)

**Project:** Former Y

**Collection Date:** 6/20/2019 4:30:00 PM

**Lab ID:** 1906F46-001

**Matrix:** MEOH (SOIL)

**Received Date:** 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.066		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Hexachlorobutadiene	ND	0.066		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
2-Hexanone	ND	0.33		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Isopropylbenzene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
4-Isopropyltoluene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
4-Methyl-2-pentanone	ND	0.33		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Methylene chloride	ND	0.099		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
n-Butylbenzene	ND	0.099		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
n-Propylbenzene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
sec-Butylbenzene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Styrene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
tert-Butylbenzene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,1,1,2-Tetrachloroethane	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,1,2,2-Tetrachloroethane	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Tetrachloroethene (PCE)	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
trans-1,2-DCE	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
trans-1,3-Dichloropropene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,2,3-Trichlorobenzene	ND	0.066		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,2,4-Trichlorobenzene	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,1,1-Trichloroethane	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,1,2-Trichloroethane	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Trichloroethene (TCE)	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Trichlorofluoromethane	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
1,2,3-Trichloropropane	ND	0.066		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Vinyl chloride	ND	0.033		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Xylenes, Total	ND	0.066		mg/Kg	1	7/4/2019 7:47:24 AM	S61138
Surr: Dibromofluoromethane	103	70-130		%Rec	1	7/4/2019 7:47:24 AM	S61138
Surr: 1,2-Dichloroethane-d4	99.7	70-130		%Rec	1	7/4/2019 7:47:24 AM	S61138
Surr: Toluene-d8	100	70-130		%Rec	1	7/4/2019 7:47:24 AM	S61138
Surr: 4-Bromofluorobenzene	92.6	70-130		%Rec	1	7/4/2019 7:47:24 AM	S61138

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906F46

Date Reported: 7/8/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-1 (190-200)

**Project:** Former Y

**Collection Date:** 6/21/2019 5:30:00 PM

**Lab ID:** 1906F46-002

**Matrix:** MEOH (SOIL) **Received Date:** 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.016		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Toluene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Ethylbenzene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Methyl tert-butyl ether (MTBE)	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,2,4-Trimethylbenzene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,3,5-Trimethylbenzene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,2-Dichloroethane (EDC)	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,2-Dibromoethane (EDB)	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Naphthalene	ND	0.065		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1-Methylnaphthalene	ND	0.13		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
2-Methylnaphthalene	ND	0.13		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Acetone	ND	0.49		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Bromobenzene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Bromodichloromethane	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Bromoform	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Bromomethane	ND	0.098		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
2-Butanone	ND	0.33		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Carbon disulfide	ND	0.33		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Carbon tetrachloride	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Chlorobenzene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Chloroethane	ND	0.065		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Chloroform	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Chloromethane	ND	0.098		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
2-Chlorotoluene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
4-Chlorotoluene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
cis-1,2-DCE	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
cis-1,3-Dichloropropene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,2-Dibromo-3-chloropropane	ND	0.065		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Dibromochloromethane	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Dibromomethane	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,2-Dichlorobenzene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,3-Dichlorobenzene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,4-Dichlorobenzene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Dichlorodifluoromethane	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,1-Dichloroethane	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,1-Dichloroethene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,2-Dichloropropane	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,3-Dichloropropane	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
2,2-Dichloropropane	ND	0.065		mg/Kg	1	7/4/2019 9:14:13 AM	S61138

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906F46

Date Reported: 7/8/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-1 (190-200)

**Project:** Former Y

**Collection Date:** 6/21/2019 5:30:00 PM

**Lab ID:** 1906F46-002

**Matrix:** MEOH (SOIL) **Received Date:** 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.065		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Hexachlorobutadiene	ND	0.065		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
2-Hexanone	ND	0.33		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Isopropylbenzene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
4-Isopropyltoluene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
4-Methyl-2-pentanone	ND	0.33		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Methylene chloride	ND	0.098		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
n-Butylbenzene	ND	0.098		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
n-Propylbenzene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
sec-Butylbenzene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Styrene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
tert-Butylbenzene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,1,1,2-Tetrachloroethane	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,1,2,2-Tetrachloroethane	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Tetrachloroethene (PCE)	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
trans-1,2-DCE	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
trans-1,3-Dichloropropene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,2,3-Trichlorobenzene	ND	0.065		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,2,4-Trichlorobenzene	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,1,1-Trichloroethane	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,1,2-Trichloroethane	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Trichloroethene (TCE)	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Trichlorofluoromethane	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
1,2,3-Trichloropropane	ND	0.065		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Vinyl chloride	ND	0.033		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Xylenes, Total	ND	0.065		mg/Kg	1	7/4/2019 9:14:13 AM	S61138
Surr: Dibromofluoromethane	101	70-130		%Rec	1	7/4/2019 9:14:13 AM	S61138
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	7/4/2019 9:14:13 AM	S61138
Surr: Toluene-d8	98.0	70-130		%Rec	1	7/4/2019 9:14:13 AM	S61138
Surr: 4-Bromofluorobenzene	89.7	70-130		%Rec	1	7/4/2019 9:14:13 AM	S61138

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906F46

Date Reported: 7/8/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: RW-1 (265-270)

Project: Former Y

Collection Date: 6/25/2019 9:35:00 AM

Lab ID: 1906F46-003

Matrix: MEOH (SOIL)

Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.018		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Toluene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Ethylbenzene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Methyl tert-butyl ether (MTBE)	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,2,4-Trimethylbenzene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,3,5-Trimethylbenzene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,2-Dichloroethane (EDC)	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,2-Dibromoethane (EDB)	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Naphthalene	ND	0.071		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1-Methylnaphthalene	ND	0.14		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
2-Methylnaphthalene	ND	0.14		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Acetone	ND	0.53		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Bromobenzene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Bromodichloromethane	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Bromoform	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Bromomethane	ND	0.11		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
2-Butanone	ND	0.36		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Carbon disulfide	ND	0.36		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Carbon tetrachloride	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Chlorobenzene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Chloroethane	ND	0.071		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Chloroform	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Chloromethane	ND	0.11		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
2-Chlorotoluene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
4-Chlorotoluene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
cis-1,2-DCE	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
cis-1,3-Dichloropropene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,2-Dibromo-3-chloropropane	ND	0.071		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Dibromochloromethane	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Dibromomethane	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,2-Dichlorobenzene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,3-Dichlorobenzene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,4-Dichlorobenzene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Dichlorodifluoromethane	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,1-Dichloroethane	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,1-Dichloroethene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,2-Dichloropropane	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,3-Dichloropropane	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
2,2-Dichloropropane	ND	0.071		mg/Kg	1	7/4/2019 9:43:13 AM	S61138

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906F46

Date Reported: 7/8/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: RW-1 (265-270)

Project: Former Y

Collection Date: 6/25/2019 9:35:00 AM

Lab ID: 1906F46-003

Matrix: MEOH (SOIL)

Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.071		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Hexachlorobutadiene	ND	0.071		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
2-Hexanone	ND	0.36		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Isopropylbenzene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
4-Isopropyltoluene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
4-Methyl-2-pentanone	ND	0.36		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Methylene chloride	ND	0.11		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
n-Butylbenzene	ND	0.11		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
n-Propylbenzene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
sec-Butylbenzene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Styrene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
tert-Butylbenzene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,1,1,2-Tetrachloroethane	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,1,2,2-Tetrachloroethane	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Tetrachloroethene (PCE)	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
trans-1,2-DCE	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
trans-1,3-Dichloropropene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,2,3-Trichlorobenzene	ND	0.071		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,2,4-Trichlorobenzene	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,1,1-Trichloroethane	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,1,2-Trichloroethane	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Trichloroethene (TCE)	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Trichlorofluoromethane	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
1,2,3-Trichloropropane	ND	0.071		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Vinyl chloride	ND	0.036		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Xylenes, Total	ND	0.071		mg/Kg	1	7/4/2019 9:43:13 AM	S61138
Surr: Dibromofluoromethane	100	70-130		%Rec	1	7/4/2019 9:43:13 AM	S61138
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	7/4/2019 9:43:13 AM	S61138
Surr: Toluene-d8	102	70-130		%Rec	1	7/4/2019 9:43:13 AM	S61138
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	7/4/2019 9:43:13 AM	S61138

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906F46

Date Reported: 7/8/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: RW-1 (320-330)

Project: Former Y

Collection Date: 6/26/2019 12:00:00 PM

Lab ID: 1906F46-004

Matrix: MEOH (SOIL) Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 6010B: SOIL METALS</b>							Analyst: <b>bcv</b>
Lead	1.2	0.50		mg/Kg	2	7/2/2019 8:40:52 AM	45944
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.017		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Toluene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Ethylbenzene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Methyl tert-butyl ether (MTBE)	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,2,4-Trimethylbenzene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,3,5-Trimethylbenzene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,2-Dichloroethane (EDC)	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,2-Dibromoethane (EDB)	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Naphthalene	ND	0.068		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1-Methylnaphthalene	ND	0.14		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
2-Methylnaphthalene	ND	0.14		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Acetone	ND	0.51		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Bromobenzene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Bromodichloromethane	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Bromoform	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Bromomethane	ND	0.10		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
2-Butanone	ND	0.34		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Carbon disulfide	ND	0.34		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Carbon tetrachloride	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Chlorobenzene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Chloroethane	ND	0.068		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Chloroform	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Chloromethane	ND	0.10		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
2-Chlorotoluene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
4-Chlorotoluene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
cis-1,2-DCE	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
cis-1,3-Dichloropropene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,2-Dibromo-3-chloropropane	ND	0.068		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Dibromochloromethane	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Dibromomethane	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,2-Dichlorobenzene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,3-Dichlorobenzene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,4-Dichlorobenzene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Dichlorodifluoromethane	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,1-Dichloroethane	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,1-Dichloroethene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,2-Dichloropropane	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906F46

Date Reported: 7/8/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-1 (320-330)

**Project:** Former Y

**Collection Date:** 6/26/2019 12:00:00 PM

**Lab ID:** 1906F46-004

**Matrix:** MEOH (SOIL) **Received Date:** 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
2,2-Dichloropropane	ND	0.068		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,1-Dichloropropene	ND	0.068		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Hexachlorobutadiene	ND	0.068		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
2-Hexanone	ND	0.34		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Isopropylbenzene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
4-Isopropyltoluene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
4-Methyl-2-pentanone	ND	0.34		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Methylene chloride	ND	0.10		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
n-Butylbenzene	ND	0.10		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
n-Propylbenzene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
sec-Butylbenzene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Styrene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
tert-Butylbenzene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,1,1,2-Tetrachloroethane	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,1,2,2-Tetrachloroethane	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Tetrachloroethene (PCE)	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
trans-1,2-DCE	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
trans-1,3-Dichloropropene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,2,3-Trichlorobenzene	ND	0.068		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,2,4-Trichlorobenzene	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,1,1-Trichloroethane	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,1,2-Trichloroethane	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Trichloroethene (TCE)	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Trichlorofluoromethane	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
1,2,3-Trichloropropane	ND	0.068		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Vinyl chloride	ND	0.034		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Xylenes, Total	ND	0.068		mg/Kg	1	7/4/2019 10:12:17 AM	S61138
Surr: Dibromofluoromethane	105	70-130		%Rec	1	7/4/2019 10:12:17 AM	S61138
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	7/4/2019 10:12:17 AM	S61138
Surr: Toluene-d8	104	70-130		%Rec	1	7/4/2019 10:12:17 AM	S61138
Surr: 4-Bromofluorobenzene	89.7	70-130		%Rec	1	7/4/2019 10:12:17 AM	S61138

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906F46

Date Reported: 7/8/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MeOH Blank

Project: Former Y

Collection Date:

Lab ID: 1906F46-005

Matrix: MEOH (SOIL) Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Toluene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Ethylbenzene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Naphthalene	ND	0.10		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1-Methylnaphthalene	ND	0.20		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
2-Methylnaphthalene	ND	0.20		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Acetone	ND	0.75		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Bromobenzene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Bromodichloromethane	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Bromoform	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Bromomethane	ND	0.15		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
2-Butanone	ND	0.50		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Carbon disulfide	ND	0.50		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Carbon tetrachloride	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Chlorobenzene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Chloroethane	ND	0.10		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Chloroform	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Chloromethane	ND	0.15		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
2-Chlorotoluene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
4-Chlorotoluene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
cis-1,2-DCE	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Dibromochloromethane	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Dibromomethane	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,1-Dichloroethane	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,1-Dichloroethene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,2-Dichloropropane	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,3-Dichloropropane	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
2,2-Dichloropropane	ND	0.10		mg/Kg	1	7/4/2019 10:41:19 AM	S61138

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906F46

Date Reported: 7/8/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MeOH Blank

Project: Former Y

Collection Date:

Lab ID: 1906F46-005

Matrix: MEOH (SOIL)

Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Hexachlorobutadiene	ND	0.10		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
2-Hexanone	ND	0.50		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Isopropylbenzene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
4-Isopropyltoluene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Methylene chloride	ND	0.15		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
n-Butylbenzene	ND	0.15		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
n-Propylbenzene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
sec-Butylbenzene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Styrene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
tert-Butylbenzene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
trans-1,2-DCE	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Trichlorofluoromethane	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Vinyl chloride	ND	0.050		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Xylenes, Total	ND	0.10		mg/Kg	1	7/4/2019 10:41:19 AM	S61138
Surr: Dibromofluoromethane	102	70-130		%Rec	1	7/4/2019 10:41:19 AM	S61138
Surr: 1,2-Dichloroethane-d4	99.2	70-130		%Rec	1	7/4/2019 10:41:19 AM	S61138
Surr: Toluene-d8	103	70-130		%Rec	1	7/4/2019 10:41:19 AM	S61138
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	1	7/4/2019 10:41:19 AM	S61138

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906F46

08-Jul-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>rb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>S61138</b>	RunNo: <b>61138</b>								
Prep Date:	Analysis Date: <b>7/3/2019</b>	SeqNo: <b>2072350</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
 D Sample Diluted Due to Matrix  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 PQL Practical Quantitative Limit  
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 P Sample pH Not In Range  
 RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906F46

08-Jul-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>rb</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>S61138</b>		RunNo: <b>61138</b>							
Prep Date:	Analysis Date: <b>7/3/2019</b>		SeqNo: <b>2072350</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.53		0.5000		106	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.8	70	130			

Sample ID: <b>100ng lcs</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>S61138</b>		RunNo: <b>61138</b>							
Prep Date:	Analysis Date: <b>7/3/2019</b>		SeqNo: <b>2072351</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.025	1.000	0	116	70	130			
Toluene	1.0	0.050	1.000	0	100	70	130			
Chlorobenzene	0.91	0.050	1.000	0	91.4	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906F46

08-Jul-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>100ng lcs</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>S61138</b>		RunNo: <b>61138</b>							
Prep Date:	Analysis Date: <b>7/3/2019</b>		SeqNo: <b>2072351</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.0	0.050	1.000	0	103	50.8	164			
Trichloroethene (TCE)	0.95	0.050	1.000	0	95.5	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		107	70	130			
Surr: Toluene-d8	0.50		0.5000		99.4	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		90.9	70	130			

Sample ID: <b>1906f46-001ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>RW-1 (90-100)</b>	Batch ID: <b>S61138</b>		RunNo: <b>61138</b>							
Prep Date:	Analysis Date: <b>7/4/2019</b>		SeqNo: <b>2072356</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.72	0.016	0.6583	0	110	68.9	131			
Toluene	0.66	0.033	0.6583	0	101	64.3	137			
Chlorobenzene	0.58	0.033	0.6583	0	88.3	65.9	143			
1,1-Dichloroethene	0.71	0.033	0.6583	0	108	53.4	150			
Trichloroethene (TCE)	0.61	0.033	0.6583	0	92.4	70	130			
Surr: Dibromofluoromethane	0.34		0.3292		103	70	130			
Surr: 1,2-Dichloroethane-d4	0.33		0.3292		99.4	70	130			
Surr: Toluene-d8	0.33		0.3292		102	70	130			
Surr: 4-Bromofluorobenzene	0.29		0.3292		87.6	70	130			

Sample ID: <b>1906f46-001amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>RW-1 (90-100)</b>	Batch ID: <b>S61138</b>		RunNo: <b>61138</b>							
Prep Date:	Analysis Date: <b>7/4/2019</b>		SeqNo: <b>2072357</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.68	0.016	0.6583	0	104	68.9	131	5.73	20	
Toluene	0.61	0.033	0.6583	0	92.0	64.3	137	9.10	20	
Chlorobenzene	0.56	0.033	0.6583	0	85.6	65.9	143	3.05	20	
1,1-Dichloroethene	0.68	0.033	0.6583	0	103	53.4	150	4.38	20	
Trichloroethene (TCE)	0.56	0.033	0.6583	0	84.6	70	130	8.75	20	
Surr: Dibromofluoromethane	0.34		0.3292		103	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.33		0.3292		101	70	130	0	0	
Surr: Toluene-d8	0.32		0.3292		96.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.30		0.3292		91.0	70	130	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906F46

08-Jul-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>mb-45983</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>45983</b>		RunNo: <b>61138</b>							
Prep Date: <b>7/2/2019</b>	Analysis Date: <b>7/3/2019</b>		SeqNo: <b>2072389</b>				Units: <b>%Rec</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.51		0.5000		103	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.49		0.5000		98.4	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.6	70	130			

Sample ID: <b>ics-45983</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>45983</b>		RunNo: <b>61138</b>							
Prep Date: <b>7/2/2019</b>	Analysis Date: <b>7/3/2019</b>		SeqNo: <b>2072390</b>				Units: <b>%Rec</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.52		0.5000		105	70	130			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		105	70	130			
Surr: Toluene-d8	0.46		0.5000		92.6	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.9	70	130			

**Qualifiers:**

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                  |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits      |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                          |
| PQL Practical Quantitative Limit                        | RL Reporting Limit                                |
| S % Recovery outside of range due to dilution or matrix |   |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906F46

08-Jul-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>LCS-45944</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 6010B: Soil Metals</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>45944</b>	RunNo: <b>61102</b>								
Prep Date: <b>7/1/2019</b>	Analysis Date: <b>7/2/2019</b>	SeqNo: <b>2070362</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	25	0.25	25.00	0	99.6	80	120			

Sample ID: <b>MB-45944</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 6010B: Soil Metals</b>								
Client ID: <b>PBS</b>	Batch ID: <b>45944</b>	RunNo: <b>61102</b>								
Prep Date: <b>7/1/2019</b>	Analysis Date: <b>7/2/2019</b>	SeqNo: <b>2070364</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.25								

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit



Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87109  
 TEL: 505-345-3975 FAX: 505-345-4107  
 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: DBS

Work Order Number: 1906F46

RcptNo: 1

Received By: **Desiree Dominguez** 6/27/2019 9:00:00 AM  
 Completed By: **Michelle Garcia** 6/27/2019 1:19:38 PM  
 Reviewed By: **ENM** **6/27/19**

*Michelle Garcia*

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? Client

### Log In

3. Was an attempt made to cool the samples? Yes  No  NA   
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA   
 5. Sample(s) in proper container(s)? Yes  No   
 6. Sufficient sample volume for indicated test(s)? Yes  No   
 7. Are samples (except VOA and ONG) properly preserved? Yes  No   
 8. Was preservative added to bottles? Yes  No  NA   
 9. VOA vials have zero headspace? Yes  No  No VOA Vials   
 10. Were any sample containers received broken? Yes  No   
 11. Does paperwork match bottle labels? Yes  No   
 (Note discrepancies on chain of custody)  
 12. Are matrices correctly identified on Chain of Custody? Yes  No   
 13. Is it clear what analyses were requested? Yes  No   
 14. Were all holding times able to be met? Yes  No   
 (If no, notify customer for authorization.)

# of preserved bottles checked for pH: _____
( <2 or >12 unless noted )
Adjusted? _____
Checked by: _____

### Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: _____	Date: _____
By Whom: _____	Via: <input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding: _____	
Client Instructions: _____	

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Not Present			

# Chain-of-Custody Record

Client: DBSA

Mailing Address: 6020 Academy Rd NE Ste 100  
ABQ 87109

Phone #: 505-822-9400

email or Fax#: +golden@geo-logie

QA/QC Package:  
 Standard  Level 4 (Full Validation)

Accreditation:  Az Compliance  
 NELAC  Other

EDD (Type)

Turn-Around Time:  
 Standard  Rush

Project Name:  
Former 4

Project #:  
DB18.1157

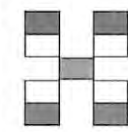
Project Manager:  
T. Golden

Sampler: P. Feltman  
On Ice:  Yes  No

# of Coolers: 1

Cooler Temp (including CF): 1.8 + 0.2 = 2.0°C

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
6/20/19	1630	Soil	RW-1 (90-100)	1 jar/2 vials	None/meth	001
6/24/19	1730	Soil	RW-1 (190-200)	"	"	002
6/25/19	0935	Soil	RW-1 (265-270)	"	"	003
6/26/19	1200	Soil	RW-1 (320-330)	"	"	004
			Trip Blank	1 vial	meth	005
<del>7/12/19</del>						



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com  
4901 Hawkins NE - Albuquerque, NM 87109  
Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
									52603
									76

Date: 6/26/19 Time: 1700 Relinquished by: P. Feltman  
Received by: DB Via: FedEx Date: 6/27/19 Time: 9:00

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished by: \_\_\_\_\_  
Received by: \_\_\_\_\_ Via: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.





Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

June 24, 2019

Tom Golden

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX: (505) 822-8877

RE: Former Y

OrderNo.: 1906A48

Dear Tom Golden:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/19/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906A48

Date Reported: 6/24/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: RW-2 @ 85

Project: Former Y

Collection Date: 6/16/2019 10:30:00 AM

Lab ID: 1906A48-001

Matrix: MEOH (SOIL) Received Date: 6/19/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.014		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Toluene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Ethylbenzene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Methyl tert-butyl ether (MTBE)	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,2,4-Trimethylbenzene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,3,5-Trimethylbenzene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,2-Dichloroethane (EDC)	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,2-Dibromoethane (EDB)	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Naphthalene	ND	0.058		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1-Methylnaphthalene	ND	0.12		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
2-Methylnaphthalene	ND	0.12		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Acetone	ND	0.43		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Bromobenzene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Bromodichloromethane	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Bromoform	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Bromomethane	ND	0.086		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
2-Butanone	ND	0.29		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Carbon disulfide	ND	0.29		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Carbon tetrachloride	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Chlorobenzene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Chloroethane	ND	0.058		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Chloroform	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Chloromethane	ND	0.086		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
2-Chlorotoluene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
4-Chlorotoluene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
cis-1,2-DCE	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
cis-1,3-Dichloropropene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,2-Dibromo-3-chloropropane	ND	0.058		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Dibromochloromethane	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Dibromomethane	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,2-Dichlorobenzene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,3-Dichlorobenzene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,4-Dichlorobenzene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Dichlorodifluoromethane	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,1-Dichloroethane	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,1-Dichloroethene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,2-Dichloropropane	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,3-Dichloropropane	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
2,2-Dichloropropane	ND	0.058		mg/Kg	1	6/20/2019 2:23:48 PM	S60813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906A48

Date Reported: 6/24/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: RW-2 @ 85

Project: Former Y

Collection Date: 6/16/2019 10:30:00 AM

Lab ID: 1906A48-001

Matrix: MEOH (SOIL)

Received Date: 6/19/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.058		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Hexachlorobutadiene	ND	0.058		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
2-Hexanone	ND	0.29		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Isopropylbenzene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
4-Isopropyltoluene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
4-Methyl-2-pentanone	ND	0.29		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Methylene chloride	ND	0.086		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
n-Butylbenzene	ND	0.086		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
n-Propylbenzene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
sec-Butylbenzene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Styrene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
tert-Butylbenzene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,1,1,2-Tetrachloroethane	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,1,2,2-Tetrachloroethane	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Tetrachloroethene (PCE)	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
trans-1,2-DCE	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
trans-1,3-Dichloropropene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,2,3-Trichlorobenzene	ND	0.058		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,2,4-Trichlorobenzene	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,1,1-Trichloroethane	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,1,2-Trichloroethane	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Trichloroethene (TCE)	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Trichlorofluoromethane	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
1,2,3-Trichloropropane	ND	0.058		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Vinyl chloride	ND	0.029		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Xylenes, Total	ND	0.058		mg/Kg	1	6/20/2019 2:23:48 PM	S60813
Surr: Dibromofluoromethane	76.2	70-130		%Rec	1	6/20/2019 2:23:48 PM	S60813
Surr: 1,2-Dichloroethane-d4	93.2	70-130		%Rec	1	6/20/2019 2:23:48 PM	S60813
Surr: Toluene-d8	90.8	70-130		%Rec	1	6/20/2019 2:23:48 PM	S60813
Surr: 4-Bromofluorobenzene	97.3	70-130		%Rec	1	6/20/2019 2:23:48 PM	S60813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906A48

Date Reported: 6/24/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-2 @ 175

**Project:** Former Y

**Collection Date:** 6/16/2019 8:20:00 PM

**Lab ID:** 1906A48-002

**Matrix:** MEOH (SOIL) **Received Date:** 6/19/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.019		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Toluene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Ethylbenzene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Methyl tert-butyl ether (MTBE)	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,2,4-Trimethylbenzene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,3,5-Trimethylbenzene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,2-Dichloroethane (EDC)	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,2-Dibromoethane (EDB)	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Naphthalene	ND	0.076		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1-Methylnaphthalene	ND	0.15		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
2-Methylnaphthalene	ND	0.15		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Acetone	ND	0.57		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Bromobenzene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Bromodichloromethane	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Bromoform	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Bromomethane	ND	0.11		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
2-Butanone	ND	0.38		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Carbon disulfide	ND	0.38		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Carbon tetrachloride	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Chlorobenzene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Chloroethane	ND	0.076		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Chloroform	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Chloromethane	ND	0.11		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
2-Chlorotoluene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
4-Chlorotoluene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
cis-1,2-DCE	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
cis-1,3-Dichloropropene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,2-Dibromo-3-chloropropane	ND	0.076		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Dibromochloromethane	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Dibromomethane	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,2-Dichlorobenzene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,3-Dichlorobenzene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,4-Dichlorobenzene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Dichlorodifluoromethane	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,1-Dichloroethane	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,1-Dichloroethene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,2-Dichloropropane	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,3-Dichloropropane	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
2,2-Dichloropropane	ND	0.076		mg/Kg	1	6/20/2019 3:52:25 PM	S60813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906A48

Date Reported: 6/24/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-2 @ 175

**Project:** Former Y

**Collection Date:** 6/16/2019 8:20:00 PM

**Lab ID:** 1906A48-002

**Matrix:** MEOH (SOIL) **Received Date:** 6/19/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.076		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Hexachlorobutadiene	ND	0.076		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
2-Hexanone	ND	0.38		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Isopropylbenzene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
4-Isopropyltoluene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
4-Methyl-2-pentanone	ND	0.38		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Methylene chloride	ND	0.11		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
n-Butylbenzene	ND	0.11		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
n-Propylbenzene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
sec-Butylbenzene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Styrene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
tert-Butylbenzene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,1,1,2-Tetrachloroethane	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,1,2,2-Tetrachloroethane	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Tetrachloroethene (PCE)	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
trans-1,2-DCE	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
trans-1,3-Dichloropropene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,2,3-Trichlorobenzene	ND	0.076		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,2,4-Trichlorobenzene	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,1,1-Trichloroethane	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,1,2-Trichloroethane	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Trichloroethene (TCE)	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Trichlorofluoromethane	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
1,2,3-Trichloropropane	ND	0.076		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Vinyl chloride	ND	0.038		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Xylenes, Total	ND	0.076		mg/Kg	1	6/20/2019 3:52:25 PM	S60813
Surr: Dibromofluoromethane	84.9	70-130		%Rec	1	6/20/2019 3:52:25 PM	S60813
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	6/20/2019 3:52:25 PM	S60813
Surr: Toluene-d8	91.2	70-130		%Rec	1	6/20/2019 3:52:25 PM	S60813
Surr: 4-Bromofluorobenzene	93.7	70-130		%Rec	1	6/20/2019 3:52:25 PM	S60813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906A48

Date Reported: 6/24/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-2 @ 235

**Project:** Former Y

**Collection Date:** 6/17/2019 3:00:00 AM

**Lab ID:** 1906A48-003

**Matrix:** MEOH (SOIL) **Received Date:** 6/19/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.017		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Toluene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Ethylbenzene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Methyl tert-butyl ether (MTBE)	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,2,4-Trimethylbenzene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,3,5-Trimethylbenzene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,2-Dichloroethane (EDC)	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,2-Dibromoethane (EDB)	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Naphthalene	ND	0.066		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1-Methylnaphthalene	ND	0.13		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
2-Methylnaphthalene	ND	0.13		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Acetone	ND	0.50		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Bromobenzene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Bromodichloromethane	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Bromoform	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Bromomethane	ND	0.099		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
2-Butanone	ND	0.33		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Carbon disulfide	ND	0.33		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Carbon tetrachloride	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Chlorobenzene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Chloroethane	ND	0.066		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Chloroform	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Chloromethane	ND	0.099		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
2-Chlorotoluene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
4-Chlorotoluene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
cis-1,2-DCE	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
cis-1,3-Dichloropropene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,2-Dibromo-3-chloropropane	ND	0.066		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Dibromochloromethane	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Dibromomethane	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,2-Dichlorobenzene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,3-Dichlorobenzene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,4-Dichlorobenzene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Dichlorodifluoromethane	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,1-Dichloroethane	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,1-Dichloroethene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,2-Dichloropropane	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,3-Dichloropropane	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
2,2-Dichloropropane	ND	0.066		mg/Kg	1	6/20/2019 4:22:02 PM	S60813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906A48

Date Reported: 6/24/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-2 @ 235

**Project:** Former Y

**Collection Date:** 6/17/2019 3:00:00 AM

**Lab ID:** 1906A48-003

**Matrix:** MEOH (SOIL) **Received Date:** 6/19/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.066		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Hexachlorobutadiene	ND	0.066		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
2-Hexanone	ND	0.33		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Isopropylbenzene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
4-Isopropyltoluene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
4-Methyl-2-pentanone	ND	0.33		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Methylene chloride	ND	0.099		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
n-Butylbenzene	ND	0.099		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
n-Propylbenzene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
sec-Butylbenzene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Styrene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
tert-Butylbenzene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,1,1,2-Tetrachloroethane	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,1,2,2-Tetrachloroethane	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Tetrachloroethene (PCE)	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
trans-1,2-DCE	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
trans-1,3-Dichloropropene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,2,3-Trichlorobenzene	ND	0.066		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,2,4-Trichlorobenzene	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,1,1-Trichloroethane	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,1,2-Trichloroethane	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Trichloroethene (TCE)	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Trichlorofluoromethane	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
1,2,3-Trichloropropane	ND	0.066		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Vinyl chloride	ND	0.033		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Xylenes, Total	ND	0.066		mg/Kg	1	6/20/2019 4:22:02 PM	S60813
Surr: Dibromofluoromethane	77.8	70-130		%Rec	1	6/20/2019 4:22:02 PM	S60813
Surr: 1,2-Dichloroethane-d4	94.1	70-130		%Rec	1	6/20/2019 4:22:02 PM	S60813
Surr: Toluene-d8	99.5	70-130		%Rec	1	6/20/2019 4:22:02 PM	S60813
Surr: 4-Bromofluorobenzene	91.6	70-130		%Rec	1	6/20/2019 4:22:02 PM	S60813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906A48

Date Reported: 6/24/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: RW-2 @ 329

Project: Former Y

Collection Date: 6/18/2019 7:15:00 AM

Lab ID: 1906A48-004

Matrix: MEOH (SOIL)

Received Date: 6/19/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	51	0.37		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Toluene	330	7.4		mg/Kg	200	6/20/2019 4:51:36 PM	S60813
Ethylbenzene	73	7.4		mg/Kg	200	6/20/2019 4:51:36 PM	S60813
Methyl tert-butyl ether (MTBE)	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,2,4-Trimethylbenzene	140	7.4		mg/Kg	200	6/20/2019 4:51:36 PM	S60813
1,3,5-Trimethylbenzene	42	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,2-Dichloroethane (EDC)	0.98	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,2-Dibromoethane (EDB)	1.9	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Naphthalene	21	1.5		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1-Methylnaphthalene	16	3.0		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
2-Methylnaphthalene	27	3.0		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Acetone	ND	11		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Bromobenzene	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Bromodichloromethane	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Bromoform	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Bromomethane	ND	2.2		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
2-Butanone	ND	7.4		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Carbon disulfide	ND	7.4		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Carbon tetrachloride	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Chlorobenzene	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Chloroethane	ND	1.5		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Chloroform	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Chloromethane	ND	2.2		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
2-Chlorotoluene	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
4-Chlorotoluene	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
cis-1,2-DCE	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
cis-1,3-Dichloropropene	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,2-Dibromo-3-chloropropane	ND	1.5		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Dibromochloromethane	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Dibromomethane	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,2-Dichlorobenzene	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,3-Dichlorobenzene	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,4-Dichlorobenzene	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Dichlorodifluoromethane	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,1-Dichloroethane	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,1-Dichloroethene	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,2-Dichloropropane	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,3-Dichloropropane	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
2,2-Dichloropropane	ND	1.5		mg/Kg	20	6/20/2019 1:24:59 PM	S60813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906A48

Date Reported: 6/24/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-2 @ 329

**Project:** Former Y

**Collection Date:** 6/18/2019 7:15:00 AM

**Lab ID:** 1906A48-004

**Matrix:** MEOH (SOIL) **Received Date:** 6/19/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	1.5		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Hexachlorobutadiene	ND	1.5		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
2-Hexanone	ND	7.4		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Isopropylbenzene	7.9	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
4-Isopropyltoluene	1.7	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
4-Methyl-2-pentanone	ND	7.4		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Methylene chloride	ND	2.2		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
n-Butylbenzene	13	2.2		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
n-Propylbenzene	34	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
sec-Butylbenzene	3.7	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Styrene	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
tert-Butylbenzene	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,1,1,2-Tetrachloroethane	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,1,2,2-Tetrachloroethane	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Tetrachloroethene (PCE)	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
trans-1,2-DCE	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
trans-1,3-Dichloropropene	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,2,3-Trichlorobenzene	ND	1.5		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,2,4-Trichlorobenzene	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,1,1-Trichloroethane	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,1,2-Trichloroethane	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Trichloroethene (TCE)	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Trichlorofluoromethane	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
1,2,3-Trichloropropane	ND	1.5		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Vinyl chloride	ND	0.74		mg/Kg	20	6/20/2019 1:24:59 PM	S60813
Xylenes, Total	410	15		mg/Kg	200	6/20/2019 4:51:36 PM	S60813
Surr: Dibromofluoromethane	78.6	70-130		%Rec	20	6/20/2019 1:24:59 PM	S60813
Surr: 1,2-Dichloroethane-d4	92.6	70-130		%Rec	20	6/20/2019 1:24:59 PM	S60813
Surr: Toluene-d8	108	70-130		%Rec	20	6/20/2019 1:24:59 PM	S60813
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	20	6/20/2019 1:24:59 PM	S60813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906A48

Date Reported: 6/24/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MEOH Blank

**Project:** Former Y

**Collection Date:**

**Lab ID:** 1906A48-005

**Matrix:** MEOH BLAN

**Received Date:** 6/19/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Toluene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Ethylbenzene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Naphthalene	ND	0.10		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1-Methylnaphthalene	ND	0.20		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
2-Methylnaphthalene	ND	0.20		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Acetone	ND	0.75		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Bromobenzene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Bromodichloromethane	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Bromoform	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Bromomethane	ND	0.15		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
2-Butanone	ND	0.50		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Carbon disulfide	ND	0.50		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Carbon tetrachloride	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Chlorobenzene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Chloroethane	ND	0.10		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Chloroform	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Chloromethane	ND	0.15		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
2-Chlorotoluene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
4-Chlorotoluene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
cis-1,2-DCE	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Dibromochloromethane	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Dibromomethane	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,1-Dichloroethane	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,1-Dichloroethene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,2-Dichloropropane	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,3-Dichloropropane	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
2,2-Dichloropropane	ND	0.10		mg/Kg	1	6/20/2019 1:54:22 PM	S60813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906A48

Date Reported: 6/24/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MEOH Blank

**Project:** Former Y

**Collection Date:**

**Lab ID:** 1906A48-005

**Matrix:** MEOH BLAN

**Received Date:** 6/19/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Hexachlorobutadiene	ND	0.10		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
2-Hexanone	ND	0.50		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Isopropylbenzene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
4-Isopropyltoluene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Methylene chloride	ND	0.15		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
n-Butylbenzene	ND	0.15		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
n-Propylbenzene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
sec-Butylbenzene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Styrene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
tert-Butylbenzene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
trans-1,2-DCE	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Trichlorofluoromethane	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Vinyl chloride	ND	0.050		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Xylenes, Total	ND	0.10		mg/Kg	1	6/20/2019 1:54:22 PM	S60813
Surr: Dibromofluoromethane	75.8	70-130		%Rec	1	6/20/2019 1:54:22 PM	S60813
Surr: 1,2-Dichloroethane-d4	90.3	70-130		%Rec	1	6/20/2019 1:54:22 PM	S60813
Surr: Toluene-d8	97.8	70-130		%Rec	1	6/20/2019 1:54:22 PM	S60813
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	1	6/20/2019 1:54:22 PM	S60813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906A48

24-Jun-19

Client: Daniel B. Stephens &amp; Assoc.

Project: Former Y

Sample ID: <b>rb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>S60813</b>	RunNo: <b>60813</b>								
Prep Date:	Analysis Date: <b>6/20/2019</b>	SeqNo: <b>2058519</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906A48

24-Jun-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.39		0.5000		77.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		89.4	70	130			
Surr: Toluene-d8	0.49		0.5000		97.5	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.1	70	130			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	102	70	130			
Toluene	0.87	0.050	1.000	0	87.3	70	130			
Chlorobenzene	0.95	0.050	1.000	0	95.5	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1906A48

24-Jun-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: Volatiles						
Client ID: LCSS		Batch ID: S60813		RunNo: 60813						
Prep Date:		Analysis Date: 6/20/2019		SeqNo: 2058520		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.93	0.050	1.000	0	93.3	50.8	164			
Trichloroethene (TCE)	0.85	0.050	1.000	0	85.4	70	130			
Surr: Dibromofluoromethane	0.41		0.5000		81.9	70	130			
Surr: 1,2-Dichloroethane-d4	0.43		0.5000		86.9	70	130			
Surr: Toluene-d8	0.47		0.5000		93.2	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.1	70	130			

Sample ID: 1906a48-001ams		SampType: MS		TestCode: EPA Method 8260B: Volatiles						
Client ID: RW-2 @ 85		Batch ID: S60813		RunNo: 60813						
Prep Date:		Analysis Date: 6/20/2019		SeqNo: 2058524		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.58	0.014	0.5750	0	100	68.9	131			
Toluene	0.50	0.029	0.5750	0	86.9	64.3	137			
Chlorobenzene	0.54	0.029	0.5750	0	93.7	65.9	143			
1,1-Dichloroethene	0.54	0.029	0.5750	0	94.7	53.4	150			
Trichloroethene (TCE)	0.49	0.029	0.5750	0	85.4	70	130			
Surr: Dibromofluoromethane	0.23		0.2875		79.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.27		0.2875		95.3	70	130			
Surr: Toluene-d8	0.27		0.2875		93.5	70	130			
Surr: 4-Bromofluorobenzene	0.27		0.2875		95.0	70	130			

Sample ID: 1906a48-001amsd		SampType: MSD		TestCode: EPA Method 8260B: Volatiles						
Client ID: RW-2 @ 85		Batch ID: S60813		RunNo: 60813						
Prep Date:		Analysis Date: 6/20/2019		SeqNo: 2058525		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.55	0.014	0.5750	0	95.9	68.9	131	4.53	20	
Toluene	0.51	0.029	0.5750	0	88.1	64.3	137	1.40	20	
Chlorobenzene	0.53	0.029	0.5750	0	91.9	65.9	143	1.88	20	
1,1-Dichloroethene	0.54	0.029	0.5750	0	94.5	53.4	150	0.194	20	
Trichloroethene (TCE)	0.47	0.029	0.5750	0	82.4	70	130	3.49	20	
Surr: Dibromofluoromethane	0.21		0.2875		73.1	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.26		0.2875		90.0	70	130	0	0	
Surr: Toluene-d8	0.30		0.2875		103	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.28		0.2875		97.6	70	130	0	0	

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
 D Sample Diluted Due to Matrix  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 PQL Practical Quantitative Limit  
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 P Sample pH Not In Range  
 RL Reporting Limit

**Sample Log-In Check List**

Client Name: DBS

Work Order Number: 1906A48

RcptNo: 1

Received By: Isaiah Ortiz

6/19/2019 @ 1515

I-OK

Completed By: Leah Baca

6/20/2019 7:04:21 AM

Leah Baca

Reviewed By: LB

6/20/19

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? Client

**Log In**

3. Was an attempt made to cool the samples? Yes  No  NA   
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA   
 5. Sample(s) in proper container(s)? Yes  No   
 6. Sufficient sample volume for indicated test(s)? Yes  No   
 7. Are samples (except VOA and ONG) properly preserved? Yes  No   
 8. Was preservative added to bottles? Yes  No  NA   
 9. VOA vials have zero headspace? Yes  No  No VOA Vials   
 10. Were any sample containers received broken? Yes  No   
 11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes  No   
 12. Are matrices correctly identified on Chain of Custody? Yes  No   
 13. Is it clear what analyses were requested? Yes  No   
 14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes  No

# of preserved bottles checked for pH: 10  
 (<2 or >12 unless noted)  
 Adjusted? NO  
 Checked by: \_\_\_\_\_  
 6/20/19

**Special Handling (if applicable)**

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
 By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person  
 Regarding: \_\_\_\_\_  
 Client Instructions: \_\_\_\_\_

16. Additional remarks:

**17. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.4	Good	Yes			

# Chain-of-Custody Record

Client: DBSA

Mailing Address:

Phone #: 812-9400

email or Fax#: tgddn@geo-logz.com

QA/QC Package:

Standard  Level 4 (Full Validation)

Accreditation:  Az Compliance

NELAC  Other

EDD (Type)

Turn-Around Time:  
 Standard  Rush

Project Name:  
Farmer Y

Project #:  
DB18.1157.00

Project Manager:  
Tom Golden

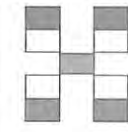
Sampler: JR/HB

On Ice:  Yes  No

# of Coolers: 1

Cooler Temp (including CF): 3.2+0.2 (C) 34 C

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
6/16/19	1030	Soil	Rw-2 @ 85	4oz/Meat Vials	MeOH	-001
6/16/19	2020		Rw-2 @ 175	4oz/Meat		-002
6/17/19	0300		Rw-2 @ 235			-003
6/19/19	0715		Rw-2 @ 329			-004
		Aq.	MeOH Blank	2	-	-005



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
							X		
							X		
							X		
							X		

Date: 6/19/19 Time: 1515 Relinquished by: [Signature]

Date: 6/19/19 Time: 1515 Received by: [Signature] Via: CDU Date: 6/19/19 Time: 1515

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.





Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

September 09, 2019

Tom Golden

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX: (505) 822-8877

RE: Former Y

OrderNo.: 1908I38

Dear Tom Golden:

Hall Environmental Analysis Laboratory received 5 sample(s) on 8/30/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908138

Date Reported: 9/9/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-3 (50-55)

**Project:** Former Y

**Collection Date:** 8/21/2019 1:00:00 PM

**Lab ID:** 1908138-001

**Matrix:** MEOH (SOIL) **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.018		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Toluene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Ethylbenzene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Methyl tert-butyl ether (MTBE)	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,2,4-Trimethylbenzene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,3,5-Trimethylbenzene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,2-Dichloroethane (EDC)	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,2-Dibromoethane (EDB)	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Naphthalene	ND	0.074		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1-Methylnaphthalene	ND	0.15		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
2-Methylnaphthalene	ND	0.15		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Acetone	ND	0.55		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Bromobenzene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Bromodichloromethane	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Bromoform	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Bromomethane	ND	0.11		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
2-Butanone	ND	0.37		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Carbon disulfide	ND	0.37		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Carbon tetrachloride	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Chlorobenzene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Chloroethane	ND	0.074		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Chloroform	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Chloromethane	ND	0.11		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
2-Chlorotoluene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
4-Chlorotoluene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
cis-1,2-DCE	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
cis-1,3-Dichloropropene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,2-Dibromo-3-chloropropane	ND	0.074		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Dibromochloromethane	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Dibromomethane	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,2-Dichlorobenzene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,3-Dichlorobenzene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,4-Dichlorobenzene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Dichlorodifluoromethane	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,1-Dichloroethane	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,1-Dichloroethene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,2-Dichloropropane	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,3-Dichloropropane	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
2,2-Dichloropropane	ND	0.074		mg/Kg	1	9/3/2019 7:36:34 PM	C62617

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908138

Date Reported: 9/9/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-3 (50-55)

**Project:** Former Y

**Collection Date:** 8/21/2019 1:00:00 PM

**Lab ID:** 1908138-001

**Matrix:** MEOH (SOIL) **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.074		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Hexachlorobutadiene	ND	0.074		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
2-Hexanone	ND	0.37		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Isopropylbenzene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
4-Isopropyltoluene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
4-Methyl-2-pentanone	ND	0.37		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Methylene chloride	ND	0.11		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
n-Butylbenzene	ND	0.11		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
n-Propylbenzene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
sec-Butylbenzene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Styrene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
tert-Butylbenzene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,1,1,2-Tetrachloroethane	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,1,2,2-Tetrachloroethane	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Tetrachloroethene (PCE)	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
trans-1,2-DCE	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
trans-1,3-Dichloropropene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,2,3-Trichlorobenzene	ND	0.074		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,2,4-Trichlorobenzene	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,1,1-Trichloroethane	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,1,2-Trichloroethane	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Trichloroethene (TCE)	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Trichlorofluoromethane	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
1,2,3-Trichloropropane	ND	0.074		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Vinyl chloride	ND	0.037		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Xylenes, Total	ND	0.074		mg/Kg	1	9/3/2019 7:36:34 PM	C62617
Surr: Dibromofluoromethane	123	70-130		%Rec	1	9/3/2019 7:36:34 PM	C62617
Surr: 1,2-Dichloroethane-d4	119	70-130		%Rec	1	9/3/2019 7:36:34 PM	C62617
Surr: Toluene-d8	98.0	70-130		%Rec	1	9/3/2019 7:36:34 PM	C62617
Surr: 4-Bromofluorobenzene	85.9	70-130		%Rec	1	9/3/2019 7:36:34 PM	C62617

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908138

Date Reported: 9/9/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-3 (120)

**Project:** Former Y

**Collection Date:** 8/21/2019 3:00:00 PM

**Lab ID:** 1908138-002

**Matrix:** MEOH (SOIL)

**Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	0.027	0.015		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Toluene	0.32	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Ethylbenzene	0.074	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Methyl tert-butyl ether (MTBE)	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,2,4-Trimethylbenzene	0.069	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,3,5-Trimethylbenzene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,2-Dichloroethane (EDC)	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,2-Dibromoethane (EDB)	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Naphthalene	ND	0.060		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1-Methylnaphthalene	ND	0.12		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
2-Methylnaphthalene	ND	0.12		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Acetone	ND	0.45		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Bromobenzene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Bromodichloromethane	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Bromoform	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Bromomethane	ND	0.090		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
2-Butanone	ND	0.30		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Carbon disulfide	ND	0.30		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Carbon tetrachloride	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Chlorobenzene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Chloroethane	ND	0.060		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Chloroform	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Chloromethane	ND	0.090		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
2-Chlorotoluene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
4-Chlorotoluene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
cis-1,2-DCE	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
cis-1,3-Dichloropropene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,2-Dibromo-3-chloropropane	ND	0.060		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Dibromochloromethane	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Dibromomethane	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,2-Dichlorobenzene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,3-Dichlorobenzene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,4-Dichlorobenzene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Dichlorodifluoromethane	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,1-Dichloroethane	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,1-Dichloroethene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,2-Dichloropropane	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,3-Dichloropropane	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
2,2-Dichloropropane	ND	0.060		mg/Kg	1	9/3/2019 9:04:03 PM	C62617

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908138

Date Reported: 9/9/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: RW-3 (120)

Project: Former Y

Collection Date: 8/21/2019 3:00:00 PM

Lab ID: 1908138-002

Matrix: MEOH (SOIL) Received Date: 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.060		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Hexachlorobutadiene	ND	0.060		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
2-Hexanone	ND	0.30		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Isopropylbenzene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
4-Isopropyltoluene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
4-Methyl-2-pentanone	ND	0.30		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Methylene chloride	ND	0.090		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
n-Butylbenzene	ND	0.090		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
n-Propylbenzene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
sec-Butylbenzene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Styrene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
tert-Butylbenzene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,1,1,2-Tetrachloroethane	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,1,2,2-Tetrachloroethane	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Tetrachloroethene (PCE)	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
trans-1,2-DCE	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
trans-1,3-Dichloropropene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,2,3-Trichlorobenzene	ND	0.060		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,2,4-Trichlorobenzene	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,1,1-Trichloroethane	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,1,2-Trichloroethane	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Trichloroethene (TCE)	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Trichlorofluoromethane	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
1,2,3-Trichloropropane	ND	0.060		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Vinyl chloride	ND	0.030		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Xylenes, Total	0.43	0.060		mg/Kg	1	9/3/2019 9:04:03 PM	C62617
Surr: Dibromofluoromethane	128	70-130		%Rec	1	9/3/2019 9:04:03 PM	C62617
Surr: 1,2-Dichloroethane-d4	126	70-130		%Rec	1	9/3/2019 9:04:03 PM	C62617
Surr: Toluene-d8	103	70-130		%Rec	1	9/3/2019 9:04:03 PM	C62617
Surr: 4-Bromofluorobenzene	85.9	70-130		%Rec	1	9/3/2019 9:04:03 PM	C62617

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908138

Date Reported: 9/9/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-3 (294)

**Project:** Former Y

**Collection Date:** 8/25/2019 2:50:00 PM

**Lab ID:** 1908138-003

**Matrix:** MEOH (SOIL) **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.017		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Toluene	0.33	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Ethylbenzene	0.13	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Methyl tert-butyl ether (MTBE)	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,2,4-Trimethylbenzene	0.33	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,3,5-Trimethylbenzene	0.083	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,2-Dichloroethane (EDC)	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,2-Dibromoethane (EDB)	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Naphthalene	0.091	0.066		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1-Methylnaphthalene	ND	0.13		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
2-Methylnaphthalene	ND	0.13		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Acetone	ND	0.50		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Bromobenzene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Bromodichloromethane	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Bromoform	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Bromomethane	ND	0.099		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
2-Butanone	ND	0.33		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Carbon disulfide	ND	0.33		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Carbon tetrachloride	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Chlorobenzene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Chloroethane	ND	0.066		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Chloroform	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Chloromethane	ND	0.099		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
2-Chlorotoluene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
4-Chlorotoluene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
cis-1,2-DCE	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
cis-1,3-Dichloropropene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,2-Dibromo-3-chloropropane	ND	0.066		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Dibromochloromethane	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Dibromomethane	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,2-Dichlorobenzene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,3-Dichlorobenzene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,4-Dichlorobenzene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Dichlorodifluoromethane	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,1-Dichloroethane	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,1-Dichloroethene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,2-Dichloropropane	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,3-Dichloropropane	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
2,2-Dichloropropane	ND	0.066		mg/Kg	1	9/4/2019 12:00:14 AM	C62617

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908138

Date Reported: 9/9/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: RW-3 (294)

Project: Former Y

Collection Date: 8/25/2019 2:50:00 PM

Lab ID: 1908138-003

Matrix: MEOH (SOIL) Received Date: 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.066		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Hexachlorobutadiene	ND	0.066		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
2-Hexanone	ND	0.33		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Isopropylbenzene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
4-Isopropyltoluene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
4-Methyl-2-pentanone	ND	0.33		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Methylene chloride	ND	0.099		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
n-Butylbenzene	ND	0.099		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
n-Propylbenzene	0.063	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
sec-Butylbenzene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Styrene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
tert-Butylbenzene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,1,1,2-Tetrachloroethane	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,1,2,2-Tetrachloroethane	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Tetrachloroethene (PCE)	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
trans-1,2-DCE	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
trans-1,3-Dichloropropene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,2,3-Trichlorobenzene	ND	0.066		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,2,4-Trichlorobenzene	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,1,1-Trichloroethane	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,1,2-Trichloroethane	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Trichloroethene (TCE)	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Trichlorofluoromethane	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
1,2,3-Trichloropropane	ND	0.066		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Vinyl chloride	ND	0.033		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Xylenes, Total	0.92	0.066		mg/Kg	1	9/4/2019 12:00:14 AM	C62617
Surr: Dibromofluoromethane	121	70-130		%Rec	1	9/4/2019 12:00:14 AM	C62617
Surr: 1,2-Dichloroethane-d4	122	70-130		%Rec	1	9/4/2019 12:00:14 AM	C62617
Surr: Toluene-d8	97.0	70-130		%Rec	1	9/4/2019 12:00:14 AM	C62617
Surr: 4-Bromofluorobenzene	83.6	70-130		%Rec	1	9/4/2019 12:00:14 AM	C62617

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908138

Date Reported: 9/9/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-3 (325-330)

**Project:** Former Y

**Collection Date:** 8/26/2019 1:20:00 PM

**Lab ID:** 1908138-004

**Matrix:** MEOH (SOIL)

**Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.017		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Toluene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Ethylbenzene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Methyl tert-butyl ether (MTBE)	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,2,4-Trimethylbenzene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,3,5-Trimethylbenzene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,2-Dichloroethane (EDC)	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,2-Dibromoethane (EDB)	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Naphthalene	ND	0.068		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1-Methylnaphthalene	ND	0.14		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
2-Methylnaphthalene	ND	0.14		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Acetone	ND	0.51		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Bromobenzene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Bromodichloromethane	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Bromoform	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Bromomethane	ND	0.10		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
2-Butanone	ND	0.34		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Carbon disulfide	ND	0.34		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Carbon tetrachloride	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Chlorobenzene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Chloroethane	ND	0.068		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Chloroform	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Chloromethane	ND	0.10		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
2-Chlorotoluene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
4-Chlorotoluene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
cis-1,2-DCE	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
cis-1,3-Dichloropropene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,2-Dibromo-3-chloropropane	ND	0.068		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Dibromochloromethane	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Dibromomethane	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,2-Dichlorobenzene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,3-Dichlorobenzene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,4-Dichlorobenzene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Dichlorodifluoromethane	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,1-Dichloroethane	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,1-Dichloroethene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,2-Dichloropropane	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,3-Dichloropropane	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
2,2-Dichloropropane	ND	0.068		mg/Kg	1	9/4/2019 12:29:36 AM	C62617

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908138

Date Reported: 9/9/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-3 (325-330)

**Project:** Former Y

**Collection Date:** 8/26/2019 1:20:00 PM

**Lab ID:** 1908138-004

**Matrix:** MEOH (SOIL)

**Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.068		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Hexachlorobutadiene	ND	0.068		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
2-Hexanone	ND	0.34		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Isopropylbenzene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
4-Isopropyltoluene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
4-Methyl-2-pentanone	ND	0.34		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Methylene chloride	ND	0.10		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
n-Butylbenzene	ND	0.10		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
n-Propylbenzene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
sec-Butylbenzene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Styrene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
tert-Butylbenzene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,1,1,2-Tetrachloroethane	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,1,2,2-Tetrachloroethane	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Tetrachloroethene (PCE)	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
trans-1,2-DCE	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
trans-1,3-Dichloropropene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,2,3-Trichlorobenzene	ND	0.068		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,2,4-Trichlorobenzene	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,1,1-Trichloroethane	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,1,2-Trichloroethane	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Trichloroethene (TCE)	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Trichlorofluoromethane	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
1,2,3-Trichloropropane	ND	0.068		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Vinyl chloride	ND	0.034		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Xylenes, Total	ND	0.068		mg/Kg	1	9/4/2019 12:29:36 AM	C62617
Surr: Dibromofluoromethane	124	70-130		%Rec	1	9/4/2019 12:29:36 AM	C62617
Surr: 1,2-Dichloroethane-d4	122	70-130		%Rec	1	9/4/2019 12:29:36 AM	C62617
Surr: Toluene-d8	99.3	70-130		%Rec	1	9/4/2019 12:29:36 AM	C62617
Surr: 4-Bromofluorobenzene	80.3	70-130		%Rec	1	9/4/2019 12:29:36 AM	C62617

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908138

Date Reported: 9/9/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MeOH Bank

**Project:** Former Y

**Collection Date:**

**Lab ID:** 1908138-005

**Matrix:** MEOH BLAN

**Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Toluene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Ethylbenzene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Naphthalene	ND	0.10		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1-Methylnaphthalene	ND	0.20		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
2-Methylnaphthalene	ND	0.20		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Acetone	ND	0.75		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Bromobenzene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Bromodichloromethane	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Bromoform	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Bromomethane	ND	0.15		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
2-Butanone	ND	0.50		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Carbon disulfide	ND	0.50		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Carbon tetrachloride	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Chlorobenzene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Chloroethane	ND	0.10		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Chloroform	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Chloromethane	ND	0.15		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
2-Chlorotoluene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
4-Chlorotoluene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
cis-1,2-DCE	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Dibromochloromethane	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Dibromomethane	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,1-Dichloroethane	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,1-Dichloroethene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,2-Dichloropropane	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,3-Dichloropropane	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
2,2-Dichloropropane	ND	0.10		mg/Kg	1	9/4/2019 12:59:24 AM	C62617

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908138

Date Reported: 9/9/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MeOH Bank

**Project:** Former Y

**Collection Date:**

**Lab ID:** 1908138-005

**Matrix:** MEOH BLAN

**Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Hexachlorobutadiene	ND	0.10		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
2-Hexanone	ND	0.50		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Isopropylbenzene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
4-Isopropyltoluene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Methylene chloride	ND	0.15		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
n-Butylbenzene	ND	0.15		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
n-Propylbenzene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
sec-Butylbenzene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Styrene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
tert-Butylbenzene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
trans-1,2-DCE	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Trichlorofluoromethane	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Vinyl chloride	ND	0.050		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Xylenes, Total	ND	0.10		mg/Kg	1	9/4/2019 12:59:24 AM	C62617
Surr: Dibromofluoromethane	119	70-130		%Rec	1	9/4/2019 12:59:24 AM	C62617
Surr: 1,2-Dichloroethane-d4	113	70-130		%Rec	1	9/4/2019 12:59:24 AM	C62617
Surr: Toluene-d8	98.5	70-130		%Rec	1	9/4/2019 12:59:24 AM	C62617
Surr: 4-Bromofluorobenzene	85.1	70-130		%Rec	1	9/4/2019 12:59:24 AM	C62617

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1908138

09-Sep-19

Client: Daniel B. Stephens &amp; Assoc.

Project: Former Y

Sample ID: <b>rb1</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>C62617</b>	RunNo: <b>62617</b>								
Prep Date:	Analysis Date: <b>9/3/2019</b>	SeqNo: <b>2130969</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1908138

09-Sep-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>rb1</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>C62617</b>		RunNo: <b>62617</b>							
Prep Date:	Analysis Date: <b>9/3/2019</b>		SeqNo: <b>2130969</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.58		0.5000		116	70	130			
Surr: 1,2-Dichloroethane-d4	0.57		0.5000		114	70	130			
Surr: Toluene-d8	0.49		0.5000		97.2	70	130			
Surr: 4-Bromofluorobenzene	0.41		0.5000		82.6	70	130			

Sample ID: <b>100ng lcs2</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>C62617</b>		RunNo: <b>62617</b>							
Prep Date:	Analysis Date: <b>9/3/2019</b>		SeqNo: <b>2130970</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.025	1.000	0	116	68	135			
Toluene	0.92	0.050	1.000	0	91.9	70	130			
Chlorobenzene	0.93	0.050	1.000	0	92.6	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1908138

09-Sep-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>100ng lcs2</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>C62617</b>	RunNo: <b>62617</b>								
Prep Date:	Analysis Date: <b>9/3/2019</b>	SeqNo: <b>2130970</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.94	0.050	1.000	0	93.8	51.1	139			
Trichloroethene (TCE)	0.93	0.050	1.000	0	92.9	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		109	70	130			
Surr: 1,2-Dichloroethane-d4	0.58		0.5000		115	70	130			
Surr: Toluene-d8	0.48		0.5000		95.5	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		84.1	70	130			

Sample ID: <b>1908i38-001ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>RW-3 (50-55)</b>	Batch ID: <b>C62617</b>	RunNo: <b>62617</b>								
Prep Date:	Analysis Date: <b>9/3/2019</b>	SeqNo: <b>2130972</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.018	0.7391	0	119	57.1	141			
Toluene	0.67	0.037	0.7391	0	90.3	70	130			
Chlorobenzene	0.67	0.037	0.7391	0	90.7	70	130			
1,1-Dichloroethene	0.77	0.037	0.7391	0	104	38.5	141			
Trichloroethene (TCE)	0.72	0.037	0.7391	0	97.7	70	130			
Surr: Dibromofluoromethane	0.41		0.3696		112	70	130			
Surr: 1,2-Dichloroethane-d4	0.42		0.3696		114	70	130			
Surr: Toluene-d8	0.35		0.3696		94.4	70	130			
Surr: 4-Bromofluorobenzene	0.32		0.3696		86.4	70	130			

Sample ID: <b>1908i38-001amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>RW-3 (50-55)</b>	Batch ID: <b>C62617</b>	RunNo: <b>62617</b>								
Prep Date:	Analysis Date: <b>9/3/2019</b>	SeqNo: <b>2130973</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.018	0.7391	0	114	57.1	141	4.04	20	
Toluene	0.67	0.037	0.7391	0	90.7	70	130	0.368	20	
Chlorobenzene	0.65	0.037	0.7391	0	88.5	70	130	2.39	20	
1,1-Dichloroethene	0.75	0.037	0.7391	0	102	38.5	141	1.97	20	
Trichloroethene (TCE)	0.69	0.037	0.7391	0	93.4	70	130	4.49	20	
Surr: Dibromofluoromethane	0.43		0.3696		117	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.43		0.3696		115	70	130	0	0	
Surr: Toluene-d8	0.35		0.3696		94.8	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.32		0.3696		87.2	70	130	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

**Sample Log-In Check List**

Client Name: **DBS**

Work Order Number: **1908138**

RcptNo: 1

Received By: **Daniel M.**

**8/30/2019 8:30:00 AM**

Completed By: **Erin Melendrez**

**8/30/2019 10:30:04 AM**

*EM*

Reviewed By: **DAD 8/30/19**

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? **FedEx**

**Log In**

3. Was an attempt made to cool the samples? Yes  No  NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
5. Sample(s) in proper container(s)? Yes  No  **Samples not frozen.**
6. Sufficient sample volume for indicated test(s)? Yes  No
7. Are samples (except VOA and ONG) properly preserved? Yes  No
8. Was preservative added to bottles? Yes  No  NA
9. VOA vials have zero headspace? Yes  No  No VOA Vials
10. Were any sample containers received broken? Yes  No
11. Does paperwork match bottle labels? Yes  No   
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes  No
13. Is it clear what analyses were requested? Yes  No
14. Were all holding times able to be met? Yes  No   
 (If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? *SC*  
 Checked by: *8-30-19*

**Special Handling (if applicable)**

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

16. Additional remarks:

**17. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	-0.6	Good	Yes			







Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

September 18, 2019

Tom Golden

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX:

RE: Former Y

OrderNo.: 1909862

Dear Tom Golden:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/17/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909862

Date Reported: 9/18/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-4 6'

**Project:** Former Y

**Collection Date:** 9/5/2019 10:10:00 AM

**Lab ID:** 1909862-001

**Matrix:** SOIL

**Received Date:** 9/17/2019 8:32:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.14		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Toluene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Ethylbenzene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Methyl tert-butyl ether (MTBE)	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,2,4-Trimethylbenzene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,3,5-Trimethylbenzene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,2-Dichloroethane (EDC)	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,2-Dibromoethane (EDB)	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Naphthalene	ND	0.57		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1-Methylnaphthalene	ND	1.1		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
2-Methylnaphthalene	ND	1.1		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Acetone	ND	4.3		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Bromobenzene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Bromodichloromethane	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Bromoform	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Bromomethane	ND	0.86		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
2-Butanone	ND	2.9		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Carbon disulfide	ND	2.9		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Carbon tetrachloride	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Chlorobenzene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Chloroethane	ND	0.57		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Chloroform	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Chloromethane	ND	0.86		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
2-Chlorotoluene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
4-Chlorotoluene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
cis-1,2-DCE	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
cis-1,3-Dichloropropene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,2-Dibromo-3-chloropropane	ND	0.57		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Dibromochloromethane	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Dibromomethane	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,2-Dichlorobenzene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,3-Dichlorobenzene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,4-Dichlorobenzene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Dichlorodifluoromethane	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,1-Dichloroethane	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,1-Dichloroethene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,2-Dichloropropane	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,3-Dichloropropane	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
2,2-Dichloropropane	ND	0.57		mg/Kg	5	9/17/2019 11:58:12 AM	S62995

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909862

Date Reported: 9/18/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-4 6'

**Project:** Former Y

**Collection Date:** 9/5/2019 10:10:00 AM

**Lab ID:** 1909862-001

**Matrix:** SOIL

**Received Date:** 9/17/2019 8:32:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.57		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Hexachlorobutadiene	ND	0.57		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
2-Hexanone	ND	2.9		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Isopropylbenzene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
4-Isopropyltoluene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
4-Methyl-2-pentanone	ND	2.9		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Methylene chloride	ND	0.86		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
n-Butylbenzene	ND	0.86		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
n-Propylbenzene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
sec-Butylbenzene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Styrene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
tert-Butylbenzene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,1,1,2-Tetrachloroethane	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,1,2,2-Tetrachloroethane	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Tetrachloroethene (PCE)	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
trans-1,2-DCE	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
trans-1,3-Dichloropropene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,2,3-Trichlorobenzene	ND	0.57		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,2,4-Trichlorobenzene	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,1,1-Trichloroethane	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,1,2-Trichloroethane	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Trichloroethene (TCE)	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Trichlorofluoromethane	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
1,2,3-Trichloropropane	ND	0.57		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Vinyl chloride	ND	0.29		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Xylenes, Total	ND	0.57		mg/Kg	5	9/17/2019 11:58:12 AM	S62995
Surr: Dibromofluoromethane	106	70-130		%Rec	5	9/17/2019 11:58:12 AM	S62995
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	5	9/17/2019 11:58:12 AM	S62995
Surr: Toluene-d8	104	70-130		%Rec	5	9/17/2019 11:58:12 AM	S62995
Surr: 4-Bromofluorobenzene	84.3	70-130		%Rec	5	9/17/2019 11:58:12 AM	S62995

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909862

Date Reported: 9/18/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: RW-4 182'

Project: Former Y

Collection Date: 9/6/2019 4:00:00 PM

Lab ID: 1909862-002

Matrix: SOIL

Received Date: 9/17/2019 8:32:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.017		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Toluene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Ethylbenzene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Methyl tert-butyl ether (MTBE)	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,2,4-Trimethylbenzene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,3,5-Trimethylbenzene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,2-Dichloroethane (EDC)	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,2-Dibromoethane (EDB)	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Naphthalene	ND	0.069		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1-Methylnaphthalene	ND	0.14		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
2-Methylnaphthalene	ND	0.14		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Acetone	ND	0.52		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Bromobenzene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Bromodichloromethane	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Bromoform	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Bromomethane	ND	0.10		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
2-Butanone	ND	0.35		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Carbon disulfide	ND	0.35		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Carbon tetrachloride	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Chlorobenzene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Chloroethane	ND	0.069		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Chloroform	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Chloromethane	ND	0.10		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
2-Chlorotoluene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
4-Chlorotoluene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
cis-1,2-DCE	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
cis-1,3-Dichloropropene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,2-Dibromo-3-chloropropane	ND	0.069		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Dibromochloromethane	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Dibromomethane	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,2-Dichlorobenzene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,3-Dichlorobenzene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,4-Dichlorobenzene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Dichlorodifluoromethane	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,1-Dichloroethane	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,1-Dichloroethene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,2-Dichloropropane	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,3-Dichloropropane	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
2,2-Dichloropropane	ND	0.069		mg/Kg	1	9/17/2019 12:56:41 PM	S62995

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909862

Date Reported: 9/18/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-4 182'

**Project:** Former Y

**Collection Date:** 9/6/2019 4:00:00 PM

**Lab ID:** 1909862-002

**Matrix:** SOIL

**Received Date:** 9/17/2019 8:32:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.069		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Hexachlorobutadiene	ND	0.069		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
2-Hexanone	ND	0.35		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Isopropylbenzene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
4-Isopropyltoluene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
4-Methyl-2-pentanone	ND	0.35		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Methylene chloride	ND	0.10		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
n-Butylbenzene	ND	0.10		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
n-Propylbenzene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
sec-Butylbenzene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Styrene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
tert-Butylbenzene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,1,1,2-Tetrachloroethane	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,1,2,2-Tetrachloroethane	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Tetrachloroethene (PCE)	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
trans-1,2-DCE	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
trans-1,3-Dichloropropene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,2,3-Trichlorobenzene	ND	0.069		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,2,4-Trichlorobenzene	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,1,1-Trichloroethane	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,1,2-Trichloroethane	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Trichloroethene (TCE)	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Trichlorofluoromethane	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
1,2,3-Trichloropropane	ND	0.069		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Vinyl chloride	ND	0.035		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Xylenes, Total	ND	0.069		mg/Kg	1	9/17/2019 12:56:41 PM	S62995
Surr: Dibromofluoromethane	107	70-130		%Rec	1	9/17/2019 12:56:41 PM	S62995
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/17/2019 12:56:41 PM	S62995
Surr: Toluene-d8	97.9	70-130		%Rec	1	9/17/2019 12:56:41 PM	S62995
Surr: 4-Bromofluorobenzene	83.4	70-130		%Rec	1	9/17/2019 12:56:41 PM	S62995

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909862

Date Reported: 9/18/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-4 292'

**Project:** Former Y

**Collection Date:** 9/7/2019 3:45:00 PM

**Lab ID:** 1909862-003

**Matrix:** MEOH (SOIL)

**Received Date:** 9/17/2019 8:32:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.019		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Toluene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Ethylbenzene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Methyl tert-butyl ether (MTBE)	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,2,4-Trimethylbenzene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,3,5-Trimethylbenzene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,2-Dichloroethane (EDC)	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,2-Dibromoethane (EDB)	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Naphthalene	ND	0.075		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1-Methylnaphthalene	ND	0.15		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
2-Methylnaphthalene	ND	0.15		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Acetone	ND	0.56		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Bromobenzene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Bromodichloromethane	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Bromoform	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Bromomethane	ND	0.11		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
2-Butanone	ND	0.38		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Carbon disulfide	ND	0.38		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Carbon tetrachloride	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Chlorobenzene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Chloroethane	ND	0.075		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Chloroform	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Chloromethane	ND	0.11		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
2-Chlorotoluene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
4-Chlorotoluene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
cis-1,2-DCE	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
cis-1,3-Dichloropropene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,2-Dibromo-3-chloropropane	ND	0.075		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Dibromochloromethane	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Dibromomethane	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,2-Dichlorobenzene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,3-Dichlorobenzene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,4-Dichlorobenzene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Dichlorodifluoromethane	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,1-Dichloroethane	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,1-Dichloroethene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,2-Dichloropropane	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,3-Dichloropropane	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
2,2-Dichloropropane	ND	0.075		mg/Kg	1	9/17/2019 1:25:56 PM	S62995

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909862

Date Reported: 9/18/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-4 292'

**Project:** Former Y

**Collection Date:** 9/7/2019 3:45:00 PM

**Lab ID:** 1909862-003

**Matrix:** MEOH (SOIL) **Received Date:** 9/17/2019 8:32:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.075		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Hexachlorobutadiene	ND	0.075		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
2-Hexanone	ND	0.38		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Isopropylbenzene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
4-Isopropyltoluene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
4-Methyl-2-pentanone	ND	0.38		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Methylene chloride	ND	0.11		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
n-Butylbenzene	ND	0.11		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
n-Propylbenzene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
sec-Butylbenzene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Styrene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
tert-Butylbenzene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,1,1,2-Tetrachloroethane	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,1,2,2-Tetrachloroethane	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Tetrachloroethene (PCE)	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
trans-1,2-DCE	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
trans-1,3-Dichloropropene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,2,3-Trichlorobenzene	ND	0.075		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,2,4-Trichlorobenzene	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,1,1-Trichloroethane	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,1,2-Trichloroethane	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Trichloroethene (TCE)	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Trichlorofluoromethane	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
1,2,3-Trichloropropane	ND	0.075		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Vinyl chloride	ND	0.038		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Xylenes, Total	ND	0.075		mg/Kg	1	9/17/2019 1:25:56 PM	S62995
Surr: Dibromofluoromethane	108	70-130		%Rec	1	9/17/2019 1:25:56 PM	S62995
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	9/17/2019 1:25:56 PM	S62995
Surr: Toluene-d8	103	70-130		%Rec	1	9/17/2019 1:25:56 PM	S62995
Surr: 4-Bromofluorobenzene	86.1	70-130		%Rec	1	9/17/2019 1:25:56 PM	S62995

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909862

Date Reported: 9/18/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-4 330'

**Project:** Former Y

**Collection Date:** 9/8/2019 10:30:00 AM

**Lab ID:** 1909862-004

**Matrix:** SOIL

**Received Date:** 9/17/2019 8:32:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.016		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Toluene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Ethylbenzene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Methyl tert-butyl ether (MTBE)	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,2,4-Trimethylbenzene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,3,5-Trimethylbenzene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,2-Dichloroethane (EDC)	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,2-Dibromoethane (EDB)	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Naphthalene	ND	0.066		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1-Methylnaphthalene	ND	0.13		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
2-Methylnaphthalene	ND	0.13		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Acetone	ND	0.49		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Bromobenzene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Bromodichloromethane	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Bromoform	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Bromomethane	ND	0.099		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
2-Butanone	ND	0.33		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Carbon disulfide	ND	0.33		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Carbon tetrachloride	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Chlorobenzene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Chloroethane	ND	0.066		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Chloroform	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Chloromethane	ND	0.099		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
2-Chlorotoluene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
4-Chlorotoluene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
cis-1,2-DCE	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
cis-1,3-Dichloropropene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,2-Dibromo-3-chloropropane	ND	0.066		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Dibromochloromethane	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Dibromomethane	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,2-Dichlorobenzene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,3-Dichlorobenzene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,4-Dichlorobenzene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Dichlorodifluoromethane	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,1-Dichloroethane	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,1-Dichloroethene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,2-Dichloropropane	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,3-Dichloropropane	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
2,2-Dichloropropane	ND	0.066		mg/Kg	1	9/17/2019 1:55:12 PM	S62995

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909862

Date Reported: 9/18/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-4 330'

**Project:** Former Y

**Collection Date:** 9/8/2019 10:30:00 AM

**Lab ID:** 1909862-004

**Matrix:** SOIL

**Received Date:** 9/17/2019 8:32:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.066		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Hexachlorobutadiene	ND	0.066		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
2-Hexanone	ND	0.33		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Isopropylbenzene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
4-Isopropyltoluene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
4-Methyl-2-pentanone	ND	0.33		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Methylene chloride	ND	0.099		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
n-Butylbenzene	ND	0.099		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
n-Propylbenzene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
sec-Butylbenzene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Styrene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
tert-Butylbenzene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,1,1,2-Tetrachloroethane	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,1,2,2-Tetrachloroethane	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Tetrachloroethene (PCE)	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
trans-1,2-DCE	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
trans-1,3-Dichloropropene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,2,3-Trichlorobenzene	ND	0.066		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,2,4-Trichlorobenzene	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,1,1-Trichloroethane	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,1,2-Trichloroethane	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Trichloroethene (TCE)	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Trichlorofluoromethane	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
1,2,3-Trichloropropane	ND	0.066		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Vinyl chloride	ND	0.033		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Xylenes, Total	ND	0.066		mg/Kg	1	9/17/2019 1:55:12 PM	S62995
Surr: Dibromofluoromethane	104	70-130		%Rec	1	9/17/2019 1:55:12 PM	S62995
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	9/17/2019 1:55:12 PM	S62995
Surr: Toluene-d8	99.7	70-130		%Rec	1	9/17/2019 1:55:12 PM	S62995
Surr: 4-Bromofluorobenzene	82.5	70-130		%Rec	1	9/17/2019 1:55:12 PM	S62995

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909862

Date Reported: 9/18/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-14 45'

Project: Former Y

Collection Date: 9/12/2019 8:30:00 AM

Lab ID: 1909862-005

Matrix: SOIL

Received Date: 9/17/2019 8:32:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.017		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Toluene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Ethylbenzene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Methyl tert-butyl ether (MTBE)	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,2,4-Trimethylbenzene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,3,5-Trimethylbenzene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,2-Dichloroethane (EDC)	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,2-Dibromoethane (EDB)	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Naphthalene	ND	0.068		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1-Methylnaphthalene	ND	0.14		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
2-Methylnaphthalene	ND	0.14		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Acetone	ND	0.51		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Bromobenzene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Bromodichloromethane	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Bromoform	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Bromomethane	ND	0.10		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
2-Butanone	ND	0.34		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Carbon disulfide	ND	0.34		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Carbon tetrachloride	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Chlorobenzene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Chloroethane	ND	0.068		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Chloroform	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Chloromethane	ND	0.10		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
2-Chlorotoluene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
4-Chlorotoluene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
cis-1,2-DCE	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
cis-1,3-Dichloropropene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,2-Dibromo-3-chloropropane	ND	0.068		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Dibromochloromethane	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Dibromomethane	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,2-Dichlorobenzene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,3-Dichlorobenzene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,4-Dichlorobenzene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Dichlorodifluoromethane	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,1-Dichloroethane	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,1-Dichloroethene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,2-Dichloropropane	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,3-Dichloropropane	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
2,2-Dichloropropane	ND	0.068		mg/Kg	1	9/17/2019 2:24:23 PM	S62995

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909862

Date Reported: 9/18/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-14 45'

**Project:** Former Y

**Collection Date:** 9/12/2019 8:30:00 AM

**Lab ID:** 1909862-005

**Matrix:** SOIL

**Received Date:** 9/17/2019 8:32:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.068		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Hexachlorobutadiene	ND	0.068		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
2-Hexanone	ND	0.34		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Isopropylbenzene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
4-Isopropyltoluene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
4-Methyl-2-pentanone	ND	0.34		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Methylene chloride	ND	0.10		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
n-Butylbenzene	ND	0.10		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
n-Propylbenzene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
sec-Butylbenzene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Styrene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
tert-Butylbenzene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,1,1,2-Tetrachloroethane	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,1,2,2-Tetrachloroethane	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Tetrachloroethene (PCE)	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
trans-1,2-DCE	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
trans-1,3-Dichloropropene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,2,3-Trichlorobenzene	ND	0.068		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,2,4-Trichlorobenzene	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,1,1-Trichloroethane	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,1,2-Trichloroethane	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Trichloroethene (TCE)	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Trichlorofluoromethane	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
1,2,3-Trichloropropane	ND	0.068		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Vinyl chloride	ND	0.034		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Xylenes, Total	ND	0.068		mg/Kg	1	9/17/2019 2:24:23 PM	S62995
Surr: Dibromofluoromethane	101	70-130		%Rec	1	9/17/2019 2:24:23 PM	S62995
Surr: 1,2-Dichloroethane-d4	96.0	70-130		%Rec	1	9/17/2019 2:24:23 PM	S62995
Surr: Toluene-d8	104	70-130		%Rec	1	9/17/2019 2:24:23 PM	S62995
Surr: 4-Bromofluorobenzene	84.9	70-130		%Rec	1	9/17/2019 2:24:23 PM	S62995

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909862

18-Sep-19

Client: Daniel B. Stephens &amp; Assoc.

Project: Former Y

Sample ID: <b>rb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>S62995</b>	RunNo: <b>62995</b>								
Prep Date:	Analysis Date: <b>9/17/2019</b>	SeqNo: <b>2147633</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909862

18-Sep-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>rb</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>S62995</b>		RunNo: <b>62995</b>							
Prep Date:	Analysis Date: <b>9/17/2019</b>		SeqNo: <b>2147633</b>		Units: <b>mg/Kg</b>					
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.51		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.41		0.5000		82.7	70	130			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>100ng lcs</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>S62995</b>		RunNo: <b>62995</b>							
Prep Date:	Analysis Date: <b>9/17/2019</b>		SeqNo: <b>2147634</b>		Units: <b>mg/Kg</b>					
Benzene	1.1	0.025	1.000	0	110	68	135			
Toluene	0.98	0.050	1.000	0	97.8	70	130			
Chlorobenzene	0.92	0.050	1.000	0	92.0	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909862

18-Sep-19

**Client:** Daniel B. Stephens & Assoc.

**Project:** Former Y

Sample ID: <b>100ng lcs</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>S62995</b>	RunNo: <b>62995</b>								
Prep Date:	Analysis Date: <b>9/17/2019</b>	SeqNo: <b>2147634</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.84	0.050	1.000	0	84.0	51.1	139			
Trichloroethene (TCE)	0.87	0.050	1.000	0	86.5	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		102	70	130			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		106	70	130			
Surr: Toluene-d8	0.49		0.5000		98.1	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		89.2	70	130			

Sample ID: <b>1909862-002ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>RW-4 182'</b>	Batch ID: <b>S62995</b>	RunNo: <b>62995</b>								
Prep Date:	Analysis Date: <b>9/17/2019</b>	SeqNo: <b>2147638</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.77	0.017	0.6901	0	112	57.1	141			
Toluene	0.67	0.035	0.6901	0	96.8	70	130			
Chlorobenzene	0.65	0.035	0.6901	0	93.5	70	130			
1,1-Dichloroethene	0.61	0.035	0.6901	0	88.8	38.5	141			
Trichloroethene (TCE)	0.62	0.035	0.6901	0	89.7	70	130			
Surr: Dibromofluoromethane	0.35		0.3451		102	70	130			
Surr: 1,2-Dichloroethane-d4	0.36		0.3451		103	70	130			
Surr: Toluene-d8	0.35		0.3451		100	70	130			
Surr: 4-Bromofluorobenzene	0.29		0.3451		84.9	70	130			

Sample ID: <b>1909862-002amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8260B: Volatiles</b>								
Client ID: <b>RW-4 182'</b>	Batch ID: <b>S62995</b>	RunNo: <b>62995</b>								
Prep Date:	Analysis Date: <b>9/17/2019</b>	SeqNo: <b>2147639</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.73	0.017	0.6901	0	106	57.1	141	5.70	20	
Toluene	0.64	0.035	0.6901	0	92.7	70	130	4.36	20	
Chlorobenzene	0.62	0.035	0.6901	0	90.4	70	130	3.41	20	
1,1-Dichloroethene	0.57	0.035	0.6901	0	83.3	38.5	141	6.32	20	
Trichloroethene (TCE)	0.57	0.035	0.6901	0	82.6	70	130	8.25	20	
Surr: Dibromofluoromethane	0.34		0.3451		99.9	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.36		0.3451		104	70	130	0	0	
Surr: Toluene-d8	0.35		0.3451		101	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.30		0.3451		87.8	70	130	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

**Sample Log-In Check List**

Client Name: DBS

Work Order Number: 1909862

RcptNo: 1

Received By: Daniel Marquez 9/17/2019 8:32:00 AM

Completed By: Anne Thorne 9/17/2019 9:49:50 AM

Reviewed By: DAD 9/17/19

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? Client

**Log In**

3. Was an attempt made to cool the samples? Yes  No  NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
5. Sample(s) in proper container(s)? Yes  No
6. Sufficient sample volume for indicated test(s)? Yes  No
7. Are samples (except VOA and ONG) properly preserved? Yes  No
8. Was preservative added to bottles? Yes  No  NA
9. VOA vials have zero headspace? Yes  No  No VOA Vials
10. Were any sample containers received broken? Yes  No
11. Does paperwork match bottle labels? Yes  No   
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes  No
13. Is it clear what analyses were requested? Yes  No
14. Were all holding times able to be met? Yes  No   
 (If no, notify customer for authorization.)

# of preserved bottles checked for pH:	_____
( <2 or >12 unless noted )	
Adjusted?	_____
Checked by:	<u>AT 091719</u>

**Special Handling (if applicable)**

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:

**17. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Not Present			

# Chain-of-Custody Record

Client: DBSA

Mailing Address: 6070 Academy Dr.

ABQ, NM, 87109

Phone #: 505 822 9400

email or Fax#: fgolden@geo-logic.com

QA/QC Package:

Standard  Level 4 (Full Validation)

Accreditation:  Az Compliance

NELAC  Other

EDD (Type)

Turn-Around Time:

Standard  Rush

Project Name:

Former Y

Project #:

DB18.1157

Project Manager:

T. Golden

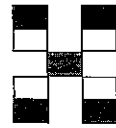
Sampler: H. Barnes

On Ice:  Yes  No

# of Coolers: 1

Cooler Temp (including CE): 17.05 = 1.2°C

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
9/15/19	1010	SOI1	RW-4 6'	2vias:1jar	MeOH	201
9/16/19	1600	SOI1	RW-4 182'	↓	↓	202
9/17/19	1545	↓	RW-4 292'	↓	↓	203
9/18/19	1030	↓	RW-4 330'	↓	↓	204
9/17/19	0830	↓	MW-14 45'	↓	↓	205



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
							X		
							X		
							X		
							X		
							X		

Date: 9/17/19 Time: 0832 Relinquished by: [Signature] Received by: [Signature] Via: COO Date: 9/17/19 Time: 0832

Date: 9/17/19 Time: 0832 Relinquished by: [Signature] Received by: [Signature] Via: COO Date: 9/17/19 Time: 0832

Remarks:



## **Hydraulic Properties**

**Laboratory Report for  
Daniel B. Stephens & Associates, Inc.**

**Project: DB18.1157.00.00MW019.0002,  
Former Y PST Site Remediation**

**September 25, 2019**



***Daniel B. Stephens & Associates, Inc.***

4400 Alameda Blvd. NE, Suite C • Albuquerque, New Mexico 87113



September 25, 2019

Tom Golden  
Daniel B. Stephens & Associates, Inc.  
6020 Academy Road NE, Suite 100  
Albuquerque, NM 87109  
(505) 822-9400

Re: DBS&A Laboratory Report for the Daniel B. Stephens & Associates, Inc. DB18.1157, Former Y PST Site Remediation Project

Dear Mr. Golden:

Enclosed is the report for the DBS&A DB18.1157.00, Former Y PST Site Remediation project samples. Please review this report and provide any comments as the sample will be held for a maximum of 30 days. After 30 days the sample will be returned or disposed of in an appropriate manner.

All testing results were evaluated subjectively for consistency and reasonableness, and the results appear to be reasonably representative of the material tested. However, DBS&A does not assume any responsibility for interpretations or analyses based on the data enclosed, nor can we guarantee that these data are fully representative of the undisturbed materials at the field site. We recommend that careful evaluation of these laboratory results be made for your particular application.

The testing utilized to generate the enclosed report employs methods that are standard for the industry. The results do not constitute a professional opinion by DBS&A, nor can the results affect any professional or expert opinions rendered with respect thereto by DBS&A. You have acknowledged that all the testing undertaken by us, and the report provided, constitutes mere test results using standardized methods, and cannot be used to disqualify DBS&A from rendering any professional or expert opinion, having waived any claim of conflict of interest by DBS&A.

We are pleased to provide this service to DBS&A and look forward to future laboratory testing on other projects. If you have any questions about the enclosed data, please do not hesitate to call.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.  
SOIL TESTING & RESEARCH LABORATORY

Adam Bland  
Laboratory Operations Manager

Enclosure

*Daniel B. Stephens & Associates, Inc.*  
*Soil Testing & Research Laboratory*

4400 Alameda Blvd. NE, Suite C  
Albuquerque, NM 87113

505-889-7752  
FAX 505-889-0258

## **Summaries**



### Summary of Tests Performed

Laboratory Sample Number	Initial Soil Properties <sup>1</sup>			Saturated Hydraulic Conductivity <sup>2</sup>			Moisture Characteristics <sup>3</sup>							Particle Size <sup>4</sup>			Specific Gravity <sup>5</sup>		Air Perm-eability	Atterberg Limits	Proctor Compaction	
	G	VM	VD	CH	FH	FW	HC	PP	FP	DPP	RH	EP	WHC	K <sub>unsat</sub>	DS	WS	H	F				C
MW-11 342'-345'															X	X					X	X
MW-11 342'-345' (91%)	X	X		X																		
MW-12 Saturated															X	X					X	X
MW-12 Saturated (91%)	X	X		X																		
BW-7R Saturated															X	X					X	X
BW-7R Saturated (91%)	X	X		X																		
MW-13 360'-365'															X	X					X	X
MW-13 360'-365' (91%)	X	X		X																		

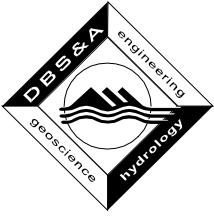
<sup>1</sup> G = Gravimetric Moisture Content, VM = Volume Measurement Method, VD = Volume Displacement Method

<sup>2</sup> CH = Constant Head Rigid Wall, FH = Falling Head Rigid Wall, FW = Falling Head Rising Tail Flexible Wall

<sup>3</sup> HC = Hanging Column, PP = Pressure Plate, FP = Filter Paper, DPP = Dew Point Potentiometer, RH = Relative Humidity Box, EP = Effective Porosity, WHC = Water Holding Capacity, K<sub>unsat</sub> = Calculated Unsaturated Hydraulic Conductivity

<sup>4</sup> DS = Dry Sieve, WS = Wet Sieve, H = Hydrometer

<sup>5</sup> F = Fine (<4.75mm), C = Coarse (>4.75mm)



## Notes

### **Sample Receipt:**

Four samples, each as loose material in a full 5-gallon bucket sealed with a lid, were hand-delivered between June 8 and August 14, 2019. All samples were received in good order.

### **Sample Preparation and Testing Notes:**

Each of the samples were subjected to particle size analysis, Atterberg limits and standard proctor compaction testing.

A portion of each sample was remolded into a testing ring to target 91% of the maximum dry bulk density at the respective optimum moisture contents, based on the standard proctor compaction test results. The remolded sub-samples were subjected to initial properties analysis and saturated hydraulic conductivity testing.

The actual percentage of maximum dry bulk density achieved was added to each sub-sample ID.

Porosity calculations, and the particle diameter calculations in the hydrometer portion of the particle size analysis testing, are based on the use of an assumed specific gravity value of 2.65.

Based on the proctor compaction method, material larger than either 4.75mm or 3/8" (as appropriate) was removed from the bulk material prior to remolding the sub-samples. Oversize correction calculations are provided if the removed fraction was larger than 5% of the bulk sample mass.



### Summary of Sample Preparation/Volume Changes

Sample Number	Proctor Data		Target Remold Parameters <sup>1</sup>			Actual Remold Data			Volume Change Post Saturation <sup>2</sup>		
	Optimum Moisture Content (%, g/g)	Max. Dry Density (g/cm <sup>3</sup> )	Moisture Content (%, g/g)	Dry Bulk Density (g/cm <sup>3</sup> )	% of Max. Density (%)	Moisture Content (%, g/g)	Dry Bulk Density (g/cm <sup>3</sup> )	% of Max. Density (%)	Dry Bulk Density (g/cm <sup>3</sup> )	% Volume Change (%)	% of Max. Density (%)
MW-11 342'-345' (91%)	11.4	1.84	11.4	1.68	91.0%	11.4	1.68	91.0%	1.68	---	91.0%
MW-12 Saturated (91%)	11.3	1.75	11.3	1.59	91.0%	11.3	1.59	91.0%	1.59	---	91.0%
BW-7R Saturated (91%)	11.0	1.96	11.0	1.79	91.0%	11.0	1.79	91.0%	1.79	---	91.0%
MW-13 360'-365' (91%)	10.0	2.02	10.0	1.84	91.0%	10.4	1.83	90.8%	1.83	---	90.8%

<sup>1</sup>Target Remold Parameters: Provided by the client: 91% of maximum dry density at optimum moisture content.

<sup>2</sup>Volume Change Post Saturation: Volume change measurements were obtained after saturated hydraulic conductivity testing.

Notes:

"+" indicates sample swelling, "-" indicates sample settling, and "---" indicates no volume change occurred.



**Summary of Initial Moisture Content, Dry Bulk Density  
Wet Bulk Density and Calculated Porosity**

Sample Number	Moisture Content				Dry Bulk Density (g/cm <sup>3</sup> )	Wet Bulk Density (g/cm <sup>3</sup> )	Calculated Porosity (%)
	As Received		Remolded				
	Gravimetric (%, g/g)	Volumetric (%, cm <sup>3</sup> /cm <sup>3</sup> )	Gravimetric (%, g/g)	Volumetric (%, cm <sup>3</sup> /cm <sup>3</sup> )			
MW-11 342'-345' (91%)	NA	NA	11.4	19.2	1.68	1.87	36.6
MW-12 Saturated (91%)	NA	NA	11.3	18.0	1.59	1.77	39.9
BW-7R Saturated (91%)	NA	NA	11.0	19.7	1.79	1.98	32.6
MW-13 360'-365' (91%)	NA	NA	10.4	19.0	1.83	2.02	30.9

NA = Not analyzed

--- = This sample was not remolded





### Summary of Saturated Hydraulic Conductivity Tests

Sample Number	K <sub>sat</sub> (cm/sec)	Oversize Corrected K <sub>sat</sub> (cm/sec)	Method of Analysis	
			Constant Head	Falling Head
MW-11 342'-345' (91%)	1.6E-03	---	X	
MW-12 Saturated (91%)	4.0E-03	---	X	
BW-7R Saturated (91%)	6.8E-04	5.6E-04	X	
MW-13 360'-365' (91%)	1.3E-03	1.0E-03	X	

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass  
 NR = Not requested  
 NA = Not applicable



### Summary of Particle Size Characteristics

Sample Number	d <sub>10</sub> (mm)	d <sub>50</sub> (mm)	d <sub>60</sub> (mm)	C <sub>u</sub>	C <sub>c</sub>	Method	ASTM Classification	USDA Classification
MW-11 342'-345'	0.0069	0.13	0.15	22	7.3	WS/H	Silty sand (SM)	Loamy Sand
MW-12 Saturated	0.047	0.16	0.18	3.8	1.7	WS/H	Silty sand (SM)	Sand
BW-7R Saturated	0.0071	0.18	0.26	37	3.5	WS/H	Silty sand with gravel (SM)g	Sandy Loam †
MW-13 360'-365'	0.0019	0.25	0.57	300	1.8	WS/H	Silty sand with gravel (SM)g	Sandy Loam †

d<sub>50</sub> = Median particle diameter

Est = Reported values for d<sub>10</sub>, C<sub>u</sub>, C<sub>c</sub>, and soil classification are estimates, since extrapolation was required to obtain the d<sub>10</sub> diameter

$$C_u = \frac{d_{60}}{d_{10}}$$

$$C_c = \frac{(d_{30})^2}{(d_{10})(d_{60})}$$

DS = Dry sieve

H = Hydrometer

WS = Wet sieve

† Greater than 10% of sample is coarse material



**Percent Gravel, Sand, Silt and Clay\***

Sample Number	% Gravel (>4.75mm)	% Sand (<4.75mm, >0.075mm)	% Silt (<0.075mm, >0.002mm)	% Clay (<0.002mm)
MW-11 342'-345'	1.9	72.7	19.1	6.3
MW-12 Saturated	3.6	82.0	11.9	2.5
BW-7R Saturated	16.8	54.3	23.5	5.4
MW-13 360'-365'	25.7	38.4	25.7	10.2

\*USCS classification does not classify clay fraction based on particle size. USDA definition of clay (<0.002mm) used in this table.



### Summary of Atterberg Tests

Sample Number	Liquid Limit	Plastic Limit	Plasticity Index	Classification
MW-11 342'-345'	---	---	---	ML
MW-12 Saturated	---	---	---	ML
BW-7R Saturated	---	---	---	ML
MW-13 360'-365'	---	---	---	ML

---

--- = Soil requires visual-manual classification due to non-plasticity



### Summary of Proctor Compaction Tests

Sample Number	Measured		Oversize Corrected	
	Optimum Moisture Content (% g/g)	Maximum Dry Bulk Density (g/cm <sup>3</sup> )	Optimum Moisture Content (% g/g)	Maximum Dry Bulk Density (g/cm <sup>3</sup> )
MW-11 342'-345'	11.4	1.84	---	---
MW-12 Saturated	11.3	1.75	---	---
BW-7R Saturated	11.0	1.96	9.1	2.05
MW-13 360'-365'	10.0	2.02	7.8	2.13

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass

NR = Not requested

NA = Not applicable

## **Initial Properties**



**Summary of Initial Moisture Content, Dry Bulk Density  
Wet Bulk Density and Calculated Porosity**

Sample Number	Moisture Content				Dry Bulk Density (g/cm <sup>3</sup> )	Wet Bulk Density (g/cm <sup>3</sup> )	Calculated Porosity (%)
	As Received		Remolded				
	Gravimetric (%, g/g)	Volumetric (%, cm <sup>3</sup> /cm <sup>3</sup> )	Gravimetric (%, g/g)	Volumetric (%, cm <sup>3</sup> /cm <sup>3</sup> )			
MW-11 342'-345' (91%)	NA	NA	11.4	19.2	1.68	1.87	36.6
MW-12 Saturated (91%)	NA	NA	11.3	18.0	1.59	1.77	39.9
BW-7R Saturated (91%)	NA	NA	11.0	19.7	1.79	1.98	32.6
MW-13 360'-365' (91%)	NA	NA	10.4	19.0	1.83	2.02	30.9

NA = Not analyzed

--- = This sample was not remolded



**Data for Initial Moisture Content,  
Bulk Density, Porosity, and Percent Saturation**

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: MW-11 342'-345' (91%)  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 6/5/19

	<u>As Received</u>	<u>Remolded</u>
Test Date:	NA	26-Jun-19
Field weight* of sample (g):		551.93
Tare weight, ring (g):		137.43
Tare weight, pan/plate (g):		0.00
Tare weight, other (g):		0.00
Dry weight of sample (g):		371.93
Sample volume (cm <sup>3</sup> ):		221.44
Assumed particle density (g/cm <sup>3</sup> ):		2.65
<hr/>		
Gravimetric Moisture Content (% g/g):		11.4
Volumetric Moisture Content (% vol):		19.2
Dry bulk density (g/cm <sup>3</sup> ):		1.68
Wet bulk density (g/cm <sup>3</sup> ):		1.87
Calculated Porosity (% vol):		36.6
Percent Saturation:		52.5
<hr/>		
Laboratory analysis by:		D. O'Dowd
Data entered by:		D. O'Dowd
Checked by:		J. Hines

Comments:

- \* Weight including tares
- NA = Not analyzed
- = This sample was not remolded





Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

Job Name: Daniel B. Stephens & Associates, Inc.
Job Number: DB18.1157.00.00MW019.0002
Sample Number: MW-12 Saturated (91%)
Project Name: Former Y PST Site Remediation
Date Sampled: 7/16/19

Table with columns: Test Date, As Received, Remolded. Rows include Field weight\* of sample (g), Tare weight, ring (g), Tare weight, pan/plate (g), Tare weight, other (g), Dry weight of sample (g), Sample volume (cm³), Assumed particle density (g/cm³), Gravimetric Moisture Content (% g/g), Volumetric Moisture Content (% vol), Dry bulk density (g/cm³), Wet bulk density (g/cm³), Calculated Porosity (% vol), Percent Saturation, Laboratory analysis by, Data entered by, Checked by.

Comments:

- \* Weight including tares
NA = Not analyzed
--- = This sample was not remolded



### Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

Job Name: Daniel B. Stephens & Associates, Inc.  
Job Number: DB18.1157.00.00MW019.0002  
Sample Number: BW-7R Saturated (91%)  
Project Name: Former Y PST Site Remediation  
Date Sampled: 8/1/19

	<u>As Received</u>	<u>Remolded</u>
Test Date:	NA	14-Aug-19
Field weight* of sample (g):		583.44
Tare weight, ring (g):		139.28
Tare weight, pan/plate (g):		0.00
Tare weight, other (g):		0.00
Dry weight of sample (g):		400.08
Sample volume (cm <sup>3</sup> ):		224.06
Assumed particle density (g/cm <sup>3</sup> ):		2.65
<hr/>		
Gravimetric Moisture Content (% g/g):		11.0
Volumetric Moisture Content (% vol):		19.7
Dry bulk density (g/cm <sup>3</sup> ):		1.79
Wet bulk density (g/cm <sup>3</sup> ):		1.98
Calculated Porosity (% vol):		32.6
Percent Saturation:		60.3
<hr/>		
Laboratory analysis by:		D. O'Dowd
Data entered by:		D. O'Dowd
Checked by:		J. Hines

Comments:

- \* Weight including tares
- NA = Not analyzed
- = This sample was not remolded



**Data for Initial Moisture Content,  
Bulk Density, Porosity, and Percent Saturation**

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: MW-13 360'-365' (91%)  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 8/10/19

	<u>As Received</u>	<u>Remolded</u>
Test Date:	NA	23-Aug-19
Field weight* of sample (g):		852.48
Tare weight, ring (g):		281.57
Tare weight, pan/plate (g):		0.00
Tare weight, other (g):		0.00
Dry weight of sample (g):		517.23
Sample volume (cm <sup>3</sup> ):		282.35
Assumed particle density (g/cm <sup>3</sup> ):		2.65
<hr/>		
Gravimetric Moisture Content (% g/g):		10.4
Volumetric Moisture Content (% vol):		19.0
Dry bulk density (g/cm <sup>3</sup> ):		1.83
Wet bulk density (g/cm <sup>3</sup> ):		2.02
Calculated Porosity (% vol):		30.9
Percent Saturation:		61.6
<hr/>		
Laboratory analysis by:		D. O'Dowd
Data entered by:		D. O'Dowd
Checked by:		J. Hines

Comments:

- \* Weight including tares
- NA = Not analyzed
- = This sample was not remolded

## **Saturated Hydraulic Conductivity**



### Summary of Saturated Hydraulic Conductivity Tests

Sample Number	K <sub>sat</sub> (cm/sec)	Oversize Corrected K <sub>sat</sub> (cm/sec)	Method of Analysis	
			Constant Head	Falling Head
MW-11 342'-345' (91%)	1.6E-03	---	X	
MW-12 Saturated (91%)	4.0E-03	---	X	
BW-7R Saturated (91%)	6.8E-04	5.6E-04	X	
MW-13 360'-365' (91%)	1.3E-03	1.0E-03	X	

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass  
 NR = Not requested  
 NA = Not applicable



### Saturated Hydraulic Conductivity Constant Head Method

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: MW-11 342'-345' (91%)  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 6/5/19

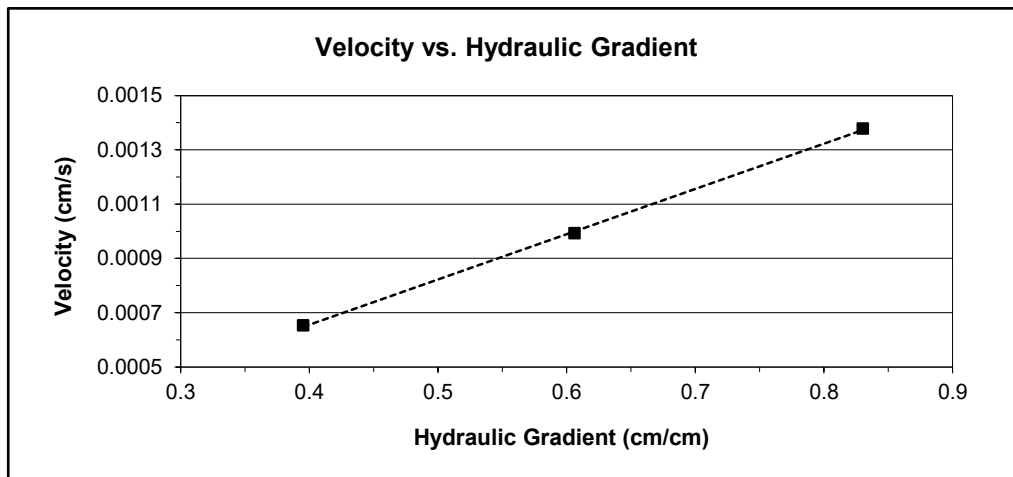
Type of water used: TAP  
 Collection vessel tare (g): 29.49  
 Sample length (cm): 7.59  
 Sample diameter (cm): 6.10  
 Sample x-sectional area (cm<sup>2</sup>): 29.19

Date	Time	Temp (°C)	Head (cm)	Q + Tare (g)	Q (cm <sup>3</sup> )	Elapsed time (sec)	Ksat (cm/sec)	Ksat @ 20°C (cm/sec)
Test # 1:								
28-Jun-19	13:33:00	22.0	6.3	39.14	9.7	240	1.7E-03	1.6E-03
28-Jun-19	13:37:00							
Test # 2:								
28-Jun-19	13:47:00	22.0	4.6	36.44	7.0	240	1.6E-03	1.6E-03
28-Jun-19	13:51:00							
Test # 3:								
28-Jun-19	14:01:00	22.0	3	34.06	4.6	240	1.6E-03	1.6E-03
28-Jun-19	14:05:00							

Average Ksat (cm/sec): 1.6E-03  
 Oversize Corrected Ksat (cm/sec): ---

**Comments:**

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass



Laboratory analysis by: D. O'Dowd  
 Data entered by: D. O'Dowd  
 Checked by: J. Hines



### Saturated Hydraulic Conductivity Constant Head Method

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: MW-12 Saturated (91%)  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 7/16/19

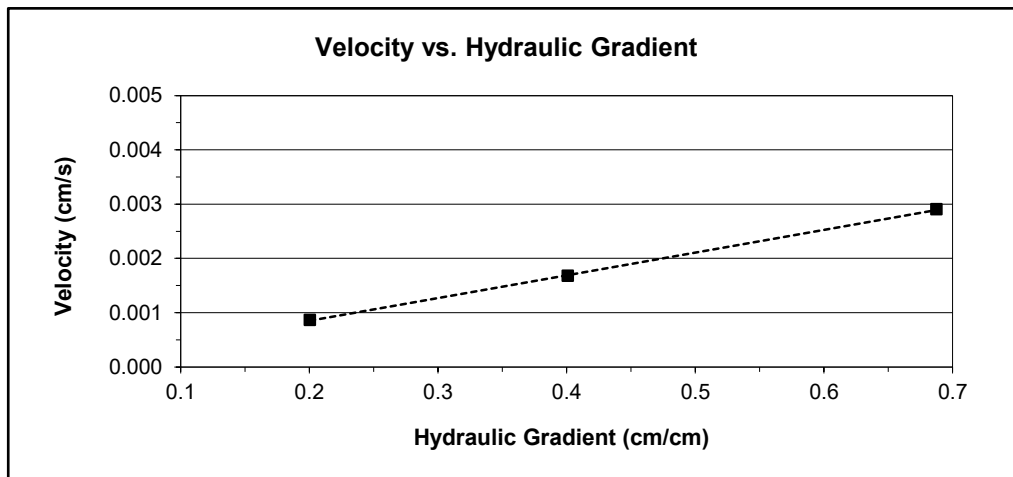
Type of water used: TAP  
 Collection vessel tare (g): 67.94  
 Sample length (cm): 6.98  
 Sample diameter (cm): 7.20  
 Sample x-sectional area (cm<sup>2</sup>): 40.76

Date	Time	Temp (°C)	Head (cm)	Q + Tare (g)	Q (cm <sup>3</sup> )	Elapsed time (sec)	Ksat (cm/sec)	Ksat @ 20°C (cm/sec)
Test # 1:								
31-Jul-19	8:15:00	22.5	4.8	82.12	14.2	120	4.2E-03	4.0E-03
31-Jul-19	8:17:00							
Test # 2:								
31-Jul-19	8:27:00	22.5	2.8	76.13	8.2	120	4.2E-03	3.9E-03
31-Jul-19	8:29:00							
Test # 3:								
31-Jul-19	8:39:00	22.5	1.4	72.15	4.2	120	4.3E-03	4.0E-03
31-Jul-19	8:41:00							

Average Ksat (cm/sec): 4.0E-03  
 Oversize Corrected Ksat (cm/sec): ---

Comments:

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass



Laboratory analysis by: D. O'Dowd  
 Data entered by: D. O'Dowd  
 Checked by: J. Hines



### Saturated Hydraulic Conductivity Constant Head Method

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: BW-7R Saturated (91%)  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 8/1/19

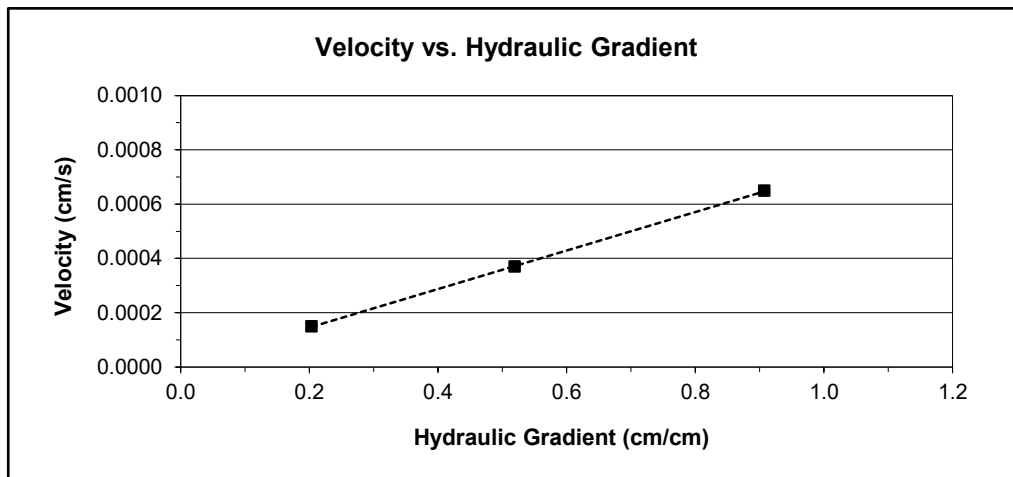
Type of water used: TAP  
 Collection vessel tare (g): 29.20  
 Sample length (cm): 7.60  
 Sample diameter (cm): 6.13  
 Sample x-sectional area (cm<sup>2</sup>): 29.47

Date	Time	Temp (°C)	Head (cm)	Q + Tare (g)	Q (cm <sup>3</sup> )	Elapsed time (sec)	Ksat (cm/sec)	Ksat @ 20°C (cm/sec)
Test # 1:								
20-Aug-19	10:06:30	22.5	6.9	32.64	3.4	180	7.1E-04	6.7E-04
20-Aug-19	10:09:30							
Test # 2:								
20-Aug-19	10:19:30	22.5	3.95	31.16	2.0	180	7.1E-04	6.7E-04
20-Aug-19	10:22:30							
Test # 3:								
20-Aug-19	10:32:30	22.5	1.55	29.99	0.8	180	7.3E-04	6.9E-04
20-Aug-19	10:35:30							

**Average Ksat (cm/sec): 6.8E-04**  
**Oversize Corrected Ksat (cm/sec): 5.6E-04**

**Comments:**

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass



Laboratory analysis by: D. O'Dowd  
 Data entered by: D. O'Dowd  
 Checked by: J. Hines





### Oversize Correction Data Sheet

*Job Name:* Daniel B. Stephens & Associates, Inc.  
*Job Number:* DB18.1157.00.00MW019.0002  
*Sample Number:* BW-7R Saturated (91%)  
*Project Name:* Former Y PST Site Remediation  
*Date Sampled:* 8/1/19

*Split (3/4", 3/8", #4):* #4  
*Calculated Porosity of Fines (% vol):* 32.6

	<u>Coarse Fraction*</u>	<u>Fines Fraction</u>	<u>Composite</u>
<i>Subsample Mass (g):</i>	5494.08	27191.58	32685.66
<i>Bulk Density (g/cm<sup>3</sup>):</i>	2.65	1.79	1.89
<i>Volume of Solids (cm<sup>3</sup>):</i>	2073.24	10260.97	12334.21
<i>Volume of Voids (cm<sup>3</sup>):</i>	0.00	4967.60	4967.60
<i>Total Volume (cm<sup>3</sup>):</i>	2073.24	15228.58	17301.82
<i>Volumetric Fraction (%):</i>	11.98	88.02	100.00
<i>Mass Fraction (%):</i>	16.81	83.19	100.00
<i>Ksat (cm/sec):</i>	NM	6.8E-04	5.6E-04

\* = Porosity and moisture content of coarse fraction assumed to be zero.

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass

NM = Not measured

*Laboratory analysis by:* D. O'Dowd  
*Data entered by:* D. O'Dowd  
*Checked by:* J. Hines



### Saturated Hydraulic Conductivity Constant Head Method

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: MW-13 360'-365' (91%)  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 8/10/19

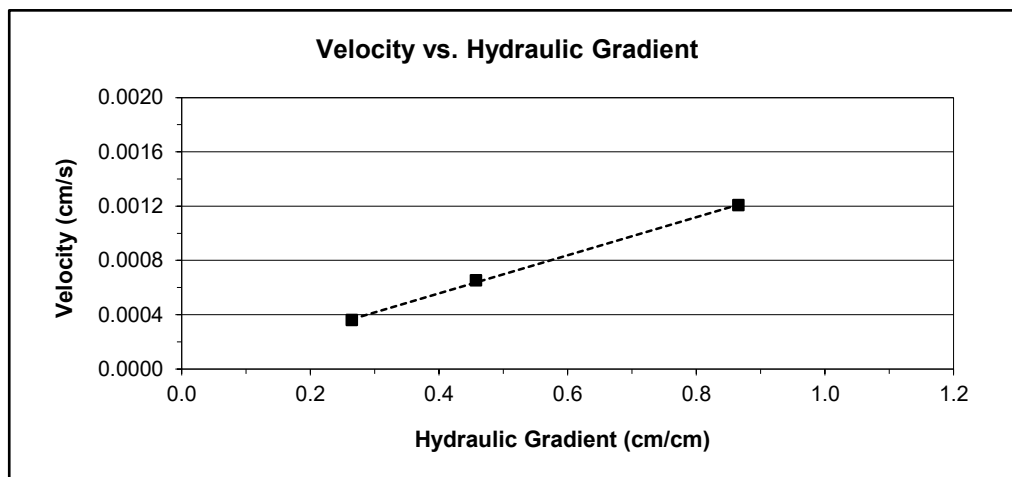
Type of water used: TAP  
 Collection vessel tare (g): 29.48  
 Sample length (cm): 6.99  
 Sample diameter (cm): 7.17  
 Sample x-sectional area (cm<sup>2</sup>): 40.41

Date	Time	Temp (°C)	Head (cm)	Q + Tare (g)	Q (cm <sup>3</sup> )	Elapsed time (sec)	Ksat (cm/sec)	Ksat @ 20°C (cm/sec)
Test # 1:								
26-Aug-19	9:50:30	22.5	6.05	35.33	5.9	120	1.4E-03	1.3E-03
26-Aug-19	9:52:30							
Test # 2:								
26-Aug-19	10:06:30	22.5	3.2	32.64	3.2	120	1.4E-03	1.3E-03
26-Aug-19	10:08:30							
Test # 3:								
26-Aug-19	10:18:30	22.5	1.85	31.22	1.7	120	1.4E-03	1.3E-03
26-Aug-19	10:20:30							

**Average Ksat (cm/sec): 1.3E-03**  
**Oversize Corrected Ksat (cm/sec): 1.0E-03**

**Comments:**

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass



Laboratory analysis by: D. O'Dowd  
 Data entered by: D. O'Dowd  
 Checked by: J. Hines



## Oversize Correction Data Sheet

*Job Name:* Daniel B. Stephens & Associates, Inc.  
*Job Number:* DB18.1157.00.00MW019.0002  
*Sample Number:* MW-13 360'-365' (91%)  
*Project Name:* Former Y PST Site Remediation  
*Date Sampled:* 8/10/19

*Split (3/4", 3/8", #4):* 3/8"  
*Calculated Porosity of Fines (% vol):* 30.9

	<u>Coarse Fraction*</u>	<u>Fines Fraction</u>	<u>Composite</u>
<i>Subsample Mass (g):</i>	6314.49	22860.26	29174.75
<i>Bulk Density (g/cm<sup>3</sup>):</i>	2.65	1.83	1.96
<i>Volume of Solids (cm<sup>3</sup>):</i>	2382.83	8626.51	11009.34
<i>Volume of Voids (cm<sup>3</sup>):</i>	0.00	3852.49	3852.49
<i>Total Volume (cm<sup>3</sup>):</i>	2382.83	12479.00	14861.83
<i>Volumetric Fraction (%):</i>	16.03	83.97	100.00
<i>Mass Fraction (%):</i>	21.64	78.36	100.00
<i>Ksat (cm/sec):</i>	NM	1.3E-03	1.0E-03

\* = Porosity and moisture content of coarse fraction assumed to be zero.

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass

NM = Not measured

*Laboratory analysis by:* D. O'Dowd  
*Data entered by:* D. O'Dowd  
*Checked by:* J. Hines

# Particle Size Analysis



### Summary of Particle Size Characteristics

Sample Number	d <sub>10</sub> (mm)	d <sub>50</sub> (mm)	d <sub>60</sub> (mm)	C <sub>u</sub>	C <sub>c</sub>	Method	ASTM Classification	USDA Classification
MW-11 342'-345'	0.0069	0.13	0.15	22	7.3	WS/H	Silty sand (SM)	Loamy Sand
MW-12 Saturated	0.047	0.16	0.18	3.8	1.7	WS/H	Silty sand (SM)	Sand
BW-7R Saturated	0.0071	0.18	0.26	37	3.5	WS/H	Silty sand with gravel (SM)g	Sandy Loam †
MW-13 360'-365'	0.0019	0.25	0.57	300	1.8	WS/H	Silty sand with gravel (SM)g	Sandy Loam †

d<sub>50</sub> = Median particle diameter

Est = Reported values for d<sub>10</sub>, C<sub>u</sub>, C<sub>c</sub>, and soil classification are estimates, since extrapolation was required to obtain the d<sub>10</sub> diameter

$$C_u = \frac{d_{60}}{d_{10}}$$

$$C_c = \frac{(d_{30})^2}{(d_{10})(d_{60})}$$

DS = Dry sieve

H = Hydrometer

WS = Wet sieve

† Greater than 10% of sample is coarse material



**Percent Gravel, Sand, Silt and Clay\***

Sample Number	% Gravel (>4.75mm)	% Sand (<4.75mm, >0.075mm)	% Silt (<0.075mm, >0.002mm)	% Clay (<0.002mm)
MW-11 342'-345'	1.9	72.7	19.1	6.3
MW-12 Saturated	3.6	82.0	11.9	2.5
BW-7R Saturated	16.8	54.3	23.5	5.4
MW-13 360'-365'	25.7	38.4	25.7	10.2

\*USCS classification does not classify clay fraction based on particle size. USDA definition of clay (<0.002mm) used in this table.



**Particle Size Analysis  
Wet Sieve Data (#10 Split)**

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: MW-11 342'-345'  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 6/5/19  
 Test Date: 21-Jun-19

Initial Dry Weight of Sample (g): 31882.20  
 Weight Passing #10 (g): 31239.47  
 Weight Retained #10 (g): 642.73  
 Weight of Hydrometer Sample (g): 80.55  
 Calculated Weight of Sieve Sample (g): 82.21  
 Shape: Rounded  
 Hardness: Hard and durable

Test Fraction	Sieve Number	Diameter (mm)	Wt. Retained	Cum Wt. Retained	Wt. Passing	% Passing
+10	3"	75	0.00	0.00	31882.20	100.00
	2"	50	0.00	0.00	31882.20	100.00
	1.5"	38.1	0.00	0.00	31882.20	100.00
	1"	25	101.53	101.53	31780.67	99.68
	3/4"	19.0	72.74	174.27	31707.93	99.45
	3/8"	9.5	236.49	410.76	31471.44	98.71
	4	4.75	186.18	596.94	31285.26	98.13
	10	2.00	45.79	642.73	31239.47	97.98
-10	(Based on calculated sieve wt.)					
	20	0.85	0.58	2.24	79.97	97.28
	40	0.425	1.65	3.89	78.32	95.27
	60	0.250	5.71	9.60	72.61	88.33
	100	0.150	23.25	32.85	49.36	60.04
	140	0.106	19.47	52.32	29.89	36.36
	200	0.075	8.99	61.31	20.90	25.42
	dry pan		1.02	62.33	19.88	
	wet pan			19.88	0.00	

d<sub>10</sub> (mm): 0.0069      d<sub>50</sub> (mm): 0.13  
 d<sub>16</sub> (mm): 0.041      d<sub>60</sub> (mm): 0.15  
 d<sub>30</sub> (mm): 0.087      d<sub>84</sub> (mm): 0.23

Median Particle Diameter--d<sub>50</sub> (mm): 0.13  
 Uniformity Coefficient, Cu--[d<sub>60</sub>/d<sub>10</sub>] (mm): 22  
 Coefficient of Curvature, Cc--[d<sub>30</sub><sup>2</sup>/(d<sub>10</sub>\*d<sub>60</sub>)] (mm): 7.3  
 Mean Particle Diameter--[d<sub>16</sub>+d<sub>50</sub>+d<sub>84</sub>]/3] (mm): 0.13

Classification of fines (visual method): ML

ASTM Soil Classification: Silty sand (SM)  
 USDA Soil Classification: Loamy Sand

Laboratory analysis by: A. Baldrige  
 Data entered by: A. Bland  
 Checked by: C. Krous



Daniel B. Stephens & Associates, Inc.

### Particle Size Analysis Hydrometer Data

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: MW-11 342'-345'  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 6/5/19  
 Test Date: 21-Jun-19  
 Start Time: 9:36

Type of Water Used: DISTILLED  
 Reaction with H<sub>2</sub>O<sub>2</sub>: NA  
 Dispersant\*: (NaPO<sub>3</sub>)<sub>6</sub>  
 Assumed particle density: 2.65  
 Initial Wt. (g): 80.55  
 Total Sample Wt. (g): 31882.20  
 Wt. Passing #10 (g): 31239.47

Date	Time (min)	Temp (°C)	R (g/L)	R <sub>L</sub> (g/L)	R <sub>corr</sub> (g/L)	H <sub>m</sub> (cm)	D (mm)	P (%)	% Finer
24-Jun-19	1	21.8	19.50	5.15	14.4	13	0.0485	18	17.5
	2	21.8	17.00	5.15	11.9	13	0.0348	15	14.4
	4	21.8	16.50	5.15	11.4	13	0.0247	14	13.8
	15	21.8	14.75	5.15	9.6	13	0.0129	12	11.7
	30	21.8	14.00	5.15	8.9	14	0.0092	11	10.8
	60	21.8	13.25	5.15	8.1	14	0.0065	10	9.9
	120	21.9	12.50	5.11	7.4	14	0.0046	9	9.0
	240	21.9	11.50	5.11	6.4	14	0.0033	8	7.8
	430	21.9	10.50	5.11	5.4	14	0.0025	7	6.6
25-Jun-19	1403	21.7	10.00	5.19	4.8	14	0.0014	6	5.9

*Comments:*

\* Dispersion device: mechanically operated stirring device

Laboratory analysis by: A. Albay-Yenney  
 Data entered by: A. Bland  
 Checked by: C. Krous







**Particle Size Analysis  
Wet Sieve Data (#10 Split)**

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: MW-12 Saturated  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 7/16/19  
 Test Date: 23-Jul-19

Initial Dry Weight of Sample (g): 33489.84  
 Weight Passing #10 (g): 32270.57  
 Weight Retained #10 (g): 1219.27  
 Weight of Hydrometer Sample (g): 65.31  
 Calculated Weight of Sieve Sample (g): 67.78

Shape: Rounded  
 Hardness: Hard and durable

Test Fraction	Sieve Number	Diameter (mm)	Wt. Retained	Cum Wt. Retained	Wt. Passing	% Passing
+10	3"	75	0.00	0.00	33489.84	100.00
	2"	50	0.00	0.00	33489.84	100.00
	1.5"	38.1	315.01	315.01	33174.83	99.06
	1"	25	105.03	420.04	33069.80	98.75
	3/4"	19.0	204.79	624.83	32865.01	98.13
	3/8"	9.5	549.76	1174.59	32315.25	96.49
	4	4.75	42.84	1217.43	32272.41	96.36
	10	2.00	1.84	1219.27	32270.57	96.36
-10	(Based on calculated sieve wt.)					
	20	0.85	0.20	2.67	65.11	96.06
	40	0.425	0.52	3.19	64.59	95.30
	60	0.250	4.22	7.41	60.37	89.07
	100	0.150	28.98	36.39	31.39	46.31
	140	0.106	16.44	52.83	14.95	22.06
	200	0.075	5.22	58.05	9.73	14.36
	dry pan		1.02	59.07	8.71	
wet pan			8.71	0.00		

d<sub>10</sub> (mm): 0.047                      d<sub>50</sub> (mm): 0.16  
 d<sub>16</sub> (mm): 0.081                      d<sub>60</sub> (mm): 0.18  
 d<sub>30</sub> (mm): 0.12                        d<sub>84</sub> (mm): 0.24

Median Particle Diameter--d<sub>50</sub> (mm): 0.16  
 Uniformity Coefficient, Cu--[d<sub>60</sub>/d<sub>10</sub>] (mm): 3.8  
 Coefficient of Curvature, Cc--[d<sub>30</sub><sup>2</sup>/(d<sub>10</sub>\*d<sub>60</sub>)] (mm): 1.7  
 Mean Particle Diameter--[d<sub>16</sub>+d<sub>50</sub>+d<sub>84</sub>]/3] (mm): 0.16

Classification of fines (visual method): ML

ASTM Soil Classification: Silty sand (SM)  
 USDA Soil Classification: Sand

Laboratory analysis by: A. Albay-Yenney/A. Baldrige  
 Data entered by: A. Albay-Yenney  
 Checked by: J. Hines



Daniel B. Stephens & Associates, Inc.

**Particle Size Analysis  
Hydrometer Data**

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: MW-12 Saturated  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 7/16/19  
 Test Date: 31-Jul-19  
 Start Time: 9:00

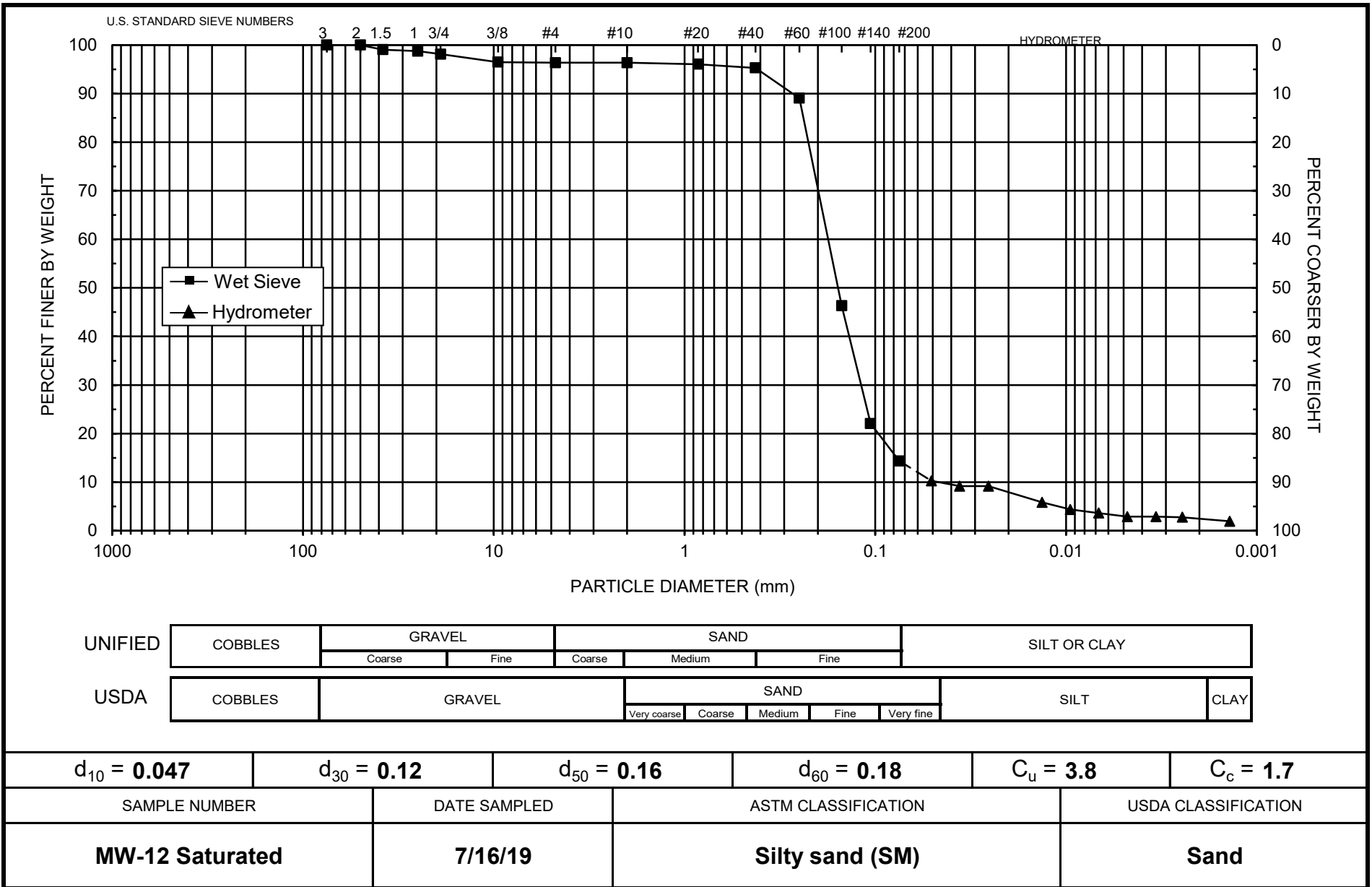
Type of Water Used: DISTILLED  
 Reaction with H<sub>2</sub>O<sub>2</sub>: NA  
 Dispersant\*: (NaPO<sub>3</sub>)<sub>6</sub>  
 Assumed particle density: 2.65  
 Initial Wt. (g): 65.31  
 Total Sample Wt. (g): 33489.84  
 Wt. Passing #10 (g): 32270.57

Date	Time (min)	Temp (°C)	R (g/L)	R <sub>L</sub> (g/L)	R <sub>corr</sub> (g/L)	H <sub>m</sub> (cm)	D (mm)	P (%)	% Finer
31-Jul-19	1	22.1	12.00	5.04	7.0	14	0.0508	11	10.3
	2	22.1	11.25	5.04	6.2	14	0.0361	10	9.2
	4	22.1	11.25	5.04	6.2	14	0.0255	10	9.2
	15	22.1	9.00	5.04	4.0	14	0.0134	6	5.8
	30	22.1	8.00	5.04	3.0	15	0.0095	5	4.4
	60	22.1	7.50	5.04	2.5	15	0.0067	4	3.6
	120	22.1	7.00	5.04	2.0	15	0.0048	3	2.9
	240	22.1	7.00	5.04	2.0	15	0.0034	3	2.9
	455	23.2	6.50	4.63	1.9	15	0.0025	3	2.8
	1-Aug-19	1431	21.7	6.50	5.19	1.3	15	0.0014	2

Comments:

\* Dispersion device: mechanically operated stirring device

Laboratory analysis by: A. Baldrige  
 Data entered by: A. Albay-Yenney  
 Checked by: J. Hines



Daniel B. Stephens & Associates, Inc.



**Particle Size Analysis  
Wet Sieve Data (#10 Split)**

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: BW-7R Saturated  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 8/1/19  
 Test Date: 20-Aug-19

Initial Dry Weight of Sample (g): 32685.66  
 Weight Passing #10 (g): 26411.04  
 Weight Retained #10 (g): 6274.62  
 Weight of Hydrometer Sample (g): 81.42  
 Calculated Weight of Sieve Sample (g): 100.76  
 Shape: Angular  
 Hardness: Weathered and friable

Test Fraction	Sieve Number	Diameter (mm)	Wt. Retained	Cum Wt. Retained	Wt. Passing	% Passing
+10	3"	75	0.00	0.00	32685.66	100.00
	2"	50	777.22	777.22	31908.44	97.62
	1.5"	38.1	670.77	1447.99	31237.67	95.57
	1"	25	1052.59	2500.58	30185.08	92.35
	3/4"	19.0	685.84	3186.42	29499.24	90.25
	3/8"	9.5	1382.59	4569.01	28116.65	86.02
	4	4.75	925.07	5494.08	27191.58	83.19
	10	2.00	780.54	6274.62	26411.04	80.80
-10	(Based on calculated sieve wt.)					
	20	0.85	2.65	21.99	78.77	78.17
	40	0.425	8.19	30.18	70.58	70.05
	60	0.250	11.30	41.48	59.28	58.83
	100	0.150	14.01	55.49	45.27	44.93
	140	0.106	9.95	65.44	35.32	35.05
	200	0.075	6.22	71.66	29.10	28.88
	dry pan			1.02	72.68	28.08
wet pan				28.08	0.00	

d<sub>10</sub> (mm): 0.0071      d<sub>50</sub> (mm): 0.18  
 d<sub>16</sub> (mm): 0.030      d<sub>60</sub> (mm): 0.26  
 d<sub>30</sub> (mm): 0.080      d<sub>84</sub> (mm): 5.8

Median Particle Diameter--d<sub>50</sub> (mm): 0.18  
 Uniformity Coefficient, Cu--[d<sub>60</sub>/d<sub>10</sub>] (mm): 37  
 Coefficient of Curvature, Cc--[(d<sub>30</sub>)<sup>2</sup>/(d<sub>10</sub>\*d<sub>60</sub>)] (mm): 3.5  
 Mean Particle Diameter--[(d<sub>16</sub>+d<sub>50</sub>+d<sub>84</sub>)/3] (mm): 2.0

Classification of fines (visual method): ML

† Greater than 10% of sample is coarse material

ASTM Soil Classification: Silty sand with gravel (SM)g  
 USDA Soil Classification: Sandy Loam †

Laboratory analysis by: A. Albay-Yenney/A. Baldrige  
 Data entered by: A. Albay-Yenney  
 Checked by: J. Hines



Daniel B. Stephens & Associates, Inc.

**Particle Size Analysis  
Hydrometer Data**

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: BW-7R Saturated  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 8/1/19  
 Test Date: 14-Aug-19  
 Start Time: 9:00

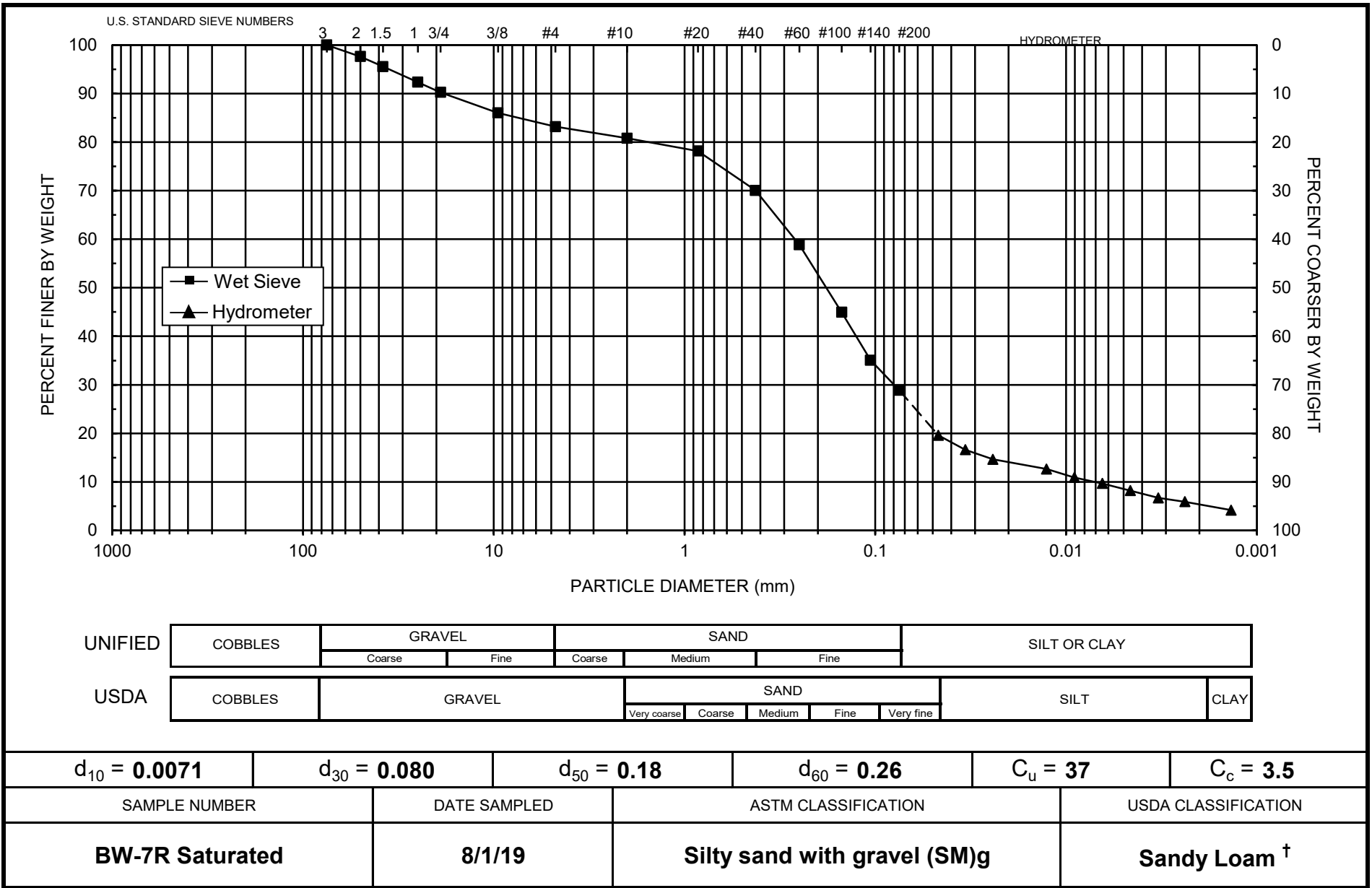
Type of Water Used: DISTILLED  
 Reaction with H<sub>2</sub>O<sub>2</sub>: NA  
 Dispersant\*: (NaPO<sub>3</sub>)<sub>6</sub>  
 Assumed particle density: 2.65  
 Initial Wt. (g): 81.42  
 Total Sample Wt. (g): 32685.66  
 Wt. Passing #10 (g): 26411.04

Date	Time (min)	Temp (°C)	R (g/L)	R <sub>L</sub> (g/L)	R <sub>corr</sub> (g/L)	H <sub>m</sub> (cm)	D (mm)	P (%)	% Finer
14-Aug-19	1	21.5	25.00	5.26	19.7	12	0.0467	24	19.6
	2	21.5	22.00	5.26	16.7	12	0.0337	21	16.6
	4	21.5	20.00	5.26	14.7	13	0.0242	18	14.6
	15	21.5	18.00	5.26	12.7	13	0.0126	16	12.6
	30	21.5	16.25	5.26	11.0	13	0.0090	14	10.9
	60	21.5	15.00	5.26	9.7	13	0.0064	12	9.7
	120	21.5	13.50	5.26	8.2	14	0.0046	10	8.2
	240	21.5	12.00	5.26	6.7	14	0.0033	8	6.7
	460	22.1	11.00	5.04	6.0	14	0.0024	7	5.9
15-Aug-19	1434	21.4	9.50	5.29	4.2	14	0.0014	5	4.2

Comments:

\* Dispersion device: mechanically operated stirring device

Laboratory analysis by: A. Baldrige  
 Data entered by: A. Albay-Yenney  
 Checked by: J. Hines



† Greater than 10% of sample is coarse material



Daniel B. Stephens & Associates, Inc.



**Particle Size Analysis  
Wet Sieve Data (#10 Split)**

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: MW-13 360'-365'  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 8/10/19  
 Test Date: 6-Sep-19

Initial Dry Weight of Sample (g): 29174.75  
 Weight Passing #10 (g): 20468.04  
 Weight Retained #10 (g): 8706.71  
 Weight of Hydrometer Sample (g): 82.91  
 Calculated Weight of Sieve Sample (g): 118.18

Shape: Rounded  
 Hardness: Hard and durable

Test Fraction	Sieve Number	Diameter (mm)	Wt. Retained	Cum Wt. Retained	Wt. Passing	% Passing
+10	3"	75	0.00	0.00	29174.75	100.00
	2"	50	925.49	925.49	28249.26	96.83
	1.5"	38.1	1171.90	2097.39	27077.36	92.81
	1"	25	1132.80	3230.19	25944.56	88.93
	3/4"	19.0	1135.90	4366.09	24808.66	85.03
	3/8"	9.5	1948.40	6314.49	22860.26	78.36
	4	4.75	1181.62	7496.11	21678.64	74.31
	10	2.00	1210.60	8706.71	20468.04	70.16
-10	(Based on calculated sieve wt.)					
	20	0.85	5.95	41.22	76.96	65.12
	40	0.425	10.45	51.67	66.51	56.28
	60	0.250	7.18	58.85	59.33	50.20
	100	0.150	8.16	67.01	51.17	43.30
	140	0.106	5.05	72.06	46.12	39.03
	200	0.075	3.63	75.69	42.49	35.95
	dry pan			0.25	75.94	42.24
wet pan				42.24	0.00	

d<sub>10</sub> (mm): 0.0019      d<sub>50</sub> (mm): 0.25  
 d<sub>16</sub> (mm): 0.0057      d<sub>60</sub> (mm): 0.57  
 d<sub>30</sub> (mm): 0.044      d<sub>84</sub> (mm): 17

Median Particle Diameter--d<sub>50</sub> (mm): 0.25  
 Uniformity Coefficient, Cu--[d<sub>60</sub>/d<sub>10</sub>] (mm): 300  
 Coefficient of Curvature, Cc--[(d<sub>30</sub>)<sup>2</sup>/(d<sub>10</sub>\*d<sub>60</sub>)] (mm): 1.8  
 Mean Particle Diameter--[(d<sub>16</sub>+d<sub>50</sub>+d<sub>84</sub>)/3] (mm): 5.8

Classification of fines (visual method): ML

† Greater than 10% of sample is coarse material

ASTM Soil Classification: Silty sand with gravel (SM)g  
 USDA Soil Classification: Sandy Loam †

Laboratory analysis by: J. Newcomer  
 Data entered by: A. Albay-Yenney  
 Checked by: J. Hines





*Daniel B. Stephens & Associates, Inc.*

**Particle Size Analysis  
Hydrometer Data**

Job Name: Daniel B. Stephens & Associates, Inc.  
 Job Number: DB18.1157.00.00MW019.0002  
 Sample Number: MW-13 360'-365'  
 Project Name: Former Y PST Site Remediation  
 Date Sampled: 8/10/19  
 Test Date: 4-Sep-19  
 Start Time: 9:06

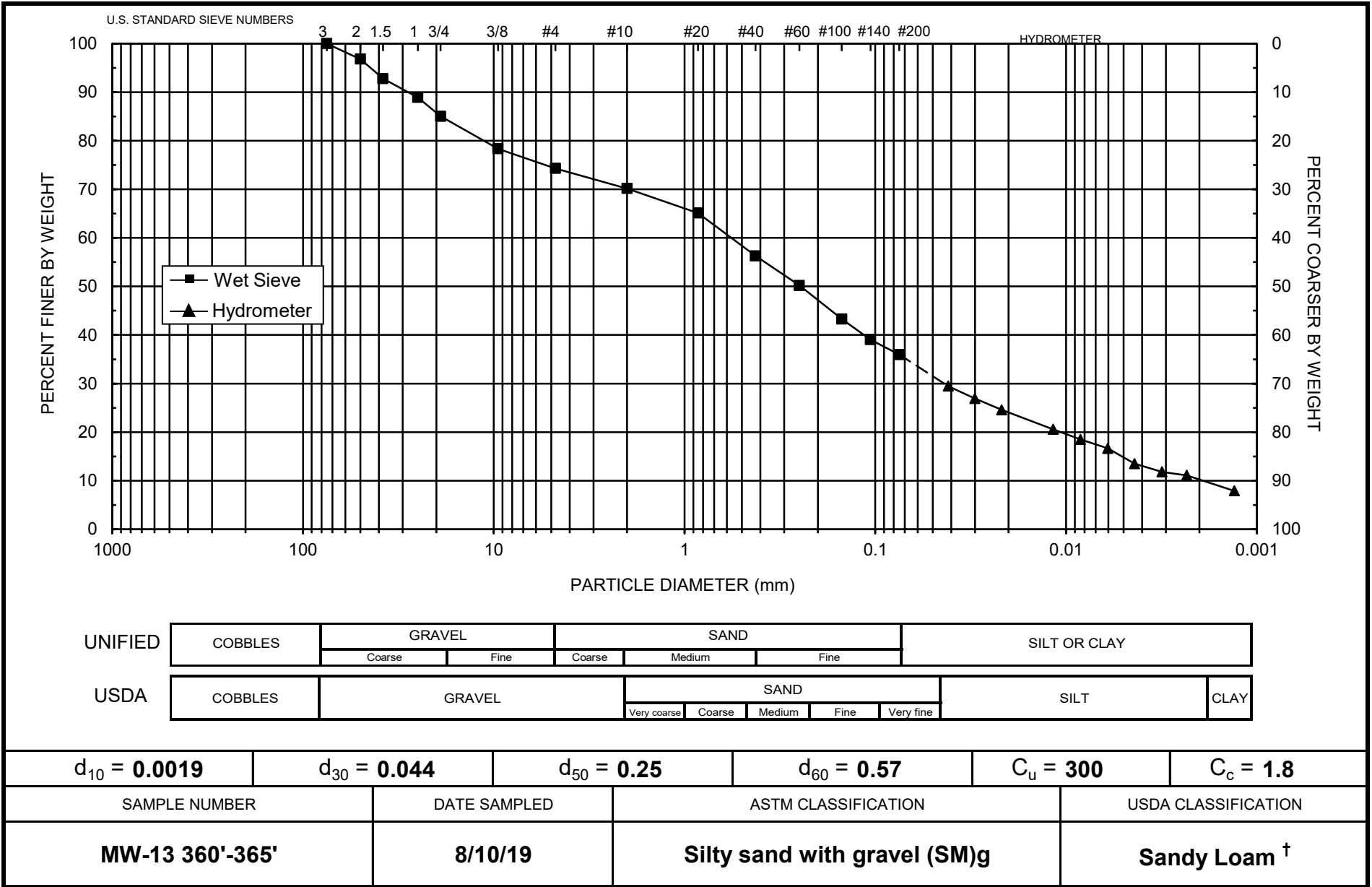
Type of Water Used: DISTILLED  
 Reaction with H<sub>2</sub>O<sub>2</sub>: NA  
 Dispersant\*: (NaPO<sub>3</sub>)<sub>6</sub>  
 Assumed particle density: 2.65  
 Initial Wt. (g): 82.91  
 Total Sample Wt. (g): 29174.75  
 Wt. Passing #10 (g): 20468.04

Date	Time (min)	Temp (°C)	R (g/L)	R <sub>L</sub> (g/L)	R <sub>corr</sub> (g/L)	H <sub>m</sub> (cm)	D (mm)	P (%)	% Finer
4-Sep-19	1	21.7	40.00	5.19	34.8	9	0.0414	42	29.5
	2	21.7	37.00	5.19	31.8	10	0.0301	38	26.9
	4	21.7	34.25	5.19	29.1	10	0.0218	35	24.6
	15	21.7	29.50	5.19	24.3	11	0.0117	29	20.6
	30	21.8	27.00	5.15	21.9	11	0.0084	26	18.5
	60	22.0	24.75	5.08	19.7	12	0.0060	24	16.6
	120	22.1	21.00	5.04	16.0	12	0.0044	19	13.5
	240	22.1	19.00	5.04	14.0	13	0.0031	17	11.8
	442	22.5	18.00	4.89	13.1	13	0.0023	16	11.1
5-Sep-19	1455	21.8	14.50	5.15	9.4	13	0.0013	11	7.9

*Comments:*

\* Dispersion device: mechanically operated stirring device

Laboratory analysis by: A. Bland  
 Data entered by: A. Albay-Yenney  
 Checked by: J. Hines



† Greater than 10% of sample is coarse material



Daniel B. Stephens & Associates, Inc.

## **Atterberg Limits/ Identification of Fines**



### Summary of Atterberg Tests

Sample Number	Liquid Limit	Plastic Limit	Plasticity Index	Classification
MW-11 342'-345'	---	---	---	ML
MW-12 Saturated	---	---	---	ML
BW-7R Saturated	---	---	---	ML
MW-13 360'-365'	---	---	---	ML

---

--- = Soil requires visual-manual classification due to non-plasticity



### Atterberg Limits

Job Name: Daniel B. Stephens & Associates, Inc.  
Job Number: DB18.1157.00.00MW019.0002  
Sample Number: MW-11 342'-345'  
Project Name: Former Y PST Site Remediation  
Date Sampled: 6/5/19  
Test Date: 25-Jun-19

#### Liquid Limit

	Trial 1	Trial 2	Trial 3
Number of drops:			
Pan number:			
Weight of pan plus moist soil (g):			
Weight of pan plus dry soil (g)			
Weight of pan (g):			
Gravimetric moisture content (% g/g):	---	---	---
Liquid Limit:	---		

#### Plastic Limit

	Trial 1	Trial 2
Pan number:		
Weight of pan plus moist soil (g):		
Weight of pan plus dry soil (g)		
Weight of pan (g):		
Gravimetric moisture content (% g/g):	---	---
Plastic Limit:	---	

#### Results

Percent of Sample Retained on #40 Sieve: See Sieve  
Liquid Limit: ---  
Plastic Limit: ---  
Plasticity Index: ---  
Classification (Visual Method): ML

Comments:

- = Soil requires visual-manual classification due to non-plasticity
- \* = 1-point method requested by client

Laboratory analysis by: D. O'Dowd  
Data entered by: A. Albay-Yenney  
Checked by: J. Hines



**Data for Description and Identification of Fines  
(Visual-Manual Procedure)**

*Job Name:* Daniel B. Stephens & Associates, Inc.  
*Job Number:* DB18.1157.00.00MW019.0002  
*Sample Number:* MW-11 342'-345'  
*Project Name:* Former Y PST Site Remediation  
*Date Sampled:* 6/5/19  
*Test Date:* 25-Jun-19

Visual-manual classification of material passing the #40 sieve in lieu of  
Atterberg analysis due to non-plasticity:

**Descriptive Information:**

Color of Moist Sample: Brown (7.5 YR 4/4)  
Odor: None  
Moisture Condition: Moist  
HCl Reaction: Strong

**Preliminary Identification:**

Dry Strength: None  
Dilatency: Rapid  
Toughness: Low  
Plasticity: Non-plastic

**Identification of Inorganic Fine Grained Soils:**

Silt (ML)

*Laboratory analysis by:* D. O'Dowd  
*Data entered by:* A. Albay-Yenney  
*Checked by:* J. Hines



### Atterberg Limits

Job Name: Daniel B. Stephens & Associates, Inc.  
Job Number: DB18.1157.00.00MW019.0002  
Sample Number: MW-12 Saturated  
Project Name: Former Y PST Site Remediation  
Date Sampled: 7/16/19  
Test Date: 26-Jul-19

#### Liquid Limit

	Trial 1	Trial 2	Trial 3
Number of drops:			
Pan number:			
Weight of pan plus moist soil (g):			
Weight of pan plus dry soil (g):			
Weight of pan (g):			
Gravimetric moisture content (% g/g):	---	---	---
Liquid Limit:	---		

#### Plastic Limit

	Trial 1	Trial 2
Pan number:		
Weight of pan plus moist soil (g):		
Weight of pan plus dry soil (g):		
Weight of pan (g):		
Gravimetric moisture content (% g/g):	---	---
Plastic Limit:	---	

#### Results

Percent of Sample Retained on #40 Sieve: See Sieve  
Liquid Limit: ---  
Plastic Limit: ---  
Plasticity Index: ---  
Classification (Visual Method): ML

#### Comments:

- = Soil requires visual-manual classification due to non-plasticity
- \* = 1-point method requested by client

Laboratory analysis by: D. O'Dowd  
Data entered by: A. Albay-Yenney  
Checked by: J. Hines



**Data for Description and Identification of Fines  
(Visual-Manual Procedure)**

*Job Name:* Daniel B. Stephens & Associates, Inc.  
*Job Number:* DB18.1157.00.00MW019.0002  
*Sample Number:* MW-12 Saturated  
*Project Name:* Former Y PST Site Remediation  
*Date Sampled:* 7/16/19  
  
*Test Date:* 26-Jul-19

Visual-manual classification of material passing the #40 sieve in lieu of  
Atterberg analysis due to non-plasticity:

**Descriptive Information:**

Color of Moist Sample: Strong Brown (7.5YR 5/6)  
Odor: None  
Moisture Condition: Moist  
HCl Reaction: Strong

**Preliminary Identification:**

Dry Strength: None  
Dilatency: Rapid  
Toughness: Low  
Plasticity: Non-plastic

**Identification of Inorganic Fine Grained Soils:**

Silt (ML)

*Laboratory analysis by:* D. O'Dowd  
*Data entered by:* A. Albay-Yenney  
*Checked by:* J. Hines





### Atterberg Limits

Job Name: Daniel B. Stephens & Associates, Inc.  
Job Number: DB18.1157.00.00MW019.0002  
Sample Number: BW-7R Saturated  
Project Name: Former Y PST Site Remediation  
Date Sampled: 8/1/19  
Test Date: 14-Aug-19

#### Liquid Limit

	Trial 1	Trial 2	Trial 3
Number of drops:			
Pan number:			
Weight of pan plus moist soil (g):			
Weight of pan plus dry soil (g)			
Weight of pan (g):			
Gravimetric moisture content (% g/g):	---	---	---
Liquid Limit:	---		

#### Plastic Limit

	Trial 1	Trial 2
Pan number:		
Weight of pan plus moist soil (g):		
Weight of pan plus dry soil (g)		
Weight of pan (g):		
Gravimetric moisture content (% g/g):	---	---
Plastic Limit:	---	

#### Results

Percent of Sample Retained on #40 Sieve: See Sieve  
Liquid Limit: ---  
Plastic Limit: ---  
Plasticity Index: ---  
Classification (Visual Method): ML

Comments:

- = Soil requires visual-manual classification due to non-plasticity
- \* = 1-point method requested by client

Laboratory analysis by: D. O'Dowd  
Data entered by: A. Albay-Yenney  
Checked by: J. Hines



**Data for Description and Identification of Fines  
(Visual-Manual Procedure)**

*Job Name:* Daniel B. Stephens & Associates, Inc.  
*Job Number:* DB18.1157.00.00MW019.0002  
*Sample Number:* BW-7R Saturated  
*Project Name:* Former Y PST Site Remediation  
*Date Sampled:* 8/1/19  
*Test Date:* 14-Aug-19

Visual-manual classification of material passing the #40 sieve in lieu of  
Atterberg analysis due to non-plasticity:

**Descriptive Information:**

Color of Moist Sample: Brown (7.5 YR 5/4)  
Odor: None  
Moisture Condition: Moist  
HCl Reaction: Strong

**Preliminary Identification:**

Dry Strength: Low  
Dilatency: Rapid  
Toughness: Low  
Plasticity: Non-plastic

**Identification of Inorganic Fine Grained Soils:**

Silt (ML)

*Laboratory analysis by:* D. O'Dowd  
*Data entered by:* A. Albay-Yenney  
*Checked by:* J. Hines



### Atterberg Limits

Job Name: Daniel B. Stephens & Associates, Inc.  
Job Number: DB18.1157.00.00MW019.0002  
Sample Number: MW-13 360'-365'  
Project Name: Former Y PST Site Remediation  
Date Sampled: 8/10/19  
Test Date: 21-Aug-19

#### Liquid Limit

	Trial 1	Trial 2	Trial 3
Number of drops:			
Pan number:			
Weight of pan plus moist soil (g):			
Weight of pan plus dry soil (g):			
Weight of pan (g):			
Gravimetric moisture content (% g/g):	---	---	---
Liquid Limit:	---		

#### Plastic Limit

	Trial 1	Trial 2
Pan number:		
Weight of pan plus moist soil (g):		
Weight of pan plus dry soil (g):		
Weight of pan (g):		
Gravimetric moisture content (% g/g):	---	---
Plastic Limit:	---	

#### Results

Percent of Sample Retained on #40 Sieve: See Sieve  
Liquid Limit: ---  
Plastic Limit: ---  
Plasticity Index: ---  
Classification (Visual Method): ML

#### Comments:

- = Soil requires visual-manual classification due to non-plasticity
- \* = 1-point method requested by client

Laboratory analysis by: D. O'Dowd  
Data entered by: A. Albay-Yenney  
Checked by: J. Hines



**Data for Description and Identification of Fines  
(Visual-Manual Procedure)**

*Job Name:* Daniel B. Stephens & Associates, Inc.  
*Job Number:* DB18.1157.00.00MW019.0002  
*Sample Number:* MW-13 360'-365'  
*Project Name:* Former Y PST Site Remediation  
*Date Sampled:* 8/10/19  
*Test Date:* 21-Aug-19

Visual-manual classification of material passing the #40 sieve in lieu of  
Atterberg analysis due to non-plasticity:

**Descriptive Information:**

Color of Moist Sample: Yellowish Brown (10YR 5/4)  
Odor: None  
Moisture Condition: Moist  
HCl Reaction: Strong

**Preliminary Identification:**

Dry Strength: Medium  
Dilatency: Slow  
Toughness: Low  
Plasticity: Non-plastic

**Identification of Inorganic Fine Grained Soils:**

Silt (ML)

*Laboratory analysis by:* D. O'Dowd  
*Data entered by:* A. Albay-Yenney  
*Checked by:* J. Hines

# Proctor Compaction



### Summary of Proctor Compaction Tests

Sample Number	Measured		Oversize Corrected	
	Optimum Moisture Content (% g/g)	Maximum Dry Bulk Density (g/cm <sup>3</sup> )	Optimum Moisture Content (% g/g)	Maximum Dry Bulk Density (g/cm <sup>3</sup> )
MW-11 342'-345'	11.4	1.84	---	---
MW-12 Saturated	11.3	1.75	---	---
BW-7R Saturated	11.0	1.96	9.1	2.05
MW-13 360'-365'	10.0	2.02	7.8	2.13

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass

NR = Not requested

NA = Not applicable



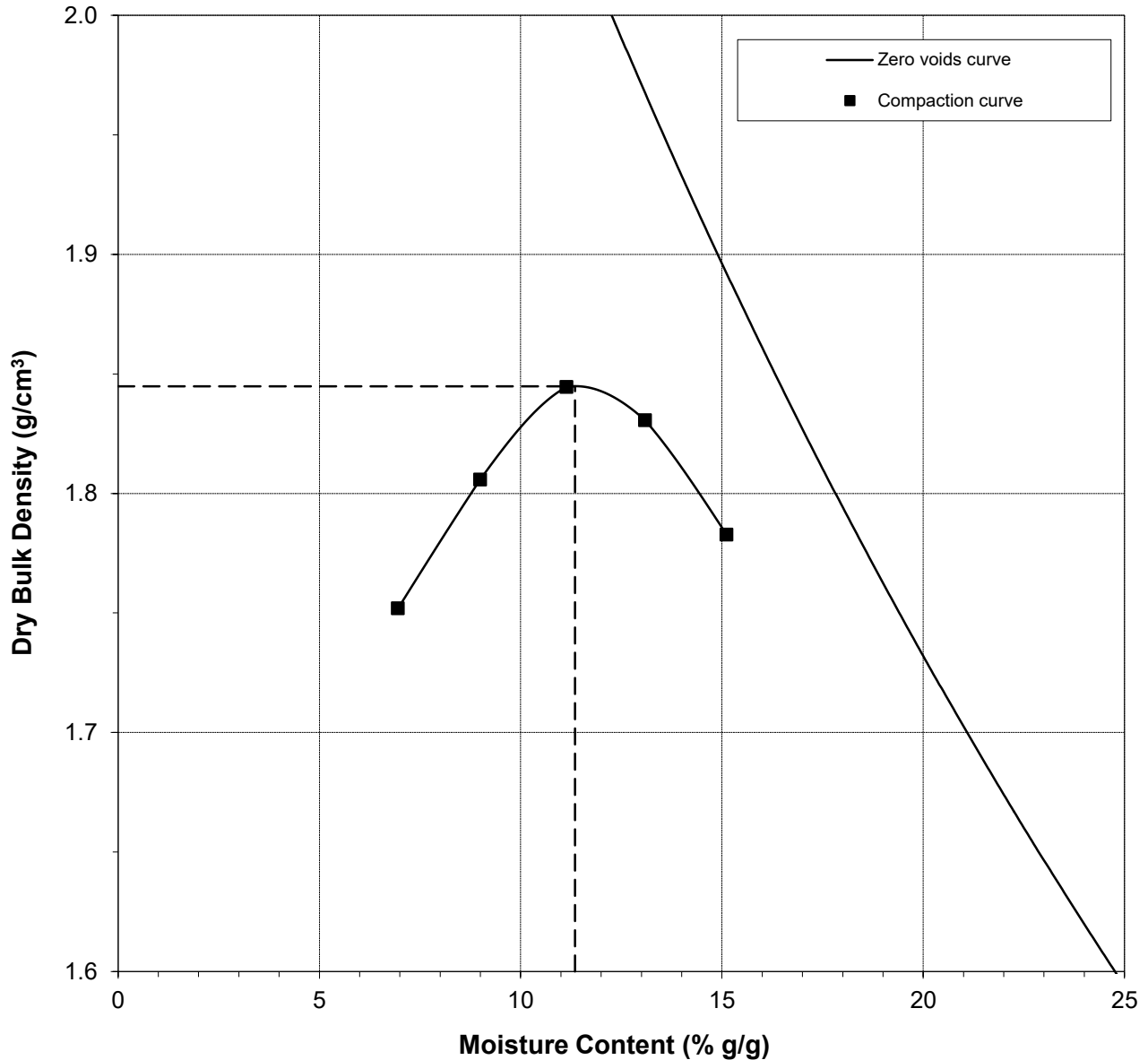


**Proctor Compaction Data Points with Fitted Curve**

Sample Number: MW-11 342'-345'

	Measured	Corrected
Optimum Moisture Content (% g/g):	11.4	---
Maximum Dry Bulk Density (g/cm <sup>3</sup> ):	1.84	---

Test Date: 24-Jun-19



--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass

Laboratory analysis by: A. Baldrige  
 Data entered by: A. Bland  
 Checked by: C. Krous





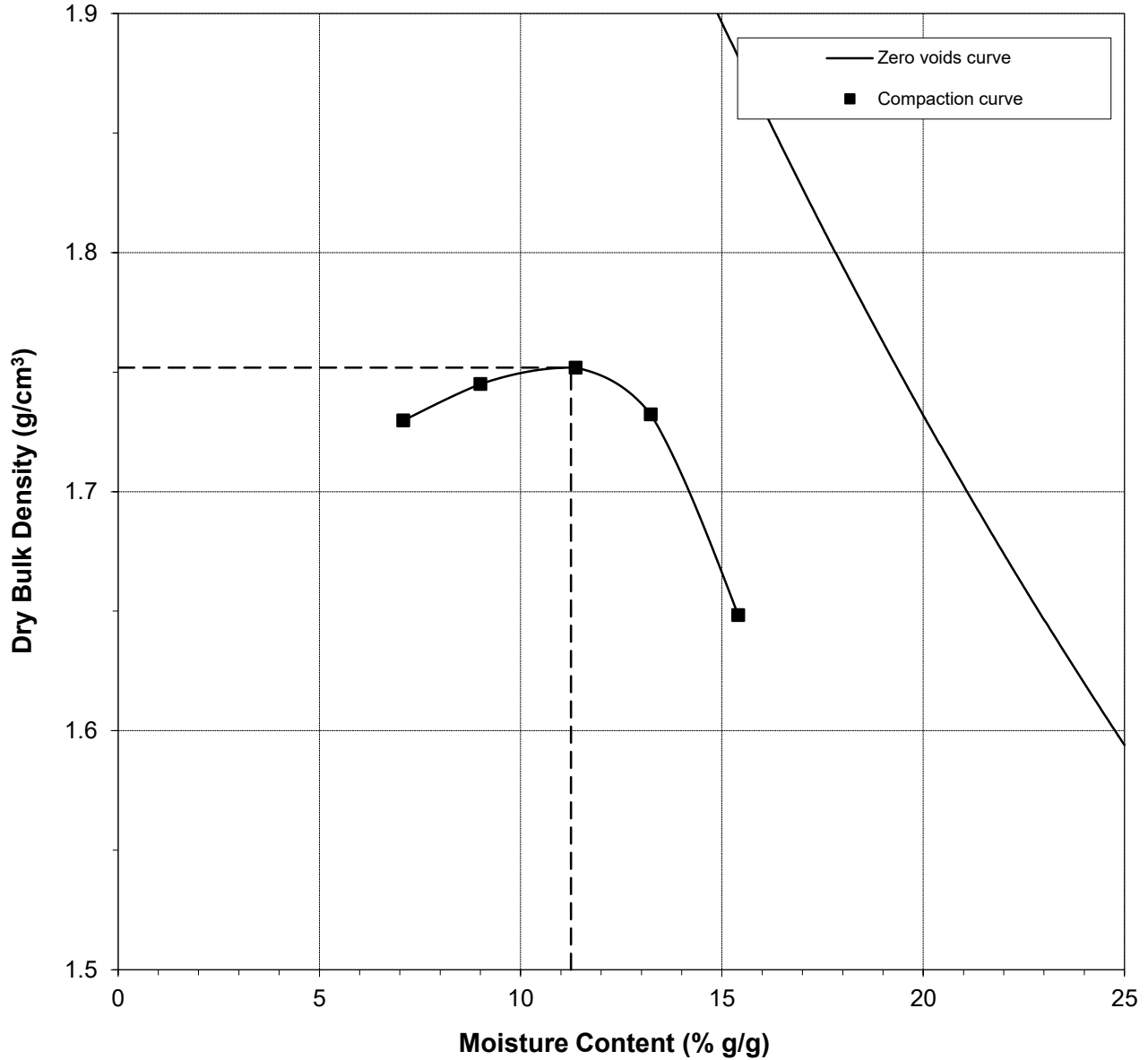


**Proctor Compaction Data Points with Fitted Curve**

Sample Number: MW-12 Saturated

	Measured	Corrected
Optimum Moisture Content (% g/g):	11.3	---
Maximum Dry Bulk Density (g/cm <sup>3</sup> ):	1.75	---

Test Date: 25-Jul-19



--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass

Laboratory analysis by: A. Baldrige  
 Data entered by: A. Baldrige  
 Checked by: J. Hines



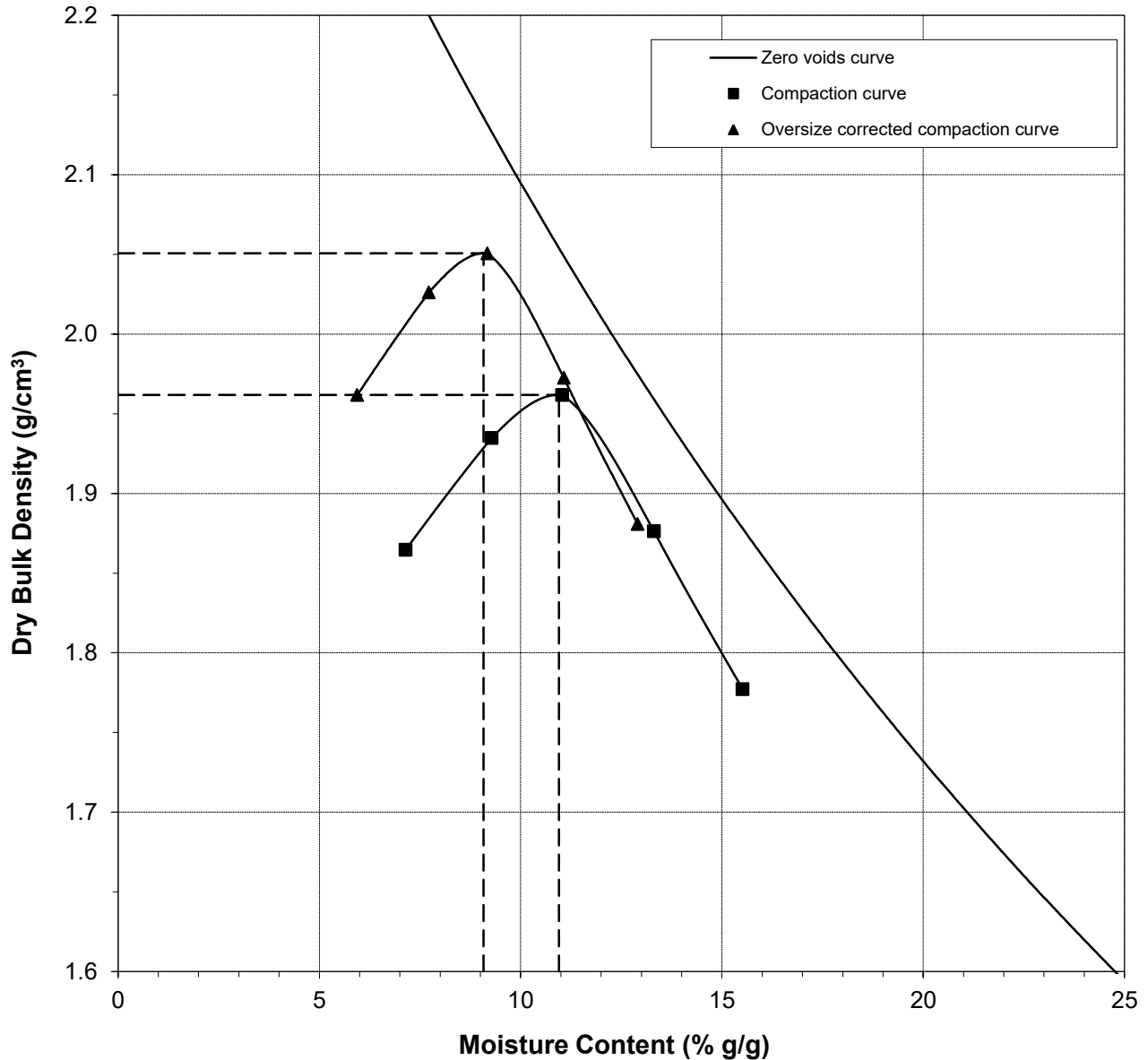


**Proctor Compaction Data Points with Fitted Curve**

Sample Number: BW-7R Saturated

	Measured	Corrected
Optimum Moisture Content (% g/g):	11.0	9.1
Maximum Dry Bulk Density (g/cm <sup>3</sup> ):	1.96	2.05

Test Date: 8-Aug-19



--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass

Laboratory analysis by: A. Baldrige  
 Data entered by: A. Baldrige  
 Checked by: J. Hines



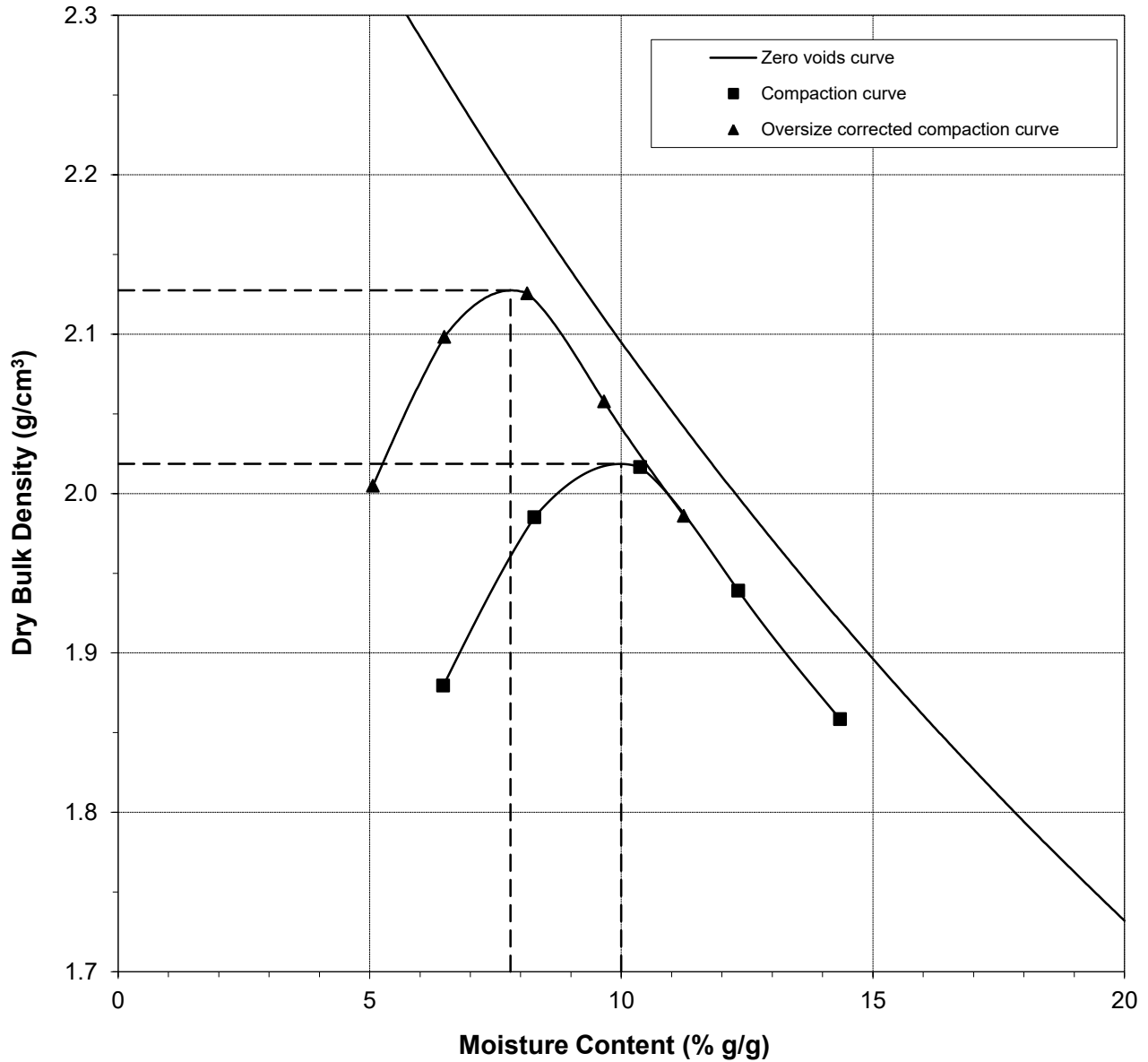


**Proctor Compaction Data Points with Fitted Curve**

Sample Number: MW-13 360'-365'

	Measured	Corrected
Optimum Moisture Content (% g/g):	10.0	7.8
Maximum Dry Bulk Density (g/cm <sup>3</sup> ):	2.02	2.13

Test Date: 19-Aug-19



--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass

Laboratory analysis by: A. Baldrige  
 Data entered by: A. Bland  
 Checked by: J. Hines

# **Laboratory Tests and Methods**



## Tests and Methods

Dry Bulk Density:	ASTM D7263
Moisture Content:	ASTM D7263, ASTM D2216
Calculated Porosity:	ASTM D7263
Saturated Hydraulic Conductivity:	
Falling or Constant Head:	ASTM D5856
(Rigid Wall)	
Particle Size Analysis:	ASTM D7928, ASTM D6913
USCS (ASTM) Classification:	ASTM D6913, ASTM D4318, ASTM D2487
USDA Classification:	ASTM D7928, ASTM D6913, USDA Soil Textural Triangle
Atterberg Limits:	ASTM D4318
Visual-Manual Description:	ASTM D2488
Standard Proctor Compaction:	ASTM D698



**Groundwater**



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

October 01, 2019

Tom Golden

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX:

RE: Former Y Station Remedial Action

OrderNo.: 1909C69

Dear Tom Golden:

Hall Environmental Analysis Laboratory received 19 sample(s) on 9/23/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-1

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/16/2019 5:15:00 PM

**Lab ID:** 1909C69-001

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: CLP
1,2-Dibromoethane	ND	0.0093		µg/L	1	9/27/2019 12:25:32 AM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Toluene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Ethylbenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Naphthalene	ND	2.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1-Methylnaphthalene	ND	4.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
2-Methylnaphthalene	ND	4.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Acetone	ND	10		µg/L	1	9/24/2019 9:32:30 PM	B63164
Bromobenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Bromodichloromethane	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Bromoform	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Bromomethane	ND	3.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
2-Butanone	ND	10		µg/L	1	9/24/2019 9:32:30 PM	B63164
Carbon disulfide	ND	10		µg/L	1	9/24/2019 9:32:30 PM	B63164
Carbon Tetrachloride	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Chlorobenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Chloroethane	ND	2.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Chloroform	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Chloromethane	ND	3.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
2-Chlorotoluene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
4-Chlorotoluene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
cis-1,2-DCE	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Dibromochloromethane	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Dibromomethane	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,1-Dichloroethane	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,1-Dichloroethene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,2-Dichloropropane	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-1

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/16/2019 5:15:00 PM

**Lab ID:** 1909C69-001

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
2,2-Dichloropropane	ND	2.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,1-Dichloropropene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Hexachlorobutadiene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
2-Hexanone	ND	10		µg/L	1	9/24/2019 9:32:30 PM	B63164
Isopropylbenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
4-Isopropyltoluene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
4-Methyl-2-pentanone	ND	10		µg/L	1	9/24/2019 9:32:30 PM	B63164
Methylene Chloride	ND	3.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
n-Butylbenzene	ND	3.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
n-Propylbenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
sec-Butylbenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Styrene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
tert-Butylbenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
trans-1,2-DCE	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Trichlorofluoromethane	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Vinyl chloride	ND	1.0		µg/L	1	9/24/2019 9:32:30 PM	B63164
Xylenes, Total	ND	1.5		µg/L	1	9/24/2019 9:32:30 PM	B63164
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	9/24/2019 9:32:30 PM	B63164
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	1	9/24/2019 9:32:30 PM	B63164
Surr: Dibromofluoromethane	107	70-130		%Rec	1	9/24/2019 9:32:30 PM	B63164
Surr: Toluene-d8	101	70-130		%Rec	1	9/24/2019 9:32:30 PM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-2

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/17/2019 9:36:00 AM

**Lab ID:** 1909C69-002

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: CLP
1,2-Dibromoethane	ND	0.0092		µg/L	1	9/27/2019 12:40:58 AM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Toluene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Ethylbenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Naphthalene	ND	2.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1-Methylnaphthalene	ND	4.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
2-Methylnaphthalene	ND	4.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Acetone	ND	10		µg/L	1	9/24/2019 11:59:11 PM	B63164
Bromobenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Bromodichloromethane	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Bromoform	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Bromomethane	ND	3.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
2-Butanone	ND	10		µg/L	1	9/24/2019 11:59:11 PM	B63164
Carbon disulfide	ND	10		µg/L	1	9/24/2019 11:59:11 PM	B63164
Carbon Tetrachloride	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Chlorobenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Chloroethane	ND	2.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Chloroform	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Chloromethane	ND	3.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
2-Chlorotoluene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
4-Chlorotoluene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
cis-1,2-DCE	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Dibromochloromethane	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Dibromomethane	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,1-Dichloroethane	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,1-Dichloroethene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,2-Dichloropropane	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: BW-2

Project: Former Y Station Remedial Action

Collection Date: 9/17/2019 9:36:00 AM

Lab ID: 1909C69-002

Matrix: AQUEOUS

Received Date: 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
2,2-Dichloropropane	ND	2.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,1-Dichloropropene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Hexachlorobutadiene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
2-Hexanone	ND	10		µg/L	1	9/24/2019 11:59:11 PM	B63164
Isopropylbenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
4-Isopropyltoluene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
4-Methyl-2-pentanone	ND	10		µg/L	1	9/24/2019 11:59:11 PM	B63164
Methylene Chloride	ND	3.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
n-Butylbenzene	ND	3.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
n-Propylbenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
sec-Butylbenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Styrene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
tert-Butylbenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
trans-1,2-DCE	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Trichlorofluoromethane	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Vinyl chloride	ND	1.0		µg/L	1	9/24/2019 11:59:11 PM	B63164
Xylenes, Total	ND	1.5		µg/L	1	9/24/2019 11:59:11 PM	B63164
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	9/24/2019 11:59:11 PM	B63164
Surr: 4-Bromofluorobenzene	84.9	70-130		%Rec	1	9/24/2019 11:59:11 PM	B63164
Surr: Dibromofluoromethane	108	70-130		%Rec	1	9/24/2019 11:59:11 PM	B63164
Surr: Toluene-d8	98.9	70-130		%Rec	1	9/24/2019 11:59:11 PM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-3

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/16/2019 3:35:00 PM

**Lab ID:** 1909C69-003

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: CLP
1,2-Dibromoethane	ND	0.0093		µg/L	1	9/27/2019 12:56:21 AM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Toluene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Ethylbenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Naphthalene	ND	2.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
2-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Acetone	ND	10		µg/L	1	9/25/2019 12:28:28 AM	B63164
Bromobenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Bromodichloromethane	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Bromoform	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Bromomethane	ND	3.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
2-Butanone	ND	10		µg/L	1	9/25/2019 12:28:28 AM	B63164
Carbon disulfide	ND	10		µg/L	1	9/25/2019 12:28:28 AM	B63164
Carbon Tetrachloride	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Chlorobenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Chloroethane	ND	2.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Chloroform	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Chloromethane	ND	3.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
2-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
4-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
cis-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Dibromochloromethane	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Dibromomethane	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,1-Dichloroethane	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,1-Dichloroethene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,2-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-3

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/16/2019 3:35:00 PM

**Lab ID:** 1909C69-003

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
2,2-Dichloropropane	ND	2.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,1-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Hexachlorobutadiene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
2-Hexanone	ND	10		µg/L	1	9/25/2019 12:28:28 AM	B63164
Isopropylbenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
4-Isopropyltoluene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
4-Methyl-2-pentanone	ND	10		µg/L	1	9/25/2019 12:28:28 AM	B63164
Methylene Chloride	ND	3.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
n-Butylbenzene	ND	3.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
n-Propylbenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
sec-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Styrene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
tert-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
trans-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Trichlorofluoromethane	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Vinyl chloride	ND	1.0		µg/L	1	9/25/2019 12:28:28 AM	B63164
Xylenes, Total	ND	1.5		µg/L	1	9/25/2019 12:28:28 AM	B63164
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	9/25/2019 12:28:28 AM	B63164
Surr: 4-Bromofluorobenzene	84.4	70-130		%Rec	1	9/25/2019 12:28:28 AM	B63164
Surr: Dibromofluoromethane	108	70-130		%Rec	1	9/25/2019 12:28:28 AM	B63164
Surr: Toluene-d8	99.4	70-130		%Rec	1	9/25/2019 12:28:28 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-4

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/17/2019 4:52:00 PM

**Lab ID:** 1909C69-004

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: CLP
1,2-Dibromoethane	ND	0.0092		µg/L	1	9/27/2019 1:11:49 AM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Toluene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Ethylbenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Naphthalene	ND	2.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
2-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Acetone	ND	10		µg/L	1	9/25/2019 12:57:42 AM	B63164
Bromobenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Bromodichloromethane	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Bromoform	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Bromomethane	ND	3.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
2-Butanone	ND	10		µg/L	1	9/25/2019 12:57:42 AM	B63164
Carbon disulfide	ND	10		µg/L	1	9/25/2019 12:57:42 AM	B63164
Carbon Tetrachloride	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Chlorobenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Chloroethane	ND	2.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Chloroform	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Chloromethane	ND	3.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
2-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
4-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
cis-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Dibromochloromethane	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Dibromomethane	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,1-Dichloroethane	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,1-Dichloroethene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,2-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-4

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/17/2019 4:52:00 PM

**Lab ID:** 1909C69-004

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
2,2-Dichloropropane	ND	2.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,1-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Hexachlorobutadiene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
2-Hexanone	ND	10		µg/L	1	9/25/2019 12:57:42 AM	B63164
Isopropylbenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
4-Isopropyltoluene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
4-Methyl-2-pentanone	ND	10		µg/L	1	9/25/2019 12:57:42 AM	B63164
Methylene Chloride	ND	3.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
n-Butylbenzene	ND	3.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
n-Propylbenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
sec-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Styrene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
tert-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
trans-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Trichlorofluoromethane	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Vinyl chloride	ND	1.0		µg/L	1	9/25/2019 12:57:42 AM	B63164
Xylenes, Total	ND	1.5		µg/L	1	9/25/2019 12:57:42 AM	B63164
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	9/25/2019 12:57:42 AM	B63164
Surr: 4-Bromofluorobenzene	83.8	70-130		%Rec	1	9/25/2019 12:57:42 AM	B63164
Surr: Dibromofluoromethane	106	70-130		%Rec	1	9/25/2019 12:57:42 AM	B63164
Surr: Toluene-d8	99.4	70-130		%Rec	1	9/25/2019 12:57:42 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-6

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/16/2019 7:18:00 PM

**Lab ID:** 1909C69-005

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: CLP
1,2-Dibromoethane	ND	0.0094		µg/L	1	9/27/2019 1:42:34 AM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Toluene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Ethylbenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Naphthalene	ND	2.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
2-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Acetone	ND	10		µg/L	1	9/25/2019 1:27:00 AM	B63164
Bromobenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Bromodichloromethane	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Bromoform	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Bromomethane	ND	3.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
2-Butanone	ND	10		µg/L	1	9/25/2019 1:27:00 AM	B63164
Carbon disulfide	ND	10		µg/L	1	9/25/2019 1:27:00 AM	B63164
Carbon Tetrachloride	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Chlorobenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Chloroethane	ND	2.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Chloroform	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Chloromethane	ND	3.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
2-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
4-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
cis-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Dibromochloromethane	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Dibromomethane	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,1-Dichloroethane	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,1-Dichloroethene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,2-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-6

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/16/2019 7:18:00 PM

**Lab ID:** 1909C69-005

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
2,2-Dichloropropane	ND	2.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,1-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Hexachlorobutadiene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
2-Hexanone	ND	10		µg/L	1	9/25/2019 1:27:00 AM	B63164
Isopropylbenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
4-Isopropyltoluene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
4-Methyl-2-pentanone	ND	10		µg/L	1	9/25/2019 1:27:00 AM	B63164
Methylene Chloride	ND	3.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
n-Butylbenzene	ND	3.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
n-Propylbenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
sec-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Styrene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
tert-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
trans-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Trichlorofluoromethane	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Vinyl chloride	ND	1.0		µg/L	1	9/25/2019 1:27:00 AM	B63164
Xylenes, Total	ND	1.5		µg/L	1	9/25/2019 1:27:00 AM	B63164
Surr: 1,2-Dichloroethane-d4	103	70-130	%Rec		1	9/25/2019 1:27:00 AM	B63164
Surr: 4-Bromofluorobenzene	84.4	70-130	%Rec		1	9/25/2019 1:27:00 AM	B63164
Surr: Dibromofluoromethane	105	70-130	%Rec		1	9/25/2019 1:27:00 AM	B63164
Surr: Toluene-d8	98.1	70-130	%Rec		1	9/25/2019 1:27:00 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-7

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/18/2019 1:30:00 PM

**Lab ID:** 1909C69-006

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>CLP</b>
1,2-Dibromoethane	0.31	0.093		µg/L	10	9/27/2019 1:31:59 PM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	590	10		µg/L	10	9/25/2019 2:26:23 AM	B63164
Toluene	5.3	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Ethylbenzene	56	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,2,4-Trimethylbenzene	45	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,3,5-Trimethylbenzene	10	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,2-Dichloroethane (EDC)	120	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Naphthalene	15	4.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1-Methylnaphthalene	ND	8.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
2-Methylnaphthalene	ND	8.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Acetone	ND	20		µg/L	2	9/26/2019 1:39:01 AM	R63200
Bromobenzene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Bromodichloromethane	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Bromoform	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Bromomethane	ND	6.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
2-Butanone	ND	20		µg/L	2	9/26/2019 1:39:01 AM	R63200
Carbon disulfide	ND	20		µg/L	2	9/26/2019 1:39:01 AM	R63200
Carbon Tetrachloride	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Chlorobenzene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Chloroethane	ND	4.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Chloroform	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Chloromethane	ND	6.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
2-Chlorotoluene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
4-Chlorotoluene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
cis-1,2-DCE	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Dibromochloromethane	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Dibromomethane	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,2-Dichlorobenzene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,3-Dichlorobenzene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,4-Dichlorobenzene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Dichlorodifluoromethane	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,1-Dichloroethane	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,1-Dichloroethene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,2-Dichloropropane	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-7

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/18/2019 1:30:00 PM

**Lab ID:** 1909C69-006

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
2,2-Dichloropropane	ND	4.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,1-Dichloropropene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Hexachlorobutadiene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
2-Hexanone	ND	20		µg/L	2	9/26/2019 1:39:01 AM	R63200
Isopropylbenzene	4.1	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
4-Isopropyltoluene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
4-Methyl-2-pentanone	ND	20		µg/L	2	9/26/2019 1:39:01 AM	R63200
Methylene Chloride	ND	6.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
n-Butylbenzene	ND	6.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
n-Propylbenzene	8.1	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
sec-Butylbenzene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Styrene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
tert-Butylbenzene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
trans-1,2-DCE	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,1,1-Trichloroethane	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,1,2-Trichloroethane	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Trichloroethene (TCE)	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Trichlorofluoromethane	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
1,2,3-Trichloropropane	ND	4.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Vinyl chloride	ND	2.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Xylenes, Total	88	3.0		µg/L	2	9/26/2019 1:39:01 AM	R63200
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	2	9/26/2019 1:39:01 AM	R63200
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	2	9/26/2019 1:39:01 AM	R63200
Surr: Dibromofluoromethane	102	70-130		%Rec	2	9/26/2019 1:39:01 AM	R63200
Surr: Toluene-d8	102	70-130		%Rec	2	9/26/2019 1:39:01 AM	R63200

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-7R

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/21/2019 2:30:00 PM

**Lab ID:** 1909C69-007

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: CLP
1,2-Dibromoethane	0.096	0.0093		µg/L	1	9/27/2019 2:13:30 AM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	51	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Toluene	9.4	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Ethylbenzene	1.5	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,2,4-Trimethylbenzene	1.8	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,3,5-Trimethylbenzene	1.0	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,2-Dichloroethane (EDC)	22	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Naphthalene	ND	2.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
2-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Acetone	ND	10		µg/L	1	9/25/2019 2:56:13 AM	B63164
Bromobenzene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Bromodichloromethane	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Bromoform	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Bromomethane	ND	3.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
2-Butanone	ND	10		µg/L	1	9/25/2019 2:56:13 AM	B63164
Carbon disulfide	ND	10		µg/L	1	9/25/2019 2:56:13 AM	B63164
Carbon Tetrachloride	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Chlorobenzene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Chloroethane	ND	2.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Chloroform	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Chloromethane	ND	3.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
2-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
4-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
cis-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Dibromochloromethane	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Dibromomethane	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,1-Dichloroethane	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,1-Dichloroethene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,2-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: BW-7R

Project: Former Y Station Remedial Action

Collection Date: 9/21/2019 2:30:00 PM

Lab ID: 1909C69-007

Matrix: AQUEOUS

Received Date: 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
2,2-Dichloropropane	ND	2.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,1-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Hexachlorobutadiene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
2-Hexanone	ND	10		µg/L	1	9/25/2019 2:56:13 AM	B63164
Isopropylbenzene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
4-Isopropyltoluene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
4-Methyl-2-pentanone	ND	10		µg/L	1	9/25/2019 2:56:13 AM	B63164
Methylene Chloride	ND	3.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
n-Butylbenzene	ND	3.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
n-Propylbenzene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
sec-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Styrene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
tert-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
trans-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Trichlorofluoromethane	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Vinyl chloride	ND	1.0		µg/L	1	9/25/2019 2:56:13 AM	B63164
Xylenes, Total	9.2	1.5		µg/L	1	9/25/2019 2:56:13 AM	B63164
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	9/25/2019 2:56:13 AM	B63164
Surr: 4-Bromofluorobenzene	87.9	70-130		%Rec	1	9/25/2019 2:56:13 AM	B63164
Surr: Dibromofluoromethane	108	70-130		%Rec	1	9/25/2019 2:56:13 AM	B63164
Surr: Toluene-d8	103	70-130		%Rec	1	9/25/2019 2:56:13 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-8

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/18/2019 3:40:00 PM

**Lab ID:** 1909C69-008

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>CLP</b>
1,2-Dibromoethane	14	4.7		µg/L	500	9/27/2019 1:47:16 PM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	5000	200		µg/L	200	9/26/2019 2:08:50 AM	R63200
Toluene	4300	200		µg/L	200	9/26/2019 2:08:50 AM	R63200
Ethylbenzene	420	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Methyl tert-butyl ether (MTBE)	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,2,4-Trimethylbenzene	190	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,3,5-Trimethylbenzene	68	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,2-Dichloroethane (EDC)	270	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,2-Dibromoethane (EDB)	12	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Naphthalene	94	20		µg/L	10	9/25/2019 3:25:56 AM	B63164
1-Methylnaphthalene	ND	40		µg/L	10	9/25/2019 3:25:56 AM	B63164
2-Methylnaphthalene	ND	40		µg/L	10	9/25/2019 3:25:56 AM	B63164
Acetone	300	100		µg/L	10	9/26/2019 11:25:52 AM	A63242
Bromobenzene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Bromodichloromethane	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Bromoform	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Bromomethane	ND	30		µg/L	10	9/25/2019 3:25:56 AM	B63164
2-Butanone	ND	100		µg/L	10	9/25/2019 3:25:56 AM	B63164
Carbon disulfide	ND	100		µg/L	10	9/25/2019 3:25:56 AM	B63164
Carbon Tetrachloride	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Chlorobenzene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Chloroethane	ND	20		µg/L	10	9/25/2019 3:25:56 AM	B63164
Chloroform	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Chloromethane	ND	30		µg/L	10	9/25/2019 3:25:56 AM	B63164
2-Chlorotoluene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
4-Chlorotoluene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
cis-1,2-DCE	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
cis-1,3-Dichloropropene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	9/25/2019 3:25:56 AM	B63164
Dibromochloromethane	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Dibromomethane	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,2-Dichlorobenzene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,3-Dichlorobenzene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,4-Dichlorobenzene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Dichlorodifluoromethane	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,1-Dichloroethane	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,1-Dichloroethene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,2-Dichloropropane	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-8

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/18/2019 3:40:00 PM

**Lab ID:** 1909C69-008

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
2,2-Dichloropropane	ND	20		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,1-Dichloropropene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Hexachlorobutadiene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
2-Hexanone	160	100		µg/L	10	9/25/2019 3:25:56 AM	B63164
Isopropylbenzene	16	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
4-Isopropyltoluene	10	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
4-Methyl-2-pentanone	ND	100		µg/L	10	9/25/2019 3:25:56 AM	B63164
Methylene Chloride	ND	30		µg/L	10	9/25/2019 3:25:56 AM	B63164
n-Butylbenzene	ND	30		µg/L	10	9/25/2019 3:25:56 AM	B63164
n-Propylbenzene	39	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
sec-Butylbenzene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Styrene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
tert-Butylbenzene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,1,2,2-Tetrachloroethane	ND	20		µg/L	10	9/25/2019 3:25:56 AM	B63164
Tetrachloroethene (PCE)	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
trans-1,2-DCE	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
trans-1,3-Dichloropropene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,2,3-Trichlorobenzene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,2,4-Trichlorobenzene	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,1,1-Trichloroethane	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,1,2-Trichloroethane	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Trichloroethene (TCE)	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Trichlorofluoromethane	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
1,2,3-Trichloropropane	ND	20		µg/L	10	9/25/2019 3:25:56 AM	B63164
Vinyl chloride	ND	10		µg/L	10	9/25/2019 3:25:56 AM	B63164
Xylenes, Total	1400	15		µg/L	10	9/25/2019 3:25:56 AM	B63164
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	10	9/25/2019 3:25:56 AM	B63164
Surr: 4-Bromofluorobenzene	92.8	70-130		%Rec	10	9/25/2019 3:25:56 AM	B63164
Surr: Dibromofluoromethane	108	70-130		%Rec	10	9/25/2019 3:25:56 AM	B63164
Surr: Toluene-d8	100	70-130		%Rec	10	9/25/2019 3:25:56 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-9

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/17/2019 11:45:00 AM

**Lab ID:** 1909C69-009

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: CLP
1,2-Dibromoethane	ND	0.0093		µg/L	1	9/27/2019 2:44:09 AM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Toluene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Ethylbenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Naphthalene	ND	2.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
2-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Acetone	ND	10		µg/L	1	9/25/2019 3:55:22 AM	B63164
Bromobenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Bromodichloromethane	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Bromoform	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Bromomethane	ND	3.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
2-Butanone	ND	10		µg/L	1	9/25/2019 3:55:22 AM	B63164
Carbon disulfide	ND	10		µg/L	1	9/25/2019 3:55:22 AM	B63164
Carbon Tetrachloride	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Chlorobenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Chloroethane	ND	2.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Chloroform	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Chloromethane	ND	3.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
2-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
4-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
cis-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Dibromochloromethane	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Dibromomethane	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,1-Dichloroethane	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,1-Dichloroethene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,2-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-9

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/17/2019 11:45:00 AM

**Lab ID:** 1909C69-009

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
2,2-Dichloropropane	ND	2.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,1-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Hexachlorobutadiene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
2-Hexanone	ND	10		µg/L	1	9/25/2019 3:55:22 AM	B63164
Isopropylbenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
4-Isopropyltoluene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
4-Methyl-2-pentanone	ND	10		µg/L	1	9/25/2019 3:55:22 AM	B63164
Methylene Chloride	ND	3.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
n-Butylbenzene	ND	3.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
n-Propylbenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
sec-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Styrene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
tert-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
trans-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Trichlorofluoromethane	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Vinyl chloride	ND	1.0		µg/L	1	9/25/2019 3:55:22 AM	B63164
Xylenes, Total	ND	1.5		µg/L	1	9/25/2019 3:55:22 AM	B63164
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	9/25/2019 3:55:22 AM	B63164
Surr: 4-Bromofluorobenzene	87.0	70-130		%Rec	1	9/25/2019 3:55:22 AM	B63164
Surr: Dibromofluoromethane	107	70-130		%Rec	1	9/25/2019 3:55:22 AM	B63164
Surr: Toluene-d8	97.6	70-130		%Rec	1	9/25/2019 3:55:22 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-10

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/17/2019 1:58:00 PM

**Lab ID:** 1909C69-010

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: CLP
1,2-Dibromoethane	ND	0.0094		µg/L	1	9/27/2019 2:59:26 AM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Toluene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Ethylbenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Naphthalene	ND	2.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
2-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Acetone	ND	10		µg/L	1	9/25/2019 4:25:06 AM	B63164
Bromobenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Bromodichloromethane	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Bromoform	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Bromomethane	ND	3.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
2-Butanone	ND	10		µg/L	1	9/25/2019 4:25:06 AM	B63164
Carbon disulfide	ND	10		µg/L	1	9/25/2019 4:25:06 AM	B63164
Carbon Tetrachloride	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Chlorobenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Chloroethane	ND	2.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Chloroform	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Chloromethane	ND	3.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
2-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
4-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
cis-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Dibromochloromethane	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Dibromomethane	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,1-Dichloroethane	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,1-Dichloroethene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,2-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** BW-10

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/17/2019 1:58:00 PM

**Lab ID:** 1909C69-010

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
2,2-Dichloropropane	ND	2.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,1-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Hexachlorobutadiene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
2-Hexanone	ND	10		µg/L	1	9/25/2019 4:25:06 AM	B63164
Isopropylbenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
4-Isopropyltoluene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
4-Methyl-2-pentanone	ND	10		µg/L	1	9/25/2019 4:25:06 AM	B63164
Methylene Chloride	ND	3.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
n-Butylbenzene	ND	3.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
n-Propylbenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
sec-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Styrene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
tert-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
trans-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Trichlorofluoromethane	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Vinyl chloride	ND	1.0		µg/L	1	9/25/2019 4:25:06 AM	B63164
Xylenes, Total	ND	1.5		µg/L	1	9/25/2019 4:25:06 AM	B63164
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	9/25/2019 4:25:06 AM	B63164
Surr: 4-Bromofluorobenzene	90.1	70-130		%Rec	1	9/25/2019 4:25:06 AM	B63164
Surr: Dibromofluoromethane	109	70-130		%Rec	1	9/25/2019 4:25:06 AM	B63164
Surr: Toluene-d8	98.2	70-130		%Rec	1	9/25/2019 4:25:06 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-11

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/18/2019 11:20:00 AM

**Lab ID:** 1909C69-011

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: CLP
1,2-Dibromoethane	5.0	0.92		µg/L	100	9/27/2019 2:02:38 PM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	3300	100		µg/L	100	9/26/2019 2:38:31 AM	R63200
Toluene	5.0	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Ethylbenzene	280	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,2,4-Trimethylbenzene	180	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,3,5-Trimethylbenzene	49	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,2-Dichloroethane (EDC)	130	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Naphthalene	40	10		µg/L	5	9/25/2019 4:54:26 AM	B63164
1-Methylnaphthalene	ND	20		µg/L	5	9/25/2019 4:54:26 AM	B63164
2-Methylnaphthalene	ND	20		µg/L	5	9/25/2019 4:54:26 AM	B63164
Acetone	ND	50		µg/L	5	9/25/2019 4:54:26 AM	B63164
Bromobenzene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Bromodichloromethane	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Bromoform	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Bromomethane	ND	15		µg/L	5	9/25/2019 4:54:26 AM	B63164
2-Butanone	ND	50		µg/L	5	9/25/2019 4:54:26 AM	B63164
Carbon disulfide	ND	50		µg/L	5	9/25/2019 4:54:26 AM	B63164
Carbon Tetrachloride	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Chlorobenzene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Chloroethane	ND	10		µg/L	5	9/25/2019 4:54:26 AM	B63164
Chloroform	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Chloromethane	ND	15		µg/L	5	9/25/2019 4:54:26 AM	B63164
2-Chlorotoluene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
4-Chlorotoluene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
cis-1,2-DCE	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
cis-1,3-Dichloropropene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,2-Dibromo-3-chloropropane	ND	10		µg/L	5	9/25/2019 4:54:26 AM	B63164
Dibromochloromethane	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Dibromomethane	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,2-Dichlorobenzene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,3-Dichlorobenzene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,4-Dichlorobenzene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Dichlorodifluoromethane	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,1-Dichloroethane	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,1-Dichloroethene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,2-Dichloropropane	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-11

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/18/2019 11:20:00 AM

**Lab ID:** 1909C69-011

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
2,2-Dichloropropane	ND	10		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,1-Dichloropropene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Hexachlorobutadiene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
2-Hexanone	ND	50		µg/L	5	9/25/2019 4:54:26 AM	B63164
Isopropylbenzene	9.7	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
4-Isopropyltoluene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
4-Methyl-2-pentanone	ND	50		µg/L	5	9/25/2019 4:54:26 AM	B63164
Methylene Chloride	ND	15		µg/L	5	9/25/2019 4:54:26 AM	B63164
n-Butylbenzene	ND	15		µg/L	5	9/25/2019 4:54:26 AM	B63164
n-Propylbenzene	25	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
sec-Butylbenzene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Styrene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
tert-Butylbenzene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,1,2,2-Tetrachloroethane	ND	10		µg/L	5	9/25/2019 4:54:26 AM	B63164
Tetrachloroethene (PCE)	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
trans-1,2-DCE	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
trans-1,3-Dichloropropene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,2,3-Trichlorobenzene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,2,4-Trichlorobenzene	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,1,1-Trichloroethane	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,1,2-Trichloroethane	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Trichloroethene (TCE)	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Trichlorofluoromethane	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
1,2,3-Trichloropropane	ND	10		µg/L	5	9/25/2019 4:54:26 AM	B63164
Vinyl chloride	ND	5.0		µg/L	5	9/25/2019 4:54:26 AM	B63164
Xylenes, Total	1100	150		µg/L	100	9/26/2019 2:38:31 AM	R63200
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	5	9/25/2019 4:54:26 AM	B63164
Surr: 4-Bromofluorobenzene	89.9	70-130		%Rec	5	9/25/2019 4:54:26 AM	B63164
Surr: Dibromofluoromethane	105	70-130		%Rec	5	9/25/2019 4:54:26 AM	B63164
Surr: Toluene-d8	100	70-130		%Rec	5	9/25/2019 4:54:26 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-12

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/20/2019 4:40:00 PM

**Lab ID:** 1909C69-012

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: CLP
1,2-Dibromoethane	0.78	0.093		µg/L	10	9/27/2019 4:02:57 PM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	1400	50		µg/L	50	9/26/2019 3:08:04 AM	R63200
Toluene	27	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Ethylbenzene	9.4	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,2,4-Trimethylbenzene	43	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,3,5-Trimethylbenzene	18	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,2-Dichloroethane (EDC)	72	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Naphthalene	6.0	2.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
2-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Acetone	ND	10		µg/L	1	9/25/2019 6:22:02 AM	B63164
Bromobenzene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Bromodichloromethane	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Bromoform	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Bromomethane	ND	3.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
2-Butanone	ND	10		µg/L	1	9/25/2019 6:22:02 AM	B63164
Carbon disulfide	ND	10		µg/L	1	9/25/2019 6:22:02 AM	B63164
Carbon Tetrachloride	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Chlorobenzene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Chloroethane	ND	2.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Chloroform	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Chloromethane	ND	3.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
2-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
4-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
cis-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Dibromochloromethane	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Dibromomethane	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,1-Dichloroethane	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,1-Dichloroethene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,2-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-12

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/20/2019 4:40:00 PM

**Lab ID:** 1909C69-012

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
2,2-Dichloropropane	ND	2.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,1-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Hexachlorobutadiene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
2-Hexanone	ND	10		µg/L	1	9/25/2019 6:22:02 AM	B63164
Isopropylbenzene	3.6	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
4-Isopropyltoluene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
4-Methyl-2-pentanone	ND	10		µg/L	1	9/25/2019 6:22:02 AM	B63164
Methylene Chloride	ND	3.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
n-Butylbenzene	ND	3.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
n-Propylbenzene	3.4	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
sec-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Styrene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
tert-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
trans-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Trichlorofluoromethane	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Vinyl chloride	ND	1.0		µg/L	1	9/25/2019 6:22:02 AM	B63164
Xylenes, Total	200	1.5		µg/L	1	9/25/2019 6:22:02 AM	B63164
Surr: 1,2-Dichloroethane-d4	98.8	70-130	%Rec		1	9/25/2019 6:22:02 AM	B63164
Surr: 4-Bromofluorobenzene	87.9	70-130	%Rec		1	9/25/2019 6:22:02 AM	B63164
Surr: Dibromofluoromethane	98.1	70-130	%Rec		1	9/25/2019 6:22:02 AM	B63164
Surr: Toluene-d8	103	70-130	%Rec		1	9/25/2019 6:22:02 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-13

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/21/2019 10:50:00 AM

**Lab ID:** 1909C69-013

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: CLP
1,2-Dibromoethane	0.037	0.0093		µg/L	1	9/27/2019 4:31:00 AM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	97	10		µg/L	10	9/26/2019 3:37:24 AM	R63200
Toluene	6.4	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Ethylbenzene	9.2	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,2,4-Trimethylbenzene	8.1	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,3,5-Trimethylbenzene	2.3	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,2-Dichloroethane (EDC)	5.1	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Naphthalene	ND	2.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
2-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Acetone	ND	10		µg/L	1	9/25/2019 6:51:15 AM	B63164
Bromobenzene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Bromodichloromethane	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Bromoform	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Bromomethane	ND	3.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
2-Butanone	ND	10		µg/L	1	9/25/2019 6:51:15 AM	B63164
Carbon disulfide	ND	10		µg/L	1	9/25/2019 6:51:15 AM	B63164
Carbon Tetrachloride	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Chlorobenzene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Chloroethane	ND	2.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Chloroform	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Chloromethane	ND	3.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
2-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
4-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
cis-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Dibromochloromethane	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Dibromomethane	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,1-Dichloroethane	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,1-Dichloroethene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,2-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-13

Project: Former Y Station Remedial Action

Collection Date: 9/21/2019 10:50:00 AM

Lab ID: 1909C69-013

Matrix: AQUEOUS

Received Date: 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
2,2-Dichloropropane	ND	2.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,1-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Hexachlorobutadiene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
2-Hexanone	ND	10		µg/L	1	9/25/2019 6:51:15 AM	B63164
Isopropylbenzene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
4-Isopropyltoluene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
4-Methyl-2-pentanone	ND	10		µg/L	1	9/25/2019 6:51:15 AM	B63164
Methylene Chloride	ND	3.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
n-Butylbenzene	ND	3.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
n-Propylbenzene	1.1	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
sec-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Styrene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
tert-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
trans-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Trichlorofluoromethane	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Vinyl chloride	ND	1.0		µg/L	1	9/25/2019 6:51:15 AM	B63164
Xylenes, Total	29	1.5		µg/L	1	9/25/2019 6:51:15 AM	B63164
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/25/2019 6:51:15 AM	B63164
Surr: 4-Bromofluorobenzene	84.6	70-130		%Rec	1	9/25/2019 6:51:15 AM	B63164
Surr: Dibromofluoromethane	105	70-130		%Rec	1	9/25/2019 6:51:15 AM	B63164
Surr: Toluene-d8	102	70-130		%Rec	1	9/25/2019 6:51:15 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-14

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/19/2019 10:45:00 AM

**Lab ID:** 1909C69-014

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: CLP
1,2-Dibromoethane	0.050	0.0094		µg/L	1	9/27/2019 4:46:07 AM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	4.0	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Toluene	15	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Ethylbenzene	2.8	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,2,4-Trimethylbenzene	3.8	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,3,5-Trimethylbenzene	1.2	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Naphthalene	ND	2.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
2-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Acetone	ND	10		µg/L	1	9/25/2019 7:20:35 AM	B63164
Bromobenzene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Bromodichloromethane	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Bromoform	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Bromomethane	ND	3.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
2-Butanone	ND	10		µg/L	1	9/25/2019 7:20:35 AM	B63164
Carbon disulfide	ND	10		µg/L	1	9/25/2019 7:20:35 AM	B63164
Carbon Tetrachloride	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Chlorobenzene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Chloroethane	ND	2.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Chloroform	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Chloromethane	ND	3.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
2-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
4-Chlorotoluene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
cis-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Dibromochloromethane	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Dibromomethane	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,1-Dichloroethane	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,1-Dichloroethene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,2-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MW-14

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/19/2019 10:45:00 AM

**Lab ID:** 1909C69-014

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
2,2-Dichloropropane	ND	2.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,1-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Hexachlorobutadiene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
2-Hexanone	ND	10		µg/L	1	9/25/2019 7:20:35 AM	B63164
Isopropylbenzene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
4-Isopropyltoluene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
4-Methyl-2-pentanone	ND	10		µg/L	1	9/25/2019 7:20:35 AM	B63164
Methylene Chloride	ND	3.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
n-Butylbenzene	ND	3.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
n-Propylbenzene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
sec-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Styrene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
tert-Butylbenzene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
trans-1,2-DCE	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Trichlorofluoromethane	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Vinyl chloride	ND	1.0		µg/L	1	9/25/2019 7:20:35 AM	B63164
Xylenes, Total	15	1.5		µg/L	1	9/25/2019 7:20:35 AM	B63164
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/25/2019 7:20:35 AM	B63164
Surr: 4-Bromofluorobenzene	84.0	70-130		%Rec	1	9/25/2019 7:20:35 AM	B63164
Surr: Dibromofluoromethane	103	70-130		%Rec	1	9/25/2019 7:20:35 AM	B63164
Surr: Toluene-d8	104	70-130		%Rec	1	9/25/2019 7:20:35 AM	B63164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-1

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/19/2019 3:38:00 PM

**Lab ID:** 1909C69-015

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>CLP</b>
1,2-Dibromoethane	6.4	0.94		µg/L	100	9/27/2019 2:32:56 PM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	720	20		µg/L	20	9/26/2019 11:55:17 AM	A63242
Toluene	800	20		µg/L	20	9/26/2019 11:55:17 AM	A63242
Ethylbenzene	47	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,2,4-Trimethylbenzene	54	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,3,5-Trimethylbenzene	15	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,2-Dichloroethane (EDC)	36	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,2-Dibromoethane (EDB)	5.9	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Naphthalene	10	2.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1-Methylnaphthalene	ND	4.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
2-Methylnaphthalene	ND	4.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Acetone	ND	10		µg/L	1	9/26/2019 4:07:10 AM	R63200
Bromobenzene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Bromodichloromethane	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Bromoform	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Bromomethane	ND	3.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
2-Butanone	ND	10		µg/L	1	9/26/2019 4:07:10 AM	R63200
Carbon disulfide	ND	10		µg/L	1	9/26/2019 4:07:10 AM	R63200
Carbon Tetrachloride	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Chlorobenzene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Chloroethane	ND	2.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Chloroform	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Chloromethane	ND	3.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
2-Chlorotoluene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
4-Chlorotoluene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
cis-1,2-DCE	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Dibromochloromethane	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Dibromomethane	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,1-Dichloroethane	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,1-Dichloroethene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,2-Dichloropropane	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-1

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/19/2019 3:38:00 PM

**Lab ID:** 1909C69-015

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
2,2-Dichloropropane	ND	2.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,1-Dichloropropene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Hexachlorobutadiene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
2-Hexanone	ND	10		µg/L	1	9/26/2019 4:07:10 AM	R63200
Isopropylbenzene	3.5	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
4-Isopropyltoluene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
4-Methyl-2-pentanone	ND	10		µg/L	1	9/26/2019 4:07:10 AM	R63200
Methylene Chloride	ND	3.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
n-Butylbenzene	ND	3.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
n-Propylbenzene	8.8	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
sec-Butylbenzene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Styrene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
tert-Butylbenzene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
trans-1,2-DCE	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Trichlorofluoromethane	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Vinyl chloride	ND	1.0		µg/L	1	9/26/2019 4:07:10 AM	R63200
Xylenes, Total	430	30		µg/L	20	9/26/2019 11:55:17 AM	A63242
Surr: 1,2-Dichloroethane-d4	98.8	70-130		%Rec	1	9/26/2019 4:07:10 AM	R63200
Surr: 4-Bromofluorobenzene	92.7	70-130		%Rec	1	9/26/2019 4:07:10 AM	R63200
Surr: Dibromofluoromethane	102	70-130		%Rec	1	9/26/2019 4:07:10 AM	R63200
Surr: Toluene-d8	98.2	70-130		%Rec	1	9/26/2019 4:07:10 AM	R63200

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-2

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/18/2019 8:05:00 PM

**Lab ID:** 1909C69-016

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>CLP</b>
1,2-Dibromoethane	74	9.3		µg/L	1E+	9/27/2019 2:48:08 PM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	3500	50		µg/L	50	9/26/2019 12:24:47 PM	A63242
Toluene	3300	50		µg/L	50	9/26/2019 12:24:47 PM	A63242
Ethylbenzene	210	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Methyl tert-butyl ether (MTBE)	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,2,4-Trimethylbenzene	210	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,3,5-Trimethylbenzene	55	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,2-Dichloroethane (EDC)	220	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,2-Dibromoethane (EDB)	72	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Naphthalene	58	20		µg/L	10	9/26/2019 5:35:14 AM	R63200
1-Methylnaphthalene	ND	40		µg/L	10	9/26/2019 5:35:14 AM	R63200
2-Methylnaphthalene	ND	40		µg/L	10	9/26/2019 5:35:14 AM	R63200
Acetone	620	500		µg/L	50	9/26/2019 12:24:47 PM	A63242
Bromobenzene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Bromodichloromethane	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Bromoform	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Bromomethane	ND	30		µg/L	10	9/26/2019 5:35:14 AM	R63200
2-Butanone	ND	100		µg/L	10	9/26/2019 5:35:14 AM	R63200
Carbon disulfide	ND	100		µg/L	10	9/26/2019 5:35:14 AM	R63200
Carbon Tetrachloride	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Chlorobenzene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Chloroethane	ND	20		µg/L	10	9/26/2019 5:35:14 AM	R63200
Chloroform	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Chloromethane	ND	30		µg/L	10	9/26/2019 5:35:14 AM	R63200
2-Chlorotoluene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
4-Chlorotoluene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
cis-1,2-DCE	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
cis-1,3-Dichloropropene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	9/26/2019 5:35:14 AM	R63200
Dibromochloromethane	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Dibromomethane	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,2-Dichlorobenzene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,3-Dichlorobenzene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,4-Dichlorobenzene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Dichlorodifluoromethane	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,1-Dichloroethane	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,1-Dichloroethene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,2-Dichloropropane	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-2

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/18/2019 8:05:00 PM

**Lab ID:** 1909C69-016

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
2,2-Dichloropropane	ND	20		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,1-Dichloropropene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Hexachlorobutadiene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
2-Hexanone	ND	100		µg/L	10	9/26/2019 5:35:14 AM	R63200
Isopropylbenzene	13	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
4-Isopropyltoluene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
4-Methyl-2-pentanone	ND	100		µg/L	10	9/26/2019 5:35:14 AM	R63200
Methylene Chloride	ND	30		µg/L	10	9/26/2019 5:35:14 AM	R63200
n-Butylbenzene	ND	30		µg/L	10	9/26/2019 5:35:14 AM	R63200
n-Propylbenzene	33	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
sec-Butylbenzene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Styrene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
tert-Butylbenzene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,1,2,2-Tetrachloroethane	ND	20		µg/L	10	9/26/2019 5:35:14 AM	R63200
Tetrachloroethene (PCE)	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
trans-1,2-DCE	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
trans-1,3-Dichloropropene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,2,3-Trichlorobenzene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,2,4-Trichlorobenzene	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,1,1-Trichloroethane	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,1,2-Trichloroethane	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Trichloroethene (TCE)	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Trichlorofluoromethane	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
1,2,3-Trichloropropane	ND	20		µg/L	10	9/26/2019 5:35:14 AM	R63200
Vinyl chloride	ND	10		µg/L	10	9/26/2019 5:35:14 AM	R63200
Xylenes, Total	1600	15		µg/L	10	9/26/2019 5:35:14 AM	R63200
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	10	9/26/2019 5:35:14 AM	R63200
Surr: 4-Bromofluorobenzene	89.0	70-130		%Rec	10	9/26/2019 5:35:14 AM	R63200
Surr: Dibromofluoromethane	104	70-130		%Rec	10	9/26/2019 5:35:14 AM	R63200
Surr: Toluene-d8	103	70-130		%Rec	10	9/26/2019 5:35:14 AM	R63200

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-3

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/20/2019 10:00:00 AM

**Lab ID:** 1909C69-017

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: CLP
1,2-Dibromoethane	25	4.7		µg/L	500	9/27/2019 3:03:19 PM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	4100	200		µg/L	200	9/26/2019 12:54:04 PM	A63242
Toluene	5100	200		µg/L	200	9/26/2019 12:54:04 PM	A63242
Ethylbenzene	310	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Methyl tert-butyl ether (MTBE)	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,2,4-Trimethylbenzene	270	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,3,5-Trimethylbenzene	80	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,2-Dichloroethane (EDC)	130	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,2-Dibromoethane (EDB)	18	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Naphthalene	58	20		µg/L	10	9/26/2019 6:04:22 AM	R63200
1-Methylnaphthalene	ND	40		µg/L	10	9/26/2019 6:04:22 AM	R63200
2-Methylnaphthalene	ND	40		µg/L	10	9/26/2019 6:04:22 AM	R63200
Acetone	ND	100		µg/L	10	9/26/2019 6:04:22 AM	R63200
Bromobenzene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Bromodichloromethane	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Bromoform	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Bromomethane	ND	30		µg/L	10	9/26/2019 6:04:22 AM	R63200
2-Butanone	ND	100		µg/L	10	9/26/2019 6:04:22 AM	R63200
Carbon disulfide	ND	100		µg/L	10	9/26/2019 6:04:22 AM	R63200
Carbon Tetrachloride	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Chlorobenzene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Chloroethane	ND	20		µg/L	10	9/26/2019 6:04:22 AM	R63200
Chloroform	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Chloromethane	ND	30		µg/L	10	9/26/2019 6:04:22 AM	R63200
2-Chlorotoluene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
4-Chlorotoluene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
cis-1,2-DCE	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
cis-1,3-Dichloropropene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	9/26/2019 6:04:22 AM	R63200
Dibromochloromethane	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Dibromomethane	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,2-Dichlorobenzene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,3-Dichlorobenzene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,4-Dichlorobenzene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Dichlorodifluoromethane	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,1-Dichloroethane	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,1-Dichloroethene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,2-Dichloropropane	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-3

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/20/2019 10:00:00 AM

**Lab ID:** 1909C69-017

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
2,2-Dichloropropane	ND	20		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,1-Dichloropropene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Hexachlorobutadiene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
2-Hexanone	ND	100		µg/L	10	9/26/2019 6:04:22 AM	R63200
Isopropylbenzene	17	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
4-Isopropyltoluene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
4-Methyl-2-pentanone	ND	100		µg/L	10	9/26/2019 6:04:22 AM	R63200
Methylene Chloride	ND	30		µg/L	10	9/26/2019 6:04:22 AM	R63200
n-Butylbenzene	ND	30		µg/L	10	9/26/2019 6:04:22 AM	R63200
n-Propylbenzene	43	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
sec-Butylbenzene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Styrene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
tert-Butylbenzene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,1,2,2-Tetrachloroethane	ND	20		µg/L	10	9/26/2019 6:04:22 AM	R63200
Tetrachloroethene (PCE)	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
trans-1,2-DCE	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
trans-1,3-Dichloropropene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,2,3-Trichlorobenzene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,2,4-Trichlorobenzene	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,1,1-Trichloroethane	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,1,2-Trichloroethane	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Trichloroethene (TCE)	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Trichlorofluoromethane	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
1,2,3-Trichloropropane	ND	20		µg/L	10	9/26/2019 6:04:22 AM	R63200
Vinyl chloride	ND	10		µg/L	10	9/26/2019 6:04:22 AM	R63200
Xylenes, Total	2300	15		µg/L	10	9/26/2019 6:04:22 AM	R63200
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	10	9/26/2019 6:04:22 AM	R63200
Surr: 4-Bromofluorobenzene	87.8	70-130		%Rec	10	9/26/2019 6:04:22 AM	R63200
Surr: Dibromofluoromethane	99.8	70-130		%Rec	10	9/26/2019 6:04:22 AM	R63200
Surr: Toluene-d8	101	70-130		%Rec	10	9/26/2019 6:04:22 AM	R63200

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-4

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/19/2019 6:20:00 PM

**Lab ID:** 1909C69-018

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>CLP</b>
1,2-Dibromoethane	5.2	0.94		µg/L	100	9/27/2019 3:18:32 PM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	690	20		µg/L	20	9/26/2019 1:23:29 PM	A63242
Toluene	730	20		µg/L	20	9/26/2019 1:23:29 PM	A63242
Ethylbenzene	47	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,2,4-Trimethylbenzene	48	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,3,5-Trimethylbenzene	14	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,2-Dichloroethane (EDC)	28	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,2-Dibromoethane (EDB)	4.3	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Naphthalene	5.4	2.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1-Methylnaphthalene	ND	4.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
2-Methylnaphthalene	ND	4.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Acetone	ND	10		µg/L	1	9/26/2019 6:33:41 AM	R63200
Bromobenzene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Bromodichloromethane	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Bromoform	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Bromomethane	ND	3.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
2-Butanone	ND	10		µg/L	1	9/26/2019 6:33:41 AM	R63200
Carbon disulfide	ND	10		µg/L	1	9/26/2019 6:33:41 AM	R63200
Carbon Tetrachloride	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Chlorobenzene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Chloroethane	ND	2.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Chloroform	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Chloromethane	ND	3.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
2-Chlorotoluene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
4-Chlorotoluene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
cis-1,2-DCE	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Dibromochloromethane	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Dibromomethane	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,1-Dichloroethane	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,1-Dichloroethene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,2-Dichloropropane	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** RW-4

**Project:** Former Y Station Remedial Action

**Collection Date:** 9/19/2019 6:20:00 PM

**Lab ID:** 1909C69-018

**Matrix:** AQUEOUS

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
2,2-Dichloropropane	ND	2.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,1-Dichloropropene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Hexachlorobutadiene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
2-Hexanone	ND	10		µg/L	1	9/26/2019 6:33:41 AM	R63200
Isopropylbenzene	2.7	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
4-Isopropyltoluene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
4-Methyl-2-pentanone	ND	10		µg/L	1	9/26/2019 6:33:41 AM	R63200
Methylene Chloride	ND	3.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
n-Butylbenzene	ND	3.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
n-Propylbenzene	7.0	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
sec-Butylbenzene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Styrene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
tert-Butylbenzene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
trans-1,2-DCE	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Trichlorofluoromethane	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Vinyl chloride	ND	1.0		µg/L	1	9/26/2019 6:33:41 AM	R63200
Xylenes, Total	340	30		µg/L	20	9/26/2019 1:23:29 PM	A63242
Surr: 1,2-Dichloroethane-d4	95.9	70-130		%Rec	1	9/26/2019 6:33:41 AM	R63200
Surr: 4-Bromofluorobenzene	90.6	70-130		%Rec	1	9/26/2019 6:33:41 AM	R63200
Surr: Dibromofluoromethane	97.7	70-130		%Rec	1	9/26/2019 6:33:41 AM	R63200
Surr: Toluene-d8	98.0	70-130		%Rec	1	9/26/2019 6:33:41 AM	R63200

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** Trip Blank

**Project:** Former Y Station Remedial Action

**Collection Date:**

**Lab ID:** 1909C69-019

**Matrix:** TRIP BLANK

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>CLP</b>
1,2-Dibromoethane	ND	0.0095		µg/L	1	9/27/2019 6:01:55 AM	47689
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Toluene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Ethylbenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Naphthalene	ND	2.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1-Methylnaphthalene	ND	4.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
2-Methylnaphthalene	ND	4.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Acetone	ND	10		µg/L	1	9/26/2019 7:02:54 AM	R63200
Bromobenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Bromodichloromethane	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Bromoform	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Bromomethane	ND	3.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
2-Butanone	ND	10		µg/L	1	9/26/2019 7:02:54 AM	R63200
Carbon disulfide	ND	10		µg/L	1	9/26/2019 7:02:54 AM	R63200
Carbon Tetrachloride	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Chlorobenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Chloroethane	ND	2.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Chloroform	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Chloromethane	ND	3.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
2-Chlorotoluene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
4-Chlorotoluene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
cis-1,2-DCE	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Dibromochloromethane	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Dibromomethane	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,1-Dichloroethane	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,1-Dichloroethene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,2-Dichloropropane	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909C69

Date Reported: 10/1/2019

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** Trip Blank

**Project:** Former Y Station Remedial Action

**Collection Date:**

**Lab ID:** 1909C69-019

**Matrix:** TRIP BLANK

**Received Date:** 9/23/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
2,2-Dichloropropane	ND	2.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,1-Dichloropropene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Hexachlorobutadiene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
2-Hexanone	ND	10		µg/L	1	9/26/2019 7:02:54 AM	R63200
Isopropylbenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
4-Isopropyltoluene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
4-Methyl-2-pentanone	ND	10		µg/L	1	9/26/2019 7:02:54 AM	R63200
Methylene Chloride	ND	3.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
n-Butylbenzene	ND	3.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
n-Propylbenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
sec-Butylbenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Styrene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
tert-Butylbenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
trans-1,2-DCE	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Trichlorofluoromethane	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Vinyl chloride	ND	1.0		µg/L	1	9/26/2019 7:02:54 AM	R63200
Xylenes, Total	ND	1.5		µg/L	1	9/26/2019 7:02:54 AM	R63200
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/26/2019 7:02:54 AM	R63200
Surr: 4-Bromofluorobenzene	88.5	70-130		%Rec	1	9/26/2019 7:02:54 AM	R63200
Surr: Dibromofluoromethane	104	70-130		%Rec	1	9/26/2019 7:02:54 AM	R63200
Surr: Toluene-d8	99.2	70-130		%Rec	1	9/26/2019 7:02:54 AM	R63200

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909C69

01-Oct-19

**Client:** Daniel B. Stephens & Assoc.  
**Project:** Former Y Station Remedial Action

Sample ID: <b>MB-47689</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8011/504.1: EDB</b>								
Client ID: <b>PBW</b>	Batch ID: <b>47689</b>	RunNo: <b>63260</b>								
Prep Date: <b>9/26/2019</b>	Analysis Date: <b>9/26/2019</b>	SeqNo: <b>2158888</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: <b>LCS-47689</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8011/504.1: EDB</b>								
Client ID: <b>LCSW</b>	Batch ID: <b>47689</b>	RunNo: <b>63260</b>								
Prep Date: <b>9/26/2019</b>	Analysis Date: <b>9/26/2019</b>	SeqNo: <b>2158890</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	108	70	130			

Sample ID: <b>MB-47689</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8011/504.1: EDB</b>								
Client ID: <b>PBW</b>	Batch ID: <b>47689</b>	RunNo: <b>63260</b>								
Prep Date: <b>9/26/2019</b>	Analysis Date: <b>9/26/2019</b>	SeqNo: <b>2158974</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

**Qualifiers:**

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                  |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits      |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                          |
| PQL Practical Quantitative Limit                        | RL Reporting Limit                                |
| S % Recovery outside of range due to dilution or matrix |   |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909C69

01-Oct-19

**Client:** Daniel B. Stephens & Assoc.  
**Project:** Former Y Station Remedial Action

Sample ID: <b>rb1</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>B63164</b>	RunNo: <b>63164</b>								
Prep Date:	Analysis Date: <b>9/24/2019</b>	SeqNo: <b>2154791</b> Units: <b>µg/L</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909C69

01-Oct-19

**Client:** Daniel B. Stephens & Assoc.  
**Project:** Former Y Station Remedial Action

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>rb1</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>B63164</b>		RunNo: <b>63164</b>							
Prep Date:	Analysis Date: <b>9/24/2019</b>		SeqNo: <b>2154791</b>		Units: <b>µg/L</b>					
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	8.2		10.00		82.4	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>100ng lcs2</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>B63164</b>		RunNo: <b>63164</b>							
Prep Date:	Analysis Date: <b>9/24/2019</b>		SeqNo: <b>2154802</b>		Units: <b>µg/L</b>					
Benzene	23	1.0	20.00	0	116	70	130			
Toluene	19	1.0	20.00	0	97.4	70	130			
Chlorobenzene	19	1.0	20.00	0	94.8	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909C69

01-Oct-19

**Client:** Daniel B. Stephens & Assoc.  
**Project:** Former Y Station Remedial Action

Sample ID: <b>100ng lcs2</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>LCSW</b>	Batch ID: <b>B63164</b>	RunNo: <b>63164</b>								
Prep Date:	Analysis Date: <b>9/24/2019</b>	SeqNo: <b>2154802</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	18	1.0	20.00	0	91.4	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	92.2	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	8.7		10.00		86.8	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.5	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Sample ID: <b>1909c69-011a ms2</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>MW-11</b>	Batch ID: <b>B63164</b>	RunNo: <b>63164</b>								
Prep Date:	Analysis Date: <b>9/25/2019</b>	SeqNo: <b>2154857</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3700	5.0	100.0	3667	32.5	70	130			SE
Toluene	98	5.0	100.0	5.004	92.8	70	130			
Chlorobenzene	92	5.0	100.0	0	91.7	70	130			
1,1-Dichloroethene	87	5.0	100.0	0	87.1	70	130			
Trichloroethene (TCE)	89	5.0	100.0	0	88.7	70	130			
Surr: 1,2-Dichloroethane-d4	51		50.00		101	70	130			
Surr: 4-Bromofluorobenzene	45		50.00		89.3	70	130			
Surr: Dibromofluoromethane	50		50.00		99.4	70	130			
Surr: Toluene-d8	48		50.00		96.0	70	130			

Sample ID: <b>1909c69-011a msd2</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>MW-11</b>	Batch ID: <b>B63164</b>	RunNo: <b>63164</b>								
Prep Date:	Analysis Date: <b>9/25/2019</b>	SeqNo: <b>2154868</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3400	5.0	100.0	3667	-233	70	130	7.43	20	SE
Toluene	97	5.0	100.0	5.004	91.6	70	130	1.20	20	
Chlorobenzene	88	5.0	100.0	0	87.7	70	130	4.44	20	
1,1-Dichloroethene	85	5.0	100.0	0	84.8	70	130	2.64	20	
Trichloroethene (TCE)	87	5.0	100.0	0	87.0	70	130	2.00	20	
Surr: 1,2-Dichloroethane-d4	50		50.00		99.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	44		50.00		88.2	70	130	0	0	
Surr: Dibromofluoromethane	49		50.00		98.3	70	130	0	0	
Surr: Toluene-d8	48		50.00		96.5	70	130	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909C69

01-Oct-19

**Client:** Daniel B. Stephens & Assoc.  
**Project:** Former Y Station Remedial Action

Sample ID: <b>rb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R63200</b>	RunNo: <b>63200</b>								
Prep Date:	Analysis Date: <b>9/25/2019</b>	SeqNo: <b>2156120</b>			Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909C69

01-Oct-19

**Client:** Daniel B. Stephens & Assoc.  
**Project:** Former Y Station Remedial Action

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>rb</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R63200</b>		RunNo: <b>63200</b>							
Prep Date:	Analysis Date: <b>9/25/2019</b>		SeqNo: <b>2156120</b>		Units: <b>µg/L</b>					
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	8.5		10.00		85.0	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>100ng lcs</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R63200</b>		RunNo: <b>63200</b>							
Prep Date:	Analysis Date: <b>9/25/2019</b>		SeqNo: <b>2156121</b>		Units: <b>µg/L</b>					
Benzene	24	1.0	20.00	0	118	70	130			
Toluene	19	1.0	20.00	0	94.7	70	130			
Chlorobenzene	18	1.0	20.00	0	89.3	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909C69

01-Oct-19

**Client:** Daniel B. Stephens & Assoc.  
**Project:** Former Y Station Remedial Action

Sample ID: <b>100ng lcs</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>LCSW</b>	Batch ID: <b>R63200</b>	RunNo: <b>63200</b>								
Prep Date:	Analysis Date: <b>9/25/2019</b>	SeqNo: <b>2156121</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	18	1.0	20.00	0	90.9	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	92.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.0	70	130			
Surr: 4-Bromofluorobenzene	8.4		10.00		83.8	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.2	70	130			
Surr: Toluene-d8	9.6		10.00		95.7	70	130			

Sample ID: <b>1909c69-015a ms</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>RW-1</b>	Batch ID: <b>R63200</b>	RunNo: <b>63200</b>								
Prep Date:	Analysis Date: <b>9/26/2019</b>	SeqNo: <b>2156128</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	840	1.0	20.00	754.8	402	70	130			SE
Toluene	790	1.0	20.00	741.6	231	70	130			SE
Chlorobenzene	20	1.0	20.00	0	97.6	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	86.3	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	87.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.9	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.3	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.5	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Sample ID: <b>1909c69-015a msd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>RW-1</b>	Batch ID: <b>R63200</b>	RunNo: <b>63200</b>								
Prep Date:	Analysis Date: <b>9/26/2019</b>	SeqNo: <b>2156129</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	800	1.0	20.00	754.8	226	70	130	4.31	20	SE
Toluene	770	1.0	20.00	741.6	120	70	130	2.87	20	E
Chlorobenzene	19	1.0	20.00	0	93.3	70	130	4.48	20	
1,1-Dichloroethene	17	1.0	20.00	0	83.1	70	130	3.86	20	
Trichloroethene (TCE)	17	1.0	20.00	0	84.3	70	130	3.25	20	
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.1		10.00		90.5	70	130	0	0	
Surr: Dibromofluoromethane	9.1		10.00		91.5	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		98.2	70	130	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1909C69

01-Oct-19

**Client:** Daniel B. Stephens & Assoc.  
**Project:** Former Y Station Remedial Action

Sample ID: <b>rb</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>A63242</b>		RunNo: <b>63242</b>							
Prep Date:	Analysis Date: <b>9/26/2019</b>		SeqNo: <b>2158191</b>		Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Acetone	ND	10								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	8.6		10.00		85.8	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: <b>100ng lcs</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>A63242</b>		RunNo: <b>63242</b>							
Prep Date:	Analysis Date: <b>9/26/2019</b>		SeqNo: <b>2158192</b>		Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	112	70	130			
Toluene	19	1.0	20.00	0	95.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.5	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.5	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.3	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit



**Sample Log-In Check List**

Client Name: **DBS**

Work Order Number: **1909C69**

RcptNo: **1**

Received By: **Daniel Marquez** **9/23/2019 10:22:00 AM**

Completed By: **Erin Melendrez** **9/23/2019 3:18:23 PM**

Reviewed By: **SO** **9/24/19**

*[Handwritten signatures]*

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? Client

**Log In**

3. Was an attempt made to cool the samples? Yes  No  NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
5. Sample(s) in proper container(s)? Yes  No
6. Sufficient sample volume for indicated test(s)? Yes  No
7. Are samples (except VOA and ONG) properly preserved? Yes  No
8. Was preservative added to bottles? Yes  No  NA
9. VOA vials have zero headspace? Yes  No  No VOA Vials
10. Were any sample containers received broken? Yes  No
11. Does paperwork match bottle labels?  
 (Note discrepancies on chain of custody) Yes  No
12. Are matrices correctly identified on Chain of Custody? Yes  No
13. Is it clear what analyses were requested? Yes  No
14. Were all holding times able to be met?  
 (If no, notify customer for authorization.) Yes  No

# of preserved bottles checked for pH:  
 (<2 or >12 unless noted)  
 Adjusted?  
 Checked by: **DAD 9/24/19**

**Special Handling (if applicable)**

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
 By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person  
 Regarding: \_\_\_\_\_  
 Client Instructions: \_\_\_\_\_

16. Additional remarks:

**17. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.6	Good	Not Present			

# Chain-of-Custody Record

Client: **DBS+A**

Mailing Address: **ABQ office**

Phone #: **505-249-9402**

email or Fax#:

QA/QC Package:  
 Standard     Level 4 (Full Validation)

Accreditation:     Az Compliance  
 NELAC     Other \_\_\_\_\_  
 EDD (Type) \_\_\_\_\_

Turn-Around Time:  
 Standard     Rush \_\_\_\_\_

Project Name:  
**Former V Station Remedial Action**

Project #:  
**AB18.1157.00**

Project Manager:  
**Tom Golden**

Sampler: **Yok Morgan / Jeremy Fisher**

On Ice:     Yes     No

# of Coolers: **1**

Cooler Temp (including CF): **4.4 to 2 = 4.6 °C**



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975    Fax 505-345-4107

### Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8260 (VOA) <b>8260B</b>	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9-16-19	1715	GW	BW-1	VOA-5	H <sub>2</sub> O <sub>2</sub> / Sodium Chloride	-001				X				X		
9-17-19	0936		BW-2			-002				X				X		
9-16-19	1535		BW-3			-003				X				X		
9-17-19	1652		BW-4			-004				X				X		
9-16-19	1918		BW-6			-005				X				X		
9-18-19	1330		<del>AW</del> (Pm) BW-7			-006				X				X		
9/20/19	1430		BW-7R			-007				X				X		
9-18-19	1540		BW-8			-008				X				X		
9-17-19	1145		BW-9			-009				X				X		
9-17-19	1358		BW-10			-010				X				X		
9-18-19	11:20		mw-11			-011				X				X		
9-20-19	1640		mw-12	VOA-6		-012				X				X		

Date: **9/21/19** Time: **1210** Relinquished by: **Yok Morgan**

Date: **9/23/19** Time: **1022** Relinquished by: **Jeremy Fisher / DBS+A**

Received by: **Jeremy Fisher / DBS+A** Date: **9/21/19** Time: **1210**

Received by: **COO** Date: **9/23/19** Time: **1022**

Remarks: **Page 1 of 2**

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

# Chain-of-Custody Record

Client: DBS+A

Mailing Address: 6020 ACADENWAY NE SUITE 100  
ALBUQUERQUE, NM 87109

Phone #: 505-249-9402

email or Fax#:

QA/QC Package:  
 Standard  Level 4 (Full Validation)

Accreditation:  Az Compliance  
 NELAC  Other \_\_\_\_\_  
 EDD (Type) \_\_\_\_\_

Turn-Around Time:  
 Standard  Rush

Project Name: Former Y Station Remedial Action

Project #: DB18-1157.00

Project Manager: Tom Golden

Sampler: VM/JF

On Ice:  Yes  No

# of Coolers: 1

Cooler Temp (including CF): 44+0.2 = 4.6°C (°C)



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No
9-21-19	1050	GW	MW-13	VOA-5	Ag 112/50ml	19091019
9-19-19	1045		MW-14			-013
9-19-19	1530		RW-1			-014
9-18-19	2005		RW-2			-015
9-20-19	1000		RW-3			-016
9-19-19	1820	W	RW-4			-017
			Trip Blank	VOA-3		-018
						-019

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8060-(VOA) <u>8060B</u>	8270 (Semi-VOA)	Total Coliform (Present/Absent)
			X				X		
			X				X		
			X				X		
			X				X		
			X				X		
			X				X		
			X				X		
			X				X		

Date: 9-21-19 Time: 1210 Relinquished by: York Morgan  
 Received by: Jim Zaitch / DBSEA Date: 9/21/19 Time: 1210  
 Date: 9/23/19 Time: 1022 Relinquished by: Jim Zaitch / DBSEA  
 Received by: GDG Date: 9/23/19 Time: 1022

Remarks: page 2 of 2

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

**Appendix F**  
**Waste Manifests**

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

39272

**AUTHORIZATION FOR WORK**

Date 5-30-19

YOUR NO. 42

COMPANY DBS LEASE \_\_\_\_\_

MAIL INVOICE TO \_\_\_\_\_ WELL \_\_\_\_\_

DESCRIPTION OF WORK Dropped off 120 at Albertsons Parking lot (empty)

Equipment Used <u>Rolloff</u>	@ \$ _____	Hrs. worked _____	Total _____
Box Rent <u>✓</u>	@ \$ _____	Hrs. worked _____	Total _____
Liner <u>✓</u>	@ \$ _____	Hrs. worked _____	Total _____
Jet Out _____	@ \$ _____	Hrs. worked _____	Total _____
Disposal _____	@ \$ _____	Hrs. worked _____	Total _____
Disposal Facility _____	@ \$ _____	Hrs. worked _____	Total _____
Box No. Delivered _____	@ \$ _____	Hrs. worked _____	Total _____
Box No. Picked Up _____	@ \$ _____	Hrs. worked _____	Total _____

Sub Total \_\_\_\_\_  
Sales Tax \_\_\_\_\_  
TOTAL \_\_\_\_\_

Driver [Signature]

Approved by Jake Lagana

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

39302

**AUTHORIZATION FOR WORK**

Date 6-4-19 YOUR NO. 43  
COMPANY Daniel R. Stephens LEASE Albertson's parking lot  
MAIL INVOICE TO Yellow Jacket WELL \_\_\_\_\_

DESCRIPTION OF WORK  
Drop empty box  
Picked up full box  
Dumped @ GMI

Equipment Used	<u>Roll off</u>	@ \$ <u>per hr</u>	Hrs. worked	_____	Total	_____
Box Rent	_____	@ \$ _____	Hrs. worked	_____	Total	_____
Liner	_____	@ \$ _____	Hrs. worked	_____	Total	_____
Jet Out	<u>1 HR washout / liner</u>	@ \$ _____	Hrs. worked	_____	Total	_____
Disposal	_____	@ \$ _____	Hrs. worked	_____	Total	_____
Disposal Facility	<u>GMI</u>	@ \$ _____	Hrs. worked	_____	Total	_____
Box No. Delivered	<u>153</u>	@ \$ _____	Hrs. worked	_____	Total	_____
Box No. Picked Up	<u>120</u>	@ \$ _____	Hrs. worked	_____	Total	_____
					Sub Total	_____
					Sales Tax	_____
					<b>TOTAL</b>	_____
Driver	<u>[Signature]</u>	Approved by		<u>[Signature]</u>		

N.M.E.D. — DP-1041

**Gandy Marley, Inc.**

P.O. BOX 1658 • ROSWELL, NM 88202

LOAD INSPECTION FORM

19086

Date of Receipt: 5-4-79 Time of Receipt: 1:30  AM  PM Cell Placement: UST - 8

Quantity: 6 T/CY: yards Description: Soil

Name/Address of Generator: Daniel B. Stephens + Assoc. 6020 Academy NE Suite 100 Albuquerque, NM 87109

Origin of Materials (if different) \_\_\_\_\_

Transporter Name: R. Marley SCC ID No. \_\_\_\_\_

Name of Laboratory Performing Sample Analysis \_\_\_\_\_

TCLP (EPA Method 1311) \_\_\_\_\_ BTEX \_\_\_\_\_ MTBE \_\_\_\_\_ TPH \_\_\_\_\_ Non-Hazardous  Exempt

Verification of No Free Liquids \_\_\_\_\_ Paint Filter Liquids Test Performed \_\_\_\_\_

Verification of Property Completed Manifest  Generator Manifest Number \_\_\_\_\_

*As a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Generator represents and warrants that the waste material shipped herewith is exempt from the Resource Conservation and Recovery Act of 1976, as amended from time to time, 40 U.S.C. Section 6901, et seq., The New Mexico Health and Safety Code, section 361.001, et seq., and regulations related thereto, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.*

*Further, as a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Transporter represents and warrants that only the material delivered by Generator to Transporter is now delivered by Transporter to Gandy Marley, Inc.'s facility for disposal.*

*THIS WILL CERTIFY that the above Transporter loaded the material as represented on this Load Inspection Form at the above described location, and that it was tendered by the above described Generator. THIS WILL CERTIFY that no additional materials were added to this load, and that the material was delivered without incident.*

Transporter: \_\_\_\_\_  
Print Name Signature

GMI Employee: Kimberly Murphy \_\_\_\_\_  
Print Name Signature

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

38876

**AUTHORIZATION FOR WORK**

Date 6-17-2019 YOUR NO. 43

COMPANY DANIEL B STEPHEN LEASE AMBERTSIAS PAKING/ST

MAIL INVOICE TO YELLOW JACKET WELL \_\_\_\_\_

DESCRIPTION OF WORK  
DROP EMPTY - SB 74  
PLU FULL - SB 153  
WASHOUT & LINER AT G.M.I

Equipment Used	@ \$	Hrs. worked	Total
<u>ROLLOFF</u>	<u>Per Bid</u>		
Box Rent	@ \$	Hrs. worked	Total
Liner	@ \$	Hrs. worked	Total
Jet Out <u>Washout / Liner</u>	@ \$	Hrs. worked	Total
Disposal	@ \$	Hrs. worked	Total
Disposal Facility <u>G.M.I</u>	@ \$	Hrs. worked	Total
Box No. Delivered <u>SB 74</u>	@ \$	Hrs. worked	Total
Box No. Picked Up <u>SB 153</u>	@ \$	Hrs. worked	Total

Sub Total \_\_\_\_\_  
Sales Tax \_\_\_\_\_  
TOTAL \_\_\_\_\_

Driver [Signature] Approved by [Signature]



N.M.E.D. — DP-1041

**Gandy Marley, Inc.**  
P.O. BOX 1658 • ROSWELL, NM 88202

**LOAD INSPECTION FORM** 19190

Date of Receipt: 17-06-19 Time of Receipt: 6:20 <sup>AM</sup>/<sub>PM</sub> Cell Placement: UST # 5

Quantity: 808 T/CY: YARDS Description: DIRT

Name/Address of Generator: ALBERTSONS PARKING LOT / Daniel B. Stephens & Assoc.  
6029 Academy NE Suite 100  
Albuquerque, NM 87109

Origin of Materials (if different) \_\_\_\_\_

Transporter Name: R. MARLEY SCC ID No. \_\_\_\_\_

Name of Laboratory Performing Sample Analysis \_\_\_\_\_

TCLP (EPA Method 1311) \_\_\_\_\_ BTEX \_\_\_\_\_ MTBE \_\_\_\_\_ TPH \_\_\_\_\_ Non-Hazardous \_\_\_\_\_ Exempt ✓

Verification of No Free Liquids ✓ Paint Filter Liquids Test Performed \_\_\_\_\_

Verification of Property Completed Manifest ✓ Generator Manifest Number \_\_\_\_\_

*As a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Generator represents and warrants that the waste material shipped herewith is exempt from the Resource Conservation and Recovery Act of 1976, as amended from time to time, 40 U.S.C. Section 6901, et seq., The New Mexico Health and Safety Code, section 361.001, et seq., and regulations related thereto, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.*

*Further, as a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Transporter represents and warrants that only the material delivered by Generator to Transporter is now delivered by Transporter to Gandy Marley, Inc.'s facility for disposal.*

*THIS WILL CERTIFY that the above Transporter loaded the material as represented on this Load Inspection Form at the above described location, and that it was tendered by the above described Generator. THIS WILL CERTIFY that no additional materials were added to this load, and that the material was delivered without incident.*

Transporter: Salvador Rico Print Name Salvador Rico Signature

GMI Employee: JOSE GASCA Print Name JOSE P. GASCA Signature

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

38810

**AUTHORIZATION FOR WORK**

Date 11-21-2011

YOUR NO. 92

COMPANY TRIP LEASE \_\_\_\_\_

MAIL INVOICE TO \_\_\_\_\_ WELL \_\_\_\_\_

DESCRIPTION OF WORK

Dropped off 1 lined roll off container  
Picked up 1 full container and took to  
landfill

Equipment Used	@ \$	Hrs. worked	Total
<u>Roll off Trip</u>	_____	_____	_____
Box Rent	@ \$ _____	Hrs. worked _____	Total _____
Liner	@ \$ _____	Hrs. worked _____	Total _____
Jet Out	@ \$ _____	Hrs. worked _____	Total _____
Disposal	@ \$ _____	Hrs. worked _____	Total _____
Disposal Facility	@ \$ _____	Hrs. worked _____	Total _____
Box No. Delivered <u>SR-108</u>	@ \$ _____	Hrs. worked _____	Total _____
Box No. Picked Up <u>SR-71</u>	@ \$ _____	Hrs. worked _____	Total _____

Sub Total \_\_\_\_\_  
Sales Tax \_\_\_\_\_  
TOTAL \_\_\_\_\_

Driver Jeremy Dabert

Approved by [Signature]

N.M.E.D. — DP-1041

**Gandy Marley, Inc.**  
P.O. BOX 1658 • ROSWELL, NM 88202

LOAD INSPECTION FORM

19278

Date of Receipt: 6-21-19 Time of Receipt: 4:14  AM  PM Cell Placement: U5T-8

Quantity: 10 T/CY: yards Description: Soil

Name/Address of Generator: Daniel B. Stephens & Assoc. 6020 Academy NE Suite 100 Albuquerque, NM 87109

Origin of Materials (if different): Albertsons Parking lot / Davis NM

Transporter Name: R. Marley SCC ID No. \_\_\_\_\_

Name of Laboratory Performing Sample Analysis \_\_\_\_\_

TCLP (EPA Method 1311) \_\_\_\_\_ BTEX \_\_\_\_\_ MTBE \_\_\_\_\_ TPH \_\_\_\_\_ Non-Hazardous  Exempt

Verification of No Free Liquids \_\_\_\_\_ Paint Filter Liquids Test Performed \_\_\_\_\_

Verification of Property Completed Manifest \_\_\_\_\_ Generator Manifest Number \_\_\_\_\_

*As a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Generator represents and warrants that the waste material shipped herewith is exempt from the Resource Conservation and Recovery Act of 1976, as amended from time to time, 40 U.S.C. Section 6901, et seq., The New Mexico Health and Safety Code, section 361.001, et seq., and regulations related thereto, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.*

*Further, as a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Transporter represents and warrants that only the material delivered by Generator to Transporter is now delivered by Transporter to Gandy Marley, Inc.'s facility for disposal.*

*THIS WILL CERTIFY that the above Transporter loaded the material as represented on this Load Inspection Form at the above described location, and that it was tendered by the above described Generator. THIS WILL CERTIFY that no additional materials were added to this load, and that the material was delivered without incident.*

Transporter: Jerry Dumas Print Name \_\_\_\_\_ Signature \_\_\_\_\_

GMI Employee: Kimberly Murphy Print Name \_\_\_\_\_ Signature \_\_\_\_\_

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

39047

**AUTHORIZATION FOR WORK**

Date 7-2-19

YOUR NO. 40

COMPANY Daniel B Stephens LEASE \_\_\_\_\_

MAIL INVOICE TO Yellow Jacket WELL \_\_\_\_\_

DESCRIPTION OF WORK picked up box  
(Albertsons parking lot)

Equipment Used	@ \$	Hrs. worked	Total
<u>Roll Off</u>	_____	_____	_____
Box Rent	@ \$ _____	Hrs. worked _____	Total _____
Liner	@ \$ _____	Hrs. worked _____	Total _____
Jet Out	@ \$ _____	Hrs. worked _____	Total _____
Disposal	@ \$ _____	Hrs. worked _____	Total _____
Disposal Facility	@ \$ _____	Hrs. worked _____	Total _____
Box No. Delivered	@ \$ _____	Hrs. worked _____	Total _____
Box No. Picked Up	@ \$ _____	Hrs. worked _____	Total _____
			Sub Total _____
			Sales Tax _____
			TOTAL _____

Driver [Signature]

Approved by \_\_\_\_\_

N.M.E.D. — DP-1041

Gandy Marley, Inc.  
P.O. BOX 1658 • ROSWELL, NM 88202

LOAD INSPECTION FORM 19289

Date of Receipt: 7-2-19 Time of Receipt: 3:21 <sup>AM</sup>/<sub>PM</sub> Cell Placement: U5T-8

Quantity: 20 T/CY: yard Description: Soil

Name/Address of Generator: Daniel B. Stephens Assoc. 6020 Academy NE Suit 102 Albuquerque, NM 87109

Origin of Materials (if different): Albertson's Parking lot / Clovis NM

Transporter Name: R. Marley SCC ID No. \_\_\_\_\_

Name of Laboratory Performing Sample Analysis \_\_\_\_\_

TCLP (EPA Method 1311) \_\_\_\_\_ BTEX \_\_\_\_\_ MTBE \_\_\_\_\_ TPH \_\_\_\_\_ Non-Hazardous  Exempt

Verification of No Free Liquids \_\_\_\_\_ Paint Filter Liquids Test Performed \_\_\_\_\_

Verification of Property Completed Manifest \_\_\_\_\_ Generator Manifest Number \_\_\_\_\_

As a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Generator represents and warrants that the waste material shipped herewith is exempt from the Resource Conservation and Recovery Act of 1976, as amended from time to time, 40 U.S.C. Section 6901, et seq., The New Mexico Health and Safety Code, section 361.001, et seq., and regulations related thereto, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.

Further, as a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Transporter represents and warrants that only the material delivered by Generator to Transporter is now delivered by Transporter to Gandy Marley, Inc.'s facility for disposal.

THIS WILL CERTIFY that the above Transporter loaded the material as represented on this Load Inspection Form at the above described location, and that it was tendered by the above described Generator. THIS WILL CERTIFY that no additional materials were added to this load, and that the material was delivered without incident.

Transporter: Same Aguilar [Signature]  
Print Name Signature

GMI Employee: Kimberly Murphy [Signature]  
Print Name Signature

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

39184

**AUTHORIZATION FOR WORK**

Date 7/16/19 YOUR NO. 93  
COMPANY Daniel B Stephens LEASE Albertsons parking lot  
MAIL INVOICE TO Yellow Socket WELL \_\_\_\_\_

DESCRIPTION OF WORK  
Drop in line box  
picked up full box  
Dump @ GMI

Equipment Used	@ \$	Hrs. worked	Total
<u>Roll off</u>	<u>per bid</u>		
Box Rent	@ \$	Hrs. worked	Total
Liner	@ \$	Hrs. worked	Total
Jet Out	@ \$	Hrs. worked	Total
Disposal	@ \$	Hrs. worked	Total
Disposal Facility	@ \$	Hrs. worked	Total
Box No. Delivered	@ \$	Hrs. worked	Total
Box No. Picked Up	@ \$	Hrs. worked	Total
			Sub Total
			Sales Tax
			TOTAL

Driver [Signature] Approved by [Signature]

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

# GANDY MARLEY

P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260  
39076

### AUTHORIZATION FOR WORK

Date 7/9/19

YOUR NO. 39

COMPANY DBS, A LEASE \_\_\_\_\_

MAIL INVOICE TO \_\_\_\_\_ WELL \_\_\_\_\_

#### DESCRIPTION OF WORK

Dropped empty SB 138 at Albertsons in  
and lined picked up empty at GM1 Clovis  
lined SB 102

Equipment Used	<u>Roll-off</u>	@ \$ _____	Hrs. worked _____	Total _____
Box Rent		@ \$ _____	Hrs. worked _____	Total _____
Liner	<input checked="" type="checkbox"/>	@ \$ _____	Hrs. worked _____	Total _____
Jet Out		@ \$ _____	Hrs. worked _____	Total _____
Disposal		@ \$ _____	Hrs. worked _____	Total _____
Disposal Facility		@ \$ _____	Hrs. worked _____	Total _____
Box No. Delivered	<u>SB 138</u>	@ \$ _____	Hrs. worked _____	Total _____
Box No. Picked Up	<u>SB 102</u>	@ \$ _____	Hrs. worked _____	Total _____

Sub Total \_\_\_\_\_

Sales Tax \_\_\_\_\_

TOTAL \_\_\_\_\_

Driver [Signature]

Approved by [Signature]

N.M.E.D. - DP-1041

Gandy Marley, Inc.  
P.O. BOX 1658 • ROSWELL, NM 88202

LOAD INSPECTION FORM

19215

Date of Receipt: 7-16-19 Time of Receipt: 2:07 <sup>AM</sup>/<sub>PM</sub> Cell Placement: U-5T-8

Quantity: 15 T/CY: yards Description: Soil

Name/Address of Generator: Daniel B. Stephens & Assoc. 6020 Academy NE Suite 100 Albuquerque, NM 87109

Origin of Materials (if different): Alberston Parking lot Clovis, NM

Transporter Name: R. Marley SCC ID No. \_\_\_\_\_

Name of Laboratory Performing Sample Analysis \_\_\_\_\_

TCLP (EPA Method 1311) \_\_\_\_\_ BTEX \_\_\_\_\_ MTBE \_\_\_\_\_ TPH \_\_\_\_\_ Non-Hazardous  Exempt

Verification of No Free Liquids \_\_\_\_\_ Paint Filter Liquids Test Performed \_\_\_\_\_

Verification of Property Completed Manifest \_\_\_\_\_ Generator Manifest Number \_\_\_\_\_

As a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Generator represents and warrants that the waste material shipped herewith is exempt from the Resource Conservation and Recovery Act of 1976, as amended from time to time, 40 U.S.C. Section 6901, et seq., The New Mexico Health and Safety Code, section 361.001, et seq., and regulations related thereto, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.

Further, as a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Transporter represents and warrants that only the material delivered by Generator to Transporter is now delivered by Transporter to Gandy Marley, Inc.'s facility for disposal.

THIS WILL CERTIFY that the above Transporter loaded the material as represented on this Load Inspection Form at the above described location, and that it was tendered by the above described Generator. THIS WILL CERTIFY that no additional materials were added to this load, and that the material was delivered without incident.

Transporter: Jaime Aguilar <sup>Print Name</sup> \_\_\_\_\_ <sup>Signature</sup> \_\_\_\_\_

GMI Employee: Kimberley Murphy <sup>Print Name</sup> \_\_\_\_\_ <sup>Signature</sup> \_\_\_\_\_



24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

38712

**AUTHORIZATION FOR WORK**

Date 7-19

COMPANY Daniel B Blain's

LEASE Albersten Parking lot YOUR NO. 40

MAIL INVOICE TO \_\_\_\_\_ WELL \_\_\_\_\_

DESCRIPTION OF WORK Drop # 120  
Pick # 78

Equipment Used <u>Roll off</u>	@ \$ _____	Hrs. worked _____	Total _____
Box Rent <u>✓</u>	@ \$ _____	Hrs. worked _____	Total _____
Liner _____	@ \$ _____	Hrs. worked _____	Total _____
Jet Out _____	@ \$ _____	Hrs. worked _____	Total _____
Disposal _____	@ \$ _____	Hrs. worked _____	Total _____
Disposal Facility _____	@ \$ _____	Hrs. worked _____	Total _____
Box No. Delivered <u>120</u>	@ \$ _____	Hrs. worked _____	Total _____
Box No. Picked Up <u>78</u>	@ \$ _____	Hrs. worked _____	Total _____
			Sub Total _____
			Sales Tax _____
			TOTAL _____

Driver L. Ford

Approved by \_\_\_\_\_

N.M.E.D. — DP-1041

**Gandy Marley, Inc.**  
P.O. BOX 1658 • ROSWELL, NM 88202

LOAD INSPECTION FORM

19335

Date of Receipt: 8-7-19 Time of Receipt: 9:00 <sup>AM</sup>/<sub>PM</sub> Cell Placement: U5T-8

Quantity: 20 T/CY: yards Description: Soil

Name/Address of Generator: Daniel B. Stephens & Assoc, 6020 Academy NE Suite 100, Albuquerque, NM 87109 Bin # 5B78

Origin of Materials (if different): Alberston Parking lot Clovis, NM

Transporter Name: R. Marley Truck # 40 SCC ID No. \_\_\_\_\_

Name of Laboratory Performing Sample Analysis \_\_\_\_\_

TCLP (EPA Method 1311) \_\_\_\_\_ BTEX \_\_\_\_\_ MTBE \_\_\_\_\_ TPH \_\_\_\_\_ Non-Hazardous  Exempt \_\_\_\_\_

Verification of No Free Liquids \_\_\_\_\_ Paint Filter Liquids Test Performed \_\_\_\_\_

Verification of Property Completed Manifest \_\_\_\_\_ Generator Manifest Number \_\_\_\_\_

As a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Generator represents and warrants that the waste material shipped herewith is exempt from the Resource Conservation and Recovery Act of 1976, as amended from time to time, 40 U.S.C. Section 6901, et seq., The New Mexico Health and Safety Code, section 361.001, et seq., and regulations related thereto, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.

Further, as a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Transporter represents and warrants that only the material delivered by Generator to Transporter is now delivered by Transporter to Gandy Marley, Inc.'s facility for disposal.

THIS WILL CERTIFY that the above Transporter loaded the material as represented on this Load Inspection Form at the above described location, and that it was tendered by the above described Generator. THIS WILL CERTIFY that no additional materials were added to this load, and that the material was delivered without incident.

Transporter: Steven Johnson Print Name Signature

GMI Employee: Kimberly Murphy Print Name Signature

N.M.E.D. - DP-1041

Gandy Marley, Inc.  
P.O. BOX 1658 • ROSWELL, NM 88202

LOAD INSPECTION FORM

19379

Date of Receipt: 8-19-19 Time of Receipt: 2:15 AM PM Cell Placement: UST-8

Quantity: 20 T/CY: yards Description: Soil / water

Name/Address of Generator: DANIEL B STEVENS DNS

Origin of Materials (if different): Clovis, NM

Transporter Name: G Marley TRUCK # 39 SCC ID No.

Name of Laboratory Performing Sample Analysis

TCLP (EPA Method 1311) BTEX MTBE TPH Non-Hazardous Exempt

Verification of No Free Liquids Paint Filter Liquids Test Performed

Verification of Property Completed Manifest Generator Manifest Number

As a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Generator represents and warrants that the waste material shipped herewith is exempt from the Resource Conservation and Recovery Act of 1976, as amended from time to time, 40 U.S.C. Section 6901, et seq., The New Mexico Health and Safety Code, section 361.001, et seq., and regulations related thereto, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.

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THIS WILL CERTIFY that the above Transporter loaded the material as represented on this Load Inspection Form at the above described location, and that it was tendered by the above described Generator. THIS WILL CERTIFY that no additional materials were added to this load, and that the material was delivered without incident.

Transporter: Noe Soto Print Name Signature

GMI Employee: Rich Johnson Print Name Signature

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 393-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

38235

**AUTHORIZATION FOR WORK**

Date 8-19-19

YOUR NO. #39

COMPANY Daniel B Construction LEASE Clavis, N.M.

MAIL INVOICE TO \_\_\_\_\_ WELL \_\_\_\_\_

DESCRIPTION OF WORK Set Box #125 on location  
- Picked up Box #120  
- Dumped @ GMI

Equipment Used	@ \$	Hrs. worked	Total
<u>Roll-off</u>			
Box Rent <input checked="" type="checkbox"/>	@ \$	Hrs. worked	Total
Liner <input checked="" type="checkbox"/>	@ \$	Hrs. worked	Total
Jet Out <u>2HR Washout/liner</u>	@ \$	Hrs. worked	Total
Disposal	@ \$	Hrs. worked	Total
Disposal Facility <u>GMI</u>	@ \$	Hrs. worked	Total
Box No. Delivered <u>#125</u>	@ \$	Hrs. worked	Total
Box No. Picked Up <u>#120</u>	@ \$	Hrs. worked	Total

Sub Total \_\_\_\_\_  
Sales Tax \_\_\_\_\_  
TOTAL \_\_\_\_\_

Driver Noé Soto

Approved by \_\_\_\_\_

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

38281

**AUTHORIZATION FOR WORK**

Date 7-26-2019

YOUR NO. 193

COMPANY Deniel B Construction LEASE \_\_\_\_\_

MAIL INVOICE TO 14000 NW WELL \_\_\_\_\_

**DESCRIPTION OF WORK**

*Picked up Loaded SB 151  
Dropped Loaded SB 78*

Equipment Used	@ \$	Hrs. worked	Total
Box Rent	@ \$	Hrs. worked	Total
Liner	@ \$	Hrs. worked	Total
Jet Out	@ \$	Hrs. worked	Total
Disposal	@ \$	Hrs. worked	Total
Disposal Facility	@ \$	Hrs. worked	Total
Box No. Delivered <u>SB 78 Loaded</u>	@ \$	Hrs. worked	Total
Box No. Picked Up <u>SB 151</u>	@ \$	Hrs. worked	Total
		Sub Total	_____
		Sales Tax	_____
		TOTAL	_____

Driver AKJ

Approved by Per DC

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

38820

**AUTHORIZATION FOR WORK**

Date \_\_\_\_\_

YOUR NO. \_\_\_\_\_

COMPANY \_\_\_\_\_ LEASE \_\_\_\_\_

MAIL INVOICE TO \_\_\_\_\_ WELL \_\_\_\_\_

DESCRIPTION OF WORK

Equipment Used _____	@ \$ _____	Hrs. worked _____	Total _____
Box Rent _____	@ \$ _____	Hrs. worked _____	Total _____
Liner _____	@ \$ _____	Hrs. worked _____	Total _____
Jet Out _____	@ \$ _____	Hrs. worked _____	Total _____
Disposal _____	@ \$ _____	Hrs. worked _____	Total _____
Disposal Facility _____	@ \$ _____	Hrs. worked _____	Total _____
Box No. Delivered _____	@ \$ _____	Hrs. worked _____	Total _____
Box No. Picked Up _____	@ \$ _____	Hrs. worked _____	Total _____

Sub Total \_\_\_\_\_

Sales Tax \_\_\_\_\_

**TOTAL** \_\_\_\_\_

Driver \_\_\_\_\_

Approved by \_\_\_\_\_

N.M.E.D. — DP-1041

**Gandy Marley, Inc.**  
P.O. BOX 1658 • ROSWELL, NM 88202

LOAD INSPECTION FORM

19391

Date of Receipt: 8-30-19 Time of Receipt: 2:34 <sup>AM</sup>/<sub>PM</sub> Cell Placement: U5T-8

Quantity: 15 T/CY: yards Description: Soil

Name/Address of Generator: Daniel B. Stephens & Assoc. 6020 Academy NE Suite 100 Albuquerque, NM 87109 Bin # 125

Origin of Materials (if different): Alberston Parking lot Clovis, NM

Transporter Name: R. Marley Truck #94 SCC ID No. \_\_\_\_\_

Name of Laboratory Performing Sample Analysis \_\_\_\_\_

TCLP (EPA Method 1311) \_\_\_\_\_ BTEX \_\_\_\_\_ MTBE \_\_\_\_\_ TPH \_\_\_\_\_ Non-Hazardous  Exempt

Verification of No Free Liquids \_\_\_\_\_ Paint Filter Liquids Test Performed \_\_\_\_\_

Verification of Property Completed Manifest \_\_\_\_\_ Generator Manifest Number \_\_\_\_\_

As a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Generator represents and warrants that the waste material shipped herewith is exempt from the Resource Conservation and Recovery Act of 1976, as amended from time to time, 40 U.S.C. Section 6901, et seq., The New Mexico Health and Safety Code, section 361.001, et seq., and regulations related thereto, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.

Further, as a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Transporter represents and warrants that only the material delivered by Generator to Transporter is now delivered by Transporter to Gandy Marley, Inc.'s facility for disposal.

THIS WILL CERTIFY that the above Transporter loaded the material as represented on this Load Inspection Form at the above described location, and that it was tendered by the above described Generator. THIS WILL CERTIFY that no additional materials were added to this load, and that the material was delivered without incident.

Transporter: Jeremy Daubert Print Name Signature

GMI Employee: Kimberly Murphy Print Name Signature

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

38501

**AUTHORIZATION FOR WORK**

Date 9-11-2019

YOUR NO. 43

COMPANY DB&A

LEASE PO/CLUB Wm

MAIL INVOICE TO \_\_\_\_\_

WELL \_\_\_\_\_

DESCRIPTION OF WORK

5 Dat MT Box (Lined) SB95 1600 LEAST  
Picked up LINED SB92

Equipment Used <u>Roll-off</u>	@ \$ <u>110<sup>00</sup></u>	Hrs. worked <u>7.5</u>	Total _____
Box Rent <input checked="" type="checkbox"/>	@ \$ _____	Hrs. worked _____	Total _____
Liner <input checked="" type="checkbox"/>	@ \$ _____	Hrs. worked _____	Total _____
Jet Out <input checked="" type="checkbox"/>	@ \$ _____	Hrs. worked _____	Total _____
Disposal _____	@ \$ _____	Hrs. worked _____	Total _____
Disposal Facility _____	@ \$ _____	Hrs. worked _____	Total _____
Box No. Delivered <u>SB 95</u>	@ \$ _____	Hrs. worked _____	Total _____
Box No. Picked Up <u>SB 92</u>	@ \$ _____	Hrs. worked _____	Total _____

Sub Total \_\_\_\_\_

Sales Tax \_\_\_\_\_

TOTAL \_\_\_\_\_

Driver [Signature]

Approved by [Signature]



N.M.E.D. — DP-1041

Gandy Marley, Inc.  
P.O. BOX 1658 • ROSWELL, NM 88202

LOAD INSPECTION FORM 19402

Date of Receipt: 9-11-19 Time of Receipt: \_\_\_\_\_ AM \_\_\_\_\_ PM Cell Placement: UST-8

Quantity: ~~100~~ 10 T/CY: yards Description: Cutting

Name/Address of Generator: Daniel B Stevens

Origin of Materials (if different) Clovis, NM

Transporter Name: R Marley TRUCK #43 SCC ID No. \_\_\_\_\_

Name of Laboratory Performing Sample Analysis \_\_\_\_\_

TCLP (EPA Method 1311) \_\_\_\_\_ BTEX \_\_\_\_\_ MTBE \_\_\_\_\_ TPH \_\_\_\_\_ Non-Hazardous  Exempt

Verification of No Free Liquids  Paint Filter Liquids Test Performed \_\_\_\_\_

Verification of Property Completed Manifest  Generator Manifest Number \_\_\_\_\_

*As a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Generator represents and warrants that the waste material shipped herewith is exempt from the Resource Conservation and Recovery Act of 1976, as amended from time to time, 40 U.S.C. Section 6901, et seq., The New Mexico Health and Safety Code, section 361.001, et seq., and regulations related thereto, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.*

*Further, as a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Transporter represents and warrants that only the material delivered by Generator to Transporter is now delivered by Transporter to Gandy Marley, Inc.'s facility for disposal.*

*THIS WILL CERTIFY that the above Transporter loaded the material as represented on this Load Inspection Form at the above described location, and that it was tendered by the above described Generator. THIS WILL CERTIFY that no additional materials were added to this load, and that the material was delivered without incident.*

Transporter: \_\_\_\_\_  
Print Name Signature

GMI Employee: Ryan Johnson \_\_\_\_\_  
Print Name Signature

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

38582

AUTHORIZATION FOR WORK

Date 9/14/19

YOUR NO. 92

COMPANY Daniel B Construction LEASE Clavis NM

MAIL INVOICE TO \_\_\_\_\_ WELL \_\_\_\_\_

DESCRIPTION OF WORK Dropped off box Empty  
Picked up box full

w/o  
at  
de yards

Equipment Used	<u>Roll off</u>	@ \$ _____	Hrs. worked _____	Total _____
Box Rent	<u>✓</u>	@ \$ _____	Hrs. worked _____	Total _____
Liner	<u>✓</u>	@ \$ _____	Hrs. worked _____	Total _____
Jet Out	<u>✓</u>	@ \$ _____	Hrs. worked _____	Total _____
Disposal	<u>✓</u>	@ \$ _____	Hrs. worked _____	Total _____
Disposal Facility	<u>EMT</u>	@ \$ _____	Hrs. worked _____	Total _____
Box No. Delivered	_____	@ \$ _____	Hrs. worked _____	Total _____
Box No. Picked Up	_____	@ \$ _____	Hrs. worked _____	Total _____

Sub Total \_\_\_\_\_

Sales Tax \_\_\_\_\_

TOTAL \_\_\_\_\_

Driver Jesus Vella

Approved by [Signature]

N.M.E.D. — DP-1041

**Gandy Marley, Inc.**  
P.O. BOX 1658 • ROSWELL, NM 88202

LOAD INSPECTION FORM 19405

Date of Receipt: 9-14-19 Time of Receipt: AM Cell Placement: U5T 8

Quantity: 10 T/CY: yards Description: Soil

Name/Address of Generator: Daniel B. Stevens & Assoc. / 16020 Academy NE Suite 100  
Albuquerque, NM 87109

Origin of Materials (if different): Albertson Clovis NM

Transporter Name: R. Marley Truck # 92 SCC ID No. \_\_\_\_\_

Name of Laboratory Performing Sample Analysis \_\_\_\_\_

TCLP (EPA Method 1311) \_\_\_\_\_ BTEX \_\_\_\_\_ MTBE \_\_\_\_\_ TPH \_\_\_\_\_ Non-Hazardous  Exempt

Verification of No Free Liquids \_\_\_\_\_ Paint Filter Liquids Test Performed \_\_\_\_\_

Verification of Property Completed Manifest \_\_\_\_\_ Generator Manifest Number \_\_\_\_\_

*As a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Generator represents and warrants that the waste material shipped herewith is exempt from the Resource Conservation and Recovery Act of 1976, as amended from time to time, 40 U.S.C. Section 6901, et seq., The New Mexico Health and Safety Code, section 361.001, et seq., and regulations related thereto, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.*

*Further, as a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Transporter represents and warrants that only the material delivered by Generator to Transporter is now delivered by Transporter to Gandy Marley, Inc.'s facility for disposal.*

*THIS WILL CERTIFY that the above Transporter loaded the material as represented on this Load Inspection Form at the above described location, and that it was tendered by the above described Generator. THIS WILL CERTIFY that no additional materials were added to this load, and that the material was delivered without incident.*

Transporter: Jesus Vallojos [Signature]  
Print Name Signature

GMI Employee: Kimberly Murphy [Signature]  
Print Name Signature

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

38588

AUTHORIZATION FOR WORK

Date 07/20/19

YOUR NO. 92

COMPANY Daniel B Con LEASE Chris Lee st

MAIL INVOICE TO \_\_\_\_\_ WELL \_\_\_\_\_

DESCRIPTION OF WORK Picked up box full of

20/0  
20 yards  
Roll off

Equipment Used	<u>Roll off</u>	@ \$ _____	Hrs. worked _____	Total _____
Box Rent	<u>y</u>	@ \$ _____	Hrs. worked _____	Total _____
Liner	<u>y</u>	@ \$ _____	Hrs. worked _____	Total _____
Jet Out	<u>y</u>	@ \$ _____	Hrs. worked _____	Total _____
Disposal	<u>y</u>	@ \$ _____	Hrs. worked _____	Total _____
Disposal Facility	<u>AMI</u>	@ \$ _____	Hrs. worked _____	Total _____
Box No. Delivered	<u>125</u>	@ \$ _____	Hrs. worked _____	Total _____
Box No. Picked Up	<u>125</u>	@ \$ _____	Hrs. worked _____	Total _____

Sub Total \_\_\_\_\_  
Sales Tax \_\_\_\_\_  
TOTAL \_\_\_\_\_

Driver James Walker

Approved by Whitney present

N.M.E.D. — DP-1041

Gandy Marley, Inc.  
P.O. BOX 1658 • ROSWELL, NM 88202

LOAD INSPECTION FORM 19414

Date of Receipt: 9-20-19 Time of Receipt: 1:22 AM Cell Placement: UST-8

Quantity: 20 T/CY: yards Description: UST-8

Name/Address of Generator: Daniel B. Stevens & Assoc. / 16020 Academy NE Suite A  
Albuquerque, NM 87109  
Origin of Materials (if different): Clovis Lee St.

Transporter Name: R. Marley SCC ID No. \_\_\_\_\_

Name of Laboratory Performing Sample Analysis \_\_\_\_\_

TCLP (EPA Method 1311) \_\_\_\_\_ BTEX \_\_\_\_\_ MTBE \_\_\_\_\_ TPH \_\_\_\_\_ Non-Hazardous  Exempt

Verification of No Free Liquids \_\_\_\_\_ Paint Filter Liquids Test Performed \_\_\_\_\_

Verification of Property Completed Manifest  Generator Manifest Number \_\_\_\_\_

As a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Generator represents and warrants that the waste material shipped herewith is exempt from the Resource Conservation and Recovery Act of 1976, as amended from time to time, 40 U.S.C. Section 6901, et seq., The New Mexico Health and Safety Code, section 361.001, et seq., and regulations related thereto, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.

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THIS WILL CERTIFY that the above Transporter loaded the material as represented on this Load Inspection Form at the above described location, and that it was tendered by the above described Generator. THIS WILL CERTIFY that no additional materials were added to this load, and that the material was delivered without incident.

Transporter: Jose Vallojo Print Name Signature

GMI Employee: Kimberly Murphy Print Name Signature

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

**GANDY MARLEY**  
P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260  
**38695**

**AUTHORIZATION FOR WORK**

Date 10-17-79

YOUR NO. 93

COMPANY Daniel B. Stephens LEASE & Associates INC

MAIL INVOICE TO 800-933-3105 WELL \_\_\_\_\_

DESCRIPTION OF WORK  
SET VACUUM BOX ON LOCATION  
2011 N. PRINCE CLOVIS NM.  
88101

Equipment Used	<u>Roll off</u>	@ \$ _____	Hrs. worked _____	Total _____
Box Rent	<input checked="" type="checkbox"/>	@ \$ _____	Hrs. worked _____	Total _____
Liner		@ \$ _____	Hrs. worked _____	Total _____
Jet Out		@ \$ _____	Hrs. worked _____	Total _____
Disposal	<u>EMI</u>	@ \$ _____	Hrs. worked _____	Total _____
Disposal Facility		@ \$ _____	Hrs. worked _____	Total _____
Box No. Delivered	<u>V8003</u>	@ \$ _____	Hrs. worked _____	Total _____
Box No. Picked Up		@ \$ _____	Hrs. worked _____	Total _____

Sub Total \_\_\_\_\_  
Sales Tax \_\_\_\_\_  
TOTAL \_\_\_\_\_

Driver Adrian Medina

Approved by [Signature] VD/BS/A

24-HOUR SERVICE, CALL  
LOVINGTON 396-4948  
TATUM 398-4960

# GANDY MARLEY

P.O. BOX 1658 • ROSWELL, NEW MEXICO 88202

P.O. BOX 2140  
LOVINGTON, NEW MEXICO 88260

## 39172

### AUTHORIZATION FOR WORK

Date 10/19/19 YOUR NO. 92

COMPANY Daniel B Constrom LEASE 2001 Prince

MAIL INVOICE TO \_\_\_\_\_ WELL \_\_\_\_\_

DESCRIPTION OF WORK Picked up box full of

Equipment Used	<u>Roll off</u>	@ \$ _____	Hrs. worked _____	Total _____
Box Rent	<u>J</u>	@ \$ _____	Hrs. worked _____	Total _____
Liner	<u>J</u>	@ \$ _____	Hrs. worked _____	Total _____
Jet Out	<u>J</u>	@ \$ _____	Hrs. worked _____	Total _____
Disposal	<u>J</u>	@ \$ _____	Hrs. worked _____	Total _____
Disposal Facility	<u>emt</u>	@ \$ _____	Hrs. worked _____	Total _____
Box No. Delivered		@ \$ _____	Hrs. worked _____	Total _____
Box No. Picked Up	<u>03</u>	@ \$ _____	Hrs. worked _____	Total _____

Sub Total \_\_\_\_\_  
Sales Tax \_\_\_\_\_  
TOTAL \_\_\_\_\_

Driver Jesus Valler Approved by NO ONE ON SITE

N.M.E.D. - DP-1041

Gandy Marley, Inc.  
P.O. BOX 1658 • ROSWELL, NM 88202

LOAD INSPECTION FORM 19495

Date of Receipt: 10-19-19 Time of Receipt: AM PM Cell Placement: UST 8

Quantity: 10 T/CY: YARDS Description: Soil Cutting - Water

Name/Address of Generator: DANIEL B STEVENS

Origin of Materials (if different): Clovis, NM

Transporter Name: R Malzy TRUCK # 92 SCC ID No.

Name of Laboratory Performing Sample Analysis

TCLP (EPA Method 1311) BTEX MTBE TPH Non-Hazardous Exempt

Verification of No Free Liquids Paint Filter Liquids Test Performed

Verification of Property Completed Manifest Generator Manifest Number

As a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Generator represents and warrants that the waste material shipped herewith is exempt from the Resource Conservation and Recovery Act of 1976, as amended from time to time, 40 U.S.C. Section 6901, et seq., The New Mexico Health and Safety Code, section 361.001, et seq., and regulations related thereto, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.

Further, as a condition to Gandy Marley, Inc.'s acceptance of the materials shipped as represented on this Load Inspection Form, Transporter represents and warrants that only the material delivered by Generator to Transporter is now delivered by Transporter to Gandy Marley, Inc.'s facility for disposal.

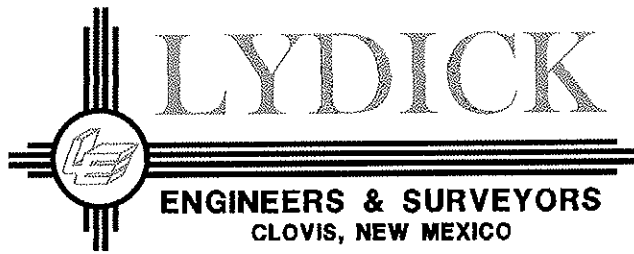
THIS WILL CERTIFY that the above Transporter loaded the material as represented on this Load Inspection Form at the above described location, and that it was tendered by the above described Generator. THIS WILL CERTIFY that no additional materials were added to this load, and that the material was delivered without incident.

Transporter: Print Name Signature

GMI Employee: Print Name Signature



**Appendix G**  
**Well Survey Report**



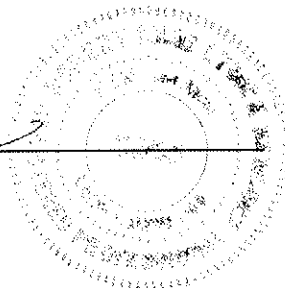
**Robert C. Lydick**  
Professional Engineer and Land Surveyor  
New Mexico-Texas-Oklahoma-Colorado

The following coordinates for monitor wells are located in the general area of **21st STREET AND COMMERCE STREET within the CITY OF CLOVIS, CURRY COUNTY, NEW MEXICO** and are located on New Mexico State Plane East Zone Grid:

NAD 83:

MONITOR WELLS				
Monitor Well #	Northing	Easting	Top of Casing Elevation	Top of Concrete Elevation
BW-1	1245668.53	884273.27	4279.55	4279.99
BW-2	1245697.76	884363.94	4280.23	4280.51
BW-3	1245842.87	884279.56	4279.91	4280.35
BW-4	1245609.89	884043.10	4280.02	4280.47
BW-5	1245441.98	884255.91	4278.99	4279.33
BW-6	1245628.23	884452.81	4280.24	4280.60
BW-7	1245223.70	884248.23	4277.47	4277.92
BW-7R	1245210.02	884291.06	4277.44	4278.19
BW-8	1245377.10	884091.68	4278.74	4279.22
BW-9	1245247.45	883853.09	4278.31	4278.70
BW-10	1244954.64	884052.17	4275.11	4275.68
RW-1	1245546.79	884125.45	4280.00	4280.38
RW-2	1245416.83	884140.96	4279.70	4280.10
RW-3	1245486.71	884251.49	4278.78	4279.45
RW-4	1245346.00	884279.77	4278.84	4279.15
MW-11	1244812.45	884412.98	4274.64	4274.99
MW-12	1245128.28	884520.19	4277.60	4278.17
MW-13	1244960.74	884269.96	4275.82	4276.31
MW-14	1244158.25	884570.99	4265.25	4265.41

Robert C. Lydick P.E & L.S. No. 5955



**Appendix H**  
**Sampling Protocol**



## **Appendix H. Sampling Protocol**

### **Fluid Level and Parameter Measurements**

Prior to collection of groundwater samples, a Solinst interface probe or equivalent device will be used to determine depths to water and nonaqueous-phase liquid (NAPL), if present. Water level data will be used to construct a site potentiometric surface map. A YSI 556 Multi-Probe System (MPS) water quality meter or equivalent device will be used to measure specific conductivity, pH, temperature, dissolved oxygen (DO), and oxidation/reduction potential (ORP). Field parameters will be measured at intervals of no less than once per casing volume during purging of a well for sampling. The interface probe will be decontaminated before each measurement using a solution of deionized water and Liquinox (or equivalent) soap.

### **Groundwater Monitor Well Sampling**

DBS&A will attempt to sample wells from the least contaminated to the most contaminated well using data from the previous sampling event. After collecting fluid levels and prior to sampling, each well will be purged. To ensure a fresh flow of groundwater into the well bore, a minimum of three casing volumes will be removed from each well. If a well is purged dry, it will be sampled when the well has recharged. Wells will be purged and sampled using a trailer-mounted Bennett pump in accordance with DBS&A standard operating procedures (SOPs). Water will be disposed on the ground within the site boundaries, preferably on an impervious surface and near the well of origin. Purge water must not contain NAPL, must not endanger public health or safety, and must not enter a surface water body or tributary, including an arroyo. Any purged fluids containing NAPL will be containerized for future disposal at a licensed facility.

Samples analyzed for volatile organic analytes (VOAs) will be collected in 40-milliliter (mL) glass bottles containing the appropriate preservative and capped with Teflon septa caps. VOA containers will be filled in a manner that prevents headspace in the vials. Samples analyzed for dissolved iron, lead, and manganese will be field-filtered with 0.45-micron disposable filters, collected in 250-mL plastic containers, and preserved with nitric acid to a pH of less than 2. Samples analyzed for nitrate and sulfate will be collected in 500-mL plastic containers containing no preservative.



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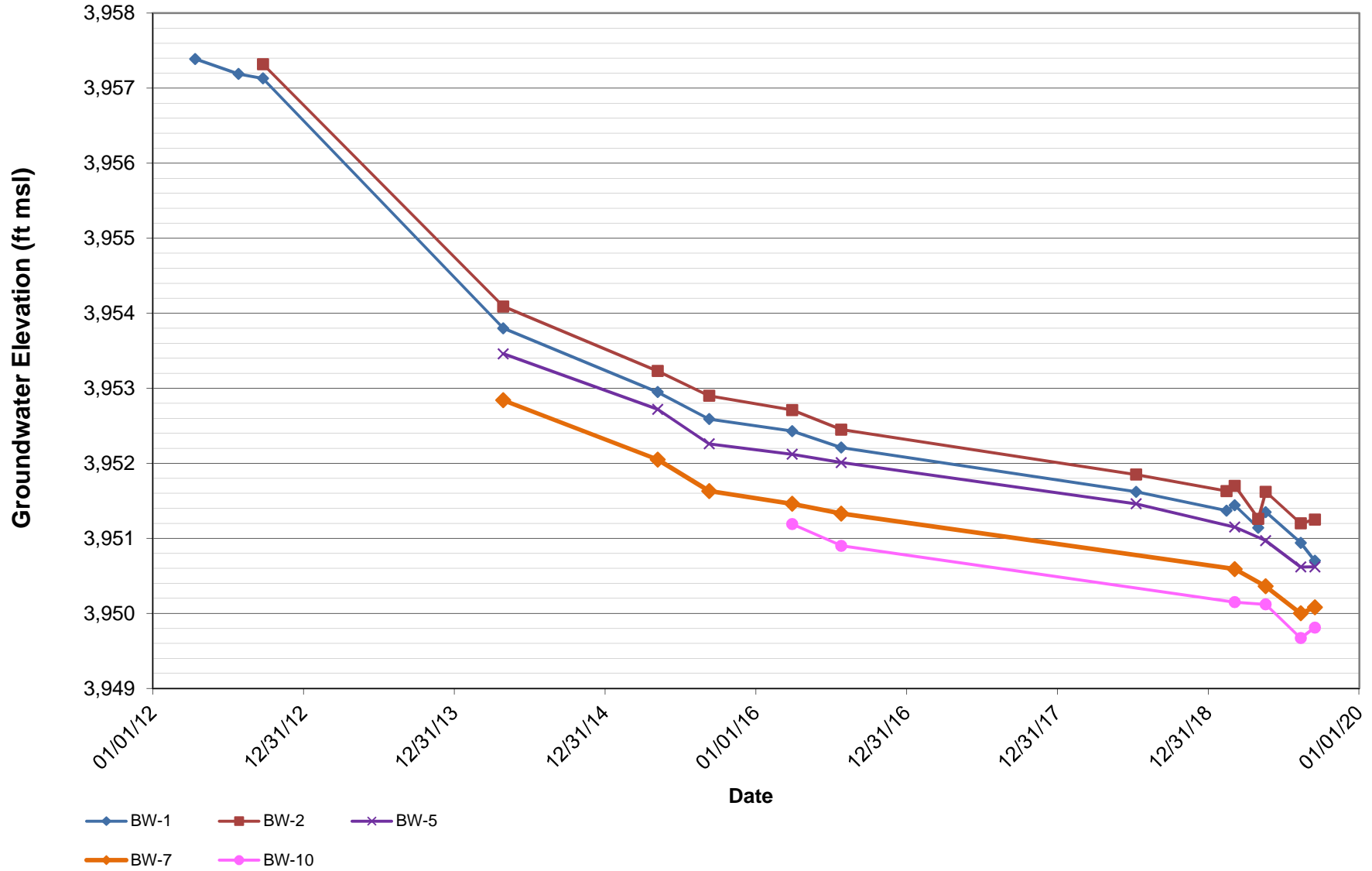
*Daniel B. Stephens & Associates, Inc.*

Immediately after collection, the sample containers will be labeled and placed on ice in an insulated cooler for delivery to the laboratory for analyses. Groundwater samples will be accompanied by full chain of custody documentation at all times.

**Appendix I**  
**Time-Series Graphs**

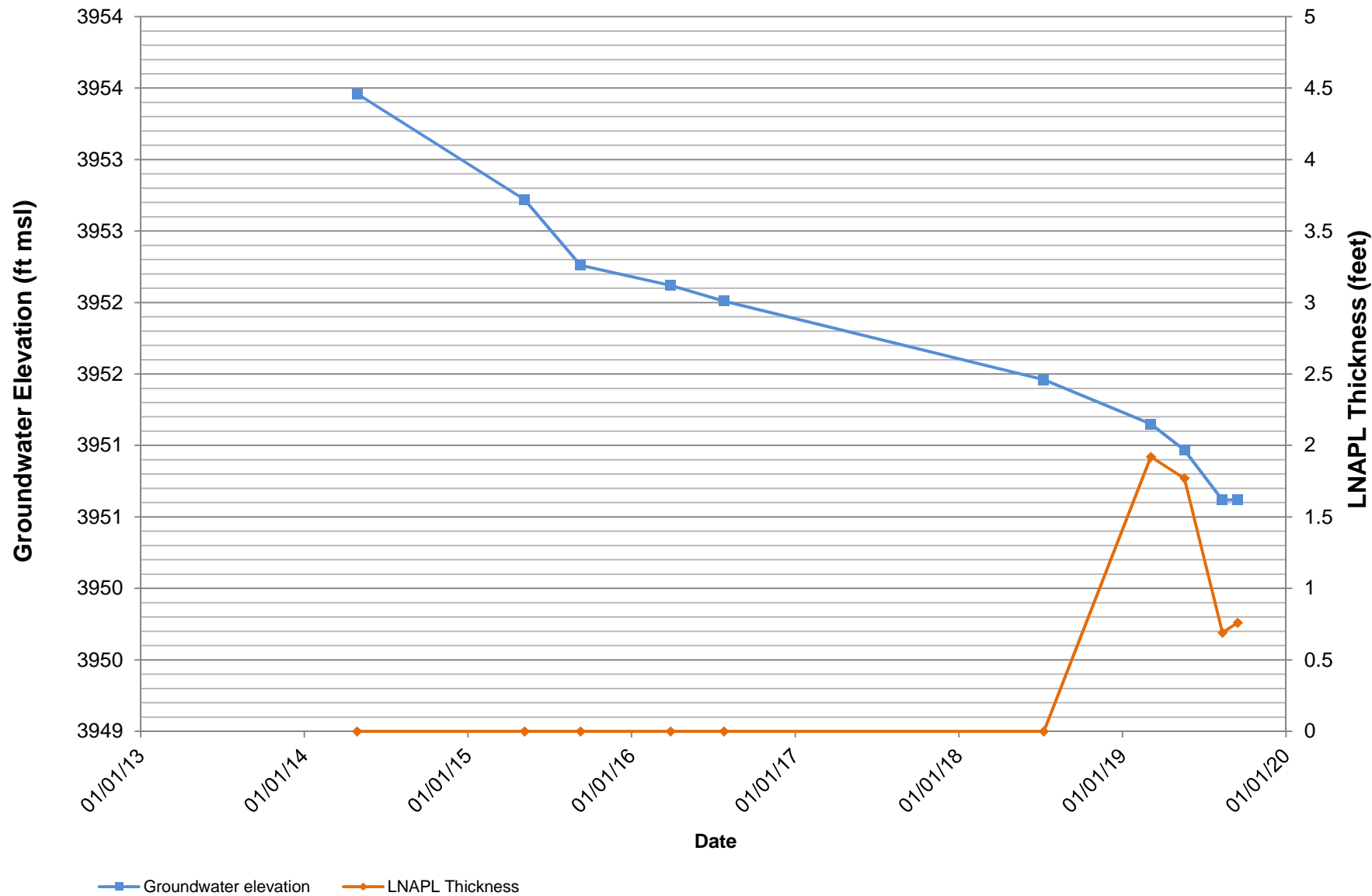
## Groundwater Elevations

*Former Y Station, Clovis New Mexico*



# BW-5 Fluid Levels

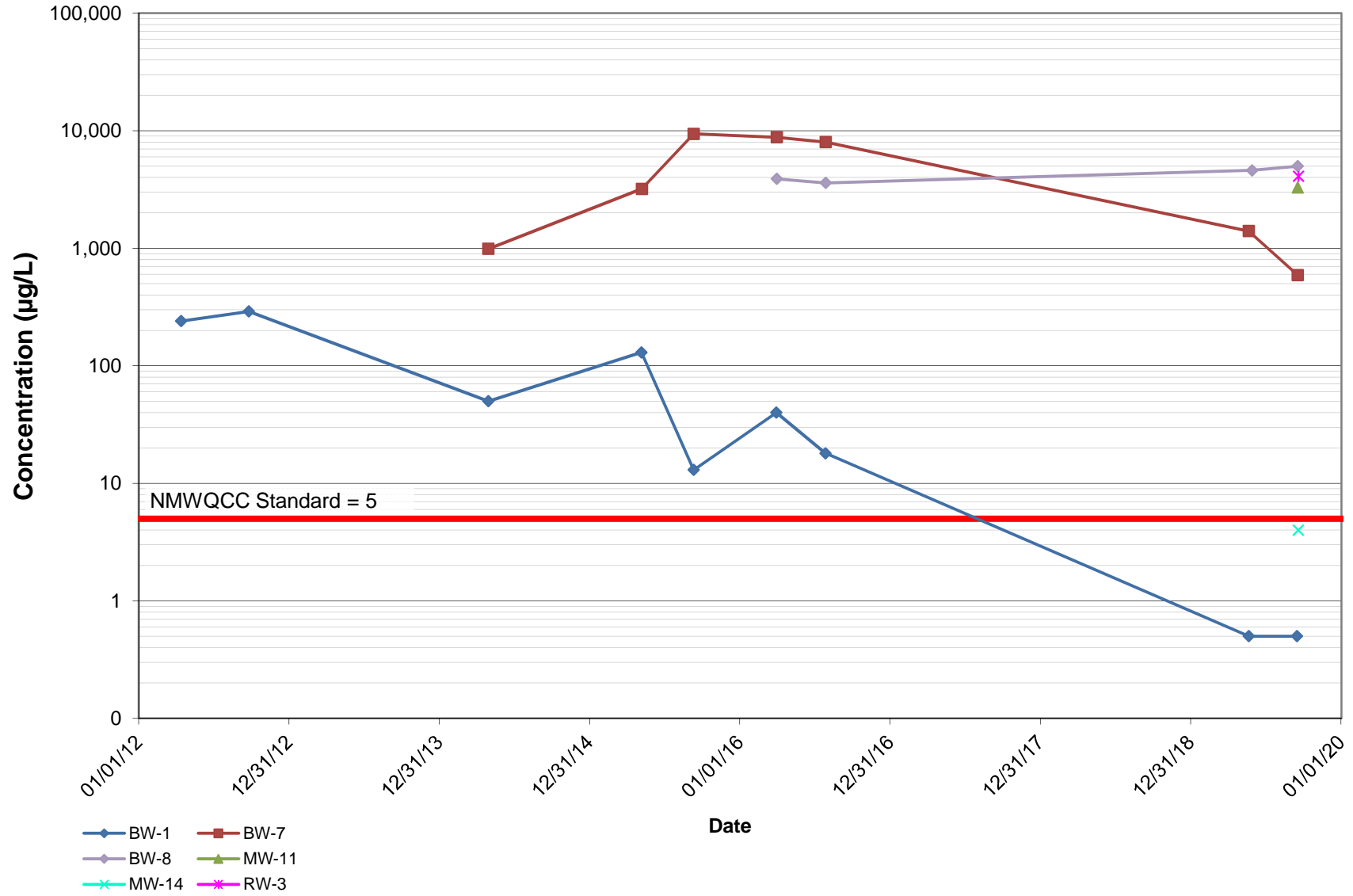
Former Y Station, Clovis New Mexico





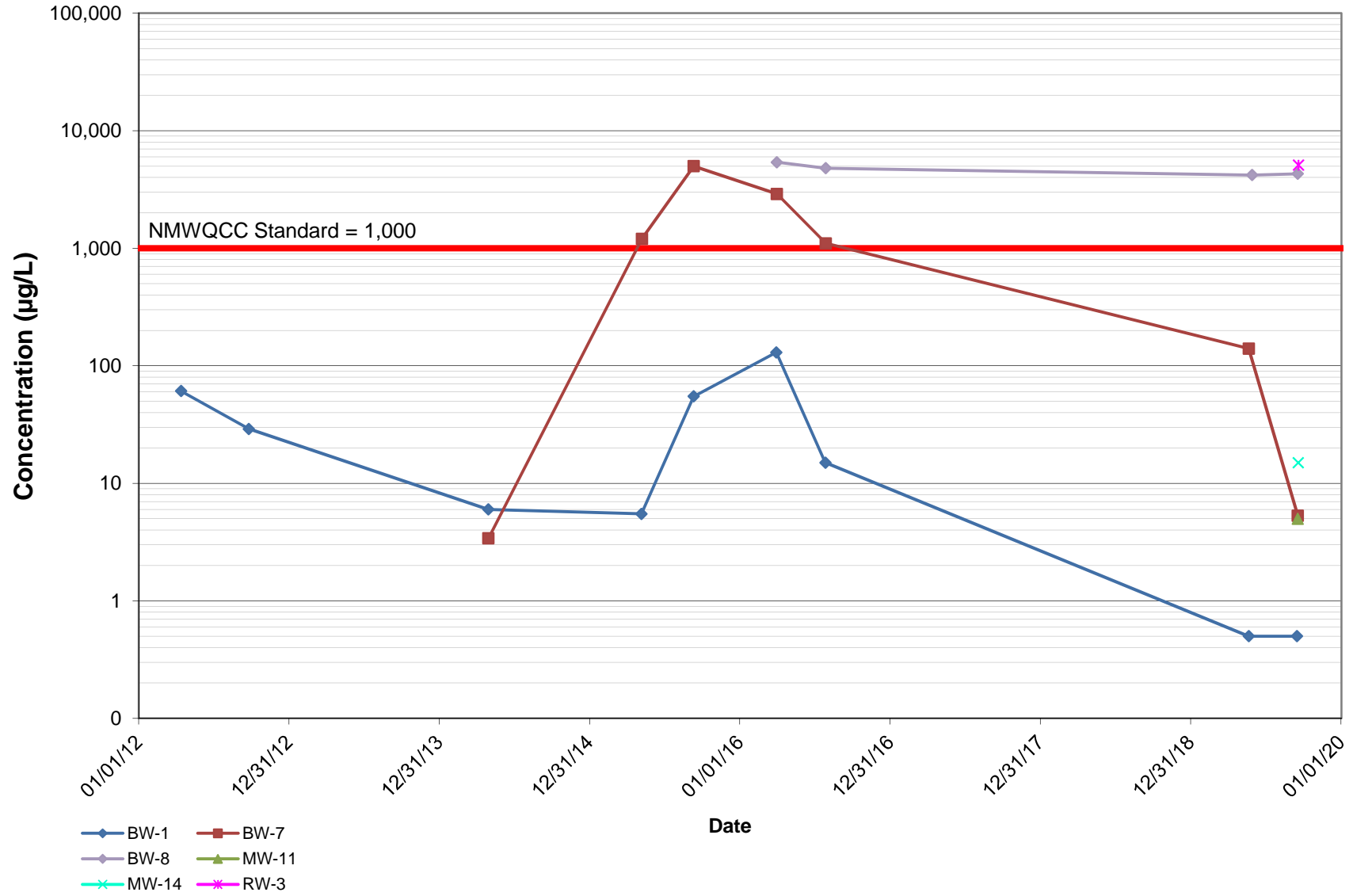
## Benzene Concentrations

*Former Y Station, Clovis New Mexico*



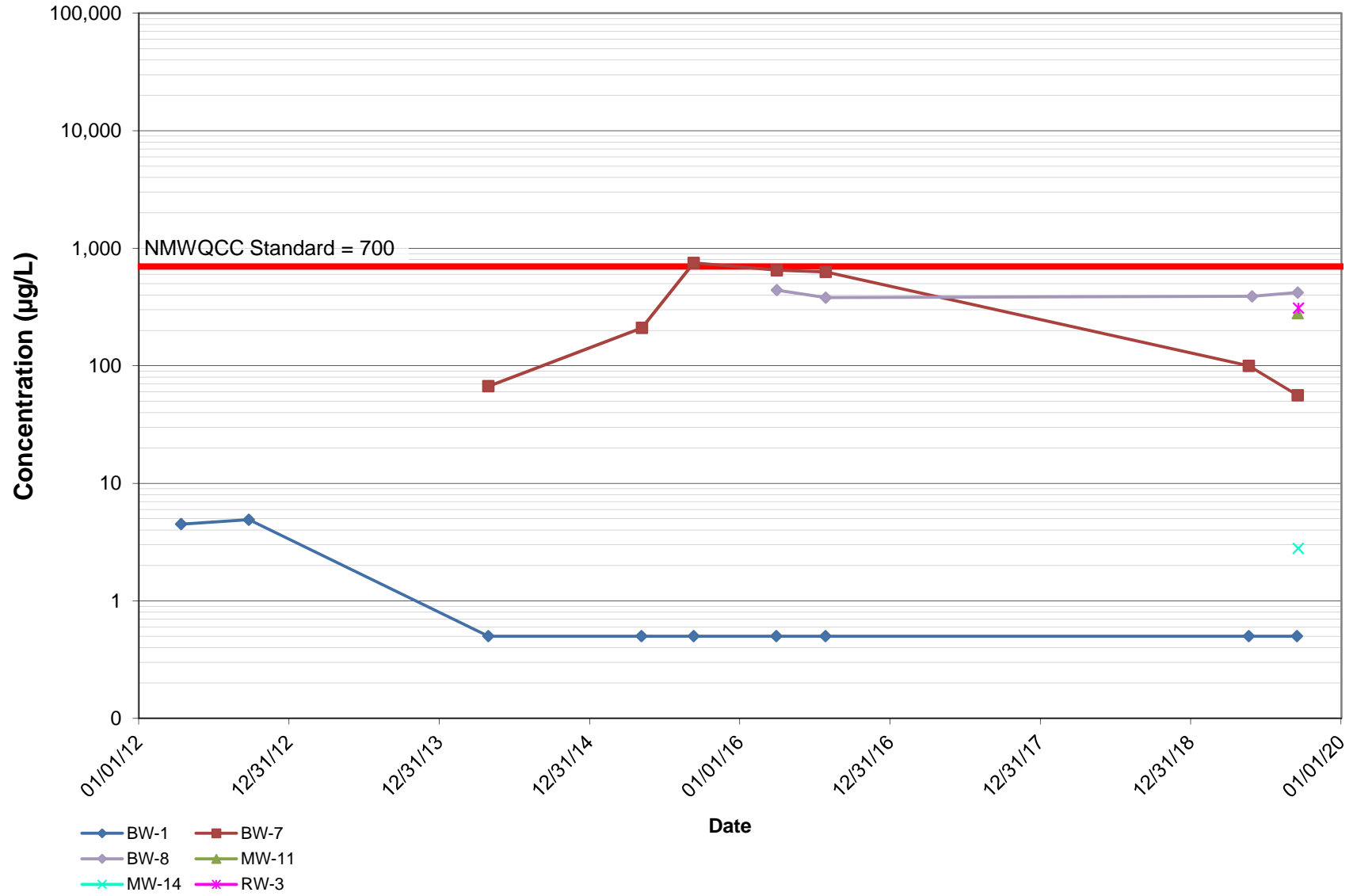
## Toluene Concentrations

*Former Y Station, Clovis New Mexico*



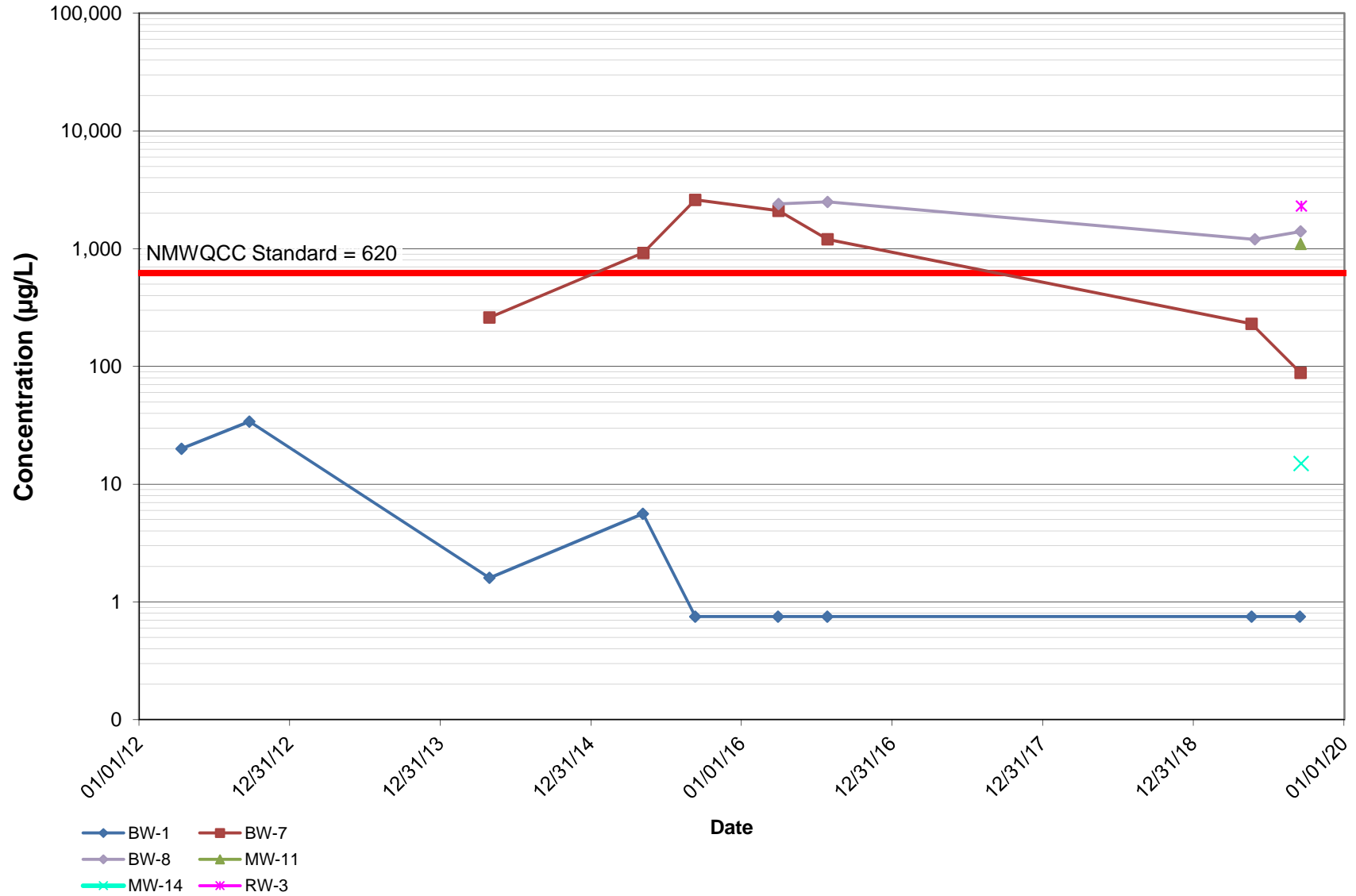
## Ethylbenzene Concentrations

*Former Y Station, Clovis New Mexico*



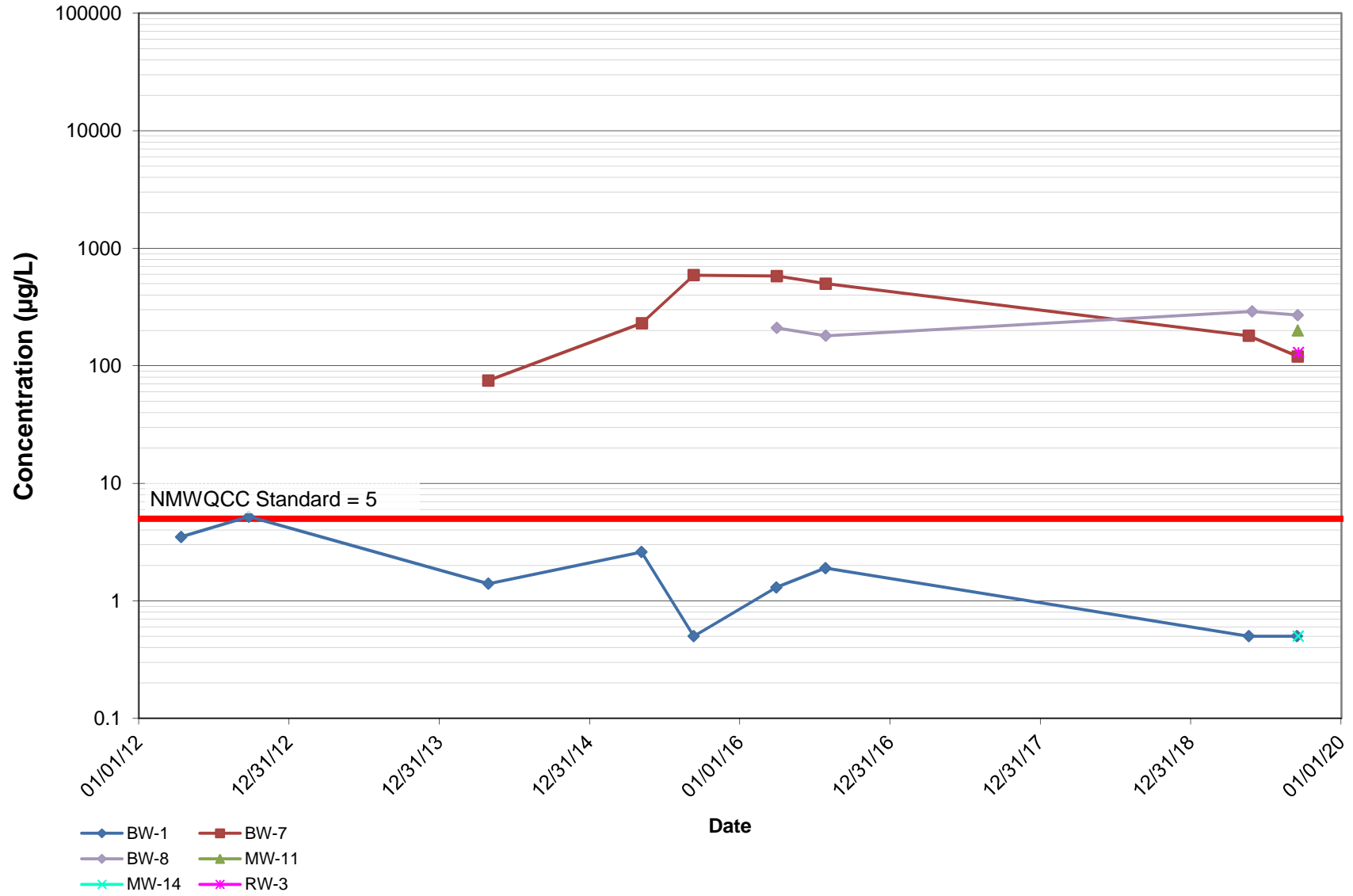
## Total Xylene Concentrations

*Former Y Station, Clovis New Mexico*



## EDC Concentrations

*Former Y Station, Clovis New Mexico*



# Total Naphthalene Concentrations

Former Y Station, Clovis New Mexico

